THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學
Pao Yue-kong Library
包玉剛圖書館

Copyright Undertaking

This thesis is protected by copyright, with all rights reserved.

By reading and using the thesis, the reader understands and agrees to the following terms:

1. The reader will abide by the rules and legal ordinances governing copyright regarding the use of the thesis.
2. The reader will use the thesis for the purpose of research or private study only and not for distribution or further reproduction or any other purpose.
3. The reader agrees to indemnify and hold the University harmless from and against any loss, damage, cost, liability or expenses arising from copyright infringement or unauthorized usage.

IMPORTANT

If you have reasons to believe that any materials in this thesis are deemed not suitable to be distributed in this form, or a copyright owner having difficulty with the material being included in our database, please contact lbsys@polyu.edu.hk providing details. The Library will look into your claim and consider taking remedial action upon receipt of the written requests.

Pao Yue-kong Library, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong

http://www.lib.polyu.edu.hk

This thesis in electronic version is provided to the Library by the author. In the case where its contents is different from the printed version, the printed version shall prevail.

The Hong Kong Polytechnic University

School of Hotel and Tourism Management

Analysing the Factors Affecting Online Travellers' Attitude and Intention to Use Consumer-Generated Media for Travel Planning

Julian Kwabena Ayeh

A thesis submitted in partial fulfilment of the requirements for the degree of

Doctor of Philosophy

August, 2012

CERTIFICATE OF ORIGINALITY

I hereby declare that this thesis is my own work and that, to the best of my knowledge and belief, it reproduces no material previously published or written, nor material that has been accepted for the award of any other degree or diploma, except where due acknowledgement has been made in the text.

____

Julian Kwabena Ayeh

Abstract

Notwithstanding the growing enthusiasm about social media, empirical research findings suggest that the majority of Internet users are not using consumer-generated media (CGM) for travel planning (e.g. World Travel Market, 2010). Yet little is presently known about the relevant factors determining CGM usage for the specific purpose of travel planning. The aim of this study is to develop a conceptual framework for understanding the factors affecting online travellers' attitude and intention to use CGM in the travel planning context through a theoretical extension of Davis' (1989) Technology Acceptance Model (TAM). While TAM has been proven useful in explaining the use of Information Technology (IT) applications, it does not address the issue of understanding consumers' behaviour towards newly emerging technologies such as CGM. Factors determining the acceptance of new IT are expected to vary with the technology, target users, and context (Moon & Kim, 2001). Based on literature review, additional constructs deemed to be appropriate to the CGM setting are introduced, and propositions are developed to enhance the understanding of travellers' online behaviour. Given the complex scenario of travel information search in the current Web 2.0 environment, the proposed model adopts concepts from theories in other disciplines – specifically, the theories of Homophily, Source Credibility, Motivation and Media Richness – to explain the antecedents of the intention to use CGM for travel planning.

To achieve the intended objectives, the study uses an explanatory research design to clarify "why" travellers would want to (or not want to) use CGM for travel planning. From a post-positivist perspective, the study adopts a quantitative approach for data collection and analysis involving the use of online survey questionnaire, and the application of the structural equation modelling technique of partial least squares for data analysis. Following an item screening test by a panel of scholars, the online survey questionnaire was tested with a pilot study (*n*=201). Subsequent principal component analysis and relevant procedures offered support for the validation of the constructs. An improved questionnaire was employed for the main survey of online travel consumers from Singapore and the USA. A total of 1,202 valid responses were collected, and the proposed structural model was tested using SmartPLS 2.0 (Beta) M3 software application after meeting cross-validation requirements.

The findings of this study provide strong support for the proposed structural model and the hypothesised relationships. The explained variances in the endogenous constructs and the results of Stone–Geisser's Q^2 tests for predictive validity demonstrate that the structural model sufficiently reflects online travellers' attitude (R^2 = 65.6%; Q^2 = 0.551) and intention (R^2 = 56.2%; Q^2 = 0.482) to use CGM for travel planning. Also, 11 of the 12 established hypotheses were supported. The study found that perceived media richness, credibility and perceived ease of use were significant predictors of online travellers' perception of CGM usefulness. Perceived usefulness, in turn, significantly determines travellers' attitude and intention to use CGM for travel planning. Also, perceived enjoyment considerably influences perception of ease of use and attitude even as attitude serves as a prime predictor of intention. The study also found perceptual homophily as a principal antecedent of credibility. While credibility directly impacts attitude and perceived usefulness, its direct effect on intention was the only proposition that was not supported. Nonetheless, further investigation using the Sobel Test (Sobel, 1982) and the causal steps approach (Baron & Kenny, 1986) revealed that the mediation effects of attitude and perceived usefulness were responsible for this non-significant effect. A PLS-based multi-group analysis by means of Henseler's (2007) bootstrap test routine revealed interesting results about differences and similarities across countries, gender, and usage experience segments. Whereas the measurement and structural models were invariant across male and female sub-samples, significant differences were found in the structural model relationships as well as the explained variances regarding the country-specific models. The model performs better at explaining the behavioural intention of Singaporean travellers (R^2=62.3%) than that of American travellers (R^2=55.6%). In contrast, the country-specific model estimation is much more efficient in predicting US online travellers' perceptions of the usefulness of CGM (R^2=53.2%) than that of their Singaporean counterparts (R^2=42.7%). Comparison of group-specific effects further revealed significant differences at the structural level between sub-samples of online travellers who have previously used CGM for travel planning and those who were yet to do so.

The study holds important implications for theory and practice. While extending the scope of information system adoption research to CGM in the travel planning context, this study validates the significant roles of perceived usefulness, perceived ease of use, and perceived enjoyment in predicting travellers' attitude and intention to use CGM for travel planning. The study introduces additional constructs (i.e. source credibility, perceptual homophily and perceived media richness) from the communication studies and marketing research that reflect the complex context of CGM application to travel planning. In this way, the study widens the application of the theories of homophily, media richness and source credibility, beyond single disciplines and particular cultural contexts. The present study also draws attention to differences in terms of the antecedents of usage in voluntary settings. For instance, factors such as perceived enjoyment and ease of use, which are known to have weaker effects in the conventional TAM literature, take on greater importance when it comes to CGM usage in the travel planning setting. This study further supports the appropriateness of the attitude construct in TAM research when investigating individual usage intentions in non-work place situations as attitude mediates the relationship between some of the cognitive factors and usage intention.

Several managerial implications also emerge. The model might help managers understand how travellers' assess CGM websites. The study offers insights into the cognitive factors which determine travellers' decision to use CGM for travel planning, and which CGM platform managers need to give priority to as they attempt to leverage social media in hospitality and tourism settings. Also, by assessing group differences in the antecedents of online travellers' intention to use CGM for travel planning, this study may help to inform practitioners and marketers about the relevance of segmentation strategies in social media marketing.

Keywords: User-Generated Content, Social Media, Partial Least Squares (PLS), Travellers, Technology Acceptance Model, Source Credibility, Homophily, Media Richness, Enjoyment

Publications Arising From the Thesis

Ayeh, J. K., Au, N., Law, R. (2013). Predicting the intention to use consumer-generated media for travel planning. *Tourism Management*, 35, 132-143.

Ayeh, J. K., Au, N., & Law, R. (In press, available online). "Do we believe in TripAdvisor?" Examining Credibility Perceptions and Online travellers' Attitude towards User-Generated Content. *Journal of Travel Research.* doi:10.1177/0047287512475217 http://jtr.sagepub.com/content/early/2013/02/07/0047287512475217.full.pdf +html

Ayeh, J. K., Au, N., Law, R. (2013). Towards an Understanding of Online Travellers' Acceptance of Consumer-Generated Media for Travel Planning: Integrating Technology Acceptance and Source Credibility Factors. In L. Cantoni, & Z. Xiang (Eds.), *Information and Communication Technologies in Tourism 2013*. Berlin - Heidelberg: Springer.

Acknowledgements

I wish to express my special gratitude to all who have guided and supported me during my study period in the School of Hotel and Tourism Management, Hong Kong Polytechnic University. I am particularly grateful to Dr. Norman Au, my chief supervisor, and Prof. Rob Law, my co-supervisor, for their continuous guidance and assistance.

I would also like to thank my supervisory committee members, the School Research Committee (SRC), and other faculty members who have been supportive of my studies. I am especially indebted to Dr. John Ap, Prof. Haiyan Song, Prof. Cathy Hsu, Dr. Andy Lee, Dr. Jinsoo Lee, Dr. Qu Xiao, Dr Honggen Xiao and Dr Thomas Bauer for their assistance in various ways. I would also like to express my profound gratitude to the external examiners Prof. Edward John Snape (Hong Kong Baptist University) and Prof. Gerrit Johannes van der Pijl (Erasmus University, The Netherlands) for their support and encouraging comments.

Lastly, I am grateful to all my fellow research students for making my PhD endeavour much easier and more entertaining. Particularly, the assistance and friendship of Anne Tagbor, Dan Musinguzi, Daniel Leung, Rose Chen, Gloria Chan, Haiyan Kong, Brianda Jiang, Vera Lin, Rosanna Leung, Ibrahim Muhammed, Aaron Yankholmes, and many others, are much appreciated.

Table of Contents

Abstract ..... **i**
Publications Arising From the Thesis ..... **vi**
Acknowledgements ..... **vii**
Table of Contents ..... **viii**
List of Figures ..... **xiii**
List of Tables ..... **xiv**
Chapter 1. INTRODUCTION **1**
1.1 BACKGROUND 1
    1.1.1 CGM in the Domain of Travel and Tourism 3
    1.1.2 Changing Information Search Behaviour of Travellers 3
    1.1.3 New Challenges Emerging with Consumer-Generated Media 5
1.2 PROBLEM STATEMENT 8
    1.2.1 Need for Further Inquiry into the Determinants of CGM Utilisation for Travel Planning 8
    1.2.2 Application of Information System Adoption Models to CGM and the Travel Planning Context 11
1.3 PURPOSE AND OBJECTIVES OF THE STUDY 18
1.4 SIGNIFICANCE OF THE STUDY 20
    1.4.1 Theoretical Contributions 20
    1.4.2 Practical Contributions 21
1.5 ORGANISATION OF THE THESIS 23
Chapter 2. LITERATURE REVIEW **27**
2.1 TRAVEL PLANNING AND THE ROLE OF INFORMATION 27
    2.1.1 Need for Information in the Travel Planning Process 30
    2.1.2 Information Sources for Travel Planning 33
    2.1.3 The Internet as an Information Source for Travel Planning 35
2.2 IMPACT OF USER-GENERATED CONTENT 36
    2.2.1 Conceptualising Web 2.0, Social Media and User-Generated Content 36
    2.2.2 Influence of Consumer-Generated Media on Travel Planning 40
    2.2.3 Tourism Research on Consumer-Generated Media 41
        2.2.3.1 Technological Challenges 42
        2.2.3.2 Motivational factors for Participation in CGM sites 43
        2.2.3.3 Influence on Travel Decisions 46
2.3 ISSUES SURROUNDING CGM WEBSITES AS MEDIA CHANNELS 48
    2.3.1 Credibility in the Online Environment 49
    2.3.2 Credibility of Consumer-Generated Media 53
    2.3.3 Concerns about Consumer-Generated Media 54
2.4 RESEARCH ON TECHNOLOGY ADOPTION IN THE HOSPITALITY AND TOURISM DOMAIN 59

2.5 THEORIES IN INFORMATION SYSTEMS ADOPTION RESEARCH 62

2.5.1 The Theory of Reasoned Action (TRA) 63

2.5.2 The Theory of Planned Behaviour (TPB)...67

2.5.3 The Technology Acceptance Model (TAM) 71

2.5.3.1 TAM Application in the Hospitality and Tourism Domain 75

2.5.3.2 Research that Extends the TAM 77

2.6 RESEARCH GAPS..82

2.7 CHAPTER SUMMARY 84

Chapter 3. THEORETICAL FRAMEWORK AND MODEL DEVELOPMENT86

3.1 PROPOSED CONCEPTUAL FRAMEWORK 86

3.2 THEORETICAL CONSTRUCTS AND HYPOTHESES DEVELOPMENT 90

3.2.1 Source Credibility 90

3.2.1.1 Perceived Expertise..95

3.2.1.2 Perceived Trustworthiness 97

3.2.1.3 Perceived Source Credibility...98

3.2.2 Homophily..100

3.2.2.1 Perceptual Homophily 102

3.2.3 Media Richness Theory..106

3.2.3.1 Perceived Media Richness 110

3.2.4 Motivation Theory..114

3.2.5 Perceived Usefulness..118

3.2.6 Perceived Ease of Use 121

3.2.7 Attitude towards Using CGM for Travel Planning...124

3.2.8 Behavioural Intention to Use CGM for Travel Planning...127

3.3 CHAPTER SUMMARY 131

Chapter 4. RESEARCH DESIGN AND METHODOLOGY 133

4.1 INSTRUMENT DEVELOPMENT...136

4.1.1 Procedures for Instrument Development..136

4.1.2 Construct Domain Specification 138

4.1.3 Measurement Scales: Item Generation..138

4.1.3.1 Attitude and Behavioural Intention to Use..139

4.1.3.2 Perceived Usefulness and Perceived Ease of Use...140

4.1.3.3 Perceived Enjoyment...140

4.1.3.4 Perceived Source Credibility...140

4.1.3.5 Perceptual Homophily 142

4.1.3.6 Perceived Media Richness 143

4.1.4 Expert Panel Review for Content Validity 145

4.2 PILOT STUDY 150

4.2.1 Questionnaire Design 151

4.2.2 Data Collection..157

4.2.3 Data Screening 159

4.2.4 Profile of Pilot Study Respondents...163

4.2.5 Measurement Analysis 165

4.2.5.1 Principal Component Analysis for the Reflective Constructs 166

4.2.5.2 Measurement Analysis for the Formative Construct (Perceived Media Richness) 173
4.3 REVISION FOR MAIN SURVEY 177
4.4 MAIN SURVEY 178
4.4.1 Data Collection 179
4.4.1.1 Survey Population and Sampling Design 179
4.4.1.2 Sample Size 180
4.4.1.3 Online Administration 183
4.4.2 Method of Data Analysis 189
4.4.2.1 Rationale for Choosing a Structural Equation Modelling Technique 190
4.4.2.2 The PLS Algorithm 192
4.5 RESEARCH ETHICS 196
4.6 CHAPTER SUMMARY 197
Chapter 5. RESULTS 200
5.1 DATA SCREENING 200
5.1.1 Missing Data 201
5.1.2 Outliers 202
5.1.3 Normality 204
5.2 PROFILE OF THE MAIN SURVEY RESPONDENTS 211
5.3 CROSS-VALIDATION 215
5.4 PRINCIPAL COMPONENTS ANALYSIS 216
5.5 VALIDATION OF THE FORMATIVE CONSTRUCT 222
5.6 MEASUREMENT MODEL TEST 225
5.6.1 Reflective Outer Models 226
5.6.2 Second-Order Factorial Validity 231
5.6.3 Formative Outer Model 232
5.7 OVERALL STRUCTURAL MODEL TEST 233
5.7.1 Outer Model Evaluation 234
5.7.2 Inner Model Evaluation 239
5.7.2.1 Variance Explained 240
5.7.2.2 Predictive Validity (Q^2) 241
5.7.3 Hypotheses Testing 242
5.7.4 Effect Size (Cohen's F^2) 246
5.7.5 Mediating Effects 248
5.8 PLS-BASED MULTI-GROUP ANALYSIS 254
5.8.1 Multi-Group Analysis: Singapore vs. USA 256
5.8.2 Multi-Group Invariance: Users vs. Non-Users 260
5.8.3 Multi-Group Invariance: Females vs. Males 264
5.9 CHAPTER SUMMARY 268
Chapter 6. DISCUSSION AND IMPLICATIONS 270
6.1 OVERALL MODEL PERFORMANCE 270
6.2 SOURCE CREDIBILITY 273
6.3 PERCEPTUAL HOMOPHILY 278
6.4 PERCEIVED MEDIA RICHNESS 281
6.5 PERCEIVED ENJOYMENT 283

6.6 PERCEIVED USEFULNESS 285
6.7 PERCEIVED EASE OF USE 288
6.8 ATTITUDE TOWARDS USING CGM FOR TRAVEL PLANNING 290
6.9 BEHAVIOURAL INTENTION TO USE CGM FOR TRAVEL PLANNING 291
6.10 MEDIATING EFFECTS 293
6.11 INTERPRETING THE GROUP DIFFERENCES 296
    6.11.1 Country of Residence 297
    6.11.2 Prior Experience with Using CGM for Travel Planning 299
    6.11.3 Gender 303
6.12 THEORETICAL CONTRIBUTIONS 305
6.13 METHODOLOGICAL CONTRIBUTIONS 310
6.14 PRACTICAL CONTRIBUTIONS 314
    6.14.1 Implications for CGM Platform Managers and System Designers 314
    6.14.2 Implications for Hospitality, Travel and Tourism Managers 319
6.15 CHAPTER SUMMARY 321
Chapter 7. CONCLUSION 323
7.1 OVERVIEW OF THE STUDY 323
7.2 SUPPORT FOR THE HYPOTHESES 327
7.3 ACHIEVEMENT OF RESEARCH OBJECTIVES 330
7.4 STUDY LIMITATIONS 333
7.5 FUTURE RESEARCH DIRECTIONS 336
7.6 CONCLUDING REMARKS 341
REFERENCES 343
APPENDICES 413
Appendix A. PRELIMINARY DRAFT OF THE QUESTIONNAIRE FOR EXPERT PANEL REVIEW 414
Appendix B. ONLINE QUESTIONNAIRE FOR THE PILOT STUDY 420
Appendix C. ONLINE QUESTIONNAIRE FOR THE MAIN SURVEY 433
Appendix D. CROSS-LOADINGS FOR THE MEASUREMENT MODELS USING THE CROSS-VALIDATION SAMPLE 446
Appendix E. TABLE OF LOADINGS AND CROSS-LOADINGS FOR THE OVERALL MEASUREMENT MODEL 447
Appendix F. ESTIMATION OF THE STRUCTURAL MODEL IN SMARTPLS 2.0 (BETA) M3 SOFTWARE PACKAGE 448
Appendix G. TABLE OF LOADINGS AND CROSS-LOADINGS FOR THE SINGAPORE SUB-SAMPLE 449
Appendix H. TABLE OF LOADINGS AND CROSS-LOADINGS FOR THE USA SUB-SAMPLE 450
Appendix I. TABLE OF LOADINGS AND CROSS-LOADINGS FOR THE USERS' SUB-SAMPLE 451
Appendix J. TABLE OF LOADINGS AND CROSS-LOADINGS FOR THE NON-USERS' SUB-SAMPLE 452
Appendix K. TABLE OF LOADINGS AND CROSS-LOADINGS FOR THE FEMALES' SUB-SAMPLE 453

Appendix L. TABLE OF LOADINGS AND CROSS-LOADINGS FOR THE MALES' SUB-SAMPLE 454

List of Figures

Figure 2.1: A News report on UK hospitality managers' outcry against TripAdvisor's 'Dirtiest Hotels' 57
Figure 2.2: Contradictory Comments on a Consumer-Generated Review Website .58
Figure 2.3: Theory of Reasoned Action..........65
Figure 2.4: Theory of Planned Behaviour 68
Figure 2.5: Classical Technology Acceptance Model..........72
Figure 3.1: Proposed Conceptual Model for CGM Utilisation Intention..........89
Figure 3.2: Proposed Model Depicting the Hypothesised Relationships 131
Figure 4.1: Research Design 135
Figure 4.2: Stages and Steps in Computing the PLS-SEM Algorithm 196
Figure 5.1: Respondents' Prior Experiences with CGM Websites..........214
Figure 5.2: Structural Model 234
Figure 5.3: Structural Model with Standardised Parameter Estimates 240

List of Tables

Table 1.1: Definition of Key Terms 25
Table 2.1: Studies Related to Technology Adoption in the Hospitality and Tourism Field 61
Table 2.2: Summary of variables used to extend the TAM 80
Table 4.1: Operational Definition of Constructs and Proposed Measurement Items .147
Table 4.2: A Draft Outline of the Online Questionnaire 154
Table 4.3: Explanation of Consumer-Generated Media to Study Participants....................155
Table 4.4: Descriptive Statistics of the Main Constructs 161
Table 4.5: Profile of Pilot Study Participants 164
Table 4.6: Pilot Study Respondents Prior Usage Experience with CGM 165
Table 4.7: Results of Principal Component Analysis for the Reflective Constructs..171
Table 4.8: Component Correlation Matrix 173
Table 4.9: Indicator Validity and Collinearity for *Perceived Media Richness* 176
Table 5.1: Univariate and Multivariate Normality Test Result 206
Table 5.2: Descriptive Statistics for Major Constructs in the Main Survey....................209
Table 5.3: Profile of Main Survey Respondents 213
Table 5.4: Respondents' Prior Experience with Using CGM for Travel Planning 214
Table 5.5: PCA for the Reflective Constructs Using the Calibration Sample....................220
Table 5.6: Component Correlation Matrix 222
Table 5.7: Indicator Validity and Collinearity for *Perceived Media Richness*....................224
Table 5.8: Factor-loadings, AVE and Reliability Coefficients 229
Table 5.9: Inter-Construct Correlations and the Square-Root of AVE 231
Table 5.10: Second-Order Factorial Validity Test Results 231
Table 5.11: Cross-Validation: Indicator Validity and Collinearity for *Perceived Media Richness*....................233
Table 5.12: Descriptive Data, Inter-Construct Correlations and the Square-Root of AVE 236
Table 5.13: Factor Loadings for Individual Items....................237
Table 5.14: Indicator Weights, Significance and Collinearity for *Perceived Media Richness*....................239
Table 5.15: The Prediction Relevance (Q^2) Test 241
Table 5.16: Results of Hypothesis Testing 246
Table 5.17: Cohen's f^2 and Squared Multiple Correlation 248
Table 5.18: Direct, Indirect and Total Effects 253
Table 5.19: Country-Specific Measurement Model Evaluation....................257
Table 5.20: Country-Specific PLS Path Modelling Results....................260
Table 5.21: Group-Specific Measurement Model Evaluation for Users and Non-Users 261
Table 5.22: Group-Specific Path Modelling Results for Users and Non-Users....................264

Table 5.23: Group-Specific Measurement Model Evaluation for Females and Males 265
Table 5.24: Group-Specific Path Modelling Results for Females and Males 267

Chapter 1. INTRODUCTION

1.1 BACKGROUND

Over the last decade, the online travel industry has been undergoing a major transition – adapting to new technologies and trends available on the Internet. Of key significance in this transition is the emergence of social media websites which represent different forms of user-generated content (UGC) such as blogs, virtual communities, wikis, social networks, collaborative tagging and media files shared on sites like *YouTube* and *Flickr* (Pan, MacLaurin, & Crotts, 2007; Xiang & Gretzel, 2009).

O'Connor (2010) notes that the World Wide Web is evolving from a business-to-consumer (B2C) marketing media to one where peer-to-peer (P2P) generation and sharing of data is the norm. This revolution has brought into being many online communities, especially those organised by travel and tourism marketing organisations. Gupta and Kim (2004) describe these websites as ‘coffee shops’ where people are able to “find and then electronically ‘talk’ to others with similar interests” (p. 2679). Here, people “meet and discuss on forums and bulletin forms or exchange information on social networking sites” (Chung & Buhalis, 2008a, p. 70). The content created by consumers through this platform is referred to as consumer-generated media (CGM). Also known as user-generated content (UGC) or user-created content (UCC), CGM websites engage tourists and enrich their online experiences. The new media environment of Web 2.0 empowers any individual to post their own content in the form of text (opinions), videos, audio or imagery to the web for other users to access and respond to (Cox, Burgess, Sellitto, & Buultjens, 2009). The willingness of travellers to share information online is astonishingly high, and this has resulted in the proliferation of online communities which are centred on shared interest in certain destinations or activities (Merkl & Scharl, 2008). As noted by Merkl and Scharl (2008), CGM yields important information to enhance decision making, and aid in the improvement of the accuracy of marketing campaigns.

Though online communities have existed in some form or the other for the past 30 years (Ridings, Gefen, & Arinze, 2002), the emergence of Web 2.0 or what is also referred to as the "interactive web" in the 21st Century gave a new dimension to their application. The rise of new CGM sites such as *YouTube*, *Flickr*, *Twitter*, *Facebook*, *MySpace*, *Skype* and *Linkedin*, among many others, attests to the growing importance of this phenomenon. Consequently, the usage of CGM websites has shot up to unprecedented levels within the past few years and is expected to continue to increase in importance in the future as the Internet becomes more pervasive in the changing global economy (eMarketer, 2010; Thraenhart, 2010). For instance, when looking at sites that generate the most daily traffic, Rubicon Consulting, Inc. (2008) reports that the most intensely used site category after search is social networking. In that same study, three leading CGM sites – *YouTube*, *Wikipedia* and *Facebook* – were the most valued websites by consumers, after Google and Yahoo. Currently, *Facebook* and *YouTube* are ranked with Google as the top three most visited websites (Ranking.com, 2012). *Facebook,* alone, reports of over 955 million active users (Facebook, 2012).

1.1.1 CGM in the Domain of Travel and Tourism

The growing importance of consumer-generated media can even be felt more in the travel and tourism sector. The travel industry has embraced the influence of CGM while social media management is turning out to be a core competency in hospitality and tourism management. Burgess, Sellitto, Cox and Buultjens (2009) observe that a growing number of travellers are using CGM sites to share information – post travel reviews, pictures and videos, obtain other travellers' comments about travel destinations, products and services. Furthermore, consumers are increasingly employing CGM sites to support or criticise organisations for the quality of their products and services (Chung & Buhalis, 2008a; Au, Buhalis, & Law, 2009). In response, hospitality and tourism businesses are integrating CGM websites into their business modules (AirPlus Int., 2010; Thraenhart, 2010). This situation is further complicated by the changing information search behaviour of travellers.

1.1.2 Changing Information Search Behaviour of Travellers

In view of the opportunities offered by the emerging web technologies, travellers' behaviour vis-à-vis information search and travel planning is changing. According to Werthner and Ricci (2004), 'a new type of user is emerging, one who acts as his or her own travel agent and builds a personalised travel package' (p. 101). Travellers are becoming more independent, searching for their own information and making their own decisions about destinations and services, with less or no involvement of travel intermediaries. In the past, such travellers often relied on the websites of service providers, destination marketers and intermediaries for travel information. This is changing. According to Chung and Buhalis (2008a; p. 72), the ‘type and relative importance of information sources have changed over time’. They explain that the proliferation of information available on the Internet from a glut of varied providers has raised doubts about the reliability and accuracy of such information. Senecal and Nantel (2004) note that many consumers are cynical about any form of information that apparently promotes the interest of the creator of that information and thus, may prefer to rely on fellow consumers to obtain their evaluations about services and products.

As a result, a rising number of travellers are now resorting to CGM websites for travel-related content which has been posted by their peers rather than by travel service providers (Compete, Inc., 2006; Forrester Research, 2006; Gretzel, Hyan-Yoo, & Purifoy, 2007). At the beginning of the 21st century, Wang, Yu and Fesenmaier (2002) captured the growing importance of this phenomenon in the travel domain:

> …more and more travellers are turning to online travel communities to fulfil their travel-related tasks, ranging from seeking travel information and tips, making travel transactions, fostering relationships with people from far away, finding travel companions, to simply playing games for entertainment purposes (p. 407)

Travellers are increasingly utilising information from CGM websites to make travel-related decisions and to shape perceptions and images about destinations and travel offerings (Compete, Inc., 2006; Arsal, Backman, & Baldwin, 2008). Park, Lee and Han (2007) assert that information obtained from convincing reviews can positively influence the chance of product purchase. This platform is especially important in hospitality and tourism considering the fact that services are intangible and difficult to assess before their consumption, and consumers thus rely a great deal on word-of-mouth (Litvin, Goldsmith, & Pan, 2008; Yoo & Gretzel, 2009). A number of scholars have also conjectured that since non-commercial information is perceived to be more objective and credible, consumers tend to regard information from their peers as more trustworthy (Niininen, March, & Buhalis, 2006; Litvin *et al.*, 2008; Chung & Buhalis, 2008a).

1.1.3 New Challenges Emerging with Consumer-Generated Media

Nonetheless, the characteristics of this recent type of media prompt several concerns. Some of these challenges are rooted in the subjective nature of the views of CGM contributors. Readers of CGM are confronted with the tricky task of evaluating the opinions of complete strangers (Dellarocas, 2003; Park *et al.*, 2007; Litvin *et al.*, 2008). In online settings, most of the cues that assist in the proper interpretation of opinions and gossip (such as acquaintance with the person providing the information; inferences from the person's facial expression, mode of dressing, etc.) are lacking. Another concern with CGM is that they include contributions from a blend of amateur, semi-professional and professional people (Burgess *et al.*, 2009). Furthermore, the ease with which online identities can be changed makes CGM vulnerable to various forms of strategic manipulation and abuse (Friedman & Resnick, 2001; Dellarocas, 2003), and thus poses additional challenges to the interpretation of this type of content. For instance, travel operators—posing as independent reviewers—can use fake online identities and post dishonest comments and reviews and, as a result, promote their reputation or tarnish that of their competitors (Dellarocas, 2000; Bray & Schetzina, 2006; Ibrahim, 2008; Litvin *et al*., 2008). Preece (2000) points out that online communities mean different things to different people. For some, they conjure warm, fuzzy, reassuring images of people chatting and helping each other. For others, they generate dark images of conspiracy, subversive and criminal behaviour, and invasion of privacy. Recent media reports about some criminal acts (such as fraud, child kidnapping and rape) perpetuated through popular CGM websites like *Facebook* and *MySpace* give credence to the latter assertion. Other media reports about some managers paying webmasters of CGM sites to delete consumers' negative comments further raise credibility concerns (Yan, 2010). A recent report by Travolution reveals that hoteliers are being contacted by dubious organisations offering to write positive reviews of their hotel on high profile sites like *TripAdvisor* for a monthly fee. The report further illustrates this with one hotel that had managed to get some glowing reviews posted online before it had even begun operations (Fox, 2010). Lastly, the mediated nature of CGM websites raises alarm about the trustworthiness of their operators (Dellarocas, 2003). In other words, a key concern about this medium is how users can be assured that the information they are viewing is, in reality, independent and hence trustworthy (Gretzel, 2006).

Consequently, some studies (Jin, Bloch, & Cameron, 2002; Smith, Menon, & Sivakumar, 2005; Dellarocas, 2006) report that online reviewers are less credible than traditional word-of-mouth sources owing to the absence of source cues online. Furthermore, a study by the Centre for the Digital Future (2006) indicates that the credibility of information pages posted by individuals is low. This view was also supported by a Jupiter Research study in which merely 21 percent of consumers surveyed really trust information given about products on general social networking sites whereas content on corporate websites was considered far more trustworthy (Wasserman, 2006). Rosenblum (2007) also found that the trust levels associated with general social networking websites were lower than other websites. A recent study by Cox *et al.* (2009) lends further support to this contention by reporting that non-CGM sources are significantly more trusted by prospective travellers than CGM sources.

These findings, however, apparently contradict the conclusions of other studies which underscored the credibility of consumer-generated media over that of service providers. Park *et al.* (2007), for example, suggest that online consumer reviews are often considered more credible than information provided by suppliers of products and services. Also, Bickart and Schindler (2001) observed that electronic word-of-mouth may possess higher credibility for customers than information sources created by marketers on the Internet. A more recent study performed by Dickinger (2011) which compared the trustworthiness of three different online channels reports that CGM appear to be highly trustworthy. Similar connotations were made by Senecal and Nantel (2004) and Armstrong and Hagel (1995). A study by Rubicon

Consulting, Inc. (2008) indicates that online reviews are second to word-of-mouth in influencing purchase decisions and, accordingly, are more influential than information posted by sellers. Thus, previous studies of CGM do not demonstrate clear patterns on the value of this recent source of information to travellers.

1.2 PROBLEM STATEMENT

The problem statement for this study is twofold. First, it highlights the research gap involving the need for further inquiry into the factors affecting online travellers' utilisation of CGM. Second, the application of information system adoption models and the critical issues surrounding travel planning are discussed.

1.2.1 Need for Further Inquiry into the Determinants of CGM Utilisation for Travel Planning

As noted above, the existing literature on the value of CGM to consumers has been contradictory. While some researchers claim that CGM are less credible than information from service providers or marketers (e.g. Wasserman, 2006; Rosenblum, 2007; Cox *et al*., 2009), others point to the contrary (e.g. Armstrong & Hagel, 1995; Senecal & Nantel, 2004; Gretzel *et al*., 2007; Park *et al*., 2007; Dickinger, 2011). In view of this, understanding the conditions under which CGM will be embraced by consumers represent a critical challenge for hospitality and tourism practitioners, CGM website managers, researchers and general marketers.

Also, despite the growing enthusiasm about CGM and social media in general, research suggests that they are still under-utilised as essential tools for the purpose of trip planning by the general population. Some studies report that the majority of Internet users are not using CGM for travel planning. For example, in a recent study by Cox *et al.* (2009), which surveyed 12,000 travellers who use the Internet to search for travel information, only about 40% of them have ever used CGM in their travel planning. Another survey of 1,000 individuals who embarked on holidays in the year of 2010 found that only one in three consulted some form of social media during the planning phase of their trip (World Travel Market, 2010). In other words, 64% did not employ any social media. Furthermore, the study by the World Travel Market (2010) suggested that not more than a quarter (24%) of holiday makers were expected to use social media to plan their 2011 holiday. These studies, however, did not explain the factors that are responsible for such low usage. This brings to the fore the need for a better understanding of the drivers of CGM usage for travel planning. Yet, in spite of the growing amount of literature on consumers' online behaviour, little is presently known about the specific factors that drive online travellers' usage of CGM for travel planning and the relative importance of these factors.

While a growing number of researchers have recently turned their attention to CGM, these studies have predominantly focused on the impact of CGM on product awareness and purchase decisions (e.g. Kim, Lee, & Hiemstra, 2004; Senecal & Nantel, 2004; Arsal *et al.*, 2008; Chung & Buhalis, 2008a; Duan, Gu, & Whinston, 2008; Gretzel & Yoo, 2008; Lee & Kwon, 2008; Arsal, Baldwin, & Backman, 2009; Gupta & Harris, 2010; Huang, Chou, & Lin, 2010; Ye, Law, Gu, & Chen, 2011) as well as on online community participation (e.g. Ridings *et al*., 2002; Wang & Fesenmaier, 2004a, 2004a; Wu & Chang, 2005; Chiu, Hsu, & Wang, 2006; Lu & Hsiao, 2007; Chen & Hung, 2010; Papathanassis & Knolle, 2010) and CGM creation (e.g. Yoo & Gretzel, 2011a), but not on the factors affecting usage for travel planning. However, the context of CGM adoption for travel planning is distinct from that of online community participation. For instance, despite the fact that the general acceptance of the Internet has been studied widely (King & He, 2006; Castañeda *et al*., 2009), Luque-Martínez, Castañeda, Frías, Muñoz and Rodríguez (2007) contend that tourist information search have unique features that require research focused on Internet acceptance for this specific purpose. The few studies that have examined individuals' use of CGM specifically for travel planning have mainly been exploratory in design, lacking solid conceptual models and offered little explanation for the factors determining CGM usage (e.g. Cox *et al*., 2009; Hofstaetter & Egger, 2009; Mendes-Filho, Tan, & Milne, 2010; Williams, Wiele, Iwaarden, & Eldridge, 2010). Nonetheless, without a better understanding of the determinants of online travellers' utilisation of CGM specifically for travel planning, CGM platform operators, hospitality and tourism practitioners, and general marketers would not realise how to maximise its use in the travel domain. Recently, more organisations are investing a significant amount of resources in social media marketing. If travellers are unwilling to accept CGM for their travel planning, the focus and commitment of the travel and tourism industry to the creation of social media platforms in communicating with their customers will be misplaced and the return on investment for hospitality and tourism organisations, in this regard, diminished.

1.2.2 Application of Information System Adoption Models to CGM and the Travel Planning Context

Generally, the way people view and respond to technology has been a major subject of interest for many scholars. Nonetheless, despite the considerable amount of research on technology adoption, “user acceptance of information technology remains a complex, elusive, yet extremely important phenomenon” (Venkatesh & Davis, 2000, p. 200). Information System (IS) researchers tend to use social psychology theories such as Ajzen and Fishbein’s (1980) Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (Ajzen, 1988, 1991) and Davis’ (1989) Technology Acceptance Model to explain individuals’ acceptance of information systems. The Technology Acceptance Model (TAM) compares favourably with alternative or competing models of user acceptance such as the Theory of Reasoned Action and the Theory of Planned Behaviour (see Venkatesh, 1999 and Lin, 2007 for review). For the past two decades, most researchers investigating technology adoption in different contexts widely used the TAM though there were some occasional divergent opinions favouring other theoretical models (Schepers & Wetzels, 2007; Oh *et al*., 2009; Morosan, 2012). The TAM has also served as a starting point for many extensions and elaborations.

Perhaps, the most well received theory of information systems adoption, the TAM was developed from the Theory of Reasoned Action (Ajzen & Fishbein, 1980). The basic premise of the TAM is that individual perceptions about the ‘usefulness’ and ‘ease of use’ of a technological application could be used to predict acceptance (Davis, 1989). Behavioural intent constitutes a key element of the TAM and it envisages the desired action – actual use of the system.

The theory was designed to explain new technology adoption in the organizational context, not specifically online behaviour. However, overtime, the model has been extended to a wide range of study areas (beyond the organizational setting) on individuals’ adoption of technological innovations, including online banking, online shopping, multimedia messaging services, health information systems and e-learning (e.g. Pikkarainen, Pikkarainen, Karjaluoto, & Pahnila, 2004; Roca, Chiu, & Martinez, 2006; Hsu, Lu, & Hsu, 2007). Notwithstanding, some scholars suggest that TAM application to information system acceptance in hospitality and tourism settings is still in its infancy stage (Huh, Kim, & Law, 2009). Thus, researchers continue to call for additional efforts to validate existing research results and extend the model’s theoretical validity and empirical applicability to different technologies, users and settings.

While the TAM has proven useful in explaining a significant proportion of variance in the adoption of Information Technology (IT) applications, it might not be adequate for explaining consumers’ behaviour toward newly emerging technologies such as CGM. As Moon and Kim (2001) pointed out, factors contributing to the acceptance of new IT are expected to vary with the technology, target users, and context. Therefore, despite the predictiveness of TAM, its generality does not offer sufficient understanding of online travellers' use of CGM. Thus, for the specific context of CGM adoption for travel planning, the perceived usefulness and ease of use explanatory factors are inadequate due to contextual differences.

As TAM originated from an organisational setting, most of the previous TAM research related to corporate information systems, professional users and employees who depend on these workplace systems to carry out their jobs. However, prospective travellers' decisions to adopt CGM for travel planning have a number of major differences.

First, prospective travellers are, generally, not professional IT workers and may not even be familiar with mainstream IT. Even previous TAM research that sought to extend the model to the hospitality and tourism domain predominantly focused on the supply side using managers, employees and IT professionals as the subjects (e.g. Woeber & Gretzel, 2000; Lam, Cho, & Qu, 2007; Ham, Kim, & Forsythe, 2008; Huh *et al.*, 2009). These subjects are not representative of travellers hence circumscribe the extent to which the findings of these studies can apply to prospective travellers. Also, unlike most work situations where pre-use training or orientation is giving to employees to enhance their ease of use of new technologies, travellers using CGM websites in travel planning situations are not privy to such preparation. Therefore, significant differences may exist in the IT skill level of these travellers and such differences can vary widely in concomitant with their backgrounds. Intrinsic motivations such as ease of use and enjoyment may possibly play more crucial roles in this context than in the other settings predominantly covered by the TAM literature.

Second, the adoption of CGM in travel planning is not mandatory, but voluntary. Moreover, the subjects in the organisational setting may probably be more highly motivated to perform well – using a specific system – than the general travel population who are seeking information on their own to plan their holidays. It is possible that this may have caused perceived usefulness, in organisational settings – to have taken on greater importance than it generally would in the travel information seeking context. Prospective travellers always have alternative means of obtaining information for travel planning and may not be highly motivated to use a particular source. Alternative travel information sources include travel agencies, the homepages of service providers (tour companies, hotels, and airlines, among others), destination brochures and travel guides, friends and relatives and organic sources such as news reports or media houses. As observed by Castañeda, Frías and Rodríguez (2009), with regards to travel information, the technology interface (i.e. the Internet) ‘facilitates a more hedonistic activity – holiday enjoyment – which can be negotiated outside the electronic context’ (p. 549). Unlike workplace situations where employees have to use a particular technology irrespective of their positive or negative feelings towards that application, attitudes and intrinsic motivations may play more decisive roles in the decision to use a specific information source. In workplace settings, people are motivated to use the given system not necessary because they hold positive attitudes, but rather because they feel impelled by management to do so. This is not the case in travel planning. Therefore, the traveller may be less interested in the outcome of the information search process (extrinsic motivation) and more intrinsically motivated (Castañeda, Frías, Muñoz, & Rodríguez, 2007a) than in workplace settings.

Third and most importantly, the distinct characteristics of travel information and concerns emerging from the discrete nature of CGM may also limit the utility of TAM in the context of this study. The characteristics of tourism as a service product – intangibility, perishability, heterogeneity, and simultaneous production and consumption – result in higher perceived risks with barely any objectively measurable qualities before purchasing (Mehta, Lalwani, & Ping, 2001; Hsu, Kang, & Lam, 2006). The nature of the tourism product requires tourists to move geographically from their usual environment to, often, unfamiliar and distant places in order for consumption to take place. And because the tourism product, in most cases, cannot be tasted in advance, decision making and consumption are separated by time and space (Werthner & Klein, 1999) and concomitant with many uncertainties. To overcome these uncertainties, prospective travellers seek information from various sources beforehand. In the search for information from various sources, credibility will be crucial as travel information is sought in an attempt to reduce perceived risk and uncertainty (Klein, 1998). Yoo and Gretzel (2009) note that the intangibility of travel offerings makes trip planners rely more on others' experiences and opinions. A number of scholars conjecture that since non-commercial information is perceived to be more objective and credible, consumers tend to regard information from their peers as more trustworthy (Niininen *et al*., 2006; Litvin *et al*., 2008; Chung & Buhalis, 2008a).

Thus, a number of factors – beyond perceived usefulness and ease of use – may affect traveller's attitudes and intentions towards a given source of travel information. It is, therefore, not surprising that the few previous attempts to apply TAM to travel information recorded findings which were somewhat inconsistent with that of the mainstream TAM studies. For example, studies by Xu *et al*. (2010), Castañeda *et al*. (2009) and Luque-Martínez *et al*. (2007) which applied TAM to the adoption of travel information sources found significant differences between this context and the other contexts reported in the conventional TAM literature concerning the importance of the antecedents of use.

A major problem of TAM studies is that the theory has been applied to tasks that were too broad (Lee, Kozar, & Larsen, 2003). However, studies of task-technology fit (Goodhue & Thompson, 1995) have reported that perception of the technology varies in accordance with the type of task. Studies by Moon and Kim (2001) and Karahanna and Straub (1999) all acknowledge that research findings cannot be generalised under conditions which are task-dependent. In addition, Gefen and Straub's (2000) observation that some constructs within the TAM (particularly, perceived ease of use), respond differently in accordance with the task type further underscores the need to examine the application of TAM to technology adoption within the context of specific tasks. Goodhue and Thompson (1995) contend that the lack of task focus in evaluating information systems is responsible for the mixed results in information systems acceptance. Accordingly, Lee *et al*. (2003) highlight the need for future TAM studies to specify tasks more granularly. Therefore, in the context of CGM usage for the specific purpose of travel planning, the roles of TAM factors may differ.

Furthermore, the distinct characteristics of CGM prompt concerns that may affect attitudes towards usage. As discussed in the previous section, these concerns relate to the subjective nature of online travel opinions (Dellarocas, 2003), the complicated task of evaluating opinions of complete strangers in the absence of physical cues (Litvin *et al*., 2008; Burgess *et al*., 2009), the vulnerability of CGM to strategic manipulation and abuse by some organisations (Dellarocas, 2000; Ibrahim, 2008; Litvin *et al*., 2008), and uncertainty about the trustworthiness of the website operators (Dellarocas, 2003; Gretzel, 2006), among others. Thus, in the context of CGM usage for travel planning, perceived usefulness and ease of use may not be the only beliefs affecting attitude. This calls for the consideration of other possible beliefs that should be added to the model to improve our understanding of CGM adoption behaviour. As CGM sites do not only represent a technological system (Web 2.0), but also, a source of information, the attitudes and behavioural intentions of travellers to use the content for travel planning will be affected by a variety of factors vis-à-vis technology, information and sources.

In view of the above, the TAM, in its present state, cannot adequately explain the factors that determine online travellers' utilisation of CGM for travel planning. Thus, additional factors which are appropriate to the context of CGM and travel planning need to be integrated into the original TAM to enhance our understanding of online travellers' use of CGM in the travel planning situation.

1.3 PURPOSE AND OBJECTIVES OF THE STUDY

Given the general recognition of the rising importance of CGM, the critical issues raised in the earlier discussion, as well as the inadequacies in the existing literature regarding the determinants of usage in the travel planning context, the purpose of this study is to investigate the factors that affect online travellers' behavioural intention to use consumer-generated media in the travel planning situation. The study attempts to address this through a theoretical extension of Davis' (1989) Technology Acceptance Model (TAM).

Specifically, the study seeks to:

1. expand upon Davis' (1989) Technology Acceptance Model by introducing new predictors that are appropriate to the CGM context
2. identify the underlying structure of the proposed constructs (i.e. perceptual homophily, source credibility, perceived enjoyment, perceived usefulness, perceived ease of use, attitude and usage intention)
3. investigate how source credibility, perceived enjoyment, perceived usefulness and perceived ease of use influence online travellers' attitudes and behavioural

intention to use CGM for travel planning

4. explore the effects of perceptual homophily and perceived media richness on source credibility and usefulness perceptions respectively
5. assess the effectiveness of the proposed model for predicting online travellers' attitude and behavioural intention to use CGM for travel planning
6. investigate measurement and structural invariance in the proposed model

In order to realize the above-stated objectives, the study seeks to address the following research questions. First, how can the original TAM be modified to better predict and explain the behavioural intention of online travel consumers to use CGM for travel planning? Second, what is the underlying structure of the constructs in the proposed model? Third, how do the proposed factors influence online travellers' attitudes and behavioural intention to use CGM for travel planning? Fourth, how well does the proposed model predict online travellers' attitude and intention to use CGM for travel planning? Fifth, to what extent does the proposed model vary across sub-groups?

As Voermans and van Veldhoven (2007) note, the usability of any IT system is hard to conceptualise in complete disconnection from the purpose it serves. A study by Moon and Kim (2001), for instance, revealed that the significant factors affecting Internet usage depend on the task type. Therefore, heeding the advice by Lee *et al.* (2003), that future TAM studies need to specify tasks more distinctively, this study focuses on the utilisation of CGM for a specific purpose – travel planning. Thus, the present study seeks to address the overall research question: Which determining factors are able to generate positive impact on online travellers' attitude and intention to use CGM for the particular purpose of travel planning? The research is to be conducted through an application of the TAM and a variety of theories from other disciplines, which is beneficial in both theory and practice, given the complex nature of travellers' online behaviour in the current Web 2.0 environment. More explicitly, the study borrows concepts from the theories of Homophily, Source Credibility, Motivation and Media Richness – to explain the antecedents of the behavioural intention to use CGM for travel planning.

1.4 SIGNIFICANCE OF THE STUDY

The present study seeks to bring to light some issues that are deemed important from both theoretical and practical perspectives.

1.4.1 Theoretical Contributions

This study attempts to address the current knowledge gap regarding the factors determining travellers' utilisation of consumer-generated media. Consumer-generated media in the travel domain is one under-studied area in tourism literature (Gretzel *et al.*, 2007), more especially, the critical determinants of CGM usage for the purpose of travel planning. Furthermore, existing studies on the credibility and the importance of different information sources in the consumer decision making process remain inconclusive. This study thus makes substantial contributions to literature on tourism information search behaviour in the online environment.

Secondly, the study seeks to examine the theoretical validity and empirical applicability of Davis’ (1989) Technology Acceptance Model to the context of CGM in the travel domain and offers a theoretical extension by integrating the constructs of source credibility, perceptual homophily, perceived media richness and enjoyment. It enriches theory in this field by identifying and testing the effects of the different factors that may determine online travellers’ use of CGM in the present social media context for travel planning. This is crucial in view of the fact that most users of CGM are readers and not creators (Rubicon Consulting, Inc., 2008). Furthermore, the study develops and validates new instrument to measure online travellers’ perceived media richness in the social media setting and also demonstrates the validity of adapted scales from existing literature to CGM contexts.

1.4.2 Practical Contributions

From a practical point of view, this study does not only explain why CGM may be unacceptable to travellers, but also offer insights into how to improve user acceptance for travel planning. Businesses are being encouraged to embrace social media as a means of enhancing customer satisfaction (AirPlus Int., 2010). At present, there is clearly limited understanding of what approach hospitality and tourism organisations could employ towards the integration of CGM into their online marketing strategies. Essentially, whatever approach these organisations choose to pursue should allow for, given the consumer focus of CGM, the factors influencing the end users’ adoption.

Understanding the factors driving online travellers' use of CGM is a preliminary step to developing a strategic approach towards CGM. It will help them formulate strategies to integrate social media into their marketing tools. For example, understanding the relative value of, say, the credibility factors, compared to other factors, will help CGM platform designers and managers to know how to incorporate credibility-building mechanisms into their CGM sites for better usage. Travel and tourism businesses may also want to select CGM sites which can draw greater adoption from travellers for marketing and customer-relationship management purposes.

It is believed that companies' responses to online reviews are poor (Au *et al*., 2009). This may be as a result of the uncertainty about the value travellers place on CGM. Understanding the antecedents of online travellers' attitudes and behavioural intentions towards CGM will help businesses to ascertain the kind of CGM that must be taken serious and those that need to be ignored. This will enable them to direct their efforts more specifically towards meeting consumers' genuine concerns.

Understanding the factors determining end-user utilisation of CGM is also of great interest to providers of user-generated websites and general marketers. Without a better understanding of the determinants of travellers' usage of this media, CGM platform providers cannot improve their services. Thus findings can be translated into enhanced CGM website design and management approaches. The digital revolution is generating more and varied forms of CGM sites which use peer-to-peer technologies.

For such platforms to be successful, it must meet the usage requirements of users. Those that integrate mechanisms which address the critical determinants of usage are most likely to be successful. The findings can thus help webmasters and organizers of CGM sites to better manage their platforms for the purpose of drawing wider usage from travellers.

1.5 ORGANISATION OF THE THESIS

This thesis is organised in seven chapters. Chapter 1 introduces the research by providing background information to the whole study and defining the research objectives. The chapter also demonstrates the significance of the present study by outlining the contributions to theory and practice. Chapter 2 provides a review of relevant literature on related issues, focusing on information search behaviour of travellers, user-generated content, an overview of previous studies on IT adoption in the hospitality and Tourism domain, and existing perspectives on CGM usage, among others. Chapter 3 centres on the theoretical development of the study. It delineates the conceptual framework and specifies the hypotheses proposed for the present study. Chapter 4 provides details of the methodology guiding the entire research procedure. This chapter also describes the research design, sampling technique, and the methods for data collection and analysis. The chapter also reports on the pilot study and the procedure used in developing research instruments for the study. In Chapter 5, the results of the main survey and the analyses, using the structural equation modelling technique of partial least squares, are presented. The chapter concludes with the results of a PLS based multi-group analysis. Chapter 6 discusses the findings and consider their implication for theory and practice whilst Chapter 7 concludes the report by summarising the thesis, revisiting the research objectives and drawing conclusions about their realisation. The chapter further draws attention to limitations of the study and suggests directions for future research. A list with specific terms used throughout this thesis has been defined in Table 1.1.

Table 1.1: Definition of Key Terms

Terms	*Definition*
Social media	A group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content (Kaplan & Haenlein, 2010, p. 61).
Web 2.0	The technical infrastructure that enables the social phenomenon of collective media and facilitates consumer-generated content (Berthon, Pitt, Plangger, & Shapiro, 2012, p. 262).
User-generated content/ Consumer-generated media	Different kinds of media content created and published online by users who, in the past, have been at the consuming end (Wunsch-Vincent & Vickery, 2007, p. 8)
Behavioural intention	A person's subjective probability that he will perform a certain behaviour (Fishbein & Ajzen, 1975)
Attitude toward behaviour	An individual's positive or negative feelings (evaluative affect) about performing the target behaviour (Fishbein & Ajzen, 1975, p. 216)
Perceived usefulness	The degree to which a person believes that the use of a particular system would enhance his or her work performance (Kraemer, Danziger, Dunkle, & King, 1993)
Perceived ease of use	The degree to which a person believes that using a particular system would be free of effort (Davis, 1989, p. 320)

Terms	*Definition*
Perceived enjoyment	The extent to which the activity of using a specific system is perceived to be enjoyable in its own right, aside from any performance consequences resulting from system use (Davis, Bagozzi, & Warshaw, 1992)
Credibility	Judgments made by a perceiver concerning the believability of an information source (O’Keefe, 2002)
Perceptual homophily	The similarities among people regarding their likes, dislikes, values, and experiences (Gilly, Graham, Wolfinbarger, & Yale, 1998).
Perceived media richness	The amount of information and multiplicity of sources required to satisfy one’s requirement of informedness (Papathanassis & Knolle, 2010, p. 5)

Chapter 2. LITERATURE REVIEW

This chapter commences with a review of literature pertaining to the role of information in the travel planning process, together with the nature and sources of travel information. Among others, the growing importance of Web 2.0, consumer-generated media and related studies in the travel and tourism domain are also discussed. The section ends with an overview of previous studies on IT adoption in Hospitality and Tourism and a review of relevant theories in information systems adoption research.

2.1 TRAVEL PLANNING AND THE ROLE OF INFORMATION

Information search and decision making have been extensively discussed in the general marketing literature. From travel marketers' perspective, understanding travellers' information search and travel planning behaviour is crucial for marketing management decisions (Schmidt & Spreng, 1996; Choi, Lehto, & O'Leary, 2007). A factual understanding of how consumers search for and evaluate various information sources for travel planning is important for tourism marketers as it enables them to design effective marketing communication strategies to influence travellers' decisions. Research on information search helps travel marketers to understand the underlying reasons for travellers' decisions in order to effectively profile their potential customers, communicate with and persuade them to purchase their products and services (Jang, 2004). In view of this, tourists' information search behaviour has been of interest to researchers for many years (Arsal *et al*., 2008) and it is one of the most widely studied issues in consumer behaviour (Fodness & Murray, 1997, 1998; Gursoy, 2003; Gursoy & McCleary, 2004; Hyde, 2008). Research on tourist information search has often examined information needs, antecedents, and outcomes as well as the extent of different source usage (Snepenger, Meged, Snelling, & Worrall, 1990; Fodness & Murray, 1997, 1998; Vogt & Fesenmaier, 1998; Grønflaten, 2009).

As tourism represents one of the most information-intensive industries, information plays a crucial role in its various processes. Information search has been defined by Moutinho (1987) as the expressed need to consult various sources before making a purchase decision. A number of studies cite decision-making and product choice as the key reasons for information search (Moorthy, Ratchford, & Talukdar, 1997; Pan & Fesenmaier, 2006). For tourists, information acquisition is essential for selecting a destination and making onsite decisions related to accommodation, transportation, activities, tours, etc. (Fodness & Murray, 1998; Kim *et al*., 2007). However, it has also been established that people who seek travel information do not always have actual intention to travel (Messmer & Johnson, 1993; Chung & Buhalis, 2008b). In addition to fulfilling functional needs, people may collect travel information to share with others or for mere pleasure.

It is generally accepted that decision-making and information search commence with need recognition (Crotts, 1999; Pan & Fesenmaier, 2006; Kotler, Bowen, & Makens, 2010). These needs are highly diverse and can be functional, hedonic, aesthetic, social, and psychological (Vogt & Fesenmaier, 1998; Wang & Fesenmaier, 2004a). Often, the prime motive for conducting information search in the course of travel planning is to enhance the quality of the trip (McIntosh & Goeldner, 1990). Potential tourists would want to know the available opportunities, where such opportunities can be found, and how much they would cost. After deciding on a destination, travellers still need information on transport, accommodation, safety, attraction, food and other services that will meet their personal preferences and taste (Snepenger *et al*., 1990).

Generally, travellers collect and review diverse forms of travel information in the early part of the travel decision making process to reduce the risk of making poor choices (Jeng & Fensemaier, 2002; Cox *et al*., 2009). They search for information in order to reduce the level of uncertainty associated with the trip and thus, enhance the quality of their trip. Pan and Fesenmaier (2006) observed that travellers are inclined to look for information regarding ten key decisions areas – the destination, travel partners, activities, expenditure required, travel dates; attractions to visit; transportation; length of trip, rest stops and food stops.

Another issue emphasized in the tourism information search literature is the antecedent factors or determinants of search. Experience, the composition of travelling parties, the presence of friends or relatives at the destination, the degree of novelty regarding the destination, the purpose of the trip and the specific characteristics of the traveller are some of the key categories of factors that have been found to influence travel information search (Snepenger *et al*., 1990; Engel, Blackwell, & Miniard, 1995; Fodness & Murray, 1997, 1998). Tourists may have, at their disposal, a range of travel information sources. The specific source of information used by the tourist, however, depends on where the tourist is in the travel planning process, whether at the pre-trip, during-trip and post-trip stages (Seabra, Abrantes, & Lages, 2007; Cox *et al*., 2009) and may vary with the characteristics of the tourist and the trip (Fodness & Murray, 1998). Also, Ratchford, Talukdar and Lee (2001) suggest that the choice of sources is influenced by the cost and benefit of using such sources. In the pre-purchase stage, Solomon, Barmossy and Askegaard (2002) argue that consumers are particularly interested in information sources that they consider to be best and most credible. The proliferation of information sources as a result of the Internet has triggered considerable changes in the amount and nature of travel information available to prospective travellers.

2.1.1 Need for Information in the Travel Planning Process

The widely accepted features of services (compared with manufactured goods), such as perishability, heterogeneity, inseparability, and intangibility (Parasuraman, Zeithaml, & Berry, 1985; Zeithaml, Berry, & Parasuraman, 1993) make the travel information search process complex. Prior research demonstrates that the type of product influences the choice and usage of information sources in the decision making process (Childers & Rao, 1992; King & Balasubramanian, 1994).

Travel information processing is dissimilar to that of other consumers in various respects. Structural reasons have been cited as responsible for these differences (Schertler, Schmid, Tjoa, & Werthner, 1995; Kim *et al*., 2007). The nature of the tourism product requires tourists to move geographically from their usual environment to, often, unfamiliar and distant places in order for consumption to take place. Also, the tourism product, in most cases, cannot be tasted or controlled in advance. As a result, the decision making and the consumption are separated by time and space (Werthner & Klein, 1999). To overcome these 'distances', tourists critically need access to information about the product ahead of time.

Also, the tourism product is regarded as an 'experience' product. Nelson (1974, p. 730) defines experience products as those products that 'are not determined prior to purchase'. The tourism product is further considered as a confidence good, and thus, prior comprehensive appraisal of its qualities is not feasible. This can be contrasted with 'search' products which can be ascertained by inspection before purchase.

Some researchers have observed that the distinctive characteristics of the tourism product requires information from the consumer and supplier sides, which may entail high information search costs from both sides and thus leads to informational market imperfections (Williamson, 1985; Kim *et al*., 2007). Senecal and Nantel (2004) note the difficulties in evaluating experience products before purchase, and suggest that consumers rely mostly on product recommendations from various sources for experience products than for search products. This view was supported with prior findings from King and Balasubramanian (1994). King and Balasubramanian discovered that consumers evaluating search products tend to use own-based decision-making processes more than those assessing experience products. In evaluating experience products, consumers more often, rather than not, depend on other-based and hybrid decision-making processes.

Tourism organizations also rely on information exchanged with travellers through various channels to market products and build customer relationships. The tourism product is considered as complex and composed of a set of basic products which are delivered by a range of suppliers (Werthner & Klein, 1999). The process of aggregating and consolidating these components by various suppliers and intermediaries is information intensive.

Other characteristics of the tourism product such as perishability, intangibility, inseparability further make dissemination of travel information more crucial. Perishability means the product has to be consumed when available and it cannot be stocked. A seat on an airplane not sold, for instance, represents lost income, and so is a hotel bed for a night. In other words, suppliers bear high risks and are vulnerable if consumers are ignorant of their product offerings (Kim *et al*., 2007). This risk can be minimised greatly if suppliers or intermediaries employ the most credible channel of information to communicate with targeted customers. In short, the unique characteristics of the tourism product further highlight the importance of successful information dissemination strategies.

2.1.2 Information Sources for Travel Planning

As noted above, travel planning is a complex process that involves different decisions (Jeng & Fesenmaier, 2002). Therefore, numerous sources of information that can influence travel decisions exist. To better understand this, a number of typologies of information sources have been proposed. Classifications of information sources such as social, personal, marketing, and editorial (Vogt & Fesenmaier, 1998; Bieger & Laesser, 2004; Zins, 2007) take into consideration the different roles and functions assumed in the communication process between a consumer and a supplier.

A primary classification, however, is internal and external sources. Fodness and Murray (1997) observed that information search has been regarded as a product of a ‘dynamic process wherein individuals use various amounts and types of information sources in response to internal and external contingencies to facilitate travel planning.’ (p. 506). Often, search starts with an initial scan of one’s memory for any knowledge relevant to the purchase decision at hand. For travel decision-making, the internal sources could be memories of one’s personal experiences of a destination or images held about a certain destination as a result of exposure to some information from the media in the past.

External sources are consulted, when memories are deemed to be inadequate for making an appropriate purchase decision. Travellers have at their disposal, a wide variety of external sources which are reflected in the various typologies of information sources that have been proposed (Bettman, 1979; Engel *et al.*, 1995;

Fodness & Murray, 1997, 1998; Kim *et al.*, 2007). Schul and Crompton (1983) contend that the search for leisure travel information is largely external. This, in most cases, involves different sources of information and extensive effort on the part of travellers.

For external sources, travellers in need of travel-related information consult commercial and non-commercial sources which could be either personal or impersonal (Engel *et al.*, 1995; Fodness & Murray 1997). The commercial information sources include advertising and commercials in the mass media, travel brochures, guidebooks and tourist offices. Personal experiences, friends, relatives and other reference groups are examples of the most commonly used non-commercial and personal sources of travel-related information. The non-commercial sources, which constitute word-of-mouth (WOM) communication, represent one of the most influential of the vast array of information sources. Litvin *et al.* (2008) report that potential travellers tend to depend on advice from friends, relatives and other peer groups, especially when planning an intangible travel experience to a new destination. While prior research centred on these traditional sources of information (e.g. Gitelson & Crompton, 1983; Perdue, 1985; Gitelson & Kerstetter, 1994), more recent studies have included the media of the Internet (Cai, Feng, & Breiter, 2004; Luo, Feng, & Cai, 2004), which further involves a diverse range of information sources (Peterson & Merino, 2003; Zins, 2007).

2.1.3 The Internet as an Information Source for Travel Planning

The Internet revolution has radically changed society and people's daily lives, including the way individuals search for travel information. Arsal *et al*. (2008) argue that how tourists search for travel information has changed as a result of the dominant role of the Internet in modern society. The Internet offers consumers with unlimited access to information which can help them in their decision making process to evaluate alternatives. To some extent, online information sources are comparable to other sources of information in offline contexts. Travellers may acquire information about a travel product directly from the supplier or from an intermediary (e.g., travel agency). Information can be gathered by word of mouth – either traditionally or through travel communities or blogs – or from third-party providers such as media or non-profit organisations.

Attendant with the rapid growth of the Internet, online information search behaviour has become a major research issue. Past research demonstrates that a growing number of consumers are relying on online opinions for their purchase decisions (Mack, Blose, & Pan, 2008). The growing importance of this trend can be attributed to the emergence of Web 2.0. The impact of Web 2.0 with emphasis on user-generated content is discussed further in the next section.

2.2 IMPACT OF USER-GENERATED CONTENT

2.2.1 Conceptualising Web 2.0, Social Media and User-Generated Content

The World Wide Web, as noted by O'Connor (2008), is evolving from a business-to-consumer (B2C) marketing media to one which centres on peer-to-peer generation and sharing of data. This trend is largely associated with the emergence of Web 2.0. Coined by Dale Dougherty in 2004 and popularized by O'Reilly Media and Media Live International series of conferences, the term "Web 2.0" comprises the new generation of Internet applications and businesses that have emerged to form the "participatory Web" (Madden & Fox, 2006).

Also known as the "interactive web", Web 2.0 is defined by Reactive (2007) as the second generation of web-based services that have gained massive popularity by allowing people to collaborate and share information online in ways which were not previously available. According to Kilian, Hass and Walsh (2008), Web 2.0 encompasses Internet applications and platforms upon which users voluntarily create their own content, manage and comment on existing content and engage in various networking activities with other users through their virtual presence. In contrast to the traditional one-way type of web creation, Web 2.0 technologies empower Internet users to share, collaborate, and contribute to the website media.

In spite of the growing popularity of Web 2.0, there appears to be no commonly accepted definition. Nonetheless, Dearstyne (2007) observes that Web 2.0 sites share common features in that they are interactive, information intensive, collaborative, inclusive, user-centric and participatory. User-generated content or consumer-generated media is regarded as a core feature of the “so-called participative Web” (Wunsch-Vincent & Vickery, 2007, p. 8) and refers to the different kinds of media content created and published online by users who, in the past, have been at the consuming end. As intimated by Fernando (2007), UGC (or social media), represents the polar opposite of traditional media and marketing in view of the fact that content is generated by the consumer instead of the marketer. Thus, the core trait of Web 2.0 is its capability of enabling individuals to post their own content in the form of opinions, videos, audio or imagery to the web for other users to access and respond to (Cox *et al.*, 2009).

The term Web 2.0 is often used synonymously with the term ‘social software’. Though closely related, Web 2.0 is distinct from social software in the sense that it is broader. Social software includes a range of software systems that enable users to both interact and share data. Hippner (2006) defined it as “web-based applications that facilitate the exchange of information, the establishment of relationships and communication for human beings in a social context and are guided by specific principles” (as cited in Hoftstaetter & Egger, 2010, p. 100). Shirky (2003) defined it fairly simply but more broadly as “software that supports group interaction” (para. 2). Social media is the umbrella term used to describe all these different types of applications – blogs/micro-blogs (e.g. *Twitter*), media sharing websites (e.g. *YouTube*, *Flickr*), social networking sites (e.g., *Facebook*), online travel communities (e.g. *VirtualTourist*), collaborative projects (e.g. *Wikipedia*), virtual game worlds (e.g.

World of Warcraft), and virtual social worlds (e.g. *Second Life*). Kaplan and Haenlein (2010) defined social media as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content” (p. 61).

Presently, several social software applications overlap in the virtual and real social worlds, since they involve both online and offline interactions and visual/verbal connectivity (McLoughlin & Lee, 2007). *Flickr* and *YouTube,* for example, offer a platform for the sharing of photos and videos with both “real world” and “virtual” friends, while social networking sites like *MySpace*, *Facebook* and *Friendster* permit users to create their own online identities using various multimedia elements, interact with existing contacts and build new relationships.

Web 2.0 has greatly altered the way individuals interact online – how they create, exchange and use information on the Web. The range of applications in regard to this include wikis, folksonomies (or "tagging"), social networking (or community) sites, RSS feeds, syndication, communication tools and user-generated content such as blogs, photo or video sharing, and podcasts. This trend is further enhanced by advancement in mobile technologies (and 3 G) which has given individuals easier and more convenient access to the Internet. As, observed by Milan (2007), the underlying theme for all these is a kind of online democracy, whereby content is provided by consumers for consumers. In other words, UGC sites represent a form of consumer to consumer e-marketing and can be equated to electronic word-of-mouth (eWOM) marketing, whereby consumers share their opinions, beliefs and experiences with others about a product or service (Ahuja, Michels, Walker, & Weissbuch, 2007; Cox *et al*., 2009).

The most popular Web 2.0 usage relates to social network sites known as online communities as they often integrate most of the Web 2.0 applications. One of the key effects of these community sites is the support they provide during the consumer decision making process (O'Connor, 2010). Puri (2007) observed that there are online forums for just about any consumer product one can imagine – from coffee to consumer electronics – where consumers chat about their experiences, give their opinions and share news and advice. In addition to allowing consumers to read other consumers' unedited and unfiltered opinions, these sites exploit the two-way communication capability of the Internet to efficiently amass data from large numbers of people with similar characteristics (Hennig-Thurau *et al*., 2004).

The growing popularity of the term Web 2.0 coupled with the rising use of its applications, has also led many in academia and business to coin a flurry of 2.0s such as *Community 2.0, Library 2.0*, *Classroom 2.0, Government 2.0*, *Enterprise 2.0, PR 2.0*, and *Travel 2.0,* among others (McAfee, 2009; Conrady, 2007; Kroski, 2007; Eggers, 2005). These 2.0s often refer to the application of Web 2.0 technologies in the respective fields. Tourism, as it involves interactions among individuals, has also adopted this trend.

2.2.2 Influence of Consumer-Generated Media on Travel Planning

The tourism industry is realising the value of consumer-generated media as it captures tourists' attention and enriches users' online experience. By effectively employing social software, tourism organizations can attract a critical mass of users to their websites and ensure rich, self-sustaining online community interaction (Merkl, 2008).

Evidently, the growing popularity of consumer-generated media is influencing consumers' travel decisions. CGM is increasingly becoming a major source of travel information for many travellers, with several studies recognising its growing influence on travel decision making. Prior work conducted by Arsal *et al.* (2008), for example, show that consumer-generated travel reviews are useful for travellers when deciding where to go (destination), where to stay (accommodation) and what to do at the destination (activities). Furthermore, there is some evidence to suggest that CGM significantly impacts decisions on hotel online bookings (Ye *et al.*, 2011). In another study, Gretzel *et al.* (2007) reported that over half of the users of consumer-generated reviews consult online reviews every time they plan a pleasure trip. Their study revealed that most users employ CGM at the beginning of trip planning to obtain ideas or to narrow choices, while others consult them later in the planning process to confirm their selection. The study by Gretzel and colleagues further suggests that the users of travel review sites generally regard the information offered by these CGM sites as more reliable, current and satisfying than information obtainable from a travel provider's own website. Harwood (2007) cites research from Nielsen / Netratings on information sources claiming that consumer-generated media websites were reported as the most reliable information source by over a fifth of respondents, nearly double of its nearest rival – travel agency sites. In the travel and tourism domain, O'Connor (2010) observed that the Web 2.0 subject receiving the most attention is user reviews. This involves feedback from consumers on their experiences of hospitality and tourism services. O'Connor (2010) intimates that the potential customer's image of a hotel, for example, may therefore be determined by the comments and photos posted by previous guests on social network sites rather than the expensive, glossy, perfectly posed photos included in brochures or adverts.

Indeed, Web 2.0 has evolved the Internet into one of the most effective means for travellers to seek information about travel. Since Web 2.0 makes the Internet possess the capability for high levels of interactivity and can be customized to a great extent, it holds potential for providing well-tailored content to users in concomitant with their idiosyncratic preferences.

2.2.3 Tourism Research on Consumer-Generated Media

The rising importance of consumer-generated media in the online domain has not eluded the attention of academic researchers. Early attempts sought a fundamental understanding of online communities by focusing on concepts and definitions (Preece, 2000). Subsequent studies in the field of tourism addressed factors affecting participation in online travel communities (Wang & Fesenmaier, 2004a, 2004b), usage (Cox *et al.*, 2009) and implications for travel decisions (Arsal *et al.*, 2008; Cox *et al.*, 2009) as well as customer loyalty (Sanchez-Franco & Rondan-Catalana, 2010). While tourism research in these areas is on-going, recent studies have widened further to cover the varied forms of user-generated content namely blogs, social networking sites, reviews, special interest communities, among others (e.g. Enoch & Grossman, 2009; Crotts, Mason & Davis, 2009; Huang *et al*., 2010). A review of literature indicates that research on travel-related consumer-generated media apparently centres around three aspects: technological challenges, motivational factors and influence on travel behaviour.

2.2.3.1 Technological Challenges

The technical issues involved in providing on-trip support for travellers have been addressed by Spindler, Norrie and Grossniklaus (2008) and Paganelli and Giuli (2008) among others. Paganelli and Giuli reviewed the main issues related to the design and prototype implementation of a tourism context-aware application that offers tourists on the move with mobile and location-based context-aware services which supports community building and knowledge exchange. The results of user trials of the application, which included a context-aware instant messaging service and a tourist service provider reputation system supporting tourists during decision-making processes, indicate that familiarity with a technology was not a requirement for accessing its services; but rather, quality and amount of available content were regarded by users as the most relevant criteria. Based on the concept of tourists as content producers and consumers as well as members of a community, the study by Paganelli and Giuli further revealed age differences in user preferences as well as concerns regarding personal information sharing with other users. These concerns call for personalized privacy protection mechanisms. Spindler *et al*. (2008), on the other hand, presented a technique for collaborative filtering that exploits an opportunistic mode of information sharing resulting from ad hoc peer-to-peer networking. Their study demonstrates that people sharing a location concurrently tend to have similar tastes and interests.

2.2.3.2 Motivational factors for Participation in CGM sites

A great deal of the interest in the interaction between tourists and consumer-generated media centres on behavioural aspects of community building with researchers giving more attention to motivational factors. Kim *et al*. (2004) note that the successful operation of a community mainly depends on understanding the members in the community. A number of researchers in the field of tourism have accordingly given attention to the needs and motivations of members in online communities. Wang *et al*. (2002) proposed a model that relates three fundamental needs of online community members in their on-line activities – functional needs, social needs, and psychological needs. Functional needs are associated with information gathering and seeking for the purposes of learning and facilitating decision-making and transactions as well as the convenience and efficiency with regard to time and geographical limits (Wang *et al*., 2002; Wang & Fesenmaier, 2004a). Social needs involve the relationship and interactivity among members. It relates to the fundamental function of virtual community – communication – and may be met by tasks such as providing help and support, socializing informally, discussing and exchanging ideas, forming relationships, and getting involved with other members (Preece, 2000; Wang *et al*.

2002; Wang & Fesenmaier, 2004a). Research shows that CGM sites also afford people the opportunity to fulfil some psychological needs like a sense of belonging, identity expression, and a sense of affiliation with other members in the community (Bressler & Grantham, 2000; Wang *et al*., 2002). Some researchers have claimed that this social psychology is the reason why social communities have turned out to be such a dominant organizing force in the world of commerce. In a later study, Wang and Fesenmaier (2004b) argue that people join online travel communities not only for their functional, social, and psychological benefits, but also for their own enjoyment and entertainment purposes. This hedonic perspective, which considers consumers as 'pleasure seekers engaged in activities which elicit enjoyment, entertainment, amusement, and fun' (Wang & Fesenmaier, 2004b; p. 712), is supported by extant literature on consumer information searching behaviour and product consumption (Hirschman & Holbrook, 1981; Vogt & Fesenmaier, 1998). Holbrook and Hirschman (1982) have argued that regarding consumers as only information processors and ignoring the recreationist reader and observer neglects the equally important experiential aspects of consumption.

It is not clear which of the four factors would be most important to users of travel-related CGM sites as findings in existing literature are somewhat inconsistent. For example, the results of a study by Wang and Fesenmaier (2004b) demonstrate that participation in an online travel community is driven mainly by social and hedonic benefits. This, however, contrasts Vogt and Fesenmaier's (1998) argument that functional needs are perceived as the most important factor influencing information search. Though Vogt and Fesenmaier’s study concerns information search, and not necessarily online community participation (as in Wang & Fesenmaier, 2004b), a recent study by Chung and Buhalis (2008b) also showed that the information acquisition benefit (functional) has more impact on the degree of participation and attitude towards the community than others.

The study by Chung and Buhalis (2008b) found information-acquisition as the most important factor influencing participation and attitude towards online travel communities. Social-psychological and hedonic benefits were the other two major influential factors. Their study offers useful information for tourism organizations on how to employ online communities for their marketing strategy. Part of the findings, however, was contradictory to those of previous studies. A common view of all these studies is that the benefits people expect from online communities affect their level of participation. The exact nature of such influence, however, varies from one study to the other. For example, whereas the study by Wang and Fesenmaier (2004b) identified a negative relationship between functional needs and level of participation, that of Chung and Buhalis was positive. Though operational definitions of concepts may be responsible for these differences, it still brings to the fore the need for further investigation into factors affecting the use of consumer-generated media in the travel domain. Borrowing perspectives from social psychology could be helpful.

2.2.3.3 Influence on Travel Decisions

Some researchers have directed their attention to the impact of consumer-generated media. In this regard, the influence of CGM on travel decisions (Arsal *et al*., 2008; Cox *et al*., 2009; Huang, Chou, & Lin, 2010) and customer loyalty (Kim, Lee, & Hiemstra, 2004; Sanchez-Franco & Rondan-Cataluña, 2009) have been the major areas of interest. Cox *et al*. (2009) and Gretzel *et al*. (2007) have investigated the influence of CGM on travel planning behaviour. Studies by Kim *et al*. (2004) and Sanchez-Franco and Rondan-Cataluña (2009) examined the effects of online communities on customer loyalty. The study by Kim *et al*. (2004) went further to empirically test the implications for travel product purchases. In a related study, Arsal *et al*. (2008) used thematic networks to analyse the influence of online community members' postings on travel decisions. While validating the power of CGM on travel decisions, the findings revealed that residents were more influential in food and beverage recommendations, safety concerns at the destination, and changes in travel itinerary. Experienced travellers, on the other hand, were more influential in suggestions for accommodation, transportation, monetary issues (such as money exchange and the amount of money to carry during travel), destination information and itinerary advice.

In a similar study, Arsal *et al*. (2009) used a case study approach to examine the effect of member reputation on travel decisions and found the type of travel decisions varies with the number of CGM postings. While this study aids our understanding of the usefulness of CGM, it is worth noting that the analysis was limited to participants' reported experiences as evidenced in their postings. The method used does not permit quantification of the extent of the reported influence. Their study also falls short of providing an understanding of the underlying factors determining such influence and what might make one content more influential than another. A recent study by Huang, Chou and Lin (2010), partly addressed this failing. Huang *et al.* (2010) used the structural equation modelling technique to examine the relationships among travel bloggers' involvement level, the advertising effect from blog messages, and travel bloggers' intention to purchase travel products. Their results demonstrate the positive effect on purchase intention. High-involvement travel bloggers are more likely to form favourable impressions with regard to ads in travel blogs. Their study, however, considered only involvement level as the key construct affecting intentions. It is most likely other factors influence consumer behaviour in different contexts. It will thus be interesting to know their significance in relation to travel-related CGM.

The impact of CGM on consumer behaviour cannot be neglected. Constantinides (2007) observed that CGM applications have resulted in increasing consumer empowerment. A study by Mendes-Filho, Tan and Milne (2010) which explored backpackers' use of consumer-generated media report that international backpackers identify with three components of the consumer empowerment concept when using CGM, namely content empowerment, social empowerment and process empowerment. Despite the small size of their sample – which limits the generalisability of the study – these findings confirm the importance of CGM in empowering consumers in decision making. The impact of various sources of CGM on the decision-making process is of particular interest to travel and tourism research; because adequately investigating this phenomenon demands in-depth studies on the credibility, relevance, and trustworthiness of consumer-generated media (Merkl, 2008) as these are critical factors in persuasive communication. Loda, Teichmann and Zins (2009) have also observed that research is lacking in the exact elements of travel websites that contribute to persuasiveness.

2.3 ISSUES SURROUNDING CGM WEBSITES AS MEDIA CHANNELS

The relative credibility of various media channels has long occupied the attention of researchers, especially those in the field of mass communication. Existing studies demonstrate that people's perception of which media is credible has changed over time. For example, a series of studies by the Roper Organisation revealed that, in the late 1950s, newspapers were considered to be more believable than television. This, however, changed in 1961, when television became the most believed medium over newspapers, magazines and radio (Roper, 1961; Self, 1996; Metzger, Flanagin, Eyal, Lemus, & McCann, 2003). The puzzling nature of Roper's (1961) findings triggered further studies in this area. While some researchers replicated the Roper findings (e.g. Carter & Greenberg, 1965; Jacobson, 1969) others sought explanation to why television was superior to newspapers (Mulder, 1980). Consequently, various arguments were advanced regarding how media differed, such as structural and technological differences like the visual nature of television (Metzger *et al.*, 2003).

2.3.1 Credibility in the Online Environment

The Internet has gained far-reaching importance as a communicative and adaptive channel for sharing and disseminating information. The digital media of the Internet is generally assumed to be essentially different from the existing mass media of television, radio, newspapers, and magazines because of their designs and the technology upon which they function (Kim *et al*., 2007). As a result, academic researchers have recognised the fundamental change in the information environment and have displayed renewed interest in the credibility of sources, message and the media that carry them in the online context (e.g. Flanagin & Metzger, 2000, 2008; Sundar & Nass, 2001; Johnson & Kaye, 1998, 2002; Wathen & Burkell, 2002). Nonetheless, research on the credibility of traditional versus Internet information sources has yielded inconsistent findings.

Initial studies on Internet credibility involved cross media comparisons which sought to assess the credibility of the Internet compared with other communication channels. The focal issue in most of these studies was political (Johnson & Kaye, 1998, 2000) and news information (Sundar, 1999; Kim *et al*., 2001; Kiousis, 2001; Sundar & Nass, 2001). While a variety of information types has also been studied over the years (Metzger *et al*., 2003), apparently, very little attention has been given to travel information. More recent studies on the credibility of online information have turned attention to health-related information (e.g. Hu & Sundar, 2010).

Some factors that have been recognised as influential in studies of traditional media credibility may also shape perceptions of the Internet as a communication channel (Metzger *et al*., 2003). However, there is no clear understanding of how these factors interact with other factors which are particular to the online environment, or of the relative importance of these factors to the overall credibility assessment (Rieh, 2002). Chaffee (2001) argues that the application of previous research to the present media environment is proper since the Internet conflate modes of communication traditionally viewed as distinct. Metzger *et al*. (2003), however, suggest that this media convergence makes credibility on the Internet complex.

Nonetheless, the distinctive features of the Internet as a contemporary media imply that not all traditional factors of credibility may be applicable. One of such distinguishing characteristics of the Internet is the relative lack of professional gatekeepers. For instance, Metzger *et al*. (2003) argue that whereas newspapers, books, magazines and television are subject to some levels of factual verification, content analysis and editorial review, web-based information does not often go through similar levels of scrutiny. In an earlier study, Johnson and Kaye (1998) opined that the lack of editorial review processes leads to a reduced amount of social and professional pressure to guarantee the overall accuracy of web-based information. Similar views were shared by Flanagin and Metzger (2007, 2008) and Rieh and Danielson (2007). This concern has been further aggravated by the increasing popularity of consumer-generated media sites which have permitted the proliferation of information generated by special interest groups, individuals and organisations. In most cases, the level of editorial for such content is not explicit and may not exist at all.

The non-existence of established reputations for many websites hinders Internet users from applying previous knowledge of the medium or content type to judge the credibility of information since most sites are less familiar hence users cannot be guided by name recognition (Metzger *et al*., 2003). Fogg (2003) and Johnson and Kaye (1998) note that computers have an air of authority about them; consequently, people may regard online information as more credible. Furthermore, professionally-looking websites are not difficult to create and can appear to be credible, regardless of authorship (Johnson & Kaye, 1998; Flanagin & Metzger, 2002; Metzger *et al*., 2003). Previous studies cite several cases of fraudulent websites successfully mimicking legitimate ones (GomdaWeb, 1998; Johnson & Kaye, 1998; Alexander & Tate, 1999).

In addition, unlike information delivered through traditional channels, Internet-based information is vulnerable to digital alteration which may be difficult to detect (Alexander & Tate, 1999; Metzger *et al*., 2003). Metzger and colleagues (2003) explain that online information can be altered deliberately or by accident – for instance, as a result of technical problems in the process of data conversion, when uploading or transferring information.

The convergence of sources in the new media environment represents another challenge. Some researchers have described the very concept of source in the online setting as problematic. The reason is that the source of a message may be ascribed to the author of the material on a particular website, the operator or sponsor of the site, the medium itself, or even the site programmer (Eastin, 2001, Kiousis, 2001; Sundar & Nass, 2001; Metzger *et al.*, 2003). For example, Sundar and Nass (2001), in their typology of online news, assert that there are at least three distinct sources of online news information. Visible sources refer to the people or entities presenting the information while technological sources comprise the channel or medium through which the information is conveyed. They argue that receivers may also be considered as sources too since they may choose the information they read themselves, or because other receivers may select information for each other. The latter point is particularly relevant to the new online environment of Web 2.0 which increasingly allows users to employ applications like tagsonomies to choose and share information. *Digg* is illustrative of this.

Similarly, Schweiger (2000) proposed six levels of reference objects which differentiate several potential sources or targets of credibility attributions—*presenters, actors of a message, editorial units, media products, sub-systems of a media type and media types*. These levels comprise a rough hierarchy of sources and are applicable to many types of information, not just news. The difficulty lies in the fact that this hierarchy of sources is not necessarily mutually exclusive. Credibility attributions may therefore take place at each of these levels independently or across multiple levels concurrently. As a result, Schweiger argues that research on media credibility deserves criticism since cross-media comparisons may hide important within-media differences and potentially lead to unusable results. Schweiger calls for future studies on credibility to not only investigate the credibility of the web as a whole, but its distinct subsystems as well.

For this reason, research on source attribution in the online environment acknowledges the source as a psychological construct. In other words, the source of online information is what or who the receiver believes it to be (Metzger *et al*., 2003). Source attributions are crucial in the evaluation of Internet based information as different source attributions are known to result in different evaluations of content (Sundar & Nass, 2001). For example, a study by Sundar and Nass (2001) demonstrated experimentally that different levels of source attributions – visible, technological and receiver – influence receivers' reactions to online news stories as well as their perceptions. It is thus critical to distinguish between varied sources of online information or source levels since information receivers regard them as distinct. These concerns are shared by Callister (2000) who argues that standard conventions of assessing credibility break down in cyberspace.

2.3.2 Credibility of Consumer-Generated Media

The few studies examining the credibility of consumer-generated media have produced inconsistent findings. Whereas some researchers maintain that consumers perceive CGM to be more credible than information from service providers (Armstrong & Hagel, 1995; Bickart & Schindler, 2001; Senecal & Nantel, 2004; Park *et al*., 2007; Rubicon Consulting, Inc., 2008; Dickinger, 2011), other studies have made contrary claims (Wasserman, 2006; Rosenblum, 2007). The reasons accounting for this inconsistency is not clear, though differences in the conceptualisation and measurements which are rooted in the newness of CGM, together with some of the factors already discussed could be responsible. Also, different types of CGM may be accorded different levels of credibility. For instance, research by Gretzel *et al.* (2007) indicates that reviews posted on online travel agency sites (such as Expedia.co.uk) are less credible than those posted on dedicated review sites (like TripAdvisor.com), as the former are (correctly or incorrectly) perceived as being less objective due to the commercial interests of the site.

The changing dynamics in the new media environment brought by the emergence of Web 2.0 and consumer-generated media necessitate further investigation to better understand the believability of content in this domain. In order to attain a more accurate view of the perceived credibility of Internet information, Flanagin and Metzger (2000) have noted the need for researchers to expand the range of phenomena studied. Thus, the need to examine the multiplicity of factors influences the use of consumer-generated media. Unfortunately, this has been neglected, especially in the tourism literature.

2.3.3 Concerns about Consumer-Generated Media

In spite of the growing importance of CGM to travellers, there are numerous concerns. Puri (2007) draws attention to the problem of authenticity. The anonymity with which people can post content on CGM sites has led some observers to question the legitimacy of such content. O’Connor (2008) notes that even though registration is required on many CGM platforms, the platform is still vulnerable to manipulation as identity can be changed by simply registering an alternative email address. This difficulty had earlier been recognised by Dellarocas (2003) and Friedman and Resnick (2001) when they asserted that the ease with which online identities can be changed makes the medium vulnerable to various forms of strategic manipulation and abuse. Dellarocas further cautions that unless appropriate safeguards are in place, participants can post dishonest reviews to enhance their own reputation or tarnish that of their competitors. For instance, travel operators – posing as independent reviewers – can employ fake online identities to post dishonest comments and reviews and, as a result, promote their reputation or tarnish that of their competitors (Dellarocas, 2000; Bray & Schetzina, 2006; Litvin *et al*., 2008; Ibrahim, 2008). The potential problem inherent in such actions is the compromise it bequeaths to the quality and utility of CGM.

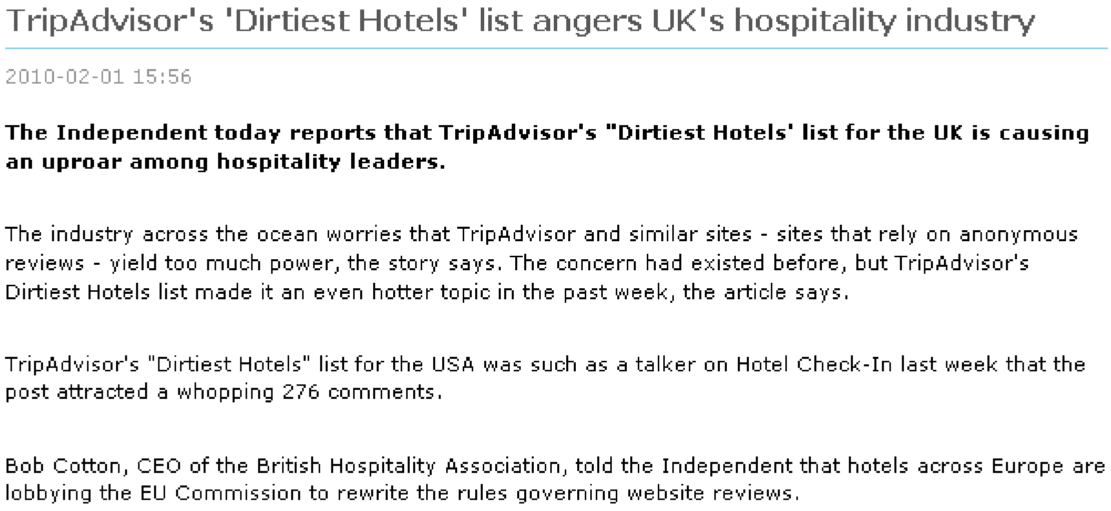
Another concern relates to the absence of contextual cues, akin to Culnan and Markus' (1987) 'cues filtered out' description of online interactions. In online settings, most of the cues that assist in the proper interpretation of opinions (such as acquaintance with the person providing the information; inferences from the person's facial expression, mode of dressing, etc) are absent, making interpretation more difficult. Readers of online feedback are, therefore, confronted with the delicate task of evaluating the opinions of complete strangers (Dellarocas, 2003; Park *et al*., 2007; Litvin *et al*., 2008). O'Connor (2008) observes that CGM sites often display demographic or other data about reviewers (such as length of membership, travel experience, location, etc.)

in an attempt to enhance credibility and build trust. Others rate the reviewers by using readers' feedback on the quality of the reviews. However, little is known in existing literature about the extent to which these mechanisms may impact credibility perceptions.

Burgess *et al*. (2009) have noted that CGM often involves contributions from a blend of amateur, semi-professional and professional people. Though it can be argued that the belief that comments are coming from non-professionals make CGM more trustworthy, one also needs to question the expertise of those who post such content – that is, whether they really know what they are talking about. The situation is complicated as a result of the absence of contextual cues, making it hard to establish which posts are coming from professionals and which are from amateurs.

The subjective nature of the views of CGM contributors (Dellarocas, 2003) has also been cited as another concern. Individuals have differences in their tastes and preferences. For instance, what constitutes a poor accommodation to one may be good for another. Again, previous studies in word-of-mouth communications demonstrate that those who often provide feedback on an organisation's products and/or services are those who are either extremely satisfied or very dissatisfied. It may thus be difficult to ascertain the objectivity of such comments.

Furthermore, the reactions of some service providers towards user reviews and comments, calling them unfair brings the believability of CGM into dispute. A cursory look at some online community forums shows disputing claims from service managers about the validity of some user comments. The recent outcry by UK hospitality managers against *TripAdvisor*'s "World's dirtiest hotels" (see Figure 2.1) demonstrates industry managers' concerns about CGM. The claims and counter claims by service managers and consumers who post user reviews invite further investigation into how consumers perceive CGM and the factors which drive usage.



TripAdvisor's 'Dirtiest Hotels' list angers UK's hospitality industry

2010-02-01 15:56

The Independent today reports that TripAdvisor's "Dirtiest Hotels' list for the UK is causing an uproar among hospitality leaders.

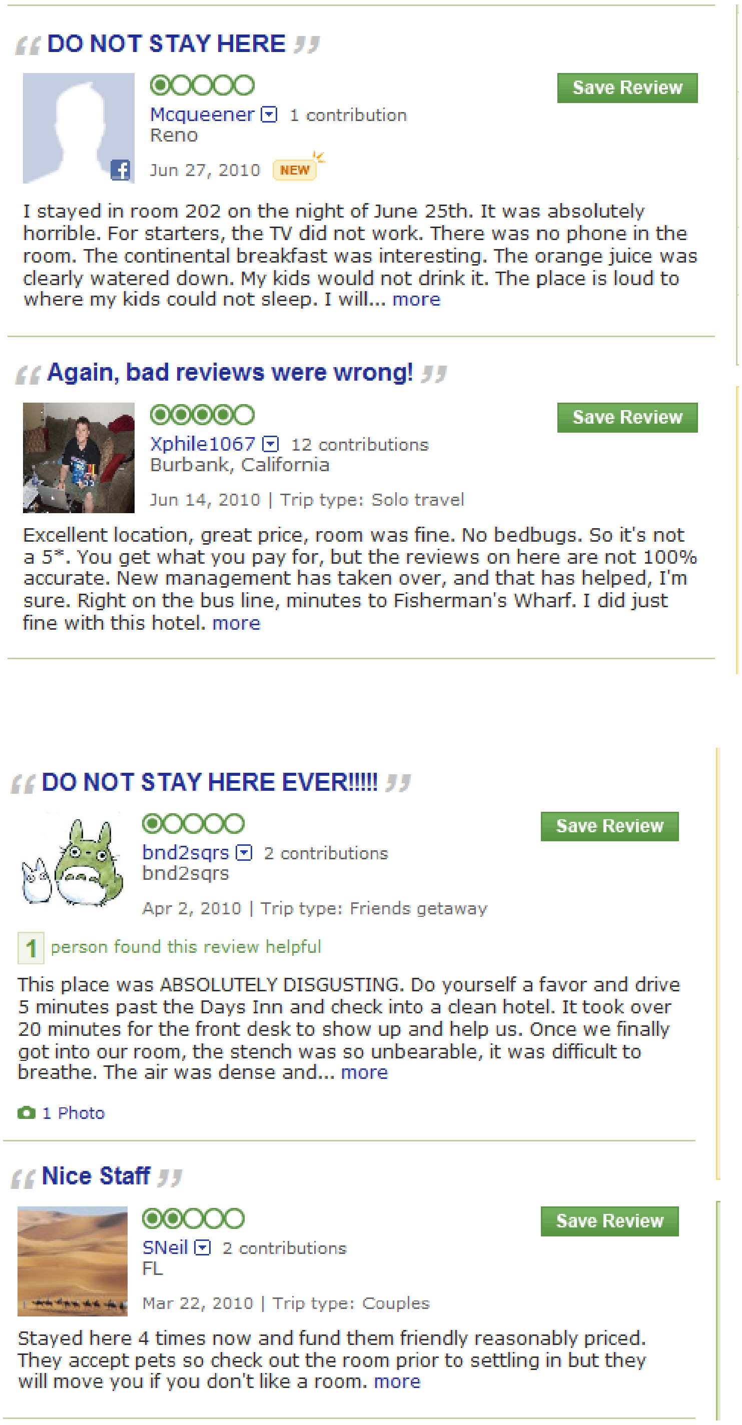
The industry across the ocean worries that TripAdvisor and similar sites - sites that rely on anonymous reviews - yield too much power, the story says. The concern had existed before, but TripAdvisor's Dirtiest Hotels list made it an even hotter topic in the past week, the article says.

TripAdvisor's "Dirtiest Hotels" list for the USA was such as a talker on Hotel Check-In last week that the post attracted a whopping 276 comments.

Bob Cotton, CEO of the British Hospitality Association, told the Independent that hotels across Europe are lobbying the EU Commission to rewrite the rules governing website reviews.

Figure 2.1: A News report on UK hospitality managers' outcry against TripAdvisor's 'Dirtiest Hotels' (Source: World Tourism News, 2010)

Not only are users confronted with conflicting statements from consumers and service providers, but also, they are at times faced with contradictory comments from consumers about the same service product (Figure 2.2). The following screen shots of consumer reviews from *TripAdvisor* are illustrative:



“DO NOT STAY HERE”

Mcqueener 1 contribution
Reno
Jun 27, 2010

I stayed in room 202 on the night of June 25th. It was absolutely horrible. For starters, the TV did not work. There was no phone in the room. The continental breakfast was interesting. The orange juice was clearly watered down. My kids would not drink it. The place is loud to where my kids could not sleep. I will... more

“Again, bad reviews were wrong!”

Xphile1067 12 contributions
Burbank, California
Jun 14, 2010 | Trip type: Solo travel

Excellent location, great price, room was fine. No bedbugs. So it's not a 5*. You get what you pay for, but the reviews on here are not 100% accurate. New management has taken over, and that has helped, I'm sure. Right on the bus line, minutes to Fisherman's Wharf. I did just fine with this hotel. more

“DO NOT STAY HERE EVER!!!!!”

bnd2sqrs 2 contributions
bnd2sqrs
Apr 2, 2010 | Trip type: Friends getaway

1 person found this review helpful

This place was ABSOLUTELY DISGUSTING. Do yourself a favor and drive 5 minutes past the Days Inn and check into a clean hotel. It took over 20 minutes for the front desk to show up and help us. Once we finally got into our room, the stench was so unbearable, it was difficult to breathe. The air was dense and... more

1 Photo

“Nice Staff”

SNeil 2 contributions
FL
Mar 22, 2010 | Trip type: Couples

Stayed here 4 times now and fund them friendly reasonably priced. They accept pets so check out the room prior to settling in but they will move you if you don't like a room. more

Figure 2.2: Contradictory Comments on a Consumer-Generated Review Website (Source: TripAdvisor.com, 2010)

Furthermore, social media is used by all kinds of people, some with criminal intents. Within the last decade, the media have covered several stories of nefarious activities perpetuated through social networking sites. Examples include news about some adults using *MySpace* and *Facebook* to lure and kidnap or rape children (see *Yahoo! News*, 2010, for an example of such news report).

Lastly, the mediated nature of online communities raises alarm about the trustworthiness of their operators (Dellarocas, 2003). A major concern about CGM is how users can be assured that the information they are viewing is, in reality, independent and hence trustworthy (Gretzel, 2006). Recent revelations in the media, for example, about how some managers pay webmasters to delete negative comments (Yan, 2010) give grounds for such concerns.

In sum, a number of issues surrounding CGM websites as media channels provoke credibility concerns. This may inadvertently condition the cognitive processes determining CGM usage for travel planning. It is therefore important to consider credibility perception in any research effort aimed at understanding individuals' use of CGM for utilitarian purpose. Yet this has not been given the relevant attention in the existing literature.

2.4 RESEARCH ON TECHNOLOGY ADOPTION IN THE HOSPITALITY AND TOURISM DOMAIN

Research on technology adoption in the field of hospitality and tourism has followed two main streams – studies conducted from the perspective of service providers and those from the viewpoint of tourists or consumers. Studies investigating technology adoption by hospitality and tourism service providers dominate. In view of this, the subjects for such studies are predominantly employees and managers. The cross-sectional approach is the prevailing method employed by research in this field.

From the perspective of hospitality and tourism service providers, a wide range of technological applications have been studied in various contexts. These include employees' acceptance of IT in upscale hotels (Lam *et al*., 2007), hotel front office systems (Kim, Lee, & Law, 2008) and other information systems (Huh *et al*., 2009), restaurant computing systems (Ham *et al*., 2008), e-business (Fuchs, Höpken, Föger, & Kunz, 2010), Intranet in restaurant franchise systems (Park, 2006), and travel agency computerized reservation systems (Lee, Kim, & Lee, 2006), among others. From the perspective of consumers (e.g. hotel guests, tourists or travellers in general), researchers have examined the adoption of biometric systems (Morosan, 2012), the Internet (Castañeda *et al*., 2009; Luque-Martínez *et al*., 2007), hotel reservation websites (Morosan & Jeong, 2008), and firm-hosted online communities (Casaló, Flavián, & Guinalíu, 2010), among others. CGM has not received the much needed attention, though interest has been rising among researchers recently (e.g. Cox *et al*., 2009; Papathanassis & Knolle, 2010). Table 2.1 presents a summary of some of the most recent studies on technology adoption in the field of Hospitality and Tourism.

Various theories have been used in hospitality and tourism related studies which examine technology adoption. The innovation diffusion theory, the determinants of ICT assimilation model, the motivation theory, the theory of planned behaviour and the decision making model are among the theories applied, however, the TAM has been the most prevalent. Information Systems literature demonstrates that the TAM compares favourably with alternative models (see Lin (2007) and Venkatesh (1999) for review). Notwithstanding the dominance of TAM, some scholars suggest that its application to IT/IS acceptance in hospitality and tourism settings is still in its infancy stage (Huh *et al*., 2009).

Table 2.1: Studies Related to Technology Adoption in the Hospitality and Tourism Field

Study	*Technology Studied & Context*	*Perspective*	*Participating Subjects*	*Nature of the Study*	*Theory Applied*
Fuchs *et al*. (2010)	E-business	Service Provider	Managers	Cross- sectional	Innovation Diffusion Theory
Huh *et al*. (2009)	Hotel information system	Service Provider	Hotel staff	Cross- sectional	TAM, TPB, Decomposed TPB
Lam *et al*. (2007)	IT in upscale hotels	Service Provider	Hotel employees	Cross- sectional	TAM
Kim, Lee & Law (2008)	Hotel front office systems	Service Provider	Employees	Cross- sectional	TAM
Wöber & Gretzel (2000)	Marketing decision support systems	Service Provider	Managers	Cross- sectional	TAM
Ham *et al*. (2008)	Computing systems in restaurants	Service Provider	Employees	Cross- sectional	TAM
Lee *et al*. (2006)	Travel Agency Computerized reservation systems (CRS).	Service Provider	Employees/ managers	Cross- sectional	TAM
Ayeh (2006)	Internet	Service Provider	Managers	Cross- sectional	Determinants of ICT Assimilation
Park (2006)	Intranet in restaurant franchise systems	Service provider	Staff	Cross- sectional	TAM
Raymond (2001)	Web site implementation	Service provider	Managers	Cross-sectional	Determinants of ICT

Study	*Technology Studied & Context*	*Perspective*	*Participating Subjects*	*Nature of the Study*	*Theory Applied*
	in travel agencies				Assimilation
Morosan (2012)	Biometric systems in hotels	Consumer	Students	Cross- sectional	TAM
Castañeda *et al.* (2009)	Internet	Consumer	Tourists	Cross- sectional	TAM
Morosan & Jeong (2008)	Hotel reservation websites	Consumer	Users	Cross- sectional	TAM
Luque-Martínez *et al.*(2007)	Internet as travel information source	Consumer	Tourists	Cross- sectional	TAM
Casaló *et al.* (2010)	Firm-hosted online communities	Consumer	Members of online communities	Cross- sectional	TAM & TPB
Cox *et al.* (2009)	UGC	Consumer	travellers	Cross- sectional	Decision-making model
Papathanassis & Knolle (2010)	Online holiday reviews	Consumer	Varying backgrounds	Cross- sectional	--
Wang & Fesenmaier (2004)	Online communities	Consumer	Members of online communities	Cross- sectional	Motivation Theory

2.5 THEORIES IN INFORMATION SYSTEMS ADOPTION RESEARCH

Over the years, researchers have demonstrated much interest in the way people view and respond to technology. In view of this, a number of models and theories have been advanced to examine individual adoption of information systems and technology in general. Most of these theories have their roots in social psychology literature and are variants drawn from the same group of attitudinal/ behavioural models. The most dominant among these theories are the Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB) and the Technology Acceptance Model. These three important behavioural theories related to technology acceptance and the intention to use technology offer important theoretical paradigms in comprehending how online system adoption driven by ICT can vary.

In applying these theories to the acceptance of online systems, researchers have observed that dissimilarities among individuals affect their adoption and use of the systems (Shareef, Kumar, Kumar, & Hasin, 2009). Studies in this domain report that individual characteristics mediated by beliefs (the cognitive), influence attitudes (the affective), which in turn, determine intentions (the conative) and behaviours. Thus, the models attempt to explain adoption behaviour by relating individuals' beliefs to their attitudes and intentions to use information systems, with the TAM appearing to be the most influential and valid in both employee and consumer contexts (Oh *et al.*, 2009; Morosan, 2012). Although the TAM constitutes the chosen theoretical basis of this study, a review of the TRA and TPB is critical for a good understanding of ICT-based online adoption.

2.5.1 The Theory of Reasoned Action (TRA)

As noted above, the fundamentals of the Theory of Reasoned Action (TRA) evolved from the field of social-psychology. Among others, social psychologists seek to understand how and why attitude influences behaviour. They suggest that attitude involves behaviour and cognition and that attitude and behaviour are positively related (Shareef *et al.*, 2009). Based on attitude research using the Expectancy Value Models (Fishbein, 1968), Ajzen and Fishbein (1980, 1975) formulated the TRA in their attempt to address the discrepancy between attitude and behaviour.

The TRA is composed of three fundamental constructs – behavioural intention *(BI)*, attitude *(A)* and subjective norm *(SN)*. Ajzen and Fishbein (1980) theorise that an individual's behaviour is determined by his/her intention to perform the given behaviour, and that this intention, also represents a function of the person's attitude toward the behaviour and subjective norm ($BI = A + SN$) (Figure 2.3). In other words, intention reflects a probable behavioural outcome. It is regarded as the immediate indicator of behaviour since it constitutes the cognitive representation of an individual's readiness to execute an anticipated behaviour. The behavioural intention construct is, therefore, employed to measure the relative strength of the likelihood of a person to carry out an expected behaviour. TRA suggests that behavioural intention is the most influential predictor of behaviour.

Each belief can be evaluated on the basis of one's perception of the merits of those beliefs in a particular context. Fishbein and Ajzen (1975) define subjective norm as an aggregation of perceived expectation from relevant persons or groups together with the intention to conform to these expectations. It describes the "perceived social pressure to perform or not to perform the behaviour" (Ajzen, 1991, p. 188). In essence, the beliefs of a person's friends, relatives and other acquaintances, weighted by the importance of the person's attitude to each circumstance or opinion, potentially affect the person's behavioural intentions to use ICT. This, in turn, is proposed to influence the person's behaviour.

The TRA further suggests that an individual's attitude together with subjective norm shapes his/her behavioural intention. Literature over the years has offered substantial support to the postulation that behavioural intention, which represents a function of both attitudes towards certain behaviour and subjective norms toward that behaviour, is a predictor of actual behaviour (e.g. Fishbein & Ajzen, 1981; Sneed & Morisky, 1998; Hoffman, Rodrigue, & Johnson, 1999).

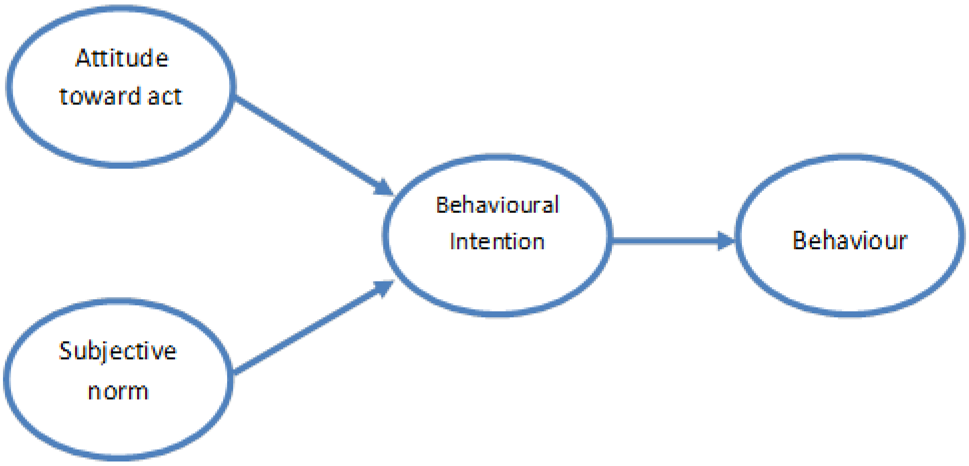


Figure 2.3: Theory of Reasoned Action (Ajzen & Fishbein, 1980)

Ajzen and Fishbein further noted that attitudes and subjective norms do not hold equal weights in determining a given behaviour. The respective weights may depend on the context in which they are measured, that is, the issue or subject involved. As Miller (2005) noted, attitude and subjective norms might have very different impacts on behavioural intention depending on the individual and the situation. For example, if the person involved cares little about what others say, the subjective norms construct would have little influence on his/her behaviour.

TRA seeks to predict behaviour in general and not specifically ICT. Consequently, it has been applied in numerous studies across several fields and subjects. Among these behavioural studies are those investigating the purchase intentions of consumers (Belleau, Summers, Xu, & Pinel, 2007), gambling behaviour (Oh & Hsu, 2001), job satisfaction (Lam, Baum, & Pine, 2003), mothers' infant-feeding choices (Manstead, Proffit, & Smart, 1983), the choice of a candidate in an election (Fishbein & Ajzen, 1981), the prevention of sun exposure (Hoffman *et al*., 1999), dieting (Sejwacz, Ajzen, & Fishbein, 1980) and tourist behaviour (Brown, 1999). With regards to ICT adoption in the online context, George (2000) Collier and Bienstock (2006), among others have employed the TRA to study the adoption of online systems.

In the context of CGM, the theory can help us to understand how individuals' intentions to use CGM for travel planning are influenced by their personal attitudes as well as the opinions of friends, relatives and other associates. The theory, however, does not delineate the specific beliefs that determine a person's attitude towards behaviour and thus may not be able to help us to identify and examine the specific cognitive factors responsible for the use of CGM.

Also, the validity of TRA has been proven to be extensive only under certain conditions. In situations where internal and external factors can potentially influence the motivation of the behavioural outcome, TRA has been noted to be a fairly poor or partial determinant of such behaviours (Shareef *et al*., 2009). In other words, it has been proven to be less effective in predicting actual behavioural outcomes in situations where such behaviours were not entirely voluntary and under control.

2.5.2 The Theory of Planned Behaviour (TPB)

To address the limitations of the TRA (Fishbein & Azjen, 1975; Ajzen & Fishbein, 1980) in predicting behaviours over which people have incomplete volitional control, Ajzen (1988) extended the TRA by introducing the construct of perceived behavioural control. The Theory of Planned Behaviour (TPB), as he termed it, seeks to predict intended and rational behaviour. The theory operates on the assumption that behaviour can be deliberative, organised and planned. In predicting behaviour, TPB takes into consideration behavioural control factors. In other words, since intended behaviour is controlled by some uncertainty, carrying out a specific behaviour is dependent, not only on intention but also, some external and internal factors that potentially restrict motivational behaviour.

TPB postulates that the intention to perform behaviours of different kinds can be predicted from attitudes toward the behaviour, subjective norms and perceived behavioural control (Figure 2.4). This intention, coupled with perceptions of behavioural control account for a considerable variance in actual behaviour (Ajzen, 1991). Thus, in spite of the similarities between the TRA and TPB, there are important differences. The resemblance of the two theories routes from equivalent notions of that individual behaviour is determined by behavioural intentions. Behavioural intentions are, however, a function of a person's attitude toward the behaviour, the subjective norms concerning the conduct of the behaviour and the person's perception of the ease with which the behaviour can be carried out (behavioural control). In other words, the behavioural control construct represents the major difference.

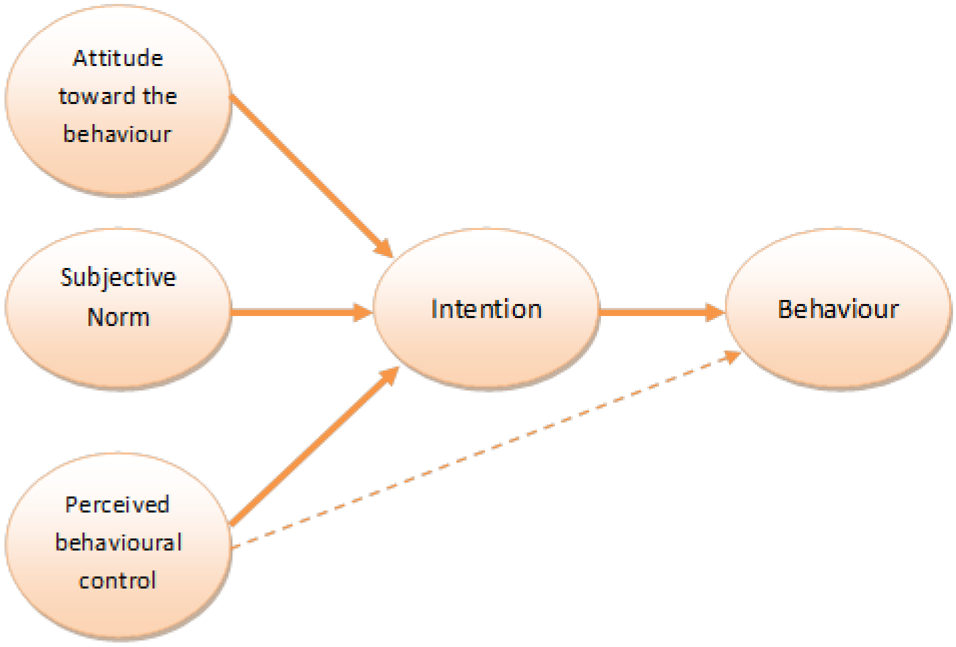


Figure 2.4: **Theory of Planned Behaviour (Azjen, 1988)**

Ajzen conceptualises behavioural control as one's perception of the context of performing a given behaviour. Barnet and Presley (2004) describe it as a reflection of an individual's perception of the presence or absence of external favouring or non-favouring resources and opportunities to execute a specific behaviour of interest. It is assumed to reflect past experience as well as anticipated impediments and obstacles and denotes the perceived ease or difficulty of carrying out the behaviour in question (Ajzen, 1991). Behavioural control thus represents a product of belief of availability of external pursuing factors, multiplied by a perception of the importance of those factors to the fulfilment of behavioural outcome (Shareef *et al*., 2009).

Icek Ajzen initially proposed a relationship between behaviour and actual behavioural control. However, the difficulty of measuring actual behavioural control has led to the use of perceived behavioural control as a dummy variable. Ajzen (1991) however cautions that whether a measure of perceived behavioural control can be a surrogate for a measure of actual control hinges on the accuracy of the perceptions. When a person possesses fairly little information about the behaviour, when there are changes in the requirements or available resources for the behaviour or the intervention of new or unfamiliar elements, perceived behavioural control may not be particularly realistic (Ajzen, 1985).

The relative weights of intentions and perceived behavioural control in the prediction of behaviour is presumed to differ across situations and in concomitant with different behaviours. In situations where the person wields complete control over the performance of the given behaviour, Ajzen (1985) contends that intentions alone should be adequate in predicting behaviour (similar to what is posited in the TRA). Perceived behavioural control however becomes increasingly important with the decline of volitional control over the behaviour.

TPB is well supported by empirical evidence. The model has been used in various fields to examine a great variety of subjects, from crisis planning to cheating, playing video games, voting choice, recycling, disease prevention, leisure and speeding behaviours, among others (e.g. Ajzen & Madden, 1986; de Pelsmacker & Janssens, 2007; Krones *et al.*, 2010; Wang & Ritchie, 2012). In relation to CGM adoption behaviour, this theory holds implications for examining differences in user's perception of the intention to employ CGM for travel planning. In the IS literature, TPB has been employed in examining the behaviours and attitudes of individuals regarding Internet use, online shopping, microcomputer use, word processing technology, among others (Warkentin *et al*., 2002; Shareef *et al*., 2009).

In spite of the extensive validation of TPB, the essence of the distinctions made by the theory regarding the three types of beliefs and the related constructs – particularly the distinction between behavioural and normative beliefs (as well as attitudes and subjective norms) has occasionally been questioned (e.g. Miniard & Cohen, 1981). Ajzen (1991) however maintains that these distinctions are of interest, from both a theoretical and a practical perspective. Ajzen contends that the personal evaluation of a behaviour (i.e. attitude), the socially expected mode of conduct (subjective norm), as well as the self-efficacy regarding the behaviour (perceived behavioural control) represent very different concepts, with each wielding a vital place in research in the social and behavioural sciences.

Although the TPB has been found to predict behaviour better than the TRA, it was not considered to be the best model for this study's purpose for the following reasons. The TPB does not sufficiently clarify the distinct roles of important variables such as ease of use and usefulness of the behaviour understudy which are crucial to understanding people's attitudes and intentions towards IT applications. Also, when it comes to information systems adoption, the Technology Acceptance Model has been found to be more useful than the TPB (Schepers & Wetzels, 2007; Huh *et al*., 2009).

2.5.3 The Technology Acceptance Model (TAM)

Fred Davis formulated the TAM from the TRA with the goal of providing:

> an explanation of the determinants of computer acceptance that is general, capable of explaining user behaviour across a broad range of end-user computing technologies and user populations, while at the same time being both parsimonious and theoretically justified (Davis *et al.*, 1989, p. 985).

To attain this goal, Davis and colleagues explain that the TAM was developed by identifying a small number of essential variables regarding the cognitive and affective determinants of computer acceptance. The TRA was then employed as a theoretical backdrop for modelling the hypothetical relationships among the variables identified.

Similar to the TRA, the TAM theorises that actual technology use is determined by behavioural intent but differs in that the TAM does not include the element of subjective norm, as in the TRA. Davis and colleagues (1989) argue that it is hard to disentangle the direct effects of subjective norm on behavioural intention from the indirect effects through attitudes. They rationalise that subjective norm might influence behavioural intention indirectly via attitude because of internalisation and identification processes, or affect behavioural intention directly through compliance.

The model (as shown in Figure 2.5) theorises two distinct beliefs – perceived usefulness and perceived ease of use – as being of prime relevance to computer acceptance behaviours. Davis (1989) defines perceived usefulness as “the degree to which a person believes that using a particular system would enhance his or her job performance" (p. 320). The definition of this concept originates from the dictionary meaning of the word "useful", which is, "capable of being used advantageously". This construct captures users' subjective probability that the use of a particular IT application will improve their performance. As Davis observed, "people tend to use or not use the application to the extent they believe it will help them perform their jobs better" (p. 320). Perceived usefulness has a direct effect on attitude toward use of the system as well as both direct and indirect influence on behavioural intention to use.

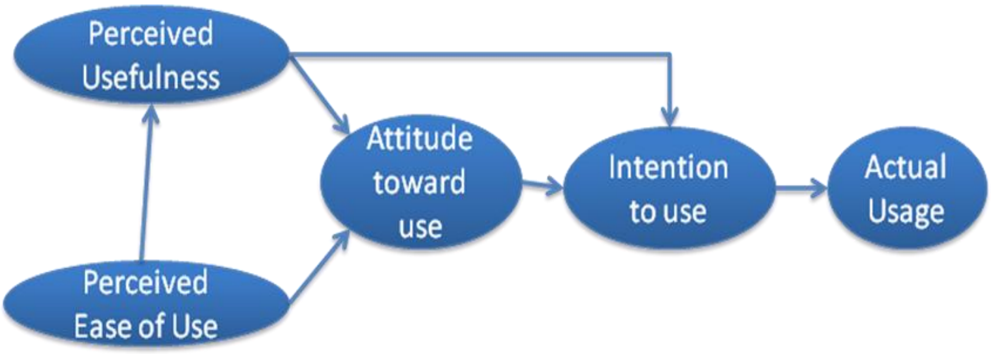


Figure 2.5: Classical Technology Acceptance Model (Davis, 1989)

Davis (1989) further argues that even if an application is perceived to be useful, it will only be used if it is believed to be easy to use. Thus, the user's perception of the extent to which a particular system will be easy to use represents another primary predictor in the model. Davis conceptualises perceived ease of use as "the degree to which a person believes that using a particular system would be free of effort" (1989, p. 320). Ease of use directly influences attitude toward using the system. An ICT application believed to be easier to use than another is more probable to be accepted by users. The two predictors – perceived usefulness and perceived ease of use – have direct impacts on the user’s attitude toward the use of the system. The user’s attitude, in turn, leads to his or her behavioural intention to use the IT application.

In addition, perceived ease of use has a direct effect on perceived usefulness. Perceived usefulness does not influence perceived ease of use. Davis (1993) explains that perceived usefulness relates to the expected overall effect of the use of a system on job performance (process and outcome), while ease of use concerns only the performance effects regarding the process of using the system *per se*. The performance effects of ease of use are therefore, a logical subset of those involving usefulness. While perceived usefulness has both direct and indirect influence on behavioural intention, perceived ease of use only influences behavioural intention indirectly – through either attitude or perceived usefulness. Behavioural intention to use leads to actual system use. Thus, in essence, the TAM assumes that *cognitive* factors influence the *affect* which, in turn, determines the *conative*. Davis (1989) developed and validated the scales for these variables.

The theoretical support for the use of these variables was derived from the self-efficacy theory, the cost-benefit paradigm and the adoption of innovation literature. Self-efficacy is defined by Bandura (1982) as “judgements of how well one can execute courses of action required to deal with prospective situations” (p. 122). Davis (1989) describes self-efficacy as similar to perceived ease of use. Beliefs pertaining to self-efficacy are theorised to be predictors of behaviour. This theory is situation-specific, hence does not offer a general measure as required by Davis. The TAM can be distinguished from TRA with regard to one's salient beliefs. In TRA, salient beliefs are "elicited anew for each new context" (Davis *et al.*, 1989, p. 988). The TAM takes a more generalised view of systems and users by estimating these variables from a population. External effects on the model can be independently traced to each of the variables.

The cost-benefit paradigm, which originates from the behavioural decision literature, is also relevant to perceived usefulness and perceived ease of use. This is because it expresses decision-making strategies in terms of "a cognitive trade-off between the effort required to employ the strategy and the quality (accuracy) of the resulting decision" (Davis, 1989, p. 321). Also, from the adoption of innovation literature, Rogers and Shoemaker's (1971) definition of complexity is similar to perceived ease of use. They defined complexity as "the degree to which an innovation is perceived as relatively difficult to understand and use" (p. 154). Thus, the convergence of these and other theories, according to Davis (1989), offers support for the concepts of perceived usefulness and perceived ease of use.

The TAM is widely used and has been validated several times. The model has made a profound impact in the Information System community. A search on the term, "Technology Acceptance Model," in December 2010 produced 956,000 hits in Google Scholar and 78,478 research articles in Science Direct. Furthermore, the TAM has been studied in relation to a varied range of information systems. In the area of communication systems, a meta-analysis by Lee *et al*. (2003) demonstrates that TAM has been applied to e-mail, v-mail, fax and dial-up systems. Its application to general purpose systems includes Windows, PC, the Internet, work stations, computer resource centres and groupware. Also, TAM has been employed in examining the acceptance of office systems such as word processors, spreadsheets, presentation software, database programmes, as well as specialised business systems like computerised models, case tools, hospital systems, decision support systems, and experts support systems, among others (Lee *et al*., 2003; Bradley, 2009). More recent studies have applied TAM to the online context in varied ways. These include applications to online banking (Pikkarainen *et al*., 2004), online shopping (e.g. Koufaris, 2002), e-learning (Roca, Chiu, & Martinez, 2006) and the World Wide Web in general (Moon & Kim, 2001).

2.5.3.1 TAM Application in the Hospitality and Tourism Domain

In the context of hospitality and tourism, a number of scholars have applied TAM to a range of IT applications. Huh *et al*. (2009), for example, used TAM to examine employees' adoption of hotel information systems. Others employed it to investigate employees' acceptance of IT in upscale hotels (Lam *et al*., 2007), hotel front office systems (Kim *et al*., 2008), and restaurant computing systems (Ham *et al*., 2008), among others. From the perspective of consumers, more recent studies include Morosan (2012), Casaló *et al*. (2010) and Morosan and Jeong (2008). Morosan (2012) applied the TAM to explain as much as 79% of the variability in guests' intentions to use biometric systems in hotels. Another study by Morosan and Jeong (2008) employed the TAM to investigate the use of hotel reservation websites while Casaló *et al.* (2010) combined the TAM with TPB to examine consumers' intentions to participate in firm hosted online communities.

A few scholars have endeavoured to use the TAM to explain travellers' intentions to use specific travel information sources (Luque-Martínez *et al.*, 2007; Castañeda *et al.*, 2009; Xu *et al.*, 2010). A study by Castañeda and colleagues (2009) applied the TAM in examining tourists' acceptance and use of the Internet as an information source and found that the TAM can explain 58% of tourists' future use intentions. In another study, Luque-Martínez *et al.* (2007) investigated the determinants of the intentions of tourists visiting Andalusia (Spain) to use the Internet to search for holiday information and found that the TAM does help explain tourists' intention to employ the Internet for holiday planning. A more recent study by Xu *et al.* (2010) also found the TAM useful for explaining travellers' intentions to accept travel information.

A departing point of these studies from the evidence in the conventional TAM literature, however, concerns the significance of the two key predictors – perceived usefulness and perceived ease of use. Conventional TAM literature reports that the main predictor in the explanation of technology adoption behaviour is perceived usefulness. This is corroborated by the meta-analysis of King and He (2006) and Ma and Liu (2004), where the influence of perceived usefulness is almost twice as that of ease of use. However, the study by Xu *et al.* (2010) demonstrates that, in the travel information context, ease of use has the largest total effect on intention. Also, the total effect of ease of use on actual and future use reported in the studies by Castañeda *et al.* (2009) and Luque-Martínez *et al.* (2007) was equivalent to that of perceived usefulness. In effect, amidst the rather few studies which apply TAM to tourists' use of travel information, significant differences exist between the travel planning context and other contexts with regards to the importance of the antecedents of use/adoption.

2.5.3.2 Research that Extends the TAM

Notwithstanding the wide application and proven validity of the TAM, several researchers (including Davis himself) recognise the need for extension in an effort to offer a more comprehensive understanding of technology adoption. Therefore, after validation efforts established the saliency of the measurement instruments, prolific expansion efforts began to introduce additional variables proposing varied relationships (Lee *et al.*, 2003). Consequently, several external TAM variables have been postulated and examined in various contexts by different researchers. Table 2.2 summarises a total of 32 constructs used in extending the TAM.

Most researchers extended the TAM by adding additional constructs to the core model or by pursuing a deeper understanding of perceived usefulness and ease of use through the addition of antecedents and examining the effects of these extended variables on the original constructs of TAM (Bruner & Kumar, 2005; Morosan, 2012). Among others, these external TAM variables are linked to human and social change processes (Legris *et al.*, 2003; Premkumar *et al.*, 2005), such as physical and psychosocial age, user resource, experience (Ryu, Kim, & Lee, 2009), consumer traits and situational factors (Monsuwé, Dellaert, & Ruyter, 2004). Davis *et al.* (1989) earlier suggested that the external variables lie on the link between internal beliefs, attitudes, intentions and individual differences, together with situational limitations and managerially controllable interventions which impact behaviour.

In a meta-analysis, King and He (2006) classified research extending the TAM into four major categories of modifications. First, the addition of external precursors or what can be considered as “prior factors”. These factors include self-efficacy (Davis & Venkatesh, 1996), situational involvement (Jackson, Chow, & Leitch, 1997), and experience or prior usage (Venkatesh & Morris, 2000; Ryu *et al.*, 2009). The second is the inclusion of factors suggested by other theories. These additional factors are intended to improve the predictive power of TAM and include expectation (Venkatesh *et al.*, 2003), risk (Featherman & Pavlou, 2003; Pavlou, 2003), task-technology fit/compatibility (Dishaw & Strong, 1999; Ryu *et al.*, 2009); trust (Gefen, Karahanna, & Straub, 2003; Pavlou & Gefen, 2004) and subjective norm (Hardgrave, Davis, & Riemenschneider, 2003). The third category concerns the incorporation of contextual factors such as life course events (Ryu *et al.*, 2009), technology characteristics (Plouffe, Hulland, & Vandenbosch, 2001), situational factors (Monsuwé *et al.*, 2004), gender and culture (Straub, Keil, & Brenner, 1997; Huang, Lu, & Wong, 2003). These factors were often considered to be possessing moderator effects. The final category is linked to modifications of the consequence measures relating to attitude (Davis *et al.*, 1989), perceptual usage (Horton, Buck, Waterson, & Clegg, 2001; Moon & Kim, 2001) and actual usage (Davis & Venkatesh, 1996).

One of the most notable extensions of TAM (i.e. TAM 2) was by Venkatesh and Davis (2000) and Venkatesh (2000). Venkatesh and Davis used social influence and cognitive instrumental processes to explain perceived usefulness and usage intentions. The resulting extended TAM comprises seven additional variables, five of which directly influence perceived usefulness. The social influence variables include subjective norm, voluntariness and image, while job relevance, output quality, result demonstrability, and perceived ease of use constitute the cognitive instrumental processes. The effort of Venkatesh and Davis increased the explained variance of perceived usefulness from 40 to 60 percent. Similarly, Venkatesh's (2000) attempt to explain the determinants of perceived ease of use increased the explained variance to 60 percent. Thus, though the TAM 2 has stronger explanatory power than the classical TAM, it is less parsimonious and less applicable to different situations.

Also deserving mention is another effort made by Venkatesh and colleagues (2003) to extend the TAM. After a narrative review of studies centred on eight competing models which seek to explain user acceptance of IT, and empirically comparing these eight models, Venkatesh *et al*. (2003) proposed an extended TAM model which integrates elements across the eight competing models of user acceptance. The Unified Theory of Acceptance and Use of Technology (UTAUT), as they termed it, is composed of four core predictors of intention and usage, and up to four moderators of vital relationships. The unified model seeks to help managers to understand the drivers of IT acceptance so as to design interventions.

In the hospitality and tourism settings, most technology adoption studies centre on the supply side. Hence, as noted in previous sections, TAM researchers in this field predominantly study adoption from the perspective of employees or managers. Accordingly, the extensions of the TAM in this domain include organisational factors (i.e. technology climate, technology characteristics, strategic orientation; Wang & Qualls, 2007), task, career and technology fit (Lee *et al.*, 2006; Lam *et al.*, 2007). Of the few studies using TAM for adoption from consumer perspective, Morosan (2012) introduced perceived innovativeness as an antecedent of perceived ease of use to understand guests' intentions to use biometric systems in hotels.

Table 2.2: Summary of variables used to extend the TAM

Variables	*Origin*	*Reference*
Accessibility	Karahanna and Limayem (2000)	Karahanna and Limayem (2000); Karahanna and Straub (1999)
Compatibility	Diffusion of Innovation Theory (Rogers, 1983)	Ryu *et al.* (2009); Xia and Lee (2000); Chin and Gopal (1995)
Complexity	Diffusion of Innovation Theory (Rogers, 1983)	Igbaria *et al.* (1996); Premkumar and Potter (1995);
Computer Anxiety	Computer attitude scale (Loyd & Gressard, 1984; Simonson *et al.*, 1987)	Venkatesh *et al.* (2003); Gopal *et al.* (1994); Montazemi *et al.* (1996)
Computer Attitude	Ajzen and Fishbein (1980)	Chau (2001)
Computer Playfulness	Webster and Martocchio (1992)	Agarwal and Karahanna (2000); Moon and Kim (2001)
Effort Expectancy	Various	Venkatesh *et al.* (2003)
End User Support	Igbaria *et al.* (1995)	Igbaria *et al.* (1996); Karahanna and Limayem (2000)
Facilitating Conditions	Model of PC Utilisation (Thompson *et al.*, 1991)	Karahanna and Straub (1999); Taylor and Todd (1995a); Venkatesh *et al.* (2003)
Image	Diffusion of Innovation Theory (Rogers, 1983)	Karahanna *et al.* (1999); Venkatesh and Davis (2000); Venkatesh *et al.* (2003)

Variables	*Origin*	*Reference*
Job Relevance	Model of PC Utilisation (Thompson *et al.*, 1991)	Venkatesh and Davis (2000); Thompson *et al.* (1991)
Management Support	Igbaria *et al.* (1997)	Igbaria *et al.* (1997); Liao and Landry (2000)
Need for Interaction	Bateson (1985)	Curran and Meuter (2005)
Objective Usability	Card *et al.* (1980)	Venkatesh and Davis (1996); Venkatesh (2000)
Observability	Diffusion of Innovation Theory (Rogers, 1983)	Moore and Benbasat (1991)
Perceived Behavioural Control	Theory of Planned Behaviour (Ajzen, 1985)	Wu and Chen (2005)
Perceived Enjoyment / Intrinsic Motivation	Motivation Theory (Davis *et al.*, 1992)	Chin and Gopal (1995); Ryu *et al.* (2009); Teo *et al.* (2000);
Perceived Innovativeness	Diffusion of Innovation Theory (Rogers, 1983; Rogers & Shoemaker, 1971)	Agarwal and Karahanna (2000); Morosan (2012)
Perceived User Resource	Various	Mathieson, Peacock and Chin (2001); Ryu *et al.* (2009)
Performance Expectancy	Various	Venkatesh *et al.* (2003)
Prior Experience	Various	Castañeda *et al.* (2007b); Dishaw and Strong (1999); Jackson *et al.* (1997); Ryu *et al.* (2009)
Relative Advantage	Diffusion of Innovation Theory (Rogers, 1983)	Moore and Benbasat (1991); Premkumar and Potter (1995)
Result Demonstrability	Diffusion of Innovation Theory (Rogers, 1983)	Karahanna *et al.* (1999); Venkatesh and Davis (2000)
Risk	Cunningham (1967)	Curran and Meuter (2005)
Self-efficacy	Social Cognitive Theory (Bandura, 1977)	Fenech (1998); Venkatesh and Speier (2000); Venkatesh *et al.* (2003)
Social Presence	Fulk, Steinfield, Schmitz, & Power (1987)	Karahanna and Limayem (2000); Karahanna and Straub (1999);
Subjective Norms / Social Influence	Theory of Reasoned Action (Fishbein & Ajzen, 1975)	Malhotra and Galletta (1999); Venkatesh and Morris (2000); Venkatesh *et al.* (2003)
System (Output or Information) Quality	Technology Acceptance Model II (Venkatesh & Davis, 2000)	Lederer *et al.* (2000); Lucas and Spitler (2000)
Trialability	Diffusion of Innovation Theory (Rogers, 1983)	Karahanna *et al.* (1999); Moore and Benbasat (1991)
Trust	Social Exchange (Kelly & Thibaut, 1978)	Gefen *et al.* (2003)

Variables	*Origin*	*Reference*
Visibility	Diffusion of Innovation Theory (Rogers, 1983)	Karahanna *et al.* (1999); Xia and Lee (2000)
Voluntariness	Moore and Benbasat (1991)	Barki and Hartwick (1994); Venkatesh and Davis (2000)

(For a detailed review of some of these variables, see Lee *et al*., 2003; Venkatesh *et al*., 2003; Li, Qi, & Shu, 2007).

2.6 RESEARCH GAPS

Existing literature suggests that the travel information search process is a complex one due to the very nature of tourism products. Previous research has also recognised the changing dynamics in travel information search owing to the emergence of CGM/social media. While scholars have recently examined this trend from varied perspectives, there are areas in need of further understanding. More explicitly, the following research gaps were noted:

1. More attention has been given to the impact of CGM, and social media in general, and not the factors determining usage. While it is important to examine social media impacts in order to appreciate the value and role, it is also critical to understand the underlying psychological mechanisms determining their usage.
2. The few studies examining the determinants of CGM/social media usage in the travel domain has been either exploratory or focused on tasks that were too broad, such as general participation in online communities. However, social media can be put into different kinds of usage (e.g. social networking, media

sharing, information seeking and travel planning, entertainment, image building, etc.). The broader nature of the focus of these studies makes it difficult to delineate the relevant factors determining usage for specific tasks. Each of these distinct tasks may be determined by a different set of cognitive and affective mechanisms; hence examining usage in the general sense limits our understanding of this phenomenon. This approach could be responsible for some of the inconsistent findings in prior research.

3. Concerns about the discrete nature of CGM and the characteristics of the tourism product call for further investigation into the role of credibility perceptions in explaining usage. Unfortunately, this has not received sufficient attention in existing literature.
4. The TAM, which is generally accepted as the most influential theory in technology acceptance research, offers a reasonable theoretical foundation for understanding travellers' use of CGM for travel planning. However, a review of previous studies suggests that the theory has been applied to tasks that were too broad though studies of task-technology fit suggest that perceptions of a technology vary with task type. Hence it is not clear how findings in extant literature may apply to the specific task of using CGM for travel planning.
5. There have been various extensions of the TAM. Paradoxically, these extensions limit the applicability of the theory to other contexts. In addition, there is currently no extension of the TAM or other existing theories that adequately addresses the determinants of CGM usage for travel planning.

Considering the fact that CGM platforms represent technological applications as well as sources of information, factors which explain technology acceptance and those which influence information acceptance may both be of relevance to the understanding of this phenomenon. Yet these factors have generally been examined in two distinct disciplines – information systems and communications studies. Information system researchers often take the technology adoption approach, largely employing TAM. Communication studies researchers, on the other hand, employ the information processing approach which often underscores the role of source credibility. However, considering the complex nature of CGM and how it represents a technological as well as an information source platform, applying concepts from both disciplines are critical to the understanding of this phenomenon. Yet this is lacking in existing literature.

2.7 CHAPTER SUMMARY

This chapter reviews existing literature relevant to our understanding of the phenomenon under study. The chapter, first, discusses the essence of information in the travel planning process and highlights the growing importance of the Internet in this regard. The review also underscores the growing importance of social media and user-generated content and their impact on the travel planning process. The chapter further presents an overview of the existing tourism research on CGM and recognises the influence of CGM in travel decision making. The complexities associated with CGM platforms as a media channel and specific concerns about CGM are also discussed. This is followed by a comprehensive review of competing theories that can be used to investigate the phenomenon under study. The chapter discuses prominent theories in information systems research such as the TRA, TPB and TAM and assesses their potential for the realisation of the present study's objectives. In addition, the chapter presents an overview of previous studies that have applied TAM to research contexts in the hospitality and tourism field. Lastly, research offering theoretical extensions to the TAM, including notable ones like TAM 2 and UTAUT, are reviewed. In conclusion, though the TAM is proven to be useful in explaining the use of information system applications in varied contexts, it is yet to address consumers' behaviour towards newly emerging technologies like CGM in the particular context of travel planning. Furthermore, existing studies tend to take a generalised approach yet the factors affecting usage intentions are expected to vary with the technology, target users and context. The next chapter further expounds on the theoretical model and elucidates the research constructs.

Chapter 3. THEORETICAL FRAMEWORK AND MODEL DEVELOPMENT

This study investigates the cognitive factors affecting online travellers' attitude and behavioural intention to utilise consumer-generated media in the travel planning process. Davis' (1986) adaptation of TRA, which was distinctively designed to explain computer usage behaviour, is chosen as the initial framework for the study. This section presents the conceptual framework and the hypotheses postulated for the study.

3.1 PROPOSED CONCEPTUAL FRAMEWORK

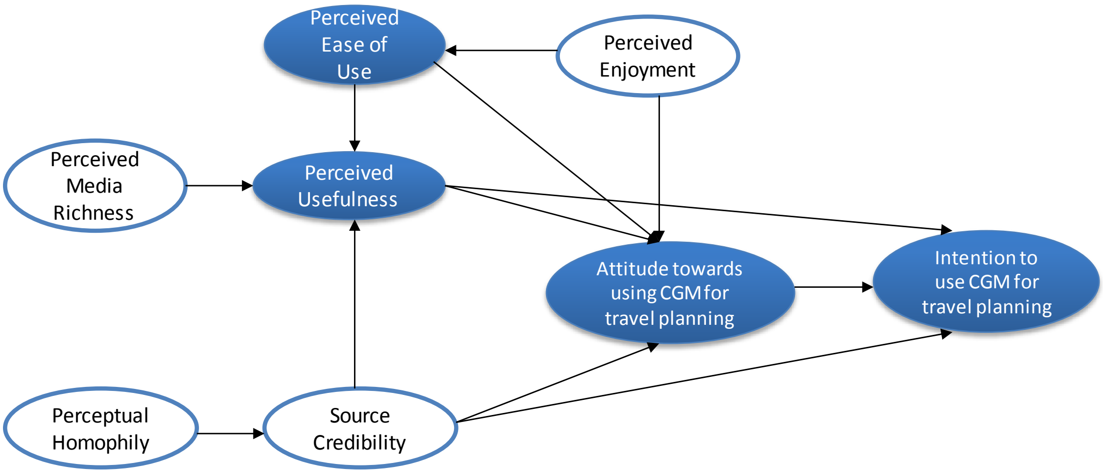
Notwithstanding the enormous research on the TAM, end-user acceptance of information technology continues to remain a complex, elusive and yet an extremely important phenomenon (Venkatesh & Davis, 2000). Several meta-analyses have concluded that the TAM is a very useful model for investigating technology adoption in a variety of contexts (Lee *et al*., 2003; Ma & Liu, 2004; King & He, 2006; Schepers & Wetzels, 2007; Huh *et al*., 2009). While the TRA and TPB are both general theories employed in several studies of human behaviour, the TAM, which is considerably less general than the others, was specifically designed to explain people's use of technology. As noted by Venkatesh (2000), the parsimony of the TAM together with its predictive power makes it easy to apply to different situations. Hence, the TAM is chosen as the initial theoretical framework for this study.

The TAM is preferred over later extensions such as TAM 2 (Venkatesh & Davis, 2000) and Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh *et al*., 2003) because TAM is more parsimonious and easily adaptable to different contexts including non-organisational settings (for critique, see Bagozzi, 2007; van Raaij & Schepers, 2008). Extensions of the TAM such as the UTAUT and TAM 2 have been widely critiqued for being far less parsimonious than the original TAM and hence do not lend themselves easily to adaptation to different contexts (e.g. Bagozzi, 2007; van Raaij & Schepers, 2008). The UTAUT, for instance, presents a model with 41 independent variables for predicting intentions. In addition, it is mainly applicable to organizational context and non-voluntary settings. The interest of this study, however, is in volitional and voluntary behaviour, and focusing on the individual travel consumer. The two direct predictors of adoption behaviour included in the UTAUT but not in the TAM have also been found to have no significant effect on volitional behaviour (see Hartwick & Barki, 1994; Venkatesh & Davis, 2000). Using CGM for travel planning is considered to be a volitional behaviour.

As shown in the previous section, the literature on technology adoption acknowledges the deficiency of the original TAM to account for the various aspects of technology adoption in different industries or application situations and therefore recognises various extensions of the TAM to suit diverse technological contexts (Moon & Kim, 2001; Schepers & Wetzels, 2007; Morosan, 2012). Moon and Kim (2001) intimate that the factors determining the adoption of emerging IT applications are most likely to differ with technologies, target users and contexts. Therefore, in the specific context of CGM usage for travel planning, perceived usefulness and ease of use may not be the only cognitive factors affecting attitude. Thus, additional explanatory variables are needed beyond the usefulness and ease of use constructs. This leads us to consider possible beliefs that should be added to the model to enhance our understanding of CGM adoption behaviour. Hence new variables which root from other existing theories are introduced into the classical TAM to resolve some of the limitations of TAM that have been raised in previous studies and to also improve the model's applicability to CGM and the travel planning context.

Since CGM sites do not only represent a technology (Web 2.0), but also content (information), travellers' attitudes and behavioural intention towards its use for travel planning will be influenced by a range of factors. The proposed model therefore investigates the influences of various factors (vis-à-vis technology, content and sources) on travellers' attitudes and intentions to use CGM for travel planning. Figure 3.1 displays the overall research model. Building on the TAM, the proposed conceptual model delineates the roles of perceived credibility, homophily, enjoyment and media richness constructs as key factors influencing online travellers' attitudes and behavioural intention to use CGM for travel planning.

Thus, this research attempts to address the ability to predict online travellers' usage of consumer-generated media for travel planning from a measure of their intentions, and the ability to explain their usage intentions in terms of attitudes, perceived usefulness, perceived ease of use, perceived enjoyment, perceived media richness, perceptual homophily and credibility. Some previous studies have reported that certain constructs of the TAM respond differently according to the type of task (e.g. Gefen & Straub, 2000; Moon & Kim 2001). For instance, Moon and Kim (2001) observed that the important factors influencing Internet usage depends on the task type. By identifying the specific belief factors that are operative in the context of CGM adoption behaviour, the proposed model seeks to provide diagnostic insight into how these factors influence online travellers' attitudes and behavioural intentions towards the use of CGM for travel planning.


Perceived Ease of Use
Perceived Enjoyment
Perceived Media Richness
Perceived Usefulness
Attitude towards using CGM for travel planning
Intention to use CGM for travel planning
Perceptual Homophily
Source Credibility

Note: Traditional TAM constructs are shaded

Figure 3.1: Proposed Conceptual Model for CGM Utilisation Intention

3.2 THEORETICAL CONSTRUCTS AND HYPOTHESES DEVELOPMENT

3.2.1 Source Credibility

Research in communication studies suggests that people are less likely to give attention to media that they do not judge as credible (Johnson & Kaye, 1998; Metzger *et al*., 2003). Hence, credibility is critical if CGM is to compete with other information sources. Credibility is even more important in the study of the adoption of CGM for travel planning because of the intangible nature of the tourism product and the economic and psychological risk associated with travel decision making (Loda *et al*., 2009). Unfortunately, studies on factors of credibility with regard to CGM are sparse.

Though communication researchers have been interested in credibility since the 1950s, it appears there is still no clear definition for the term (Hilligoss & Rieh, 2007). In spite of the differences that may be present in the existing perspectives of credibility, a number of researchers have cited 'believability' as the dominant view across definitions (Fogg & Tseng, 1999; O'Keefe, 2002; Hilligoss & Rieh, 2007; Flanagin & Metzger, 2008). In other words, credibility can simply be defined as *believability* of some information and/or its source (Hovland, Janis, & Kelley, 1953). O'Keefe (2002) describes credibility as judgments made by a perceiver regarding the believability of a communicator. Tseng and Fogg (1999) further explain that credible people are believable people and credible information is believable. A review of existing literature shows that the concept has been applied in different contexts to different entities including human, media, technology and information.

While credibility is closely related to trust, it differs significantly. Often, in the academic literature, writers have used the terms “credibility” and “trust” imprecisely and inconsistently (Fogg & Tseng, 1999). Fogg and Tseng assert that though related, trust and credibility are not the same. Trust represents a positive belief about the perceived reliability of, dependability of, and confidence in a person, object, or process (Fogg & Tseng, 1999). In other words, while ‘credibility’ connotes *believability*, ‘trust’ suggests *dependability*.

Credibility is also linked with cognitive authority. Cognitive authority refers to a person(s) who essentially wields influence on other people’s thoughts by being recognised as proper (Wilson, 1983; Hilligoss & Rieh, 2007). An authority’s influence is considered proper because, in the words of Wilson, “he is thought credible and worthy of belief” (Wilson, p.15). Hilligoss and Rieh further explain that a person may be regarded as credible in an area even if not exerting influence on other people’s thoughts. Thus, cognitive authorities are among those who are considered to be credible sources and can also be found in books, instruments, organisations and institutions.

Extant literature further reveals that credibility has been studied within various academic disciplines such as information science, psychology, sociology, marketing, communications and health sciences among others (Wathen & Burkell, 2002; Hilligoss & Rieh, 2007). The concept has been studied from multi-level perspectives and in terms of the characteristics of persuasive sources, characteristics of message structure and content and perceptions of media. Hovland *et al.* (1953) suggest that attitude change relies on information receivers' attention to and understanding of the information as well as their willingness to accept and retain that information. This process is influenced by source, message and channel factors (Hovland *et al.*, 1953; Petty & Cacioppo, 1981).

The particular context of CGM, presents some challenges for credibility perceptions. On one hand, travellers may consider CGM to be credible because they originate from other travellers who are regarded as having no commercial interest. A study by Park *et al.* (2007), for example, suggests that consumer-generated reviews are believed to be more credible than information provided by suppliers of products and services. On the other hand, the peculiar nature of CGM raises credibility concerns. As noted in previous discussions, concerns pertaining to the subjective nature of online travel opinions (Dellarocas, 2003), the tricky task of assessing the opinions of strangers in the absence of physical cues (Litvin *et al.*, 2008; Burgess *et al.*, 2009), the vulnerability of CGM to strategic manipulation and abuse by some service providers (Dellarocas, 2000; Ibrahim, 2008; Litvin *et al.*, 2008), and uncertainties about the trustworthiness of the website operators (Dellarocas, 2003; Gretzel, 2006) are among several issues that raise questions concerning the credibility of CGM.

Often, travellers consult CGM with a decision task in hand such as choosing accommodation, selecting a destination, and/or leisure activities. Ultimately, the degree of credibility allotted by travellers to the source of CGM will determine how influential CGM would be in their travel plans.

The Source Credibility Model by Hovland *et al.* (1953) suggests that the effectiveness of a communication depends on the perceived level of expertise and trustworthiness in the communicator (Ohanian, 1991; Erdogan, 1999). While expertise refers to the degree to which a source is considered as capable of making valid assertions, trustworthiness represents the extent to which the source is perceived as having the intention to pass on valid assertions (Hovland *et al.*, 1953). Thus, source credibility attributes credibility to a message on the basis of who the communicator is. Early research on source credibility involved several factor analytic studies of audience credibility perceptions (Gass & Seiter, 1999; Metzger *et al.*, 2003). Most researchers agree to the two primary dimensions of source credibility – trustworthiness and expertise. Sociability, dynamism, likeability, composure and attractiveness are among several factors that have also been recognised by early researchers as influential in source credibility evaluations (O'Harla, Netemyer, & Burton, 1991; O'Keefe, 2002; Metzger *et al.*, 2003). In the determination of credibility, source effects may interact with receiver-related and/or message related factors (Petty & Cacioppo, 1990; Wilson & Sherrel, 1993). There is much empirical evidence to suggest that source expertise and trustworthiness affect attitude change and behavioural intentions (Pornpitakpan, 2004).

Source credibility has been analysed at three different levels – medium (e.g. credibility of TV or Internet), organisation and individual speaker (Self, 1996).

Metzger *et al*. (2003) observed that research on source credibility, for the most part, focused only on one type of source and context – individuals speaking in front of a live audience. This narrow perspective, however, widened over the last decade to include organisations and websites as sources. Some of the dimensions identified in these new perspectives are similar to the dimensions found in earlier source credibility research – expertise, trustworthiness and attractiveness (Ohanian, 1990, 1991; Haley, 1996). In the hospitality and tourism literature, few studies have recently examined the credibility of expert recommender systems (Yoo & Gretzel, 2006, 2008, 2011b), ambivalent online reviews (Xie, Miao, Kuo, & Lee, 2011), and the impact of online travel reviews on credibility of hotels (Sparks & Browning, 2011).

Extant literature suggests that source characteristics are often the most important features of persuasion communication (Hunt, 2004). Both the Elaboration Likelihood Model (ELM) and the Heuristic Systematic Model (HSM) theorise that individuals may employ source cues for peripheral or heuristic processing. Research in ELM demonstrates that people engaged in peripheral processing may be influenced by the communicator's attractiveness, familiarity (tie-strength), physical appearance, or credibility. However, source credibility is assumed to be the most dominant of all the source factors. In the context of text based communication (which is dominant in CGM), source credibility refers to the credibility of the message communicator to the message recipient, but nothing about the message (Ohanian, 1991). Several dimensions of source credibility have been proposed (e.g. dynamism, attractiveness, authoritativeness, character, etc). While many of these dimensions have been contested, there seems to be a general agreement on the dimensions of trustworthiness and expertise (Tseng & Fogg, 1999; O'Keefe, 2002; Pornpitakpan, 2004; Yoo & Gretzel, 2008). Most studies on source credibility have employed expertise (or competence) and trustworthiness as key dimensions. These two dimensions also appear to be the most relevant to the particular context of CGM. Thus, in this study, source credibility is conceptualised as a two-dimensional construct with expertise and trustworthiness as the dimensions.

3.2.1.1 Perceived Expertise

Source expertise represents one of the key dimensions of source credibility. Perceived expertise is understood as "the extent to which a communicator is perceived to be a source of valid assertions" (Hovland *et al.*, 1953, p. 21). Perceived source expertise reflects the message recipient's view of the extent to which the communicator is in a position to know the truth. Past studies in the context of traditional media established that source expertise could determine the effectiveness of communication. Research in celebrity endorsement, for example, reveals that an endorser's expertise is crucial in determining attitudes and intentions to purchase endorsed brands or to visit endorsed destinations (Ohanian, 1991; Erdogan, 1999; Dean & Biswas, 2001; van der Veen, 2008).

Expertise captures the perceived knowledge, experience and skill of the source. As Ohanian (1991) observed, whether the communicator has expertise or not is irrelevant, what matters is how the receiver of the message perceives the communicator. With regard to consumer-generated reviews, Wang, Teo and Wei (2007) opined that reviewers with expertise are expected to possess the required background knowledge that enables them to develop accurate product evaluation, conduct a thorough examination of the product and offer useful recommendations. Individuals offering travel advice or opinion on a travel destination, product or service should be in a position to have experienced the product first-hand and must have the capability to make an objective evaluation of the destination, product or service under discussion. The challenge is that, this is not always obvious in CGM settings since the messages are posted by total strangers who present themselves as travel consumers who have experienced the product in question. Their expertise is often based on their first-hand experience of the destination, product or service under discussion.

The nature of CGM is such that virtually anyone can post information online after registration. Consequently, travel-related CGM are provided by both experienced and novice travellers, individuals who are capable of making expert judgement of travel products as well as those who are incapable of doing so. This openness provokes concerns about the credibility of CGM. Nonetheless, the expertise of the source of the message is expected to be particularly important for the travel planner to make travel decisions. The more expertise CGM contributors are perceived to hold, the more credible CGM will be perceived and the more likely travellers will intend to use for holiday planning. The travel information seeker is thus expected to ascertain an individual's expertise before making judgement about the credibility of that person's opinion. However, the source of the information is deemed problematic in the new digital media environment. The difficulty lies in the fact that the expertise of the message source is often not apparent in CGM contexts. In some instances, it is unavailable, masked or entirely missing from the CGM platform. However, some of the information shown in online community members' profiles (such as members' ratings, type of traveller and helpfulness of reviews posted) may offer salient cues for determining source expertise.

3.2.1.2 Perceived Trustworthiness

While source expertise reflects the extent to which the source is in a position to know the truth, source trustworthiness mirrors the likelihood of the source to tell the truth as they see it (O'Keefe, 2002). As defined by Hovland and colleagues (1953), trustworthiness is "the degree of confidence in the communicator's intent to communicate the assertions he/she considers most valid" (p. 21). Described with terminologies like well-intentioned, truthful, unbiased, among others, the concept captures the 'perceived goodness or morality of the source' (Fogg & Tseng, 1999, p. 80). The term *ethos* was employed by rhetoricians in ancient Greece to describe this concept. In the CGM context, trustworthy contributors or reviewers are assumed to have no intention to mislead the prospective travel consumer and will thus tell the truth about their experience.

However, scholars in communication and information science have observed that digital media sources at times lack traditional authority indicators like author identity or an established reputation (Fritch & Cromwell, 2001; Flanagin & Metzger, 2007, 2008). The absence of identity verification is particularly common in the current Web 2.0 environment. Dellarocas (2006) and Wang *et al*. (2007) note that the absence of identity verification and the significant role of CGM in guiding purchasing decisions may entice some service providers and vendors to manipulate the system to mislead consumers. Recent media reports about the use of social networks to carry out criminal acts and some managers paying webmasters to delete consumers' unfavourable comments or hiring individuals to post negative comments about competitor products (e.g. Fox, 2010; Yan, 2010) raise alarms about the trustworthiness of CGM contributors. Travellers intending to use CGM for holiday planning may therefore be concerned about the trustworthiness of the individuals posting the contents.

3.2.1.3 Perceived Source Credibility

The relationship between perceived source credibility (defined as a two-dimensional construct with expertise and trustworthiness as the dimensions) and attitude has been validated by researchers in various contexts. Hovland and colleagues' (1953) seminal report demonstrates the positive influence of expertise and trustworthiness on attitude by revealing findings from a number of previous studies. More recently, several empirical studies in various contexts have also established the importance of the source expertise and trustworthiness factors in determining attitudes and information acceptance (e.g. Sussman & Siegal, 2003; Zhang & Watts, 2008; Cheung, Lee, & Rabjohn, 2008; Jin, Cheung, Lee, & Chen, 2009).

Studies by Ohanian (1991), van der Veen (2008) among others, demonstrate that perceived expertise and trustworthiness positively influence attitude change in the context of celebrity endorsement advertising. An experimental study by Albright and Levy (1995) investigating the impact of source credibility on recipients' reactions found that the more credible a source is, the more favourable recipients' reactions were. In online contexts, Jin *et al*. (2009) and Sussman and Siegal (2003) have also established a positive relationship between source credibility and information usefulness. Given the Source Credibility theory (Hovland et al., 1953), it is expected that online travellers' perception of the credibility of CGM sources will have a positive effect on their attitudes toward the use of CGM for travel planning as well as their usefulness perception. The following hypotheses are therefore posited:

H1-1: Perceived source credibility positively influences perceived usefulness of CGM for travel planning

H1-2: Perceived source credibility positively influences attitude towards using CGM for travel planning

Consumer research studies provide theoretical support for a direct relationship between source credibility factors and intentions to purchase (e.g. Ohanian, 1991; Cronin & Taylor, 1992). Hence, perceived credibility is hypothesised to directly influence prospective travellers' intentions to use CGM for travel planning.

H1-3: Perceived source credibility positively influences the behavioural intention to use CGM for travel planning

3.2.2 Homophily

One of the most fundamental principles of communication relates to the belief that source – receiver similarity (homophily) promotes communication effectiveness. As defined by Rogers (1983), homophily denotes the extent to which individuals are similar in terms of certain attributes, such as age, gender, education or lifestyle. Similarity of personal characteristics suggests common interests and worldviews and most appropriately explains the formation of expressive bonds on the basis of interpersonal attraction (McPherson & Smith-Lovin, 1987; Ibarra, 1992). As Lincoln and Miller (1979) observed, social homogeneity results in easy communication, makes behaviour more predictable and fosters relationships of trust and reciprocity.

While traditional notions of homophily described similarity in terms of demographic characteristics and lifestyle (Schacter, 1959; Ruef, Aldrich, & Carter, 2003), recent conceptualisations of homophily in the online environment refers more particularly to shared interest and shared mind-set (Brown, Roderick & Lee, 2007). The underlying assumption for both contexts is that people’s perceptions of others’ similarity to them have a major impact on the outcome of any communication encounter, an observation termed as “like-me” principle (Laumann, 1966).

Literature on psychology and communication studies suggests that homophily enhances communication effectiveness in offline contexts (Byrne, 1961; Zimbardo &

Leippe, 1991; Cialdini, 2001). The similarity of individuals predisposes them to a greater level of interpersonal interaction, trust and understanding (Ruef *et al.*, 2003; Brown *et al.*, 2007). McPherson and Smith-Lovin (2001) observed that homophily limits people's social worlds in a way that has "powerful implications for the information they receive, the attitudes they form and the interactions they experience" (p. 415).

Early views about the concept of homophily include Aristotle's *Rhetoric* and *Nichomachean Ethics*. According to Aristotle, people "love those who are like themselves" (Aristotle, 1934, p. 1371). In *Phaedrus*, Plato observed that "similarity begets friendship" (Plato, 1968, p. 837). The earliest studies of homophily centred on small groups – such as school children, college students and small urban neighbourhoods – in which ethnographic researchers could easily determine all of the ties that existed between members (e.g. Loomis, 1946). Today, the concept has been extended to reflect the evolving global society and the complex relationships emerging from the World Wide Web. The measurement of communicator homophily has also taken a variety of forms. However, the measurement approach developed by McCroskey, Richmond and Daly (1975), based on subjects' perceptions without any imposition of investigator interpretation is gaining grounds. This study adapts a similar approach.

McPherson *et al.* (2001) suggest that homophily in race and ethnicity generates the strongest divisions in our personal environments, with age, religion, education, occupation and gender following in roughly that order. Homophily emerges from the principle that contact between similar people occurs more frequently than among dissimilar people. The concept implies that distance in terms of social characteristics transforms into network distance, the number of relationships through which a piece of information needs to travel in order to connect individuals (McPherson *et al.*, 2001). Lazarsfeld and Merton (1954) differentiated between two types of homophily – status homophily and value homophily. With status homophily, similarity is based on informal, formal or ascribed status and it involves the major socio-demographic dimensions that stratify society (e.g. race, ethnicity, sex, age, religion, education, occupation, behavioural patterns) while value homophily defines similarity in terms of values, attitudes and beliefs, including the broad variety of internal states supposed to shape our orientation with regard to future behaviour (Lazarsfeld & Merton, 1954; McPherson *et al.*, 2001). Both appear to be relevant to the online context.

3.2.2.1 Perceptual Homophily

The current study, however, concentrates on *perceptual homophily*, also known as "perceptual affinity" (Wolfinbarger & Gilly, 1993; Gilly, Graham, Wolfinbarger & Yale, 1998). Perceptual homophily relates to the similarities among people regarding their likes, dislikes, values, and experiences. The reason why perceptual homophily is important to the study of online travellers' use of CGM can be summarised as follows.

First, research on homophily demonstrate that people have a tendency to interact with similar others. This tendency might have led to the rapid increase in numerous online communities based on shared interest. The resultant Travel 2.0 websites have yielded enormous amounts of CGM which serve as a repository of travel information for tourists. This represents CGM which can be found in different kinds of online travel communities such as those based on interests like travel destinations (e.g. *VInow* (Virgin Island), *Oktatabyebye.com* (India) etc), travel activities (e.g. *TrekEarth, Photo.net* (Photography) *Cruise Critic, Cruise Mates* (Cruise travel), *ScubaBoard* (Scuba diving), *etc*., or travel in general (e.g. *LonelyPlanet.com*, *Virtualtourist.com*, *TripAdvisor.com*, *IgoUgo.com*). The psychology literature shows that perceived similarity influences attraction (Huston & Levinger, 1978). Therefore, the more people perceive the members of such online communities to be similar to them, the more attracted they would be to such CGM sites. The core assumption of the sociological approach of *constructuralism* is that people who share knowledge with one another are more likely to interact (Carley, 1991). Thus, people are expected to associate with similar others for ease of communication, shared cultural tastes (Mark, 1999) and other features that enhance communication. For instance, the fact that the consumer-generated reviewers and readers have similar tastes may serve as a cue that the travel product or service under discussion is also of interest to both parties.

Second, some researchers have suggested the need to incorporate measures of attitudinal/ lifestyle similarity between the source and the target in studies related to WOM communications (Brown & Reingen, 1987; Bruyn & De Lilien, 2008). Since consumer-generated reviews and most CGM related to hospitality and tourism can be considered as electronic word-of-mouth, investigating the role of perceptual homophily is deemed necessary to enhance our understanding of travellers' adoption of CGM.

Also, in a review of literature using homophily as an organising concept, McPherson and colleagues (2001) found that this ecological phenomenon cuts across studies pertaining to social networks, voluntary associations, social capital (at both individual and community levels), social movements, culture, organisations and a diversity of substantive topics shaped by network processes. Since CGM is both generated and shared through network processes, the concept of homophily is considered as crucial in understanding individuals' adoption of this type of media.

Furthermore, people often regard others who are similar to them as credible sources. In online settings, Lim *et al.* (2004) reported that people perceived to be peers could exert significant positive impact on online decision making. In a more recent study, Wang, Walther, Pingree and Hawkins (2008) found that perceptual homophily of people in an online support group wields influence on credibility perceptions. Earlier, Wright (2000) reported that perceptions of similarity among online support group users may be correlated with source credibility. For individuals seeking information to make travel decisions, it can be assumed that the more they perceive the contributors of CGM to be similar in terms of worldview, mind-set and travel behaviour, the more likely they would accept CGM for travel planning. In the context of CGM adoption for travel planning, this perception can be viewed from at least two perspectives. On one hand, travellers may consider themselves as homophilous to CGM sources, compared to other travel information sources. This is because CGM originates from other travellers who have experienced the product or destination in question. Their opinions are therefore from the consumers' perspective; hence the online traveller might consider that as more useful and credible.

On the other hand, the prospective traveller might perceive the travellers doing the postings to be completely different from him/her and therefore regard their opinions and advice as irrelevant to his/her travel situation. For instance, one person's idea of 'value for money' or 'a good hotel room' might not be another's. As Williams, Wiele, Iwaarden, and Eldridge (2010) noted, "one reviewer's boisterous students on spring break enjoying themselves could be another's dangerously drunk rowdies" (p. 125). Thus, travellers' perceived congruence of likes and dislikes with CGM contributors or reviewers should affect their assessment of the credibility of the content. Some consumer-generated review websites attempt to address this by providing options for reviewers to give more detailed information about themselves including their travel preferences. Thus, travellers who are of the view that the individuals posting consumer-generated reviews are similar travellers are more likely to use CGM for travel planning than those who doubt their similarity with the reviewers.

The role of perceptual homophily is yet to be examined in the context of the TAM. However, in view of the above discussions and consistent with the theory of homophily, individuals' perceptions of their homophily with the travellers who post CGM are expected to influence their credibility perceptions. The following hypothesis is thus proposed:

H2: Perceptual homophily positively influences perceived source credibility

3.2.3 Media Richness Theory

One of the most prominent, but also, well contested theories of communication media preferences and usage is the Media Richness Theory (MRT) (Daft & Lengel, 1984, 1986; Daft, Lengel & Trevino, 1987). Also known as Information Richness Theory, MRT has kindled much research on media selection. Based on information processing of organisations, the theory is concerned with determining the most appropriate communication medium for reducing uncertainty and resolving equivocality (Daft, Lengel & Trevino, 1987).

MRT postulates that media vary in information richness based on the capacity to facilitate shared meaning within a given time interval. Different communication channels correspond with various levels of information richness, with face-to-face being the richest. The theory contends that four functions determine media richness: the capability of the medium to transmit multiple cues (e.g. vocal inflections, gestures), immediacy of feedback, language variety and the personal focus of the medium. Richer media allows users to communicate more quickly and to better comprehend ambiguous or equivocal messages, resulting in better performance on equivocal tasks. Lean media, on the other hand, is considered to be more appropriate for less equivocal tasks.

While the medium of CGM websites offer limited cues, compared to face-to-face interactions, the medium combines various functionalities (e.g. chatting, email, video chats, message boards, etc.) which enhance the 'richness' of the medium. The presence or absence of verbal cues has important implications for social presence (Short, Williams & Christie, 1977). Social presence is understood as the extent to which a medium enables users to experience others as being psychologically present (Fulk, Steinfield, Schmitz, & Power, 1987; Karahanna & Straub, 1999). Generally, when verbal or nonverbal cues are eliminated, there is a loss of social presence (Rice, 1993). The people with whom one is communicating become less like real people and more like objects (Short *et al.*, 1977) and this may hold significant implications for social facilitation, decision making and social behaviour (Dennis & Kinney, 1998).

MRT was developed and tested through a comparison of traditional media, specifically, face-to-face, telephone, written addressed documents and written unaddressed documents. Later, it was extended to include electronic mail. Several studies offer empirical evidence in support of the ability of MRT to account for differences in the way individuals choose among traditional media and between traditional media and new media (Daft *et al.*, 1987; Soe & Markus, 1993; El-Shinnawy & Markus, 1997). Nonetheless, the view that MRT applies equally well to choices among new media is a highly contentious one (El-Shinnawy & Markus, 1997). Findings in this regard are mixed. For example, studies by Suh (1999), Dennis and Kinney (1998) and El-Shinnawy and Markus (1997) which examined individuals' choice of new media could not establish support for the MRT. MRT's failure to explain people’s media choices in the context of the new media has been attributed to the way the concept has been conceptualised and measured. El-Shinnawy and Markus (1997) assert that even if media richness is an important determinant of people’s media choices, the ways in which the concept has been operationalised in the context of traditional media may be inapplicable or inappropriate for the new media. Apparently, the theory does not consider the full range of new media functionalities and the new relationships among users and between users and the technologies emerging from the current new media environment of Web 2.0.

El-Shinnawy and Markus (1997) argue that distinct differences exist among traditional media and the new media with regards to their ability to support the four elements of the richness construct (i.e. capacity for immediate feedback, ability to convey multiple types of cues, language variety and personal focus). Face-to-face and telephone, for example permit immediate feedback, the conveyance of multiple cues, language variety, etc. whereas both written addressed and unaddressed communications do not. In contrast, the new media combine these features in unexpected ways. Email for instance, which depends on text, is asynchronous but fast. In other words, although it has limited language variety and cues, compared with face-to-face, it can also allow immediate feedback. Web 2.0 has even made this more complex on the Internet platform. A number of CGM websites employ various asynchronous and synchronous interactive tools – chatting, email, message boards, and video chats. Others integrate folksonomies, audio and video podcasting, wikis and other applications which blend the qualities of both rich and lean media. For example, media sharing sites like *YouTube.com* and *Flickr.com* offer a platform for the sharing of photos and videos with both “real world” and “virtual” friends, whereas social networking sites like *Facebook.com, MySpace.com* and *Friendster.com* empower users to create their own online identities using various multimedia elements, interact with existing acquaintances and build new relationships. Another social networking site, *Stickam.com*, further allows users to interact in real-time using their webcams and microphones. Thus, a single yardstick of richness may not be able to capture the new media as it stretches the old constraints characteristic of traditional media (El-Shinnawy & Markus, 1997). Nonetheless, individuals’ perceptions of how ‘rich’ a medium is might still influence their choice of the medium for specific tasks. In addition, MRT has been faulted for its failure to consider situational elements that might affect behaviour and social factors that might shape perceptions of the media (Markus, 1994).

This study therefore attempts to examine the interaction between perceived media richness and usefulness perception and how this may indirectly influence online travellers’ intentions to use CGM for travel planning. The decision to include perceived media richness in the model is founded on prior work on MRT. Though MRT proposes that performance improves when managers use richer media (Daft & Lengel, 1986; Daft *et al.*, 1987), most previous studies have examined perceptions of media fit, and not actual performance impacts of media use (Dennis & Kinney, 1998). These perceptions have been found to influence media choice. Dennis and Kinney report that most empirical tests on the theory studied choice, not the effects of use.

Thus, the various studies validating MRT examined perceptions of message senders, not the actual performance of both the message sender and receiver (see El-Shinnawy & Markus, 1992; Rice, 1992). While previous studies focused predominantly on perceptions of message senders, not receivers, it must be noted that message receivers may behave differently. The study therefore adapts the perceived media richness construct in MRT to study its relationships with individuals' perceptions of the usefulness of CGM and how this indirectly influences attitudes towards CGM usage for travel planning.

3.2.3.1 Perceived Media Richness

Perceived media richness concerns an individual's perception of the ability of the medium to process 'rich' information. Papathanassis and Knolle (2010) define perceived richness as "the amount of information and multiplicity of sources required to satisfy one's requirement of informedness" (p. 5). Lengel and Daft (1984) propose that communication media vary in their ability to process rich information along one-dimensional continuum that includes, in order of decreasing richness, face-to-face, phone calls, written addressed and unaddressed communications. As noted above, the richness continuum is regarded as a function of four factors – feedback capability, cues, personalisation and language variety. The greater the medium's ability to offer timely feedback, the richer it is considered. Oral medium, for example, is regarded as richer than written media because of its capability to transmit cues such as voice tone and inflection. Huber and Daft (1987) further suggest that richness also concerns the medium's ability to capture the variety offered by natural language and carry personal feelings.

Perceived media richness also relates to modality of exposure and the concept of ‘vividness’. According to Nisbett and Ross (1980), information can be portrayed as vivid “to the extent that it is (a) emotionally interesting, (b) concrete and imagery-provoking, and (c) proximate in a sensory, temporary, or spatial way” (p. 45). Besides plain text, the modalities of exposure available online include videos, audio (podcasting), animation and still pictures. In the context of CGM, the most commonly used modalities of exposure are plain text (inherent in independent traveller reviews and comments, blog messages, etc), images in the form of still pictures (photos posted by travellers), and online video footages.

The reason why the perceived media richness construct is important to the study of travellers’ adoption of CGM can be summarised as follows. The media richness theory is concerned with determining the most suitable communication medium for reducing uncertainty and resolving equivocality (Daft & Lengel, 1987). The stage of information search for the purpose of travel planning can be considered as one of uncertainty and equivocality.

Uncertainty can be defined succinctly as the absence of information (Shannon & Weaver, 1949; Garner, 1962) or more extensively as the difference between the amount of information needed to perform the task and the amount of information already possessed (Garbraith, 1973). In order to minimize uncertainty, a communication medium has to bridge the gap between the amount of information already possessed and that needed to carry out the task. As Daft and Lengel (1986) suggest, when the amount of information processed increases, the uncertainty level reduces. In other words, the need to reduce uncertainty leads to the acquisition of information to address specific questions.

The context of travel information search can also be viewed as one of uncertainty. As prospective travellers make their travel plans, they may harbour several uncertainties relating to questions about the quality of the services of the hotel they intend to use, the safety of the neighbourhood, the conduct of the restaurant staff, the places to visit and when to go, among others. CGM websites such as *Virtualtourist.com* and *Independenttraveller.com* represent a medium through which these uncertainties can be reduced. As prospective travellers read the accounts of other online travellers who have experienced the same destination, hotel or other travel products and services, and as they get the opportunity to interact with these travellers through message boards/forums, emails, chat and other applications offered by the CGM platform, they tend to increase their knowledge and awareness of the particular travel product or service which they plan to purchase thereby reducing any uncertainty. The study by Gretzel *et al*. (2007), for example, found that over 80 percent of online travel review readers believe that consumer-generated reviews help them reduce uncertainty and make it easier to imagine what the place would be like. Given the intangibility and inseparability of travel offerings, information availability in connection with source diversity and media diversity can reduce decision making uncertainty (Klein, 1998).

Equivocality, on the other hand, describes the ambiguity and multiplicity of conflicting interpretations (Daft *et al*., 1987). As El-Shinnawy and Markus (1997) explain, communication media suitable for equivocality reduction need to promote the ability to clarify, rather than merely offer large amounts of data. Reviews and opinions posted on message boards or travel forums can be subject to multiple interpretations, in view of the variety and diversity of people from different cultures and geographic regions around the globe using these online communities. The interactive features of CGM websites, however, empower users to interact with each other thereby offering opportunities to resolve any equivocality. In recent times, several CGM websites – particularly, third party review sites and online communities – have integrated various interactive tools such as chatting (text), real time video chatting and email in addition to message boards and forums. The nature of CGM websites also permits the transmission of a large amount of data in the form of weblogs and email attachments. In a study by Williams *et al*. (2010), for instance, participants were of the view that the major advantage of CGM over professional expert reviewers and guidebooks is the diversity and number of different opinions that they can cover. Lo and Lie (2008) report that people select media with high information richness when confronted with a long-distance communication situation involving a highly equivocal task and a low degree of trust for the other party. This is possibly the case for online travellers' use of CGM in planning their travels.

In theory, the MRT does not differentiate between message senders and receivers. Essentially, the theory assumes that all parties engage equally in both communication roles. However, prior studies on MRT overwhelmingly focus on message senders – particularly, how managers decide which channel to use to communicate which message. Though Web 2.0 has transformed the World Wide Web from a one way medium to one which allows all users to share information and interact, it is also known that some individuals mainly receive information and hardly initiate them, whereas others are regular communication initiators as well as receivers. Rubicon Consulting Inc. (2008) reports that most users of consumer generated content are readers and not creators. It is plausible that, as El-Shinnawy and Markus (1997) and Grudin (1988) insinuate, communication initiators would evaluate media channels quite differently from those who are primarily communication receivers. Unfortunately, the relationship between perceived media richness and TAM has not been examined by prior studies. It will thus be interesting to know the effect perceived media richness has on online travellers' perceived usefulness of CGM websites as a source of information for travel planning. Given the theoretical rationale discussed above, the following hypothesis is developed:

> *H3: Perceived media richness positively influences perceived usefulness of CGM for travel planning*

3.2.4 Motivation Theory

Research in social psychology offers evidence in support of a general motivation theory to understand behaviour (Vallerand, 1997; Venkatesh & Speier, 1999). Motivation theorists argue that behaviour is decided by both intrinsic and extrinsic motivation. Various studies have adapted the motivational theory to specific contexts. Notable among these, in the field of information systems, is Davis, Bagozzi and Warshaw's (1992) application of the motivational theory to explain new technology adoption and use (Venkatesh *et al*., 2003).

The Motivational Model by Davis *et al*. (1992) theorises that Internet users' behaviours vary depending on whether their motivation is extrinsic or intrinsic. Individuals use IT applications not only because they are extrinsically rewarded for the performance output of usage, but also, partly because they enjoy the process of using the system *per se*. In other words, a person's *affect* toward the use of a particular system is jointly determined by the extrinsic and intrinsic rewards of employing the system (Davis, 1993). Extrinsic motivation concerns the drive to perform certain behaviour with the purpose of realising specific goals or rewards (Deci & Ryan, 1987) whereas intrinsic motivation relates to the perceived pleasure and satisfaction derived from carrying out the behaviour (Vallerand, 1997). Travellers may use CGM websites as a means to attain an end other than the act of surfing in itself such as travel planning, social networking, among others (extrinsic motivation), or as an end in itself (intrinsic motivation). As Malone (1981) suggests, intrinsic motives play a prominent role in predicting computer systems' usage. Intrinsic motivation is understood as the perception that individuals would want to perform an activity "for no apparent reinforcement other than the process of performing the activity per se" (Davis *et al*., 1992, p. 1112). Hence intrinsic value represents the perceived enjoyment linked with the use of a particular technology in itself, rather than the potential performance outcome of using such a technology.

Online travellers may want to merely enjoy the act of browsing CGM websites – viewing other travellers' photographs and videos, reading their comments and reviews on destinations and services, etc. When it comes to travel information search, Castañeda and colleagues (2007a) suggest that the traveller may be less interested in the outcome of the information search process (extrinsic motivation) and more intrinsically motivated. Prospective travellers browsing through the content of CGM websites can either be described as "problem solvers" or as seeking for "fun, amusement, fantasy, arousal, sensory stimulation, and enjoyment" (Hirschman & Holbrook, 1982, p. 135). For the problem solvers, their primary concern is to obtain the information needed for travel planning in an efficient and timely way and to realize their information search and travel planning goals with the least amount of irritation. Travellers in the second category, on the other hand, may consider the process of using CGM for travel planning as "enjoyment" and look for the potential fun and play associated with this experience.

The construct *perceived enjoyment* is used to capture intrinsic motivation. In this study, perceived enjoyment is understood as the extent to which the activity of using CGM in the course of travel planning is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated (Venkatesh *et al.*, 2003; Lee, Cheung, & Chen, 2005). Within the last decade, perceived enjoyment has received increasing attention in IS research. The construct has been studied in relation to TAM as one of the predictor variables to investigate general computer usage, Internet usage, instant messaging tools, Internet base learning medium, and online shopping, among others. In various research settings, perceived enjoyment has been considered as the weaker predictor of user acceptance in comparison to perceived usefulness and ease of use (Venkatesh, 2000; Mathieson, Peacock, & Chin, 2001). In recent times, however, a strong effect of perceived enjoyment has been observed in hedonic systems such as games, game-based training versions of work-related information systems, systems used in the home or leisure environment, and some online contexts (van der Heijden, 2004). CGM is believed to be a hedonic system (Ryu *et al.*, 2009). However, since this study centres on the utilitarian value of CGM for travel planning, it is not clear whether the hedonic value of ‘perceived enjoyment’ could be that influential. Therefore, this study attempts to test the effect of perceived enjoyment on travellers’ attitudes and behavioural intention to use CGM for travel planning. The perspective of extrinsic motivation is addressed by perceived usefulness.

Previous research in psychology suggests that high levels of intrinsic motivation usually lead to willingness to spend more time on a given task, and as a result, shape perception of ease of use (Venkatesh, 2000; Ryan & Deci, 2001). More intrinsically motivated users are more inclined to underestimate the difficulty involved in using a technology. Also, perceived enjoyment has been found to influence attitude towards online shopping (e.g. Childers, Carr, Peck, & Carson, 2001). Finally, empirical evidence demonstrates that information system applications that are visually more attractive are also considered to be easier to use (van der Heijden, 2003). In light of the Motivation theory, the following hypotheses are proposed:

H4-1: Perceived enjoyment positively influences perceived ease of using CGM for travel planning

H4-2: Perceived enjoyment positively influences attitude towards using CGM for travel planning

3.2.5 Perceived Usefulness

The classical TAM postulates that individuals would adopt a technology if that technology is perceived to help them perform a task better (Davis, 1989), termed as perceived usefulness. Davis *et al.* (1989) regard perceived usefulness as the more influential of the two key predictors in the TAM. In a study by Davis (1993), usefulness exerted more than four times as much direct influence on attitude than ease of use. Most studies using TAM have validated this assertion with perceived usefulness reported to be about 50% more influential than ease of use in determining IT acceptance (King & He, 2006). As Davis suggests, the usefulness construct may mirror a consideration of the "benefits" as well as the "costs" of using the target system. Therefore, ease of use or its reverse – effort of use – may be considered by the user as part of the costs involved in using the system. This assertion underscores the value of integrating appropriate functional capabilities in technological applications.

In hospitality and tourism settings, several studies have also confirmed the primary importance of this factor as a basic component of technology adoption (e.g. Law & Jogaratnam, 2005; Huh *et al*., 2009; Morosan, 2012). The dominant belief is that individuals would make use of a technology if they consider it as useful for achieving a specific result. Since usefulness is relative to specific tasks or objectives, the system can lose its usefulness when moved out of a specific context (Xiao & Smith, 2007). Hence there is a need to operationally define perceived usefulness in relation to a specific task. For tourists seeking travel information, usefulness of CGM is related to the extent to which CGM aids them in their travel planning. Thus, the construct of perceived usefulness, in the context of this study, is operationalised as the degree to which a person believes that using CGM enhances his or her travel planning.

The literature on CGM clearly suggests that CGM is useful for travellers when deciding where to go (destination), where to stay (accommodation) and what to do at the destination (activities) (e.g. Gretzel *et al*., 2007; Arsal *et al*., 2008). The study by Gretzel and colleagues, for example, demonstrates that consumer-generated travel reviews help travellers in learning about a travel destination, product or service, in evaluating alternatives, in avoiding places or services they would not enjoy, and in generating travel-related ideas. Consumer-generated reviews also help to increase the confidence of online travellers in travel decision making and make it easier for them to imagine what the place would be like. In addition, CGM helps to reduce risk or uncertainty, making it easier to reach decisions and plan trips more efficiently.

The 'usefulness-attitude' relationship is supported by a number of studies (Malhotra

& Galletra, 1999; Moon & Kim, 2001; Pavlou, 2003; Pavlou & Fygenson, 2006; Huh *et al*., 2008). Given theoretical perspectives from the TAM, the following hypothesis is proposed:

> *H5-1: Perceived usefulness positively influences attitude towards using CGM for travel planning*

Davis' final model postulates a direct relationship between perceived usefulness and intentions. The basis of such a relationship is on the notion that people develop their intentions towards behaviours they consider as useful, over and above any positive or negative feelings they may have towards the behaviour *per se*. This relationship therefore accounts for the impact of performance considerations when attitude is not fully activated. In this case, intentions are postulated to be based principally on cognitive decision rules to improve performance. Davis and colleagues (1989) rationalised that if affect is not fully evoked when making the decision to use or not to use a particular system, one's attitude would not be expected to entirely capture the effect of performance considerations on his/her usage intention.

The resulting direct effect of perceived usefulness on behavioural intention implies that individuals' intentions toward using computer systems depend largely on a cognitive judgment of how it will improve their performance. This relationship is consistent with Triandis' (1977) theory of human behaviour which considers cognitions as wielding a direct impact on behavioural intentions. In addition, several studies have confirmed that beliefs exert both a direct influence on intentions as well as an indirect influence through attitude (Bagozzi, 1982; Davis, 1993; Huh *et al*., 2009; Casaló *et al*., 2010). The study by Casaló and colleagues, for instance, supports the postulation that, in addition to the indirect relationship through attitude, a direct relationship exists between perceived usefulness and members' intention to participate in firm-hosted online travel communities. In view of the above theoretical rationale, the following hypothesis is developed:

> *H5-2: Perceived usefulness positively influences the behavioural intention to use CGM for travel planning*

3.2.6 Perceived Ease of Use

Perceived ease of use represents the other primary predictor of attitudes in the TAM. Davis (1986) suggests that individuals will adopt a technology if the technology is perceived to be easy to use, thus requiring minimal effort to accomplish a task. This relates to the concepts of self-efficacy (Bandura, 1982) and complexity (Rogers & Shoemakers, 1971). Self-efficacy is believed to influence attitudes by capturing the intrinsically motivating dimension of ease of use (Castañeda *et al*., 2009). Complexity is understood as "the degree to which an innovation is perceived as relatively difficult to understand and use" (Thompson *et al*., 1991, p. 128). In view of this, perceived ease of use, in the context of this study, can be conceptualised as the extent to which a person believes that using CGM for travel planning will be free from effort. The ease of using CGM for travel planning may be linked with the structure of CGM websites, the simplicity of the functions, the clarity of the content, the ease of navigation and the effortlessness of information search, among others. Online travellers' assessment of the amount of effort required when using CGM for travel planning is expected to influence their attitudes as well as their perceived usefulness.

When planning holidays, the prospective traveller may have various options of information sources apart from CGM websites. The traveller is likely to consider the one which is easier to use as more useful. CGM is believed to enhance convenience in information search and travel planning. In a study by Burgess *et al.* (2009), some respondents used descriptions such as "user friendly", "easy to use", "accessible", "saving time" and "convenient" in reference to CGM websites. In another study by Gretzel *et al.* (2007), 70 percent of the 7,000 *TripAdvisor* users surveyed were of the view that consumer-generated reviews save time in the travel planning process. Nonetheless, some individuals may find it hard to employ CGM for travel planning, particularly if they are not very familiar with the social media environment or if they consider other travel information sources to be less involving. Davis (1989) intimated that individuals would not adopt a technology unless it is considered to be easy to use.

In relation to hospitality and tourism, various studies have validated the relationship between ease of use and attitude towards use (e.g. Morosan & Jeong, 2008; Castañeda *et al.*, 2009; Huh *et al.*, 2009; Casaló *et al.*, 2010; Morosan, 2012). Davis *et al.* (1989) and most previous research found perceived ease of use to have a smaller but significant effect. In longitudinal studies, this effect has been found to subside over time. In comparison with usefulness, ease of use has a rather small direct impact on attitude, largely influencing attitude indirectly through its fairly powerful influence on usefulness (Davis, 1993). Other researchers could not validate a direct relationship between perceived ease of use and attitudes, and concluded that this relationship seems to be perfectly mediated by perceived usefulness in certain technological contexts (Kim *et al*., 2008).

Thus, most previous research found ease of use as the weaker of the two predictors. However, applications of the TAM to the use of travel information sources have registered substantial differences. Studies by Luque-Martínez *et al*. (2007), Castañeda *et al*. (2009) and Xu *et al*. (2010) all point to a greater significance of the ease of use factor on attitude. This clearly contradicts previous findings on TAM applications in other contexts. In a meta-analysis by King and He (2006), the small effect of ease of use was considered quite consistent across usage groups, except with the Internet applications, where ease of use registered a fairly greater importance than for other types of usage. In light of the above theoretical rationale, the following hypothesis is formulated:

> *H6-1: Perceived ease of use positively influences attitude towards using CGM for travel planning*

Davis (1989) further asserts that ease of use influences perceived usefulness but not vice versa. Improvement in ease of use can enhance efficiency and hence affects perceived usefulness. The effort saved due to ease of use can be redirected elsewhere.

Studies on TAM provide tremendous support for a strong positive relationship between perceived ease of use and perceived usefulness (e.g. Venkatesh *et al.*, 2003; Davis *et al.*, 2008). Thus, the easier it is to employ CGM for travel planning, the more useful it would be considered by travellers. In hospitality and tourism contexts, this relationship has been validated by Kim *et al.* (2008), Morosan and Jeong (2008), Huh *et al.* (2009) and recently by Casaló *et al.* (2010) and Morosan (2012). On the basis of the TAM theory, the following hypothesis is therefore proposed.

> *H6-2: Perceived ease of use positively influences perceived usefulness of CGM for travel planning*

3.2.7 Attitude towards Using CGM for Travel Planning

Eagly and Chaiken (1993) describe attitude as a tendency to evaluate an entity with some degree of favour or disfavour, ordinarily expressed in cognitive, affective and behavioural responses. One of the earliest views on attitude (Doob, 1947) considered it as an observable response to an object that arises prior to, or in absence of, any explicit response. Ajzen (1989) defines attitude more broadly as an individual's "disposition to respond favourably or unfavourably to an object, person, institution, or event" (p. 241). The attitude construct in this study is in reference to a given behaviour – the use of CGM for travel planning. Fishbein and Ajzen (1975) delineate attitudes towards behaviour as "an individual's positive or negative feelings (evaluative affect) about performing the target behaviour" (p. 216). It is considered as a function of behavioural beliefs and an appraisal of the outcome of the behaviour in question – in this study’s case, the utilisation of CGM for travel planning.

Fishbein and Ajzen (1975) distinguished between two attitude constructs – attitude toward the object and attitude toward the behaviour. *Attitude toward the object* is understood as a person’s affective judgement of a specified attitude object. It relates to the person’s “beliefs that the object possesses certain attributes and his evaluations of those attributes” (Fishbein & Ajzen, 1975, p. 59). *Attitude toward the behaviour,* on the other hand, is regarded as a person’s evaluation of a specified behaviour concerning a particular object. It depicts the “degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question” (Ajzen, 1991, p. 188). Attitude toward behaviour has been found to be linked more strongly with a specified behaviour than that of attitude toward object (Ajzen & Fishbein, 1977). For this reason, Davis employed attitude toward using a given IT system in the framework of the technology acceptance model. *Attitude toward using* is thus defined in the context of TAM as “the degree of evaluative affect that an individual associates with using the target system in his or her job” (Davis, 1993; p. 476).

In various studies, attitude has been conceptualised as a central mediator of behaviour (e.g. Ajzen & Fishbein, 1980; Petty & Cacioppo, 1986; Ajzen, 1988; Fazio, 1995). In the TAM, attitude towards using is regarded as an antecedent of behavioural intention. This relationship implies that people form intentions to carry out behaviours toward which they have positive effect. The attitude – behavioural intention association is considered to be fundamental to TRA, TPB and related models (Davis *et al.*, 1989; Bagozzi, 1981). Both the TRA and the original TAM suggest that the effect of beliefs on intentions should be fully mediated by attitude toward the behaviour. In Davis' final model, however, attitude was excluded because it only partially mediated the effects of perceived usefulness and ease of use on behavioural intentions. The original theoretical conceptualisation of TAM (i.e. Davis, 1986) incorporated the attitude construct, on the basis of empirical evidence (see Davis *et al.*, 1989, pp. 995-996). The final model eliminated the attitude construct as it did not fully mediate the effect of cognitive factors on intention. This is explained by Davis and colleagues as resulting from the fact that, in work situations, people may utilise a technology so long as it may enhance productivity, irrespective of whether or not they have positive attitudes toward using the given technology (Davis, 1996). Such users are motivated to use the system not necessarily because they hold positive attitudes, but rather because they feel impelled by management to do so.

In this study, attitude is included because the context of using CGM for travel planning is a voluntary one, primarily decided by the individual involved in travel planning. Again, the proliferation of many travel information sources – both online and offline – make attitude especially crucial in the choice of any particular information source. Furthermore, attitude towards a website has been found to be influential in online consumer behaviour settings (e.g. Chen & Wells, 1999; Bruner & Kumar, 2000; Luna, Peracchio, & de Juan, 2002; Castañeda *et al.*, 2009). Bruner and Kumar (2002) define such attitude as "a person's predisposition to respond in a consistent manner to a given website" (p. 164).

The relationship between attitude towards a given object or behaviour and behavioural intention is apparent and central to consumer behaviour models (Fishbein & Ajzen, 1975; Bagozzi, 1992). Consequently, this relationship has been well documented in the mainstream literature of information systems and general marketing (Pavlou, 2003; Venkatesh *et al*., 2003; Monsuwé *et al*., 2004; Curran & Meuter, 2005; Pavlou & Fygenson, 2006) as well as that of tourism and hospitality (Lam *et al*., 2007; Castañeda *et al*., 2009; Huh *et al*., 2009; Morosan, 2012). In light of theoretical perspectives from the TRA, TPB, TAM and related models, the following hypothesis is proposed:

> *H7: Attitude towards using CGM for travel planning positively influences the behavioural intention to use for travel planning*

3.2.8 Behavioural Intention to Use CGM for Travel Planning

Behavioural intention is understood as a person's subjective probability that he or she will perform a given behaviour (Fishbein & Ajzen, 1975). As shown in previous discussions, the individual's intention to engage in a specified behaviour represents a central factor in the TRA, the TPB and the TAM. All things being equal, the stronger the intention to perform a given behaviour, the more likely the behaviour would be carried out. Ajzen (1991) contends that intentions are "indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behaviour" (p. 181). Hence, the stronger the intention to engage in a given behaviour, the more likely the behaviour would be performed.

Ajzen (1991) however points out that behavioural intention finds expressions in behaviour only if the behaviour concerned is under volitional control – that is, when the individual involved can make a decision at will whether or not to perform the specified behaviour. This is assumed to be the case in the context of this study. Behavioural intention is therefore used to depict the individual traveller's subjective probability to adopt CGM for travel planning.

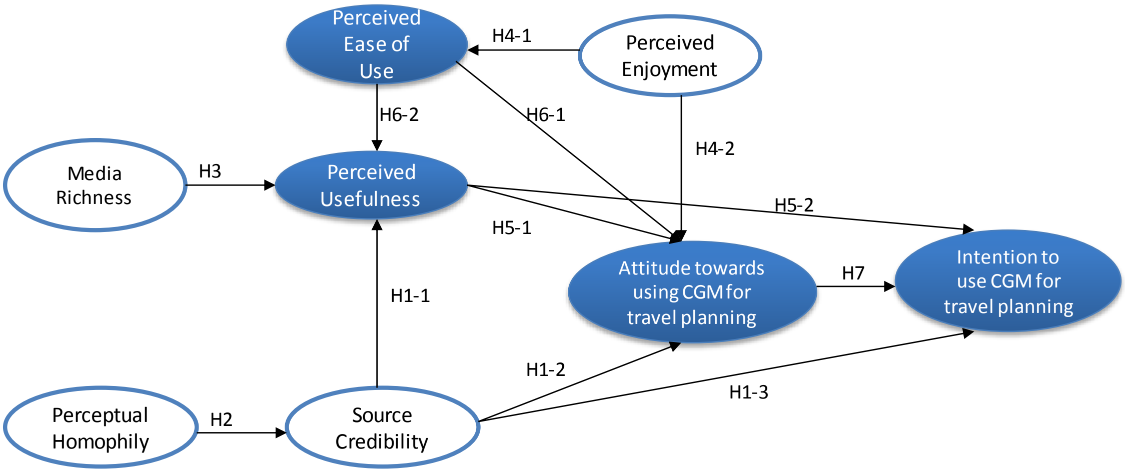
In spite of the extensive acceptance of TAM, there is a great deal of disagreements regarding this final level – that is, whether it should be intentions to use or actual use (Morosan, 2012). Most TAM studies employed intentions as proxy measures of adoption behaviour (e.g. Luque-Martínez *et al*., 2007; Castañeda *et al*., 2009; Huh *et al*., 2009; Ryu *et al*., 2009). Some scholars, however, critically question this approach of using intentions as surrogates for actual use. For example, Straub and Burton-Jones (2007) contend that the reliance on self-reported measures of variables like behavioural intention and user attitude, open models built on these variables to important questions. Bradley (2009) suggests that a better approach would be to employ an independent measure of actual use. Hu and Sundar (2009) recommend longitudinal studies and/or experiments followed immediately by the measurement of actual behaviour as most appropriate but rarely practical. Consequently, as an alternative, researchers continue to rely on respondents' behavioural intention as a close predictor of actual behaviour. Though a more objective measure of usage behaviour would be ideal, for the ensuing reasons, the present study follows the approach of most TAM studies by employing usage intention.

First, research in psychology and the TAM itself suggest that an individual's intention to use an IT application is the single best predictor of actual usage (Davis & Venkatesh, 1996). Both the TAM and the TRA consider behavioural intention as the primary determinant of usage behaviour: 'that behaviour should be predictable from measures of BI [behavioural intentions], and that any other factors that influence user behaviour do so indirectly by influencing BI' (Davis *et al*., 1989, p. 997). Fishbein and Ajzen (1975), in their Theory of Reasoned Action, argue that behavioural intention is the best and most proximal psychological predictor of actual behaviour. This assumption is overwhelmingly supported by empirical evidence from several longitudinal field studies (e.g. Davis *et al*., 1989; 1992; Venkatesh & Davis, 2000; Venkatesh and Morris, 2000). This assertion that intentions are strong predictors of IT acceptance (Legris, Ingham, & Collerette, 2003) has also been validated in both marketing (Bruner & Kumar, 2005) and hospitality/tourism literature (Wang & Qualls, 2007). Therefore, as Bhattacherjee (2000) and Luque-Martínez *et al*. (2007) suggested, retesting this relationship would not serve much purpose beyond validating the obvious. Furthermore, Hu *et al*. (2003) contend that acceptance can be explained by the underlying behavioural intention because individuals are conscious of their decision to accept a technology.

Second, behaviour observed at any moment (t_1) is determined by the intention and attitude occurring at a previous moment (t_0). Since this study uses a cross-sectional approach (all variables are measured at the same time), attitude towards CGM, in this context, cannot be a determinant of actual behaviour. Research on TAM which examined actual behaviour as the final level in the model employed longitudinal field studies (e.g. Venkatesh & Davis, 2000, Venkatesh & Morris, 2000). Due to practical limitations (the difficulty in measuring actual usage in view of various restrictions such as privacy considerations), the longitudinal field study approach would not be possible in the context of this research. Most studies of the TAM follow the cross-sectional approach. For instance, in a meta-analysis of articles using TAM in the leading information systems journals, Lee *et al.* (2003) report that only 13 out of the 101 studies employed the longitudinal approach.

The use of intentions as the final level in TAM studies has been particularly popular in studies of adoption of technologies which are in its early stages (Lu *et al.*, 2008; Morosan, 2012). Given the recent introduction of CGM in the travel and hospitality sector (Cox *et al.*, 2009), or what has become known as Travel 2.0 websites, the "behavioural intention" construct is deemed appropriate. Thus, the study follows the approach of most of the literature on cognitive-behavioural research by focusing on behavioural intention as the final dependent variable.

Ajzen (1991) argues that intentions must be assessed in relation to a particular behaviour of interest, the specified context of which must be the same as the one in which the behaviour is expected to occur. Hence, since the behaviour this study seeks to understand is the use of CGM for travel planning, the construct of "intention" in this study's setting attempts to measure intention "to use CGM [specifically] for travel planning" (and not intention "to use CGM" in general nor intentions "to plan travel using the Internet"). Figure 3.2 illustrates the proposed relationships (hypotheses) in the overall model.



Perceived Ease of Use
H4-1
Perceived Enjoyment
H6-2
H6-1
H4-2
Media Richness
H3
Perceived Usefulness
H5-2
H5-1
Attitude towards using CGM for travel planning
H7
Intention to use CGM for travel planning
H1-1
H1-2
H1-3
Perceptual Homophily
H2
Source Credibility

Note: Traditional TAM constructs are shaded

Figure 3.2: Proposed Model Depicting the Hypothesised Relationships

3.3 CHAPTER SUMMARY

This chapter expounds on the theoretical framework of the study and specifies the hypothesised relationships among the research constructs. The proposed model is principally based on Davis (1989) initial framework for explaining the perceptual factors which affect individuals' use of information systems. Given the complex context of CGM usage for travel planning, the chapter argues that perceived usefulness and ease of use may not be the only cognitive factors affecting attitude. Therefore, Davis' model is further extended by integrating constructs from the theories of Homophily, Media Richness, Motivation and Source Credibility to help understand the factors affecting online travellers' attitudes and intention to use CGM for the specific purpose of travel planning. On the bases of a comprehensive literature review, twelve hypotheses are proposed. Source credibility is hypothesised as having a direct and positive effect on perceived usefulness, attitudes and usage intention. Perceived enjoyment is posited as a direct determinant of attitude and ease of use. In addition, perceptual homophily and perceived media richness are proposed as exogenous constructs with direct effects on source credibility and perceived usefulness respectively. Perceived usefulness, on the other hand, is postulated as a direct determinant of online travellers' attitude and intention to use CGM for travel planning, while ease of use is hypothesised as having a positive, direct effect on attitude and usage intention. The chapter further elucidates how the proposed model is designed to provide an integrated model for examining the relevant perceptual factors that are at play in online travellers' cognitive processes within the context of CGM adoption.

Chapter 4. RESEARCH DESIGN AND METHODOLOGY

This section introduces the research design and the methods employed for examining the factors affecting online travellers' behavioural intentions towards the utilisation of CGM for travel planning. The limitations of the study and research ethics are also discussed. As Sarantakos (2005) cautioned, the methodology of a study should be carefully designed since it represents a critical component which drives the direction, structure and process of research. This study employed an explanatory research design to clarify "why" travellers would want (or not want) to use CGM for travel planning. From a post-positivist perspective, the study adopted a quantitative approach to data collection and analysis. Among others, the nature of this approach allows objectivity, replicability, and yields results that are more representative and generalisable across settings, while enabling the study of relationships between variables with the degree of accuracy required for establishing social trends (Benini, 2000). Thus, this approach allowed for the empirical testing of the hypotheses and the conceptual model proposed for this study.

When investigating the intention to perform a specific behaviour, it is advisable for the items to be measured in a context similar to the one in which the behaviour is expected to occur (Ajzen, 1991). In view of this, the study employed an online survey as the behaviour this study seeks to understand is an online phenomenon. Studies conducted online are considered to be less labour-intensive and less prone to error and rapidly reaches large numbers of participants from varied backgrounds and geographic regions at a fraction of the cost of traditional methods (Gosling & Johnson, 2010). Also, the study used structural equation modelling (SEM) to determine whether the proposed explanatory variables affect travellers' attitudes and behavioural intentions towards the utilisation of CGM for travel planning. In contrast to most 'first generation' modelling approaches (such as regression), SEM aids researchers to obtain answers to a set of inter-related research questions by means of a simultaneous modelling of the relationships among multiple independent and dependent constructs in a single, systematic, and comprehensive analysis (Gerbing & Anderson, 1988; Gefen, Straub & Boudreau, 2000). This method is increasingly being employed in behavioural science research as well as in psychology and the social sciences in general for the causal modelling of complex, multivariate data sets wherein the study uses multiple measures of hypothesised constructs (Gefen *et al*., 2000; Reisinger & Mavondo, 2006; Hair, Black, Babin & Anderson, 2010). As a valuable statistical technique, SEM represents a comprehensive means of assessing and modifying theoretical models. It allows for the expression of complicated variable relationships through hierarchical or non-hierarchical, recursive or non-recursive structural equations, so as to gain a more thorough view of the entire model (Bullock, Harlow & Mulaik, 1994; Gefen *et al*., 2000). Consequently, this method offers a great potential for advancing theory development (Anderson & Gerbing, 1988).

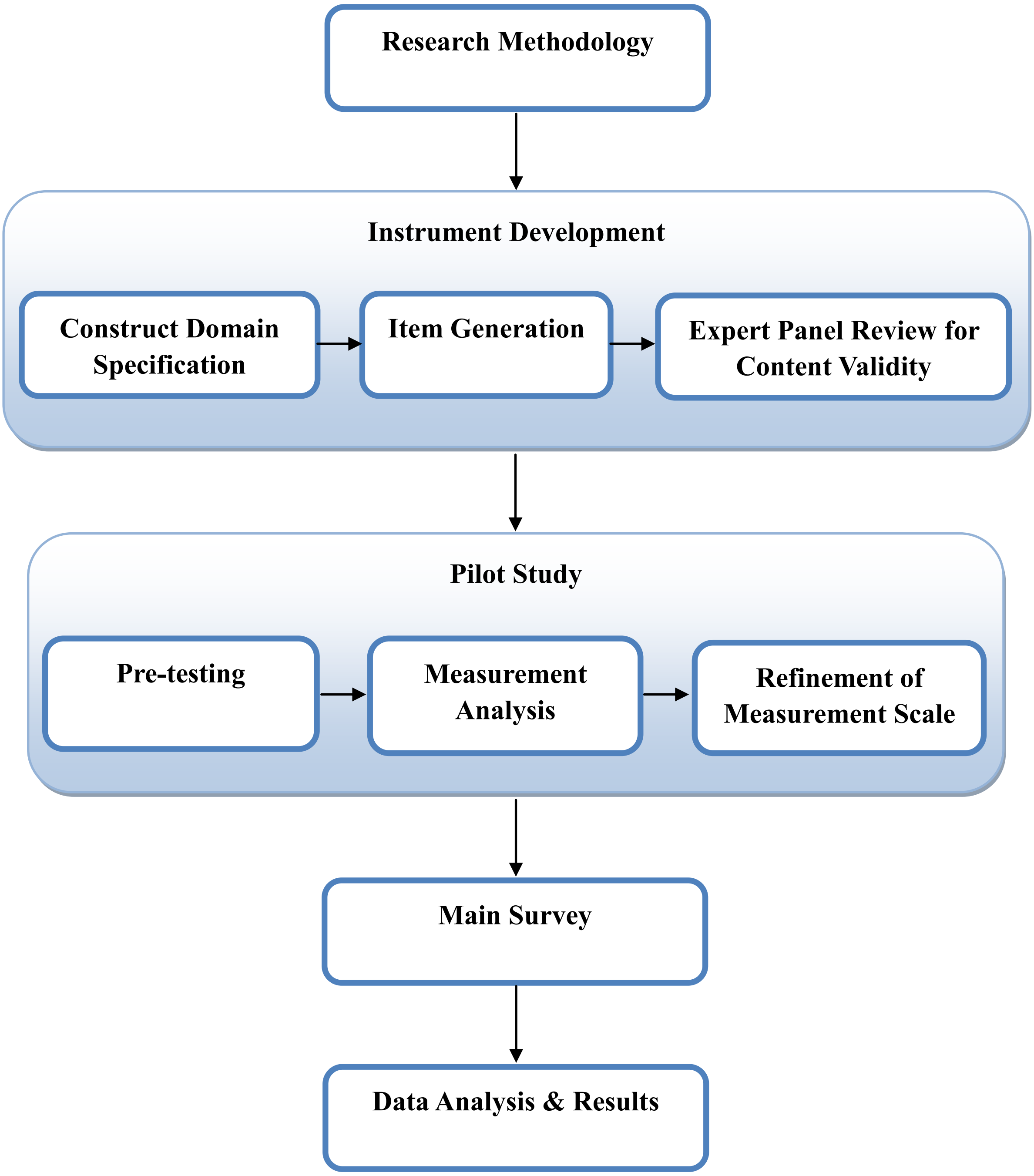

Research Methodology
Instrument Development
Construct Domain Specification
Item Generation
Expert Panel Review for Content Validity
Pilot Study
Pre-testing
Measurement Analysis
Refinement of Measurement Scale
Main Survey
Data Analysis & Results

Figure 4.1: Research Design

4.1 INSTRUMENT DEVELOPMENT

Self-administered questionnaire is considered as an efficient data collection system. The present study employed this approach as it represents a stable, consistent and uniform measure which is less prone to variation. In addition, the use of self-administered questionnaire permits wider coverage, involves lesser costs in comparison with other methods, yields quicker results, allows respondents to complete at their own convenience, offering greater assurance of anonymity and less opportunity for bias and errors caused by the presence or attitudes of the researcher (Sarantakos, 2005).

However, the use of questionnaire has its own weaknesses. Among others, it does not permit probing, prompting and clarification of questions. In addition, the condition under which the questionnaire would be answered is often unknown to the researcher and there is a possibility of partial response due to lack of supervision. However, the goal of this study – involving an examination of the relationships and effects of some constructs over others – requires an objective way of measurement of constructs. Consequently, in line with the chosen paradigm of the study (post-positivism), this study employs self-administered questionnaire as the main instrument of data collection.

4.1.1 Procedures for Instrument Development

The initial stages involved a search for relevant questionnaires that might have already been developed by other investigators. Suitable questionnaire items were adopted, adapted or employed as guides in preparing the questionnaire for this study. One of the constructs proposed for the study, perceived media richness, has no established instrument of measurement appropriate for the CGM context. As discussed in the previous section, the existing scales examine perceived media richness from the perspective of the message communicator and in predominantly traditional media contexts. This study, however, focuses on consumer-generated media – which is a new media type – and also, from the perspective of the information receiver and thus the extant scales are not readily adaptable to the context of the current study. Using strategies and procedures for instrument development suggested by Dillman *et al*. (2009), Czaja and Blair (2005), Diamantopoulos and Winklhofer (2001) and Churchill (1979), measurement items for perceived media richness were developed to suit the context of CGM.

The measurement scales for the remaining constructs, including perceived source credibility and the conventional TAM constructs, were developed on the basis of established measures of constructs from the information systems, social psychology, communication and marketing literature (Davis 1989; Davis *et al*., 1989; Davis *et al*., 1992; Ohanian, 1990; Gilly *et al*., 1998; Gefen *et al*., 2000; Venkatesh & Davis 2000; Pavlou, 2002; Venkatesh *et al*., 2003). The measures were, however, adapted and refined to make them more applicable to the study's context. An item screening test was carried out with some experienced social media users and experts in online behavioural research. The pilot test as well as the sample to be collected through the main survey was used for further assessment of construct reliability and validity.

The steps involved in the instrument development process are summarised below:

1. Specification of construct domains
2. Generation of samples of items
3. Self-Critique
4. Assessment of content validity by expert panels
5. Pilot-test for item purification
6. Validation tests for measurement items (i.e. assessment of dimensionality, reliability and validity)

4.1.2 Construct Domain Specification

The initial stage of instrument development involves a clear definition of the construct to be measured and its dimensions. As opined by Schreisheim, Powers, Scandura, Gardiner and Lankau (1993), a sound measurement of a construct – understood as an abstract theoretical concept employed to describe a phenomenon – constitutes the basis of progress in theory development. In the conceptual description of the construct, Churchill (1979) advised that the researcher ought to clearly define what is to be included in the definition and what needs to be excluded. These concepts have been defined in the previous chapter.

4.1.3 Measurement Scales: Item Generation

The next stage is the generation of items to measure each of the specified constructs and, where applicable, their dimensions. Both literature review and item screening tests were employed for this purpose. Where necessary, the wordings for the items taken from existing published scales were amended to suit the context of this study. Table 4.1 presents the conceptual specification of the constructs and the measurement items.

4.1.3.1 Attitude and Behavioural Intention to Use

In this study, attitude is operationalised as the strength of one's feeling of favourableness or unfavourableness toward the use of CGM for travel planning. Behavioural intention, on the other hand, is considered as the strength of one's willingness and subjective probability to use CGM for travel planning. Five items were used in the measurement scale for attitude. These items were adapted from Homer (1990) and Moon and Kim (2000) and measured with a seven-level semantic differential scale with opposing adjectives at either end of the scale. The measurement items for behavioural intention were borrowed from Gefen *et al*. (2000) and Venkatesh *et al*. (2003). It is worth noting that this study does not investigate the general usage of IT application, but the specific use of CGM websites for travel planning. Hence there was a need to modify the scale for behavioural intention to reflect this specific behaviour under study. Four items were initially used to measure usage intention in the pilot study. However, based on the results of the pilot study, the scale for the main survey was adjusted, utilising five items instead.

4.1.3.2 Perceived Usefulness and Perceived Ease of Use

Using an adaptation of Davis' (1989) definition, this study conceptualises perceived usefulness as the degree to which a person believes that using CGM would enhance his or her travel planning. With regard to perceived ease of use, the study seeks to measure the degree to which a person believes that using CGM would be free of effort. Five measurement items, adapted from Davis (1989), Davis *et al*. (1989), Gefen *et al*. (2000) and Pavlou (2002) were used.

4.1.3.3 Perceived Enjoyment

The construct of perceived enjoyment is operationalised in this study as the extent to which a person believes that interacting with the CGM site is enjoyable in its own right, apart from any performance consequences that may be expected from its use. Five measurement items were adapted from Davis *et al*. (1992) and Venkatesh (2000).

4.1.3.4 Perceived Source Credibility

A review of extant literature reveals some inconsistencies in the different conceptualizations and measurements of credibility. These inconsistencies can be explained by the view that while credibility studies are very interdisciplinary, definitions are fairly field-specific. Flanagin and Metzger (2008) observe that whereas information scientists treat credibility as an *objective property* of information 'quality', or the extent to which information can be considered as accurate, as evaluated by accepted standards or by experts in a particular field, scholars in communication and social psychology often regard credibility as a *perceptual variable*. In other words, the fields of communication and social psychology do not consider credibility as an objective attribute of a source (be it an object or a person), or a piece of information; instead, they regard credibility as a *perceived quality* – a subjective perception on the part of the information recipient (Gunther, 1992; Fogg & Tseng, 1999; Flanagin & Metzger, 2008). The implication of this view is that the credibility of the same piece of information or source may be judged differently by different people. This latter view also delineates the differences between the 'credibility' of information and its 'accuracy'. Flanagin and Metzger (2008) further explain that though accurate information, in most cases, is likely to be perceived as credible, technically, inaccurate information can also be perceived as credible as long as the information recipient believes it. This, in their view, applies to both objective, factual information as well as more subjective information.

This study adopts the view of credibility as a perceptual variable because it relates directly to the core issues of travel-related consumer-generated media. While credibility-as-accuracy is appropriate for describing and evaluating scientific knowledge production, credibility-as-perception facilitates a better understanding of information generation that is collaborative, distributed, collective, and contradictory (which is characteristic of CGM) since it emphasises the notion of believability as a subject of apt concern (Flanagin & Metzger, 2008). CGM is more about which information, opinion or perspective people believe rather than scientific data accuracy (e.g. which destination is most suitable for a family vacation, which restaurant serves the best Chinese cuisine, etc). Also, it is not the ‘accuracy’ of information (or reality) *per se* that determines behaviour but rather perceptions. In view of this, credibility-as-perception is critical for understanding travellers’ attitudes and behavioural intentions towards the adoption of consumer-generated media for travel planning. Hence the study operationalises perceived credibility as the extent to which a person considers the sources of CGM (the travellers who post content) to be believable.

Previous studies intimate that credibility dimensions and measurements may vary based on the type of source being evaluated and the context in which such evaluation transpires (Gass & Seiter, 1999; Metzger *et al*., 2003). Metzger and colleagues consider the multiplicity of scales to measure source credibility as arising from disagreements over the relative importance of the various dimensions, which mirrors the priority of each researcher. This study adopts the most common approach in literature by measuring perceived credibility as a two dimensional construct: expertise and trustworthiness. For each of the two sub-scales of perceived credibility, a five-item measurement scale was adapted from Ohanian’s (1991). Ohanian’s scale was chosen because it has generally been found to be reliable by several scholars (Yoon *et al*., 1998; Pornpitakpan, 2003).

4.1.3.5 Perceptual Homophily

The construct of perceptual homophily, in the context of this study, represents the strength of one’s belief that he/she is similar to other online travellers who post CGM, in terms of their likes, dislikes, values, and travel experiences. In the literature, the measurement of communicator homophily has taken a variety of forms (e.g. Byrne, 1961; Rogers & Shoemaker, 1971; Alphert & Anderson, 1973). Though these approaches altogether have contributed to current theoretical formulations, McCroskey *et al*. (1975) observed that those approaches involve an element which could introduce error and thus diminish the value of the research results. The conventional approach has been for the investigator – not the research subject – to determine the degree of homophily present. Thus, similarities and/or dissimilarities which are important to the subject can be overlooked. In view of this, the present study employs an approach to the measurement of homophily which is similar to that of McCroskey *et al*. (1975) based on the subjects' perceptions without any imposition of the investigator's interpretation. Relying on the scales by Wofinbarger and Gilly (1993), Gilly *et al*. (1998) and Bruyn and De Lilien (2008), five new items were developed to reflect the context of travel-related CGM.

4.1.3.6 Perceived Media Richness

The perceived media richness construct, in the context of this study, reflects the extent to which a person believes CGM websites abound with valuable content from a multiplicity of sources as well as the medium's capability of facilitating shared meaning. Although several scales exist to measure the "richness" of a medium, these were found not to be readily adaptable to the context of this study. First, the existing scales have been challenged. The ensuing years after the first empirical test of the media richness theory (Daft *et al*., 1987) witnessed several tests, many of which have suggested revised interpretations (El-Shinnawy & Markus, 1992; Hunter & Allen, 1992; Rice, 1992; Dennis & Kinney, 1998; among others).

Second, of the numerous studies testing the media richness theory, almost all have examined the perceptions of media fit by surveying the media choice (or more accurately, the espoused choice) of message senders, not by examining actual performance impacts of media use (Dennis & Kinney, 1998). Researchers often require managers to choose the medium that they would use in sending a set of hypothetical messages, studying whether the manager's choices fit the propositions of MRT (El-Shinnawy & Markus, 1992, 1997; Hunter & Allen, 1992; Dennis & Kinney, 1998). In the context of the new media, in particular, the results have not been completely supportive of the MRT (Rice, 1992; Dennis & Kinney, 1998). Nonetheless, MRT has been one of the key theories in the research application and use of the new media.

El-Shinnawy and Markus (1997) blame the failure of the MRT to explain people's media choices in the context of new media on the way the concept has been operationalised. El-Shinnawy and Markus stress that even if media richness is an important determinant of people's media choices, how the concept has been conceptualised and measured in traditional media context may be inapplicable or inappropriate for the new media. In view of this, the current study adopts a slightly different approach to the measurement of perceived media richness.

The present study develops a new scale to measure the perception of respondents regarding the richness of CGM websites. The measurement items were developed in consideration of Daft and Lengel's (1984) specification of how media vary in their capability to (1) provide feedback; (2) support multiple cues; (3) allow for variety in language use; and (4) support personal focus – that is, the degree to which a medium enables participants to express their feelings. In addition, item development was informed by Dennis and Kinney (1998), Nisbett and Ross (1980) and Papathanassis and Knolle (2010) as well as the nature of the medium offered by social media. As noted above, the existing scales measure respondents' perception of the richness of a medium from the perspective of the communicator. However, since this study examines the use of CGM for travel planning purpose – which is an information recipient's standpoint – the measurement items are developed from the perspective of the receiver of the information. Fourteen items were initially proposed for this scale. Based on the expert panel review, the scale was subsequently reduced to eight measurement items.

4.1.4 Expert Panel Review for Content Validity

Armstrong, Cohen, Eriksen and Cleeland (2005) emphasize content validity as the initial step in the validation of a construct. Content validity deals with the representativeness and comprehensiveness of the items used in creating the scale or index. It is assessed through an examination of the process by which the measurement items are generated (Straub, 1989). In view of this, the proposed measurement items were sent to a panel of experts for review (Appendix A).

Armstrong *et al.* (2005) call attention to the essence of setting standards when choosing experts. The selection process should permit a more objective selection of reviewers. Rubio, Berg-Weger, Tebb, Lee and Rauch (2003) suggest that expert panels may include content experts such as professionals with research experience and publications in the content area of interests as well as lay experts including possible research subjects for whom the topic is most relevant. Therefore, ten academicians with expertise in online behavioural research or publications related to social media were selected to constitute the expert panel. In addition, five online travellers experienced in the use of social media were also chosen as lay experts. Since this study focuses on the use of CGM for a specific type of task – travel planning – input from lay experts who are potential subjects of the study could help improve the content validity of the measurement items.

Panel members were requested to rate the appropriateness of the items in each scale. They were provided with the definitions of the constructs and then asked to rate each item for its representativeness, using a 3-point Likert-type scale (3= “clearly representative,” 2= “somewhat representative,” and 1= “not representative”) (Appendix A). They were also asked to suggest alternatives where applicable. Literature suggests an apparent lack of consistency regarding how scholars utilise the opinions of expert judges in aiding the decision to either retain or not retain measurement items for a scale or index (Hardesty & Bearden, 2004). The “sum score” decision rule was employed due to its merit in taking into account all expert judges' assessments. Nonetheless, as Hardesty and Bearden (2004) observed, merely judging items may not ensure the choice of the most appropriate items; therefore, the expert opinions and comments were carefully considered in light of the theoretical underpinnings of the constructs under study. The scale items measuring each construct are listed below (Table 4.1).

Table 4.1:Operational Definition of Constructs and Proposed Measurement Items

Construct	*Operational Definition*	*Measurement Items*	*Reference*
Perceived usefulness	The degree to which a person believes that using CGM will enhance his or her travel planning	Using the content of this CGM site improves my travel planning.	Davis *et al.* (1989)
		Using content of this CGM site helps me to plan my trips more efficiently.	Davis (1989)
		Using the content of this CGM site makes my travel planning easier.	Davis (1989)
		Using the content of this CGM website makes it easier for me to reach travel-related decisions.	Gefen *et al.* (2000)
		Overall, I find the content of this CGM site useful for travel planning.	Davis *et al.* (1989)
		[7-point Likert Scale: 1= strongly disagree, 7= strongly agree]	
Perceived ease of use	The degree to which a person believes that using CGM will be free of effort	It is easy to learn how to use this CGM site.	Davis *et al.* (1989)
		It is easy to use this CGM site to find the information needed for my travel planning.	Pavlou (2003)
		It is easy to use the content of this CGM site to plan my trips.	Davis (1989)
		It is easy for me to become skilful at using this CGM site.	Davis *et al.* (1989)
		Overall, I find this CGM site easy to use.	Davis *et al.* (1989)
		[7-point Likert Scale: 1= strongly disagree, 7= strongly agree]	
Perceived credibility	The extent to which a person considers the sources of CGM (i.e.	I believe those travellers who post CGM online are…	

Construct	*Operational Definition*	*Measurement Items*	*Reference*
	the travellers who post content) to be believable Measured as a two-dimensional construct: trustworthiness and expertise	*Trustworthiness:*	
		Dependable/undependable	Ohanian (1991)
		Honest/ dishonest	Ohanian (1991)
		Reliable/unreliable	Ohanian (1991)
		Sincere/ insincere	Ohanian (1991)
		Trustworthy/ untrustworthy	Ohanian (1991)
		Expertise:	
		Experienced in travel/ inexperienced in travel	Ohanian (1991)
		Experts in travel /not experts in travel	Ohanian (1991)
		Knowledgeable in travel/ Unknowledgeable in travel	Ohanian (1991)
		Qualified to offer travel advice/unqualified to offer travel advice	Ohanian (1991)
		Skilled in travel/unskilled in travel	Ohanian (1991)
		[7-point semantic differential scale]	
Perceived enjoyment	The extent to which a person believes that interacting with the CGM site` is enjoyable in its own right, apart from any performance consequences that may be expected from its use	The use of this CGM site is enjoyable.	Davis *et al.* (1992)
		The actual process of browsing the content of this CGM site is pleasant.	Venkatesh (2000)
		I have fun interacting with the content of this CGM site.	Venkatesh (2000)
		Viewing other travellers' photographs, videos, comments and reviews on travel destinations and products from this CGM site is entertaining.	Davis *et al.* (1992)
		Using this CGM site is interesting	Davis *et al.* (1992)
		[7-point Likert Scale: 1= strongly disagree, 7= strongly agree]	
Perceptual homophily	The strength of one's belief that he/she is similar to other travellers who post CGM in terms of likes, dislikes, values, and travel experiences	Considering your viewpoints	Bruyn & De Lilien (2008)
		Considering your likes and dislikes	Wofinbarger and Gilly (1993), Gilly *et al.* (1998)
		Considering your travel experiences	Gilly *et al.* (1998)
		Considering your values	Gilly *et al.* (1998)
		In your opinion, how similar are your tastes in travel-related products compared to the travellers who post content on this CGM site?	Bruyn and De Lilien (2008)

Construct	*Operational Definition*	*Measurement Items*	*Reference*
		[7-point Likert scale: 1= not at all similar	
Perceived media richness	The extent to which a person believes that CGM websites abound with valuable content from a multiplicity of sources and the medium is capable of facilitating shared meaning	This CGM site allows me and other travellers online to give and receive timely feedback from each other.	Daft and Lengel (1984; 1986)
		This CGM site allows me and other travellers online to adapt our discussions to our own personal requirements.	Daft and Lengel (1984; 1986)/ Dennis and Kinney (1998)
		This CGM site offers me a great diversity of travel opinions.	Papathanassis and Knolle (2010)
		If I am unclear about something related to travel, this CGM site allows me to ask other travellers online for clarification and obtain appropriate response.	Daft and Lengel (1984; 1986)
		The travel pictures, videos, comments and other content posted on this CGM site are image-provoking	Nisbett and Ross (1980)
		This CGM site allows me to deduce various cues (such as emotional tone, attitude or formality) from the other travellers who post content online.	Daft and Lengel (1984; 1986)/ Dennis and Kinney (1998)
		Features like chat, email, message boards/forums, and other multimedia tools on this CGM site enrich my interaction with other travellers online.	Huber and Daft (1987); Lengel and Daft (1984)
		This CGM site is rich in travel-related content. *[7-point Likert Scale: 1= Extremely unlikely, 7= extremely likely]*	Papathanassis and Knolle (2010)
Attitude toward using CGM for travel planning	The strength of one's feeling of favourableness or unfavourableness towards the use of CGM for travel planning	Generally, my using this CGM site for travel planning is …	
		a good/ a bad idea	Moon and Kim (2001)
		a wise/ a foolish idea	Moon and Kim (2001)
		a pleasant/ an unpleasant idea	Moon and Kim (2001)
		a positive/ a negative idea	Moon and Kim (2001)
		favourable/ an unfavourable *[7-point semantic differential scale]*	Homer (1990)

Construct	*Operational Definition*	*Measurement Items*	*Reference*
Behavioural intention to use CGM for travel planning	The strength of one's willingness and subjective probability to adopt CGM for travel planning	I will not hesitate to visit this CGM site for travel information.	Gefen *et al*. (2000)
		I would expect to use the content of this CGM site to plan my future trips.	Gefen *et al*. (2000)
		I intend to use the content of this CGM site to inform my travel-related decisions and holiday (vacation) plans.	Venkatesh *et al*. (2003)
		I am very likely to use the content of this CGM website for my travel planning. *[7-point Likert Scale: 1= strongly disagree, 7= strongly agree]*	Gefen *et al*. (2000)

4.2 PILOT STUDY

Using the initial instrument and the method of administration proposed for this study, a pilot study was conducted prior to the main survey to ensure that the items have been developed and/or adapted appropriately to the study's context (Appendix B). While the pilot study represents a part of the instrument development process (by helping to validate the content of the instrument), it also aided in identifying potential problems linked with the questionnaire design and the method of data collection including the administrative and organizational problems related to the whole study. Among other goals, a pilot study most importantly seeks to examine the suitability of the research methods and instruments, pre-determine the costs and duration of the main survey, test the effectiveness of the organization of the study and examine the response of the subjects pertaining to the overall research design in order to ascertain possible weaknesses, inadequacies, ambiguities and problems regarding the various aspects of the research for correction prior to the conduct of the main survey (Oppenheim, 1992; Sarantakos, 2005).

4.2.1 Questionnaire Design

After the item screening test and subsequent refinement of the scale items, an online questionnaire was designed. In developing a questionnaire, Mahr (1995) contends that leading, doubled barrelled and presuming questions as well as vague words and academic jargon must be avoided. In view of this, in constructing the questionnaire, special attention was given to the content of the question, particularly its composition, relevance, clarity, simplicity, level and type of language, as well as the layout and format. A major concern relates to the potential of measurement bias resulting from the way items are ordered within the questionnaire. Some scholars of instrument design oppose the item-grouping approach and rather advocate for items from different constructs to be intermixed so as to diminish “carryover” effects among the responses to multiple items measuring a specific construct (e.g. Budd, 1987; Harrison & MacLaughlin, 1991). A study by Budd (1987), for instance, showed that the psychometric properties of the measurement scales can be affected by the arrangement of items within a questionnaire. However, in a more recent study, Davis and Venkatesh (1996) conducted three experiments involving two systems to determine whether such carryover biases exist in the TAM measures. Results from all three experiments demonstrate that item grouping as opposed to item intermixing had no significant effect (be it positive or negative) either on the high levels of reliability and validity of TAM scales, or on the path coefficients connecting the constructs.

Paradoxically, the open-ended evaluations suggest that respondents were more confused and annoyed when items were intermixed. Hence, Davis and Venkatesh (1996) argue that the intermixed item approach has a tendency toward output interference effects which themselves have potential biasing effects. In view of this, the present study followed the recommendations of Davis and Venkatesh (1996) by using the original (grouped) format to best predict and explain travel consumers' attitude and intention to use CGM. Also, this approach is the most widely employed in TAM research and has been confirmed to be reliable and valid in several replications and applications. Giving the online nature of this study, which implies that the researcher would not be physically present to address any confusion faced by respondents, the item-grouping approach was deemed to be most appropriate. In any case, "researchers should attempt to employ procedures that involve the fairest treatment of human subjects, and therefore should not annoy them, particularly when there is no methodological leverage to be gained" (Davis & Venkatesh, 1996, p. 39).

Table 4.2 outlines the structure of the online questionnaire. Following suggestions by Dillman *et al*. (2009) and Sarantakos (2005), the first page comprised of a cover letter describing the main objectives and social significance of the study, as well as emphasising the respondents' importance to the study and offering assurances of anonymity, confidentiality and privacy. The purpose is to introduce the participants to the research topic, neutralise any doubt or mistrust the respondents may have about the study, ensure anonymity and confidentiality, motivate them to participate and seek their voluntary consent.

The next page introduces participants to the meaning of consumer-generated reviews. The term ‘consumer-generated media’ is quite abstract and can be misunderstood or misinterpreted. Enhancing respondents’ understanding of the terminology by specifying it further and offering examples is a potential solution to this problem (refer to Table 4.3). This also serves to help refresh participants’ memories and thoughts about CGM and to further ensure that they have a clear understanding of the specific behaviour which is to be measured. It is important for questionnaires to be administered in temporal and psychological proximity to an actual experience of the phenomenon under study. This helps participants’ to recall their experiences and maximize the reliability of their responses (Brady *et al*., 2005).

Respondents were then directed to the CGM site of *VirtualTourist*, a subsidiary of *TripAdvisor*, Inc. The online survey system was designed in a way that respondents had to spend sometime to familiarise themselves with the content of the CGM site before they could have access to the questionnaire. The proposed model is being used to explain a specific behaviour (usage) toward a specific target (consumer-generated media) within a specific context (travel planning). The definition and measurement of the model constructs, as Ajzen and Fishbein (1980) advised, match in specificity to these characteristics of the behavioural criterion, so that the measures of intentions, attitudes and their predictors are worded in reference to the specific target, action and context elements, but are fairly non-specific in terms of time frame. Davis *et al*. (1989) followed a similar approach in validating the TAM.

Table 4.2: A Draft Outline of the Online Questionnaire

Page	*Content description*
Screener	Qualifying questions
Introductory page	Introduction: Objectives, voluntary consent, assurances of anonymity and confidentiality
Treatment	Meaning, examples and visual description of consumer-generated media
Page 1 of questionnaire	Measures of perceived usefulness
Page 2	Measures of perceived ease of use and perceived enjoyment
Page 3	Measures of perceived credibility
Page 4	Measures of perceptual homophily
Page 5	Measures of perceived media richness
Page 6	Measures of attitude and behavioural intention
Page 7	Respondents' characteristics: sex, age, educational background, Internet usage frequency
Page 8	Measures of social media usage experience and general comments.
Thank you page	Thanks participants.

The next page presents the measures of perceived usefulness, ease of use and perceived enjoyment. Using a 7-point Likert-type scale, participants were asked to indicate the extent to which they agree or disagree with the statements constituting the measurement items (7= *strongly agree* and 1= *strongly disagree*). This will be followed by the page containing the measurement items for the construct of perceived credibility. The ten measurement items for the credibility construct were measured using a 7-point semantic differential scale.

Table 4.3:Explanation of Consumer-Generated Media to Study Participants

Meaning of Consumer-generated media (CGM)
An increasing number of websites are integrating features that allow people to contribute their own content and enable users to communicate about special interest topics, products or services through the Internet. Such content is generally referred to as '**consumer-generated media**'. In this survey, '**CGM**' and the term '**content**' are used interchangeably to refer to consumer-generated media. In relation to travel and tourism, some examples of CGM include: • individuals sharing opinions about travel destinations, attractions and accommodation properties through blogs (weblogs), wikis, travel review sites or other discussion forums • travellers submitting photos or videos to the Internet to share their travel experiences with other online users (including family, friends or total strangers who may be interested) • consumers posting reviews of accommodation properties to social media sites such as *TripAdvisor.com, IgoUgo.com and Virtualtourist.com* • Individuals using social networking sites such as *Facebook, MySpace, RenRen* and *Friendster* to share travel information.

Adapted from Burgess *et al*. (2009).

The next page asks participants to respond to the measures of perceived media richness and perceptual homophily. Both scales were Likert-type anchored in 7 – point with values ranging from 1= *strongly disagree* to 7 = *strongly agree*, in the case of perceived media richness, and from 1= *not all similar* to 7 = *extremely similar*, for perceptual homophily. The choice of a 7-point Likert-type scale instead a 5-point is due to its ability to better detect variations in responses. The subsequent page deals with the measures of attitude and behavioural intention. A 7-point semantic differential scale was employed for the 5-item attitude construct whereas the behavioural intention measures used a 7-point Likert scale (1= *strongly disagree* to 7 = *strongly agree*). The questionnaire ends with some questions about respondent's socio-demographic background (sex, age, education and nationality), Internet usage frequency and social media use experience. The last page was used to thank and debrief the participants. Each page had an indicator showing the percentage of completion of the questionnaire. The final questionnaire constitutes 48 items and some control variables that may influence the findings (i.e. sex, educational level, age, Internet usage frequency and social media experience).

One of the key challenges associated with Internet surveys concerns variations in the visual display of the questionnaire across respondents. Smyth and Pearson (2011) observed that different hardware, software and user settings influence the way Internet surveys appear on the screen to respondents. This is problematic in that previous research has demonstrated that even minor changes in the visual appearance of questionnaires may impinge on the way questions are interpreted and answered. In an attempt to standardise the visual appearance of surveys across respondents, the online survey made use of cascading style sheets (CSS). CSS is useful for applying different styles such as font types and sizes, widths and colours based on user settings (such as screen resolution) so as to diminish variations in the visual appearance of the survey across respondents without altering the real content of the survey (Das *et al*., 2011). Also, Dillman and colleagues (2009) suggest that a questionnaire that is ‘respondent-friendly’ potentially minimises the incidence of unit non-response among those who are less likely to respond. In this regard, the hypertext link of the online questionnaire was first sent to 35 research students and two academic advisors of the School of Hotel and Tourism Management of the Hong Kong Polytechnic University for open criticisms and suggestions about the design.

The online survey was built on the web platform of Qualtrics (http://www.qualtrics.com), a research software company. Qualtrics combines ease of use with an advanced set of features to offer a robust survey tool which enables users to conveniently create their own Web-based surveys. The data obtained may either be analyzed online or exported to software programmes like SPSS and Microsoft Excel. This research suite has been widely used in carrying out research in academic, corporate, non-profit and government organizations. In addition, quantitative statistical analysis carried out with Qualtrics has been cited in several professional and academic publications (e.g. Albaum & Smith, 2006; Sue & Ritter, 2007; Brunson, 2008).

4.2.2 Data Collection

The pilot survey was conducted online using an online panel. Participants for the study must be Internet literate, should have taken a leisure vacation within the previous 12 months and should have used the Internet in searching for travel information. These criteria ensured that the characteristics of the sample respondents retrieved from the database of the online panel were representative of the mainstream travellers who use the Internet for travel planning.

A major weakness in this approach, however, is the incidence of non-response. It is common for most of the people contacted by e-mail not to respond to the questionnaire. For example, in an overview of Internet-based surveys in hospitality and tourism journals, Hung and Law (2011) report that studies predominantly yield response rates of less than 30%. Giving this, non-response is an important issue that deserves serious attention. For this reason, this study followed suggestions by Dillman *et al*. (2009) and Mahr (1995) regarding how one can improve the response rates of online surveys.

A total of 5,000 invitations were sent to travellers from Singapore and the United States of America (3,000 from Singapore; 2,000 for the USA). The rationale for the choice of Singapore and the US was to obtain a cross-section of respondents from both Asian and Western settings. Also, the population of these two countries are largely Internet users (Internet World Stats, 2012) and hence they represent potential users of CGM websites. The online survey for the pilot phase was opened from the 10th to 11th August, 2011. Within this period, 284 travel consumers responded to the survey.

From a data quality perspective, it is desirable to take steps to ensure that only sample members could access the survey and that each respondent could complete the survey only once (Smyth & Pearson, 2011). To ensure this, sample members were assigned unique identifiers that have to be used to gain access to the survey. Employing the automatic login technique, each respondent's unique access code was embedded into the survey URL which was sent to them. This means a unique URL link was generated for each e-mail address, and only one questionnaire was permitted from each respondent. Research has shown that automatic login, in contrast to manual login, significantly increases response rates (Heerwegh & Loosveldt, 2003; Smyth & Pearson, 2011).The online survey system further ensured that respondents could complete the survey only once.

4.2.3 Data Screening

The resulting data was screened and prepared for analysis. This was done for four reasons, the first was to ensure that the data to be analysed was from respondents who meet the sample criteria. Respondents had to be individuals who use the Internet to search for travel information and who had embarked on a leisure trip within the 12 months preceding the survey. Of a total of 284 respondents, 69 were screened out of the survey because they did not meet these criteria. That is, either they have never used the Internet in searching for travel information or they have not taken any vacation trip in the last 12 months preceding the survey. The next step in the screening process was to identify individual cases reporting over 10% of missing values. Hair *et al*. (2010) caution that the processing of non-random missing data could bias statistical results. In view of this, the data set was checked for missing data. Nine cases, representing 4.2 % of the dataset, were identified to be incomplete. Eight of these cases reported more than 10% missing values. These were found to be missing completely at random (MCAR). In such cases, the LISTWISE deletion method is recommended to be appropriate (Hair *et al*., 2010). Hence the LISTWISE deletion method was applied leading to the exclusion of eight incomplete cases from the dataset. For the remaining case with less than 10% missing values, the PAIRWISE deletion approach was deemed to be more suitable.

The third was to find cases which reported extreme inconsistency within a certain dimension. The accuracy of the extreme scores was initially checked using descriptive statistics. All the minimum and maximum scores were found to be within the range of 1to 7, which was in line with the seven-point scale used in the measurement of the items. Using box plots, the data was further examined graphically to identify the outliers. A total of six cases were identified with extreme scores on several variables. Possibly, the respondent may not have read the survey questions carefully enough. It was therefore decided to remove these outliers from the dataset. Kline (2011) recommends the deletion of univariate outliers in order to minimise the number of multivariate outliers and normalise the data distribution. After the screening process, a final sample size of 201 was retained for measurement analysis. The descriptive statistics of the main constructs have been illustrated in Table 4.4.

Lastly, the normality of the data was assessed using univariate skewness and kurtosis. To ensure univariate normality, Kline (2011) recommends cut-off absolute values of 3.0 for skewness and 8.0 for kurtosis. As shown in Table 4.4, the absolute values of univariate skewness ranged from 0.004 to 1.176, and those of univariate kurtosis ranged from 0.033 to 2.731, indicative of a reasonably normal distribution of responses. Hence it can be assumed that the data does not depart excessively from normal distribution and could therefore be used for further analysis. The descriptive statistics of the respondents' demographic profile is presented in the next section.

Table 4.4: Descriptive Statistics of the Main Constructs (N=201)

Items	*Min*	*Max*	*Mean*	*S.D.*	*Skew*	*C.R.*	*Kurtosis*	*C.R.*
Credibility: Trustworthiness								
Dependable	1.00	7.00	5.22	1.093	-.337	-1.949	.307	.888
Honest	2.00	7.00	5.37	1.079	-.004	-.026	-.786	-2.276
Reliable	1.00	7.00	5.21	1.077	-.119	-.691	.136	.394
Sincere	2.00	7.00	5.35	1.067	-.282	-1.632	-.259	-.749
Trustworthy	3.00	7.00	5.22	1.017	.085	.490	-.830	-2.401
Multivariate							22.346	18.933
Credibility: Expertise								
Experienced in travel	2.00	7.00	5.16	1.113	-.043	-.249	-.663	-1.920
Experts in travel	1.00	7.00	4.76	1.259	-.317	-1.835	.256	.740
Knowledgeable in travel	2.00	7.00	5.09	1.103	.127	.733	-.706	-2.042
Qualified to offer travel advice	1.00	7.00	4.94	1.182	-.267	-1.546	.033	.096
Skilled in travel	2.00	7.00	5.02	1.118	.133	.770	-.585	-1.693
Multivariate							24.801	21.013
Perceived Usefulness								
Improves my travel planning	1.00	7.00	5.52	1.141	-1.038	-6.011	2.169	6.276
Helps me plan trips more efficiently	1.00	7.00	5.58	1.107	-1.083	-6.266	2.731	7.903
Makes my travel planning easier	1.00	7.00	5.48	1.221	-.819	-4.738	1.149	3.325
Makes it easier for me to reach travel-related decisions	1.00	7.00	5.47	1.213	-.953	-5.519	1.633	4.726
Overall, I find useful for travel planning	1.00	7.00	5.67	1.145	-1.176	-6.807	2.634	7.624
Multivariate							22.445	19.017
Perceived Enjoyment								
Enjoyable	2.00	7.00	5.53	1.114	-.385	-2.226	-.603	-1.745
Pleasant	3.00	7.00	5.56	1.103	-.326	-1.887	-.851	-2.464
Fun	1.00	7.00	5.37	1.255	-.537	-3.110	-.009	-.027
Entertaining	1.00	7.00	5.61	1.196	-.826	-4.779	1.042	3.016
Interesting	1.00	7.00	5.64	1.188	-.644	-3.730	.197	.569
Multivariate							21.701	18.386
Perceived Ease of Use								
Easy to learn how to use	3.00	7.00	5.87	.976	-.483	-2.793	-.498	-1.440
Easy to use to find the information needed	2.00	7.00	5.76	1.065	-.671	-3.886	.038	.111
Easy for me to become	2.00	7.00	5.72	.981	-.568	-3.285	.117	.340

Items	*Min*	*Max*	*Mean*	*S.D.*	*Skew*	*C.R.*	*Kurtosis*	*C.R.*
skilful at using								
Easy to use content to plan my trips	2.00	7.00	5.77	1.034	-.798	-4.621	.692	2.003
Overall, I find easy to use	3.00	7.00	5.89	.968	-.542	-3.134	-.524	-1.516
Multivariate							17.448	14.783
Perceptual Homophily								
Likes and dislikes	1.00	7.00	4.23	1.285	-.244	-1.411	-.135	-.390
Travel experiences	1.00	7.00	4.16	1.333	-.061	-.355	-.561	-1.623
Values	1.00	7.00	4.31	1.413	-.076	-.438	-.585	-1.693
Viewpoints	1.00	7.00	4.37	1.328	-.183	-1.061	-.442	-1.280
Preferences in travel-related products	1.00	7.00	4.37	1.373	-.030	-.173	-.487	-1.409
Multivariate							19.857	16.824
Perceived Media Richness								
Timely feedback	3.00	7.00	5.47	1.010	-.377	-2.184	-.432	-1.251
Adapt discussions to personal requirements	1.00	7.00	5.16	1.243	-.492	-2.847	.039	.114
Great diversity of travel opinions	2.00	7.00	5.39	1.108	-.279	-1.615	-.606	-1.755
Clarification and appropriate response	2.00	7.00	5.29	1.104	-.263	-1.524	-.358	-1.036
Image-provoking	2.00	7.00	5.26	1.078	-.144	-.832	-.514	-1.487
Deduce various cues	2.00	7.00	5.18	1.063	-.172	-.993	-.356	-1.029
Enrich my interaction	1.00	7.00	5.20	1.118	-.462	-2.674	.475	1.374
Rich in travel-related content	2.00	7.00	5.51	1.064	-.519	-3.007	.111	.321
Multivariate							28.654	16.058
Attitude								
Good/bad	1.00	7.00	5.72	1.164	-.751	-4.345	.538	1.558
Wise/unwise	2.000	7.00	5.56	1.157	-.441	-2.551	-.486	-1.408
Pleasant/unpleasant	1.00	7.00	5.63	1.151	-.755	-4.373	.779	2.256
Positive/negative	1.00	7.00	5.66	1.173	-.886	-5.130	1.361	3.938
Favourable/ unfavourable	1.00	7.00	5.73	1.191	-.771	-4.463	.549	1.590
Multivariate							59.738	50.614
Usage Intention								
Will not hesitate	1.00	7.00	5.57	1.247	-.777	-4.496	.488	1.412
Expect to use	1.00	7.00	5.39	1.277	-.823	-4.762	.880	2.548
Intend to use	1.00	7.00	5.34	1.279	-.723	-4.186	.683	1.975
Very likely to use	1.00	7.00	5.38	1.314	-.758	-4.387	.463	1.340
Multivariate							10.151	10.386

4.2.4 Profile of Pilot Study Respondents

The demographic characteristics of the 201 pilot study respondents have been displayed in Table 4.5. Female respondents (55.7%) were slightly more than their male counterparts (44.3%), which is quite reflective of the general adult population of Internet users. The respondents were fairly distributed across the different age groups with the clear majority aged between 20 and 60 which represents the active working age groups. Over half of the respondents had a bachelor degree or higher qualification. Very few respondents were either students (9.0%) or retirees (3.5%) with most study participants working in various fields such as sales and office, education, general services, government, among others. This suggests that respondents are largely income earners and are in a position to make their own travel-related decisions. Nearly half of the respondents lived in the USA (49.8%) with the remainder mainly residing in Singapore (48.8%).

The respondents were habitual Internet users with the overwhelming majority using the Internet either several times each day (83.6%) or once daily (11.4%). Table 4.6 illustrates study participants prior experience with the different genres of CGM websites. Generally, the respondents were familiar with CGM websites, with the majority having used social networking sites like *Facebook* and *MySpace* (82.4%) as well as media sharing websites like *YouTube, Flickr* and *Photo.net* (77.9%). Also, majority of respondents had used CGM in online travel communities like *TripAdvisor*, *VirtualTourist* and *IgoUgo* (64.0%) and other third-party review sites such as *eBay* and *Amazon* (67.3%), as well as consumer reviews on the websites of service providers such as hotels, travel agencies and airlines (70.0%).

Table 4.5: Profile of Pilot Study Participants (*N*=201)

Profile category		*Frequency (Valid N)*	*Percentage (%)*
Gender	Female	112	55.7
	Male	89	44.3
Age	Less than 20 years	6	3.0
	21-30 years	62	30.8
	31-40 years	46	22.9
	41-50 years	48	23.9
	51-60 years	30	14.9
	60+ years	9	4.5
Education	High school/ Secondary school	43	21.4
	Diploma/Associate degree (2 years)	53	26.4
	Bachelor degree	62	30.8
	Graduate/Postgraduate degree	41	20.4
	Other	2	1.0
Occupation	Management, professional, and related	54	26.9
	Education	17	8.5
	Service	12	6.0
	Sales and office	21	10.4
	Construction, extraction, and maintenance	4	2.0
	Production, transportation, and material moving	9	4.5
	Government	18	9.0
	Retired	7	3.5
	Not employed outside home	19	9.5
	Student	18	9.0
	Other	22	10.9
Country of Residence	USA	100	49.8
	Singapore	98	48.8
	Other	3	1.5
Internet use frequency	A few times a month or less	3	1.5
	A few times a week	7	3.5
	About once a day	23	11.4
	Several times each day	168	83.6

Table 4.6: Pilot Study Respondents Prior Usage Experience with CGM (N=201)

Type of CGM sites	*Used CGM*	*Not sure*	*Not used CGM*
Social networking sites such as *Facebook, Friendster, MySpace*.	164 (82.4%)	11 (5.5%)	24 (12.1%)
Media sharing websites such as *YouTube, Flickr, Photo.net*.	155 (77.9%)	26 (13.1%)	18 (9%)
Online travel community sites such as *TripAdvisor, Virtual Tourist and IgoUgo*.	128 (64%)	41 (20.5%)	31 (15.5)
Other third-party review sites such as *eBay, Amazon*.	134 (67.3%)	39 (19.6%)	26 (13.1%)
Consumer reviews on the websites of service providers such as hotels, travel agencies and airlines.	140 (70.0%)	51 (25.5%)	9 (4.5%)
Consumer reviews on destination marketing website (DMOs).	95 (48.0%)	75 (37.9%)	28 (14.1%)

4.2.5 Measurement Analysis

The major constructs in the study were formulated as multiple-item latent variables. In validating the measurement scales, the study followed procedures suggested by Churchill's (1979) and MacKenzie, Podsakoff and Podsakoff (2011) for the reflective constructs. The validation of the formative construct was guided by guidelines suggested by Diamantopoulos and Winklhofer (2001), Petter, Straub and Rai (2007) and Henseler, Ringle & Sinkovics (2009). Principal Component Analysis was used in an attempt to purify the scales for the reflective constructs. Although the reflective measures used in this study were largely obtained from existing literature, they were subsequently revised and applied in a different context (i.e. CGM for travel planning) in the present study; thus the need to reassess their dimensionality and reliability. Principal Component Analysis was employed rather than the common factor analysis because it represents a psychometrically sound procedure which is conceptually less complex than factor analysis (Field, 2009). In addition, it is not vulnerable to some of the problems associated with factor analysis such as factor indeterminacy, invalid and inestimable communalities among other complications (Kline, 2011). Unlike factor analysis, PCA takes into consideration the total variance and derives factors with small proportions of unique variance and, in some cases, error variance. As noted by Kline (2011), PCA is most appropriate when the goal is to summarize most of the original information (variance) in a minimum number of factors (components) for prediction purposes. Since data reduction for the purpose of prediction is a primary concern of this study for this stage of analysis, the PCA method was considered to be more fitting. PCA attains data reduction by helping the researcher to identify variables that wield high correlation with a group of other variables, but not correlating that highly with other variables outside that group (Field, 2009). In some cases, PCA is reported to generate similar solutions to those derived from common factor analysis (see Stevens, 2002).

4.2.5.1 Principal Component Analysis for the Reflective Constructs

A non-orthogonal rotation technique – principal component analysis with oblique rotation (Direct Oblimin) – was conducted. Although, PCA with orthogonal rotation techniques are most widely used, Costello and Osborne (2005) observed that these techniques are not optimal, especially when data do not meet assumptions; which is often the case in social science research. Costello and Osborne (2005) further explain that in the Social Sciences, some correlation among factors is generally expected, as “behaviour is rarely partitioned into neatly packaged units that function independently of one another” (p. 3). The use of orthogonal rotation leads to a loss of valuable information in cases where the factors are correlated, and thus oblique rotation would theoretically deliver a more accurate and reproducible solution (Costello & Osborne, 2005). Kline (2011) reiterates this assertion by noting that few constructs in the real world are uncorrelated and recommends oblique rotation when one seeks to obtain several theoretically meaningful factors or constructs.

Since this study proposes theoretical links among the constructs under consideration, the oblique rotation was deemed to be more appropriate. In addition, Field (2009) observes that if factors are truly uncorrelated, both orthogonal and oblique rotation yields identical results. In view of the fact that oblique rotation will reproduce an orthogonal solution but not vice versa, it was considered to be more advantageous to use oblique rotation.

The PCA was run with a sample size of 201. This is a sufficient sample size, as Kass and Tinsley (1979) recommend using between 5 and 10 study participants per variable. Also, Kline (2011) recommends a minimum of five times the number of variables to be analysed. Given the 40 items used in the PCA, a sample size of 200 was therefore the minimum required to run the analysis. Furthermore, Guadagnoli and Velicer (1988) found sample size and the absolute magnitude of the factor loadings to be the most important factors in determining reliable factor solutions. Guadagnoli and Velicer (1988) argued that factors with four or more loadings which are greater than 0.6 are reliable regardless of sample size. As shown In Table 4.7, this is generally the case in this study and hence reliable factor solutions can be assumed.

Principal component analysis with oblique rotation (Direct Oblimin) was conducted using the default Delta (0) in SPSS Statistics 17.0 and requesting eight factors. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy verified the sampling adequacy for the analysis, KMO equals 0.956 ('superb' according to Hutcheson & Sofroniou, 1999), which is far above Kaiser's (1974) minimum threshold of 0.5; and thus demonstrates that the patterns of correlations are relatively compact and hence the component analysis should produce distinct and reliable factors (Field, 2009). The communalities after extraction were all greater than 0.70, exceeding the 0.60 threshold of average community required by Kaiser's (1974) criterion. Also, Bartlett's Test of Sphericity $\chi2$ (741) = 9814.849, $p < 0.001$, indicated that correlations between items were sufficiently large for the PCA. Field (2009) has cautioned about the need to avoid extreme multicollinearity and singularity. Multicollinearity is problematic in factor analysis, as in regression, though not in PCA. This is because it becomes impracticable to ascertain the unique contribution to a factor of variables that are highly correlated. The correlation matrix of the individual items suggested a potential problem of multicollinearity. The items *expect to use to plan my future trips*, *intend to use to inform my travel-related decisions*, and *very likely to use for my travel planning* measuring intention reported correlation coefficients which were slightly above 0.9. This is likely to be caused by the fact that the meanings of these three items sound very similar. Since multicollinearity does not cause a problem for principal component analysis (Field 2009), the items were retained at this stage of the analysis. Nonetheless, to improve the scales for future research, the scale for behavioural intention was subsequently revised and reassessed with PCA during the main survey.

Table 4.7 displays the factor loadings after rotation. All the factor loadings were satisfactory, reporting absolute values ranging from 0.584 to 0.906, which were all greater than the 0.4 minimum required (Field, 2009). The PCA generated theoretically meaningful constructs/dimensions as each item loaded precisely on its proposed latent construct without any cross-loadings. To further ensure discriminant validity, the component correlation matrix was examined. Correlations between components (factors) were not expected to exceed 0.7 since correlation greater than 0.7 suggests majority of shared variance (0.7 X 0.7 = 49% shared variance). As displayed in Table 4.8, all the correlations between components met this criterion, thus ensuring that variables relate more strongly to their own component than to another component.

The eigenevalues for the eight components ranged from 10.476 to 15.315. The items that cluster on the same components suggest that component 1 represents *perceived enjoyment* (accounting for an eigenevalue of 11.430), component 2 *expertise* (eigenevalue of 10.476), component 3 *perceptual homophily* (eigenevalue of 12.340), component 4 *attitude* (eigenevalue of 12.647), component 5 *behavioural intention* (eigenevalue of 11.798), component 6 *perceived ease of use* (eigenevalue of 12.556), and component 7 *perceived trustworthiness* (eigenevalue of 11.657) and *perceived usefulness* (eigenevalue of 15.315). Percentages of total variance explained were not computed because when components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Reliability analysis was conducted to check the level of internal consistency for each component – that is, to determine the extent to which the measurement items consistently reflect the measured construct (Field, 2009). The corrected item-total correlation value represents the correlation between each item and the total score for the respective construct (component). Generally, corrected item-to-total correlation values lower than 0.3 are considered unacceptable (Field, 2009). As shown in Table 4.7, all the item-total correlations far exceeded 0.3; an indication that all the items correlate well with the scale. The Cronbach's alpha (α) was computed to measure the scale reliability for the components. In the literature, Cronbach's α values of 0.7 and 0.8 are deemed to be acceptable whereas values significantly lower are suggestive of unreliable scale (Field, 2009; Kline, 2011). The results suggest that the scale for each of the eight components all had high reliabilities; Cronbach's alphas exceed the criterion of 0.8. Furthermore, an examination of the values of *Cronbach's α If Item Deleted* suggests no significant improvements in the overall alphas if any of the items were removed.

Table 4.7: Results of Principal Component Analysis for the Reflective Constructs (N=201)

Component/Item	*Loading*	*Eigenevalue*	*Item-Total Correlation*	*α If Item Deleted*	*α*
Perceived Enjoyment		11.430			.949
Enjoyable	.681		.865	.937	
Pleasant	.595		.849	.940	
Interesting	.724		.828	.943	
Fun	.621		.857	.938	
Entertaining	.584		.911	.929	
Credibility factor 2: Expertise		10.476			.929
Inexperienced / Experienced in travel	.638		.779	.921	
Not experts / Experts in travel	.899		.879	.901	
Unknowledgeable / Knowledgeable in travel	.760		.852	.906	
Unqualified / Qualified to offer travel advice	.634		.749	.925	
Unskilled / Skilled in travel	.845		.821	.912	
Perceptual homophily		12.340			.953
Likes and dislikes	.789		.825	.949	
Travel experiences	.857		.867	.942	
Values	.895		.884	.940	
Viewpoints	.903		.893	.938	
Preferences in travel-related products	.871		.880	.940	
Attitude		12.647			.957
Bad / Good	-.661		.901	.943	
Unpleasant / Pleasant	-.696		.869	.948	
Negative / Positive	-.893		.899	.943	
Foolish / Wise	-.906		.881	.946	
Unfavourable/ Favourable	-.786		.846	.952	
Behavioural Intention		11.798			.965
Expect to use to plan my future trips.	-.799		.938	.947	
Intend to use to inform my travel-related decisions.	-.847		.914	.954	
Very likely to use for my travel planning.	-.837		.940	.946	
Will not hesitate.	-.792		.863	.968	

Component/Item	*Loading*	*Eigenevalue*	*Item-Total Correlation*	*α If Item Deleted*	*α*
Perceived Ease of Use		12.556			.958
Easy to learn how to use	.832		.904	.945	
Easy to use to find the information needed	.814		.865	.951	
Easy for me to become skilful at using	.821		.856	.953	
Easy to use content to plan my trips	.770		.901	.946	
Overall, I find easy to use	.854		.891	.947	
Credibility factor 1: Trustworthiness		11.657			.936
Undependable / Dependable	-.654		.846	.919	
Dishonest / Honest	-.736		.861	.916	
Unreliable / Reliable	-.738		.857	.917	
Insincere / Sincere	-.783		.817	.924	
Untrustworthy / Trustworthy	-.747		.771	.933	
Perceived Usefulness		15.315			.960
Improves my travel planning	-.837		.897	.949	
Helps me plan trips more efficiently	-.887		.871	.953	
Makes my travel planning easier	-.762		.907	.947	
Makes it easier for me to reach travel-related decisions	-.706		.870	.954	
Overall, I find useful for travel planning	-.794		.896	.949	

Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) = 0. 956

Bartlett's Test of Sphericity: Chi-Square = 9814.849, *degree of freedom (df)* = 741, $p < 0.001$

α = Cronbach's Alpha (Reliability Coefficient)

Table 4.8: Component Correlation Matrix

Component	*Enjoyment*	*Expertise*	*Homophily*	*Attitude*	*Intention*	*Ease of Use*	*Trustworthiness*	*Usefulness*
Enjoyment	1.000	.297	.403	-.378	-.472	.545	-.325	-.622
Expertise	.297	1.000	.420	-.461	-.293	.304	-.614	-.412
Homophily	.403	.420	1.000	-.436	-.462	.417	-.447	-.529
Attitude	-.378	-.461	-.436	1.000	.453	-.446	.569	.461
Intention	-.472	-.293	-.462	.453	1.000	-.450	.300	.624
Ease of Use	.545	.304	.417	-.446	-.450	1.000	-.351	-.588
Trustworthiness	-.325	-.614	-.447	.569	.300	-.351	1.000	.423
Usefulness	-.622	-.412	-.529	.461	.624	-.588	.423	1.000

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

4.2.5.2 Measurement Analysis for the Formative Construct (Perceived Media Richness)

The measures for perceived media richness were treated as formative or causal indicators because the construct was operationalised on the basis of Daft and Lengel's (1984) conceptual specification of how media vary in their capability to (1) provide feedback; (2) support multiple cues; (3) allow for variety in language use; and (4) support personal focus. Unlike the more common reflective model, a formative model does not assume that the measures are caused by a single underlying construct. On the other hand, the assumption behind formative models is that all the measures impact on (or cause) the latent construct. In other words, the "direction of causality flows from the indicators to the latent construct, and the indicators, as a group, jointly determine the conceptual and empirical meaning of the construct" (Jarvis, MacKenzie, & Podsakoff, 2003; p. 201). This is assumed to be the case with the perceived media richness measurement model since the media richness theory contends that four functions determine media richness. In this study, these four functions were revised to include additional items which reflect the social media context. The measures of this latent construct were therefore assumed to 'cause' perception of media richness, not vice versa.

Scholars argue that traditional validity assessments and classical test theory are not applicable to items used in formative measurement models and that the concepts of reliability and construct validity are not meaningful when formative constructs are employed (Bollen, 1989; Diamantopoulos & Winklhofer, 2001; Petter *et al.*, 2007; Henseler *et al.*, 2009). Consequently, the validation of formative measures requires a different approach than the one applied for reflective constructs (Urbarch & Ahlemann, 2010). Henseler *et al.* (2009) suggest examining the validity of formative constructs on two levels – the indicator and the construct levels.

At the indicator level, Petter *et al.* (2007) and Henseler *et al.* (2009) recommend an assessment of the significance of the item weights (in contrast to item loadings in reflective constructs). A significance level of at least .05 is an indication that the measurement item is relevant for the formative construct. Researchers may choose to eliminate non-significant items provided the resulting construct still measures the entire domain and content validity is preserved (Diamantopoulos & Winklhofer, 2001). Using Smart PLS 2.0, the partial least squares (PLS) bootstrapping technique was applied to obtain the weightings of the formative items and their corresponding t-values. As displayed in Table 4.9, all the item weights for the construct *perceived media richness* were highly significant ($p < 0.001$) with path coefficients of more than .100 for each indicator, suggesting indicator validity.

Also, the magnitude of multicollinearity among the formative indicators needs to be assessed through a computation of the variance inflation factor (VIF) or the tolerance value, which is the reciprocal of VIF. Unlike reflective constructs, where multicollinearity can be desirable, excessive multicollinearity in formative constructs potentially destabilises the model. Petter *et al.* (2007) argue that if measures are highly correlated, it is suggestive of multiple indicators tapping into the same aspect of the construct. VIF values greater than the commonly accepted threshold of ten are indications of the presence of harmful collinearity (Gefen *et al.*, 2000; Henseler *et al.* 2009). An OLS regression was ran using SPSS with the PLS construct score as dependent variable and the indicators as independent variables for the formative construct to obtain VIF scores for the multicollinearity test. As shown in Table 4.9, VIF values ranged from 2.416 to 3.809 for the construct *perceived media richness*, indicating no serious level of multicollinearity. Similarly, the tolerance values were all within the acceptable limits for the formative measures (Field, 2009).

Table 4.9: Indicator Validity and Collinearity for *Perceived Media Richness* (*N*=201)

	Indicator Validity			Collinearity	
Construct/Items	Weights	Standard Error	t -statistics	Tolerance	VIF
Great diversity of travel opinions	0.167**	0.009	17.776	.414	2.416
Clarification and appropriate response	0.152**	0.017	9.051	.396	2.527
Timely feedback	0.139**	0.012	11.504	.345	2.897
Image-provoking	0.150**	0.010	14.974	.401	2.497
Adapt discussions to personal requirements	0.164**	0.012	14.016	.263	3.809
Deduce various cues	0.137**	0.010	13.56	.401	2.491
Enrich my interaction	0.134**	0.009	14.568	.400	2.499
Rich in travel-related content	0.159**	0.009	17.519	.322	3.104

**$p < 0.001$; based on two tailed test.

At the construct level, Diamantopoulos and Winklhofer (2001) and Petter *et al.* (2007) propose an approach to validation which focuses on nomological aspects in order to test external validity. Also referred to as nomological validity (Henseler *et al.* 2009), this test ensures that within a net of hypotheses, the formative construct behaves as expected. As noted by Diamantopoulos & Winklhofer (2001, p. 273), this type of validation requires that:

(1) Information is collected for at least one more construct besides the one captured by the formative construct.

(2) This other construct is measured by means of reflective indicators, and

(3) A theoretical relationship can be hypothesised to exist between the constructs.

The current study proposes a theoretical relationship between *perceived media* *richness* and *perceived usefulness* which is a reflective construct (see section 3.2.3). Hence PLS algorithm was applied to ascertain the nomological validity of the formative construct *perceived media richness*. The results demonstrate that *perceived media richness* has a strong and highly significant impact on *perceived usefulness* (γ=0.690, *t*=20.095, *p*< 0.001) and hence, external validity was established.

Thus, by means of indicator validity, test of multicollinearity and external (nomological) validity, it was shown that the measurement model for the formative construct *perceived media richness* was appropriate and valid. These findings paved the way to proceed with the main survey.

4.3 REVISION FOR MAIN SURVEY

In view of the results of the pilot study as well as observations made in the course of the questionnaire administration process, only minor revisions were required in the measurement instrument. Potential multicollinearity in the scale for *usage intention* suggested a reconsideration of the scale for further improvement in the main survey. One approach is to delete the items with the potential to cause multicollinearity. However, doing so will leave only two items for the measurement of *usage intention*. Using two items to measure a latent construct raises questions about the adequacy and validity of the scale. Also, the minimum number of items in a scale permissible in structural equation modelling is three (Kline, 2009; Byrne, 2010). Therefore, a more reliable approach in this context was to increase the number of items to ensure that it covers the entire domain of the latent construct. In this regard, the key change made to the instrument following the pilot study was the inclusion of an additional measurement item in the *usage intention* scale. This additional indicator was developed on the basis of Warshaw and Davis' (1985) definition of behavioural intention. Warshaw and Davis' (1985) define *intention* as "the degree to which a person has formulated conscious plans to perform or not perform some specified future behaviour" (p. 214). Hence, "I *plan* to seek travel advice from this CGM website" was added to the scale for measuring *usage intention.* The revised scale was reassessed with PCA during the main survey. The remaining items were retained but close attention was paid to them during the analysis.

4.4 MAIN SURVEY

Following the pilot study, the main survey sought to obtain a new set of data to examine the propositions of the study. Similar to the pilot survey, the main survey employed a quantitative approach with a structured online questionnaire survey. The structural equation modelling approach (SEM) of Partial Least Squares was used as the main method for data analysis. In analysing the data, the measurement model (outer model) of each construct was validated prior to running the structural model. The results were subsequently discussed with inferences drawn from relevant findings in the existing literature.

4.4.1 Data Collection

4.4.1.1 Survey Population and Sampling Design

The unit of analysis in this study is the individual traveller who uses the Internet for travel planning. Thus travel consumers who have beforehand employed the Internet for a task related to trip planning constitute the population of interest.

The process of selecting respondents and units of a study is generally termed as sampling. It represents an indispensable research tool which allows researchers to study a relatively small part of the target population, while obtaining results that are still representative of the whole. As a substitute to saturation survey, sampling offers several advantages. Among others, it is less demanding in terms of labour requirements, more economical (involving fewer costs and less time consuming), and yields quicker results. It is considered to offer more detailed information with a high degree of accuracy (Benini, 2000). In other words, sampling offers a better option in deciding who is to be included in the study. In spite of its merits, sampling is associated with a number of problems. As noted by Sarantakos (2005), sampling demands more intense and complex administration, planning and programming than surveys involving all units of the target population; and also, the fact that sampling reduces the size of the target population to fewer potential respondents raises questions about the representativeness and generalisability of the findings.

Despite these concerns, the current study adopts a sampling approach for the reason that, on the whole, the administration and programming required when dealing with a sample are less demanding than when dealing with a whole population. In addition, for most research situations – as is the case in this study – it is practically impossible to cover every member of the survey population. Also, the sample for this study was chosen in a way that the demand for representativeness and generalisation was not compromised. To this end, the sampling design for the study follows the standards and methodological principles suggested by Hair, Ringle and Sarstedt (2011), Dillman *et al*. (2009), Sarantakos (2005) and Barclay, Thompson and Higgins (1995).

The study makes use of the sampling approach termed as "Internet sampling" which represents a procedure that is administered, either partly or fully, through the medium of the Internet (Sarantakos, 2005). Sarantakos contends that "Internet sampling has become a part of the research armoury of modern researchers" (p. 169), with a fast growing number of research bodies employing this approach as their preferred sampling procedure.

4.4.1.2 Sample Size

The sample size of a study is defined through logical estimates in some cases, and in others, through statistical computation. Among others, researchers take into consideration the paradigm that guides the research, the nature of the study, the target population, the time and resources available, the purpose of the study and the type of data required (Sarantakos, 2005). In estimating the sample size, a wise rule suggested by Sarantakos is that the sample must be "as large as necessary, and as small as possible” (p. 170).

On the other hand, a number of researchers employ statistical methods to determine the appropriate sample size. Generally, the logic of these statistical methods is that if the standard error – which inversely varies with the square root of the sample – is reduced, the sampling error is also minimised. Although this approach is statistically sound, they depend on estimates which are based on assumptions and conditions. For example, one assumption being that if certain data are available, the sampling size can be statistically calculated in order to decrease the sampling errors to an acceptable level. Since these estimates primarily depend on the size of the population being studied, it is not the best to employ such an approach when our knowledge of the population is restricted. This is taken to be the case in this study’s context as the exact number of people who employ the Internet for travel planning cannot be determined.

However, in determining the sample size, it is critical to consider the method to be employed for data analysis: in this case, structural equation modelling. Structural equation modelling makes certain demands on sample size. Muthén and Muthén (2002) suggest that the sample size needed for a study depends on factors such as the size of the model, distribution of the variables, amount of missing data, reliability of the variables, and strength of the relations among the variables. MacCallum, Browne and Sugawara (1996) proposed a method for estimating the minimum sample size required for tests of model fit. MacCallum and colleagues, however, contend that a minimum sample size determined by power analysis for tests of overall fit may not necessarily be adequate for other purposes, such as obtaining adequately precise parameter estimates. Subsequent work (MacCallum, Widaman, Zhang, & Hong, 1999) on the issue of sample size in factor analysis found rules of thumb to be generally worthless in SEM contexts. Nonetheless, regardless of the appropriateness of the sample size for power analysis or other justification, SEM analyses of small samples are almost certainly problematic (MacCallum & Austin, 2000). This study employs a component-based SEM technique of Partial Least Squares which is particularly advantageous than the covariance-based SEM techniques when working with small sample sizes. For PLS, the rule of thumb is that the minimum sample size should be equal to the larger of the following: (1) ten times the largest number of formative indicators used to measure one construct or (2) ten times the largest number of structural paths directed at a particular latent construct in the structural model (Hair *et al.*, 2011). In the context of this study, the most complex formative construct (*perceived media richness*) has eight indicators whereas the construct with the highest number of structural paths pointing to it is *attitude* (four paths). Thus, a minimum sample size of 80 is required for this study, when using the commonly accepted "ten times rule" (Barclay *et al.*, 1995; Hair *et al.*, 2011; Hair, Sarstedt, Ringle, & Mena, 2012). Nonetheless, the present study obtained an ample sample of over 1,200 respondents for the purpose of multi-group analysis.

4.4.1.3 Online Administration

The use of the Internet to administer surveys is fast growing in importance. For instance, a recent state-of-the-art assessment of journal publications in the last ten years, by Hung and Law (2011) reveal a general increase in the use of online methods in tourism and hospitality research. While the increasing popularity of online research can be attributed in part to the increasing importance of the Internet in people's daily lives, using the Internet to host surveys offers a number of advantages over traditional modes as it removes the time and space constraints typical of traditional data collection methods. Internet surveys can often be conducted at substantial cost savings in comparison with other survey modes. Besides being less expensive, Internet surveys have the advantage of not being limited by geography in the same way as face-to-face, mail and telephone surveys (Das, Ester, & Kaczmirek, 2011).

Another distinct advantage of Internet survey relate to its potential for providing very timely, and even real-time data in some cases. Internet surveys allow the quick transmission of diverse and very large number of samples, in contrast to telephone surveys where the number of responses directly depends on the number of interviewers making the call. The responses to Internet surveys are already in electronic, thus eliminating the additional time and effort required for data entry and verification. Also, it allows for the immediate verification of the validity of protocols, automatic storage of data and the instantaneous delivery of feedback to research participants – which represents a key incentive for participation (Gosling & Johnson, 2010). Furthermore, Internet surveys are less vulnerable to social desirability bias, owing to the absence of the interviewer. The Internet offers some amount of privacy which may lead to more honest responses (De Leeuw, 2008).

Besides the above-mentioned practical advantages, Internet surveys further offer a number of design advantages. For example, the Internet makes graphical or animated presentation possible. It allows for the randomisation of questions or response options and the deployment of real-time data verification tools (Peytchev & Crawford, 2005). Reduction of human effort and the potential for human processing errors as the survey is mainly handled by computers (Smyth & Pearson, 2011). This method further minimises the respondents' burden through the automation of complex skip patterns (Couper & Nicholls, 1998). Also, unlike mail surveys which are finalised once they are printed, Internet surveys permit changes to be made when problems are detected at the early part of the data collection period.

However, there are some major challenges with Internet surveys which deserve attention. These concerns centre on problems related to coverage, self-selection and difficulties in reaching specific groups such as the elderly and the poor. In addition, the physical disconnection between the researcher and the participant makes it difficult to assess the alertness and attentiveness of the participant, as well as, in given immediate responses to participants' questions about the procedure (Gosling & Johnson, 2010). Smyth and Pearson (2011) observed that coverage and sampling limitations represent the key factors restricting the utility of the Internet as a survey mode. At one end of the continuum, less than one percent of the populations of certain developing countries have Internet access. Evidently, Internet surveys possess very limited utility in such countries, since they can only be employed to survey exceptionally specialised populations (Smyth & Pearson, 2011). At the other end of the continuum are some countries with comparatively high Internet coverage. For example, the Internet World Stats report that over 80 percent of the populations in Greenland, Iceland, Finland, Australia, Sweden, Denmark, New Zealand and the Netherlands have Internet access (Internet World Stats, 2011). However, even in countries with fairly high coverage rates, Internet surveys might not be appropriate in some cases either because the way the Internet can be used is restricted or the Internet access itself is not of sufficient quality (for details about Internet access patterns, see the report by Pew Internet and American Life Project, 2008 and Internet World Stats, 2011). Furthermore, Internet access is correlated with a number of important demographic and social factors such as age, education, ethnicity and economic background. Such variations in Internet access imply that certain populations will be severely under-represented in Internet surveys – even in countries with high Internet coverage.

Nonetheless, in the specific context of this study, since the target population are individuals who are already using the Internet for travel planning, the gaps in Internet coverage discussed above will not be problematic to the study design. The target population can be considered as having an appropriate Internet access and a fair proficiency in Internet use. For instance, Internet usage and population statistics by

Internet World Stats (2012) suggest 78.6 percent of the US population and 77.2 percent of Singapore's population are Internet users. Smyth and Pearson (2011) contend that when the target population is more specific, the Internet might be just as appropriate as other survey modes.

Besides, the most common concerns about online behavioural research have been empirically addressed by Gosling, Vazire, Srivastava and John (2004) through a comparison of a large Internet sample with conventional samples used in one year's worth of studies published in *the Journal of Social and Personality Psychology*, the top journal in that field. The analysis by Gosling and colleagues demonstrates that Internet findings generalised across presentation formats, are not adversely affected by non-serious or repeat responders, and are consistent with findings from traditional methods. Other reviews dealing with the validity of Internet research have reached similar conclusions (e.g. Krantz & Dalal, 2000).

Another reason for the choice of online administration concerns the target population. Research shows that for some sub-populations, the response rate to an Internet survey is higher than that of a traditional survey (Smyth & Pearson, 2011). For instance, people who are considered to be busy or very active are more willing to respond to a survey at their most convenient time and place. Internet surveys of more general populations are likely to generate lower rates of responses (Vehovar, Batagelj, Lozar Manfreda, & Zaletel, 2002) whereas those of specialised populations tend to yield higher response rates (Dillman *et al.*, 2009). This is because within the general population, there is much more variations in access, skill levels of users and willingness to share information online (Smyth & Pearson 2011). Thus, Internet surveys are more appropriate for specialised populations. Therefore, survey populations such as that of this study – individuals who employ the Internet to search for travel information – are expected to find Internet surveys more convenient than the traditional modes.

Furthermore, respondents to Internet surveys have greater control over the pace of the survey so, when sufficiently motivated, they can take their time and think through their responses more meticulously. In addition, using Internet surveys for this study will help exclude individuals who do not meet the sampling requirements. When traditional modes such as face-to-face, mail or telephone surveys are rather employed, it would be quite difficult to ensure that all the respondents are real Internet users.

This study employs an online panel as the sampling frame. Online panels consist of people who have agreed in advance to regularly participate in surveys over the Internet (Scherpenzeel & Bethlehem, 2011). In most cases, such panels are run by market research organisations. Ideally, a panel is developed by employing a random sample from a population. In line with this, a probability sample is selected from sampling frames such as population registers, address registers, telephone directories or random-digit-dialling (RDD) and selected people are invited to participate in the panel. There are some cases, however, where online panels are based on some form of non-probability, self-selection sampling (e.g. 21minuten.nl online survey).

Respondents were recruited through the use of an online panel supplier – Toluna. Toluna owns one of the largest, and most demographically diverse, online consumer panels which is considered as essential for a successful conduct of data collection. In addition, Toluna has a well-established panel management policy and an extensive filtering process for recruiting panellists. The standard operating procedures – SampleSafe™ – employed by Toluna to ensure data quality include (1) validation by third party databases (e.g. Verity™, Melissa and GeoIP); (2) elimination of speeders; and (3) the prevention of respondents from participating more than once (RelevantID™). Using a team of recruitment professionals dedicated to locating and recruiting survey respondents, Toluna employs several procedures to confirm identities and detect fraudulent respondents. For instance, the system ensures that, at registration, a user's email is both valid and unique within the panel. The system automatically identifies duplicate email addresses and machine "fingerprints," and conducts IP checks to ensure that the respondent is coming from the correct geography. Furthermore, the panellist information is compared with a 'black list' of excluded respondents who are not allowed to join (or re-join) the panel (Toluna, 2011).

A total of 14,625 panellists who are already profiled as leisure travellers were invited to answer two qualifying questions: (1) Have you ever searched for travel information online? (2) Have you taken a leisure trip within the past 12 months? Only those who respond yes to both questions were directed to the online survey (Appendix C). The online survey was opened to respondents from 9th to 20th September, 2011.

Within this period, 1,885 travellers responded to the survey.

Respondents were directed to the consumer-generated reviews of hotels on *TripAdvisor* – the largest online network for travel consumers – where they were asked to familiarize themselves with the content and respond to the survey accordingly. The online survey was programmed in a way that participants would not have access to the online questionnaire until they had gone through this step. *TripAdvisor* is the world's largest travel site which enables travellers to plan their trips. The TripAdvisor-branded sites make up the world's largest travel community, in excess of 65 million unique monthly visitors, and over 60 million reviews and opinions. The CGM sites of TripAdvisor operate in 30 countries globally (TripAdvisor Inc., 2012).

4.4.2 Method of Data Analysis

The data collected from the main survey were subjected to initial screening for missing values, outliers, univariate and multivariate normality. The measurement model for the reflective constructs were further assessed using the technique of Principal Component Analysis (PCA) with Oblique Rotation and the PLS technique for the evaluation of the measurement (outer) model before testing the structural (inner) model. First, an outer measurement model specified the relationships between the observed measures to their posited underlying constructs. Second, an inner model (structural model) specified the causal relations of the constructs to one another, as posited by the conceptual model. This involved hypotheses testing. Bootstrapping and

Blindfolding techniques were applied to determine the significance levels of path coefficients and the predictive relevance of the constructs. Stone–Geisser's Q^2 (Geisser, 1974; Stone, 1974) test for predictive validity, Cohen's effect sizes f^2 and mediating effects were also determined. Finally, measurement and structural invariance in the model were assessed by means of a PLS based multi-group analysis. The results were then discussed and conclusions made with extrapolations from related literature.

4.4.2.1 Rationale for Choosing a Structural Equation Modelling Technique

Structural equation modelling is the preferred method for assessing the proposed model because of its merits over other popular techniques such as regression. For instance, distinct from first generation regression tools, SEM not only evaluates the assumed relationships among a set of dependent and independent constructs (structural model) but, also examines the loadings of the observed measurement items on their expected latent variables (measurement model) using the same analysis (Gefen *et al*., 2000). The simultaneous analysis of the measurement and the structural model combines factor analysis with hypotheses testing and also makes it possible to study the measurement errors of the observed variables as an integral part of the model. Thus, this technique ensures a more rigorous analysis of the proposed model and a more comprehensive understanding of the extent to which the model is supported by the data, than in regression techniques (Bollen, 1989; Bullock *et al*., 1994; Gefen *et al*., 2000).

The Structural Equation Modelling technique of Partial Least Squares (PLS – SEM) was applied to estimate the theoretical model using the software application of SmartPLS 2.0 (Beta) M3 (Ringle, Wende, & Will, 2005). PLS – SEM analyses measurement and structural models with multi-item constructs that include direct, indirect, and interaction effects. PLS, which is a component-based SEM technique, was chosen over the more common covariance-based SEM techniques such as Maximum Likelihood because of its robustness with fewer identification issues and thus avoiding estimation problems and non-convergent results. Also, PLS is the most suitable SEM technique for prediction oriented research and research which is exploratory or involving the extension of existing structural theory (Henseler *et al.* 2009). Among others, PLS has the advantage of not holding the distributional assumption of normality, making less demand on measurement scales, able to work with much smaller as well as much larger samples, and readily integrates formative as well as reflective constructs (Gefen *et al.*, 2000; Hair *et al.*, 2011, Hair *et al.*, 2012). Also, PLS is suitable for exploring plausible causality (Henseler *et al.*, 2009). Since this study represents an initial attempt to examine the influence of such factors as perceptual homophily, media richness and credibility in the context of the TAM to understand online travellers' use of CGM for travel planning, PLS is considered to be most appropriate. Besides, the constructs being examined in this study include both reflective and formative types. To deal with both types of constructs simultaneously, PLS is the most adequate method (Gefen *et al.*, 2000; Hair *et al.*, 2011).

4.4.2.2 The PLS Algorithm

Partial least squares, a component-based SEM technique, was initially designed by Wold (1975) under the name NIPALS (nonlinear iterative partial least squares) and later extended by Lohmöller (1989). PLS belongs to a family of alternating least squares algorithms which extend principal component analysis and canonical correlation analysis to estimate relationships among latent constructs (Henseler *et al.*, 2009). The method was developed as an alternative to the covariance-based SEM to emphasise the prediction of endogenous constructs while, at the same time, addressing some of limitations of the covariance-based SEM, such as identification concerns, conditional multivariate normality, sample size demands and model complexity (Jöreskog & Wold, 1982; Hair *et al.*, 2012). Contrary to covariance-based SEM's objective of reproducing the theoretical covariance matrix, without focusing on explained variance, PLS-SEM is a causal modelling approach that aims at maximising the explained variance of the dependent latent constructs by estimating partial model relationships in an iterative sequence of ordinary least squares (OLS) regressions (Hair *et al.*, 2011). The methodological concepts underlying both approaches have been compared by several researchers (e.g. Jöreskog & Wold, 1982; Lohmöller, 1989; Chin & Newsted, 1999; Gefen, Rigdon & Straub, 2011; Hair *et al.*, 2011).

Two sets of linear equations – the outer model and the inner model – characterize PLS path models. The outer model (also termed as measurement model) specifies the relationship between an unobserved or latent variable and its observed or manifest variables whereas the inner model (commonly known as structural model) denotes the relationships between the latent variables. The following discussion draws on Hair *et al.* (2011) and Henseler *et al.*'s (2009) descriptions of the stages involved in PLS path modelling algorithm.

The basic PLS-SEM algorithm (Lohmöller, 1989) follows a three-stage process. In the first stage, the scores of the latent constructs are estimated through a four-step procedure. The second stage involves the computation of the final estimates of the outer weights and loadings in addition to the path coefficients of the structural model. The final stage concerns the estimation of the location parameters. The iterative PLS-SEM algorithm estimates the coefficients for the partial ordinary least squares regression models in both the measurement and structural models (Hair *et al.*, 2011). More explicitly, when a reflective measurement model is assumed, the estimation of the regression model involves single regressions with each manifest variable (indicator) individually serving as the dependent variable, while the latent construct acts as the independent variable leading to the computation of outer loadings:

$$(X_x|\xi) = \Lambda_x \xi \qquad (1)$$

where ξ is the vector of latent variables and Λ represents the loading coefficients.

On the contrary, when a formative measurement model is assumed, a multiple regression model is applied with the latent construct as the dependent variable and the indicators as independent variables resulting in the computation of outer weights:

$$(\xi|X_x) = \Pi_x X_x \quad (2)$$

Also, the iterative procedures of the PLS-SEM algorithm is employed in the computation of the structural model relationships, with each endogenous latent construct serving as the dependent variable while its latent construct antecedents act as independent variables in a partial regression model:

$$(\xi|\xi) = B\xi \quad (3)$$

where B is the matrix of coefficients of latent constructs' relationships.

Figure 5.2 presents the stages and steps involved in the iterative process of the PLS –SEM algorithm. In Step 1 of Stage One, the outer proxies of the latent construct scores are approximated as linear combinations of their respective standardised indicators' values. In the second step, the PLS-SEM algorithm calculates proxies for the structural model relationships. For the estimation of the proxies, the present study applies the path weighting scheme which uses combinations of regressions analyses and bivariate correlations based on latent construct scores as proxies for inner model relationships. The method has the advantage of developing latent construct scores that maximise the final R^2 value estimations of the endogenous constructs (Lohmöller, 1989; Hair *et al.*, 2011). The third step involves the computation of the latent constructs' inner proxies (from step 1) using the inner weights obtained from Step 2. In the final Step (4), the outer weights are computed. The way the outer weights are computed, however, depends on whether the construct is represented by a reflective or formative measurement model.

These four steps are repeated until the sum of the outer weights' changes between two iterations falls below a predefined limit. This study applies the recommended predetermined limit which is a threshold value of 10^{-5} (Hair *et al*., 2011) to ensure convergence of the PLS-SEM algorithm while concurrently minimizing computational requirements. The final outer weights are used to compute the final latent construct scores in the subsequent stage when the algorithm converges in Step 4. The final scores of the latent constructs, in turn, are used to run the OLS regressions for each construct to determine the path coefficients for the structural model relationships. In the current study, the SmartPLS 2.0 (Beta) M3 software package (Ringle *et al*., 2005) is employed to implement the basic PLS algorithm for model estimation. Following the recommendations of Hair *et al*. (2011), a uniform value of 1 was set as the starting values for weights for the initial approximation of the latent variable scores. The weighting scheme for determining inner model proxies was set to *Factor Weighting Scheme* for the initial factorial validity test and *Path Weighting Scheme* for the overall structural model test. The maximum number of iterations was 300.

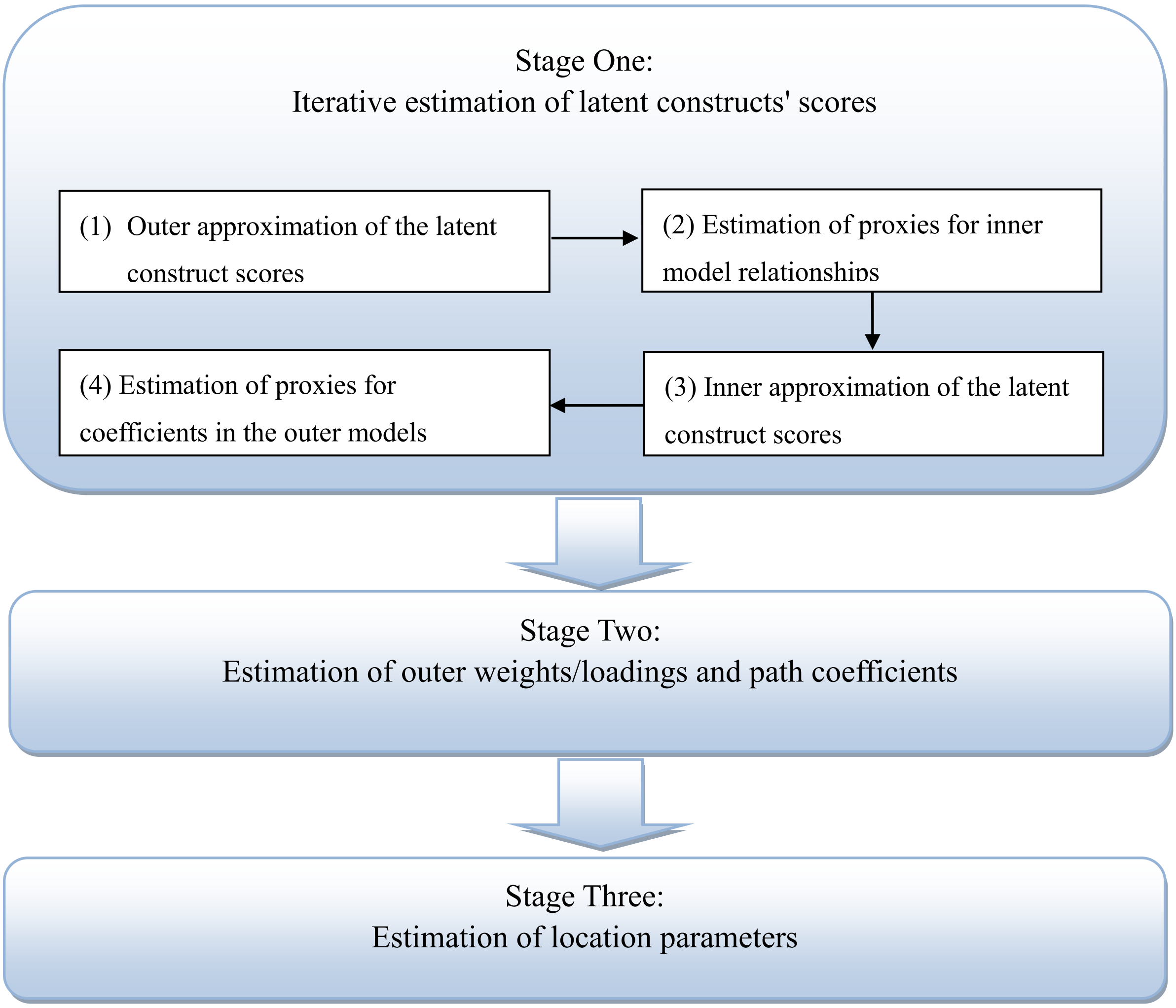

Stage One:
Iterative estimation of latent constructs' scores
(1) Outer approximation of the latent construct scores
(2) Estimation of proxies for inner model relationships
(3) Inner approximation of the latent construct scores
(4) Estimation of proxies for coefficients in the outer models
Stage Two:
Estimation of outer weights/loadings and path coefficients
Stage Three:
Estimation of location parameters

Figure 4.2: Stages and Steps in Computing the PLS-SEM Algorithm

4.5 RESEARCH ETHICS

A number of ethical issues surround research. Therefore, the value of ethical behaviour in the conduct of research cannot be overemphasised. Welman and colleagues (2005) stressed on the importance of research ethics as a central aspect of any research endeavour. Like all other surveys, surveys conducted online pose ethical issues. Furthermore, as Singer and Couper (2011) suggest, online surveys pose some unique ethical concerns due to the way information is collected from research participants.

In view of this, due consideration was given to the following ethical concerns deemed to be relevant to the context of this study – informed consent (the principle of autonomy), confidentiality of responses and privacy issues (in relation to the ethical principles of nonmaleficience and beneficence). The research was designed in a way as to safeguard the anonymity and privacy of participants. The confidentiality of the information obtained was maintained as the research design did not permit the researcher to identify which responses belong to which participant. In relation to data analysis and reporting, the following were upheld: truthful reporting of results (the ethical principle of fidelity), proper acknowledgement of sources cited (the principle of justice), and a thorough review of relevant literature, among others.

4.6 CHAPTER SUMMARY

This chapter has addressed the research methodology for this study. The research design was explicated for both the pilot study and the main survey. First, the chapter discussed how measurement instruments were developed for data collection. Following an item screening test and the subsequent refinement of the scale items, an online questionnaire was developed. The design of the pilot study was then discussed focusing on the procedure of data collection, screening and analysis. The unit of analysis in this study is the individual traveller who uses the Internet for travel planning and hence travel consumers who have previously employed the Internet for a task related to trip planning constituted the population of interest. After a thorough screening process leading to the elimination of outliers and incomplete responses, a final sample of 201 valid responses was retained from the pilot study for measurement analysis. Principal component analysis with oblique rotation (Direct Oblimin) was conducted for the eight reflective constructs. The KMO measure of sampling adequacy verified the sampling adequacy for the analysis while the pattern matrix confirmed all the eight proposed components. Potential multicollinearity among three of the measurement items for *usage intention* suggested minor revisions to improve the scale for the main survey. The Cronbach's alphas computed to measure the scale reliability for each component suggest that all the scales had high reliabilities with Cronbach's alphas exceeding the criterion of 0.8. An examination of the values of *Cronbach's α If Item Deleted* suggested no significant improvements in the overall alphas if any of the items were deleted. The formative construct *perceived media richness* was validated by ensuring content validity, indicator validity, collinearity, and external validity (nomological validity). On the basis of the results of the pilot study as well as observations made in the course of the questionnaire administration process, minor revisions were made in the measurement instruments prior to the conduct of the main survey. The chapter went further to elaborate on the methods and procedures employed in the conduct of the main survey. Finally, the chapter discuses the data analysis method of the main survey focusing on SEM – the key technique employed to analyse the structural relationships among the constructs and for comparing groups. Ethical issues related to this study are also addressed. The next chapter presents the results of the main survey.

Chapter 5. RESULTS

This chapter reports the results of the main survey. The data was first screened for missing values, outliers and normality. The chapter also presents a description of the profile of the main survey respondents. The subsequent sections explicate the procedure followed in finding an appropriate measurement model. Principal Component Analysis (PCA) is run for the reflective constructs which is followed by validation tests for the formative construct. The measurement model for each construct is further evaluated with Partial Least Squares (PLS) before testing the structural model. The explanatory power of the model is assessed in addition to the predictive power and relevance of the model constructs. The chapter concludes with a report on the results of hypothesis testing and multi-group invariance analysis.

5.1 DATA SCREENING

To ensure that the dataset obtained is appropriate for the analysis, the data was initially screened and cleaned. First, it was important to ensure that each of the responses meets the sample criteria. A total of 1,885 responses were obtained from the main survey. Of this, 614 were screened out because the respondents did not meet the sample criteria of either having taken vacation trip within the last 12 months prior to the survey or having used the Internet to search for travel information. The resulting dataset of 1,271 responses was further examined for missing data, outliers and normality.

5.1.1 **Missing Data**

Missing data – involving situations where valid values on one or more variables are not available for analysis – is a common problem in multivariate data analysis (Hair *et al*., 2010). Hair *et al*. (2010) has cautioned that the processing of non-random missing data could bias statistical results. In view of this, the dataset was checked for missing data. Thirty-six cases, representing 2.83 percent of the dataset, were identified to be incomplete.

A number of methods are available for dealing with missing observations. These include available case methods (e.g. LISTWISE deletion and PAIRWISE deletion), single-imputation methods (e.g. mean substitution and regression based substitution), and model-based imputation methods (e.g. expectation-maximisation algorithm) among others (Vriens & Melton, 2002; Hair *et al*., 2011; Kline, 2011). The available case methods of LISTWISE and PAIRWISE deletion – offered in various statistical analyses – analyse only the data available through the removal of incomplete cases and are generally regarded as “classical” techniques (Kline, 2011).

Hair *et al*. (2010) emphasise the need for the researcher to understand the process leading to the missing data in order to decide the most appropriate course of action. Missing data largely result from errors in data collection or data entry, or from the omission of answers by respondents. In the case of this study, due to the conduct of the survey online, the possibility of missing data resulting from data collection or data entry errors was greatly minimised. Hence the missing data were found to be primarily originated from the failure of some respondents' to finish with the online survey. In such situations, Hair *et al*. (2010) recommend the need for researchers to consider the simple remedy of deleting offending cases and/or variables with excessive levels of missing data. Hence the subsequent step in the screening process sought to identify individual cases reporting over 10% of missing values. A total of 35 cases were identified with over 10 percent of missing values. These were found to be missing completely at random (MCAR). The LISTWISE deletion method is considered to be appropriate in such cases (Hair *et al*., 2010) and hence it was applied leading to the exclusion of 35 incomplete cases from the dataset. The PAIRWISE deletion approach was deemed to be more appropriate for the remaining cases which reported less than 10 percent missing values. Hair *et al*. (2010) further suggest that variables with 15 percent missing data are candidates for deletion. The dataset was therefore inspected for any such variables (with over 15% of missing values); however, none was found to be the case. All the variables were therefore retained for the next stage of the analysis.

5.1.2 Outliers

Outliers represent observations with a "unique combination of characteristics identifiable as distinctly different from the other observations" (Hair *et al*., 2010; p. 64). Outliers or extreme responses may unduly affect the outcome of any multivariate analysis by biasing the mean and altering the normal distribution; hence the need to identify them. The study employed a number of approaches in this direction. First, descriptive statistics were used to verify the accuracy of extreme scores. All the minimum and maximum scores were expected to be 7 or less as the items were measured using a seven-point scale. None of the scores was found to be outside the range of the measurement scale. Hair *et al*. (2010) suggested that outliers may be checked from univariate, bivariate and multivariate perspectives. However, it is multivariate outliers – representing extreme scores on two or more variables – which were of primary concern in this study.

The computation of the squared Mahalanobis distance (D^2) for each case is a common approach for detecting multivariate outliers (Byrne, 2010). The Mahalanobis *d*-squared represents the distance in standard deviation units between a set of scores (vector) for an individual case and the sample means for all variables (centroid), correcting for inter-correlations (Kline, 2011). Using the Mahalanobis *d*-squared values as the measure of distance and on the basis of the wide gap, several potential outliers were identified. Hair *et al*. (2010), however, caution researchers to refrain from designating too many observations as outliers. They recommend that once potential outliers have been identified on the D^2 measure, the observations could be further examined in terms of the univariate methods to more fully understand the nature of its uniqueness. In view of this, box plots were employed to identify univariate outliers on the measurement model of each individual construct. Cases which reported inconsistently within a certain construct were also examined. In all, a total of 34 cases were judged as outliers and deleted accordingly. Following the deletion of the missing data and outliers, a total of 1202 valid responses were retained for measurement model testing.

5.1.3 Normality

The most basic assumption in multivariate analysis is normality. Normality refers to the degree to which the distribution of the sample data corresponds to a normal distribution – the benchmark for statistical methods (Hair *et al*., 2010). Although the present study employs the SEM technique of partial least squares – which does not rest on the distributional assumption of normality (Chin, 1998) – it was still imperative to examine the normality of the data in order to gain better insights into the characteristics of the data to be used for the analysis.

To assess variable distribution, three indices are usually employed – univariate skewness, univariate kurtosis, and multivariate kurtosis. Hair *et al*. (2010) observe that in most cases, assessing and achieving univariate normality for all variables is sufficient as univariate normality helps to gain multivariate normality. Measures of skewness and kurtosis were therefore employed to evaluate the univariate normality of the data. The further the absolute values of skewness and kurtosis are from zero, the more likely it is that the data are not normally distributed (Field, 2009). No universal consensus exists regarding the cut-off points for the absolute values. Nonetheless, Kline (2011) recommends absolute values of standardized skewness which are greater than 3 to be considered as extremely skewed, and absolute values of standardized kurtosis greater than 10 as suggestive of a problem while values greater than 20 are indicative of a serious problem.

As shown in Table 5.1, the majority of the variables were negatively skewed. The univariate standardized skewness statistics ranged from -1.129 to 0.083. On the other hand, univariate standardized kurtosis statistics revealed mainly positive kurtosis, ranging from -0.401 to 1.819, suggesting a normal distribution. Multivariate kurtosis was in the range of 18.414 and 47.777, indicative that the data does not depart very much from normality. As asserted by Hair *et al.* (2010), the researcher should not only judge the extent to which the variable's distribution is non-normal, but also the sample sizes involved – what might be regarded as unacceptable in small sample sizes will have a negligible effect in larger sample sizes. Large sample sizes of 200 cases or more tend to diminish any detrimental effects of non-normality (Hair *et al.*, 2010). Given that all variables were univariate normally distributed and the sample size of 1,202 in this study was large enough, the data could be considered to be following multivariate normal distribution. Besides, the estimation technique employed in this study (i.e. PLS - SEM) does not presume conditional normality as is the case in covariance-based SEM techniques.

Table 5.1: Univariate and Multivariate Normality Test Result (*N*=1202)

Construct/ Indicators	*Skewness*		*Kurtosis*	
	Statistic	*C.R.*	*Statistic*	*C. R.*
Perceived Usefulness				
Improves my travel planning	-1.004	-14.213	1.491	10.553
Helps me plan trips more efficiently	-.930	-13.169	1.328	9.400
Makes my travel planning easier	-.765	-10.832	.824	5.833
Makes it easier for me to reach travel-related decisions	-.897	-12.696	1.102	7.796
Overall, I find useful for travel planning	-1.129	-15.974	1.819	12.873
Multivariate			27.391	56.753
Credibility Factor 1: Trustworthiness				
Undependable / Dependable	-.253	-3.577	-.075	-.534
Dishonest / Honest	-.194	-2.739	-.085	-.602
Unreliable / Reliable	-.224	-3.174	.016	.111
Insincere / Sincere	-.230	-3.261	-.032	-.229
Untrustworthy / Trustworthy	-.202	-2.865	.139	.986
Multivariate			40.495	83.903
Credibility Factor 2: Expertise				
Inexperienced / Experienced in travel	.032	.452	-.401	-2.836
Not experts / Experts in travel	.083	1.178	.205	1.450
Unknowledgeable / Knowledgeable in travel	-.021	-.300	-.292	-2.067
Unqualified / Qualified to offer travel advice	-.109	-1.544	.002	.012
Unskilled / Skilled in travel	.068	.964	-.107	-.756
Multivariate			25.614	53.071
Perceptual Homophily				
Likes and dislikes	-.144	-2.040	.246	1.742
Travel experiences	-.083	-1.177	-.170	-1.204

Construct/ Indicators	*Skewness*		*Kurtosis*	
	Statistic	*C.R.*	*Statistic*	*C. R.*
Values	-.103	-1.462	-.078	-.554
Viewpoints	-.119	-1.689	.046	.326
Preferences in travel-related products	-.128	-1.814	-.038	-.269
Multivariate			18.414	38.153
Perceived Ease of Use				
Easy to learn how to use	-1.022	-14.463	1.317	9.320
Easy to use to find the information needed	-.782	-11.072	.710	5.021
Easy for me to become skilful at using	-.764	-10.808	.683	4.835
Easy to use content to plan my trips	-.758	-10.731	.746	5.282
Overall, I find easy to use	-.948	-13.421	1.179	8.346
Multivariate			25.374	52.573
Perceived Enjoyment				
Enjoyable	-.604	-8.552	.525	3.712
Pleasant	-.602	-8.527	.416	2.942
Interesting	-.585	-8.285	.285	2.016
Fun	-.472	-6.685	.175	1.238
Entertaining	-.747	-10.569	.736	5.212
Multivariate			19.867	41.162
Perceived Media Richness				
Great diversity of travel opinions	-.765	-10.823	1.319	9.332
Clarification and appropriate response	-.367	-5.192	.088	.626
Timely feedback	-.455	-6.444	.042	.297
Image-provoking	-.469	-6.633	.310	2.195
Adapt discussions to personal requirements	-.340	-4.809	.060	.425
Deduce various cues	-.462	-6.544	.324	2.292
Enrich my interaction.	-.375	-5.309	.136	.959

Construct/ Indicators	*Skewness*		*Kurtosis*	
	Statistic	*C.R.*	*Statistic*	*C. R.*
Rich in travel-related content	-.706	-9.997	.736	5.206
Multivariate			47.777	65.476
Attitude				
Bad / Good	-.616	-8.714	.222	1.568
Unpleasant / Pleasant	-.547	-7.745	.207	1.461
Negative / Positive	-.672	-9.513	.363	2.570
Foolish / Wise	-.604	-8.544	.189	1.337
Unfavourable/ Favourable	-.690	-9.763	.668	4.729
Multivariate			41.873	86.757
Usage Intention				
Will not hesitate	-1.021	-14.449	1.228	8.691
Plan to seek travel advice	-.816	-11.548	.941	6.660
Expect to use the content	-.894	-12.655	1.118	7.916
Intend to use	-.839	-11.876	.903	6.388
Very likely to use	-.910	-12.875	.995	7.044
Multivariate			33.905	70.248

Table 5.2 presents descriptive statistics of the main constructs after data cleaning and deletion of the missing data and outliers. This includes the means and standard deviations for measurement items.

Table 5.2: Descriptive Statistics for Major Constructs in the Main Survey (N=1202)

Constructs/Items	*Min.*	*Max.*	*Mean*	*S.D.*
Perceived Usefulness				
Improves my travel planning	1	7	5.54	1.176
Helps me plan trips more efficiently	1	7	5.49	1.159
Makes my travel planning easier	1	7	5.43	1.197
Makes it easier for me to reach travel-related decisions	1	7	5.49	1.200
Overall, I find useful for travel planning	1	7	5.66	1.179
Credibility Factor 1: Trustworthiness				
Undependable / Dependable	1	7	5.23	1.101
Dishonest / Honest	1	7	5.31	1.057
Unreliable / Reliable	1	7	5.21	1.083
Insincere / Sincere	1	7	5.29	1.076
Untrustworthy / Trustworthy	1	7	5.16	1.085
Credibility Factor 2: Expertise				
Inexperienced / Experienced in travel	1	7	5.04	1.138
Not experts / Experts in travel	1	7	4.65	1.160
Unknowledgeable / Knowledgeable in travel	1	7	4.99	1.111
Unqualified / Qualified to offer travel advice	1	7	4.94	1.143
Unskilled / Skilled in travel	1	7	4.91	1.110
Perceptual Homophily				
Likes and dislikes	1	7	4.25	1.238
Travel experiences	1	7	4.20	1.299
Values	1	7	4.32	1.254
Viewpoints	1	7	4.40	1.270
Preferences in travel-related products	1	7	4.44	1.274
Perceived Ease of Use				
Easy to learn how to use	1	7	5.80	1.122
Easy to use to find the information needed	1	7	5.66	1.092

Constructs/Items	*Min.*	*Max.*	*Mean*	*S.D.*
Easy for me to become skilful at using	1	7	5.63	1.108
Easy to use content to plan my trips	1	7	5.63	1.086
Overall, I find easy to use	1	7	5.77	1.080
Perceived Enjoyment				
Enjoyable	1	7	5.41	1.139
Pleasant	1	7	5.45	1.123
Interesting	1	7	5.60	1.093
Fun	1	7	5.34	1.136
Entertaining	1	7	5.62	1.126
Perceived Media Richness				
Great diversity of travel opinions	1	7	5.50	1.052
Clarification and appropriate response	1	7	5.19	1.145
Timely feedback	1	7	5.35	1.126
Image-provoking	1	7	5.23	1.154
Adapt discussions to personal requirements	1	7	5.28	1.089
Deduce various cues	1	7	5.18	1.180
Enrich my interaction.	1	7	5.14	1.185
Rich in travel-related content	1	7	5.61	1.064
Attitude				
Bad / Good	1	7	5.77	1.080
Unpleasant / Pleasant	1	7	5.64	1.082
Negative / Positive	1	7	5.72	1.091
Foolish / Wise	1	7	5.65	1.123
Unfavourable/ Favourable	1	7	5.67	1.113
Usage Intention				
Will not hesitate	1	7	5.66	1.214
Plan to seek travel advice	1	7	5.41	1.229

Constructs/Items	*Min.*	*Max.*	*Mean*	*S.D.*
Expect to use the content	1	7	5.48	1.233
Intend to use	1	7	5.40	1.237
Very likely to use	1	7	5.51	1.247

5.2 PROFILE OF THE MAIN SURVEY RESPONDENTS

As noted in the previous chapter, data were collected from leisure travellers from mainly two countries – Singapore and the USA. The pool of respondents reasonably reflects the profile of online travel consumers as published in the *Global Online Travel Report 2012* (yStats.com, 2012). The study refrains from weighting the sample elements, as the interest is in construct associations (not descriptive insights), which are clearly less sensitive to sample deviations. Table 5.3 presents the socio-demographic characteristics of respondents and background information about their Internet usage. Approximately 53 percent of respondents were females (with males accounting for nearly 47 percent). In terms of age, respondents were fairly distributed across the different age groups with those in their twenties and thirties representing the majority. The active working age range of 20 to 60 constituted about 90 percent of respondents. Generally, respondents were well educated with nearly half having attained a bachelor or higher degree. In terms of occupation, very few respondents were students (7.8%) and retirees (6.3%). The majority of the study participants were working in a wide range of fields, including management, professional, and related areas (30.6), sales and office (9.5) and education (6.8), among others. This suggests that respondents are largely income earners and are therefore in a position to make their own travel-related decisions. Respondents were mainly from Singapore (55.0%) and the USA (43.6%). Having already taken a vacation trip within the 12 months preceding the survey, the overwhelming majority of respondents were certain of taking another vacation trip in the following 12 months (85.9%).

In terms of Internet usage, the study participants were largely habitual Internet users who use the Internet several times in a day (84.6%) or once daily (10.8%). Figure 5.1 illustrates respondents' previous experience with the different types of CGM websites. Most of the respondents have had some prior experiences with CGM with the majority certain of having previously used CGM in social networking sites like *Facebook*, *Friendster* and *MySpace* (86.3%) as well as media sharing websites like *YouTube*, *Flickr* and *Photo.net* (78.3%). The popularity of these CGM platforms among the respondents is generally reflective of the statistics of online web usage (Rubicon Consulting, Inc., 2008). In addition, the greater portion of respondents have previously experienced the CGM available in online travel communities like *TripAdvisor*, *VirtualTourist* and *IgoUgo* (60.6%) and in other third-party review sites, such as *eBay* and *Amazons* (68.5%), as well as consumer-generated reviews on the websites of service providers like hotels, travel agencies and airlines (68.6%), and destination management websites (50.7%). This is an indication that respondents are generally well-acquainted with and clearly understand the phenomenon under study and are thus in a good position to offer meaningful evaluations. Regarding the use of CGM for travel planning, nearly half of the respondents (48.2%) had formerly used

TripAdvisor for travel planning whereas about a tenth (11.7%) were unsure (Table 5.4). Besides *TripAdvisor*, nearly 41 percent of the study participants had also used other CGM websites to plan their holidays.

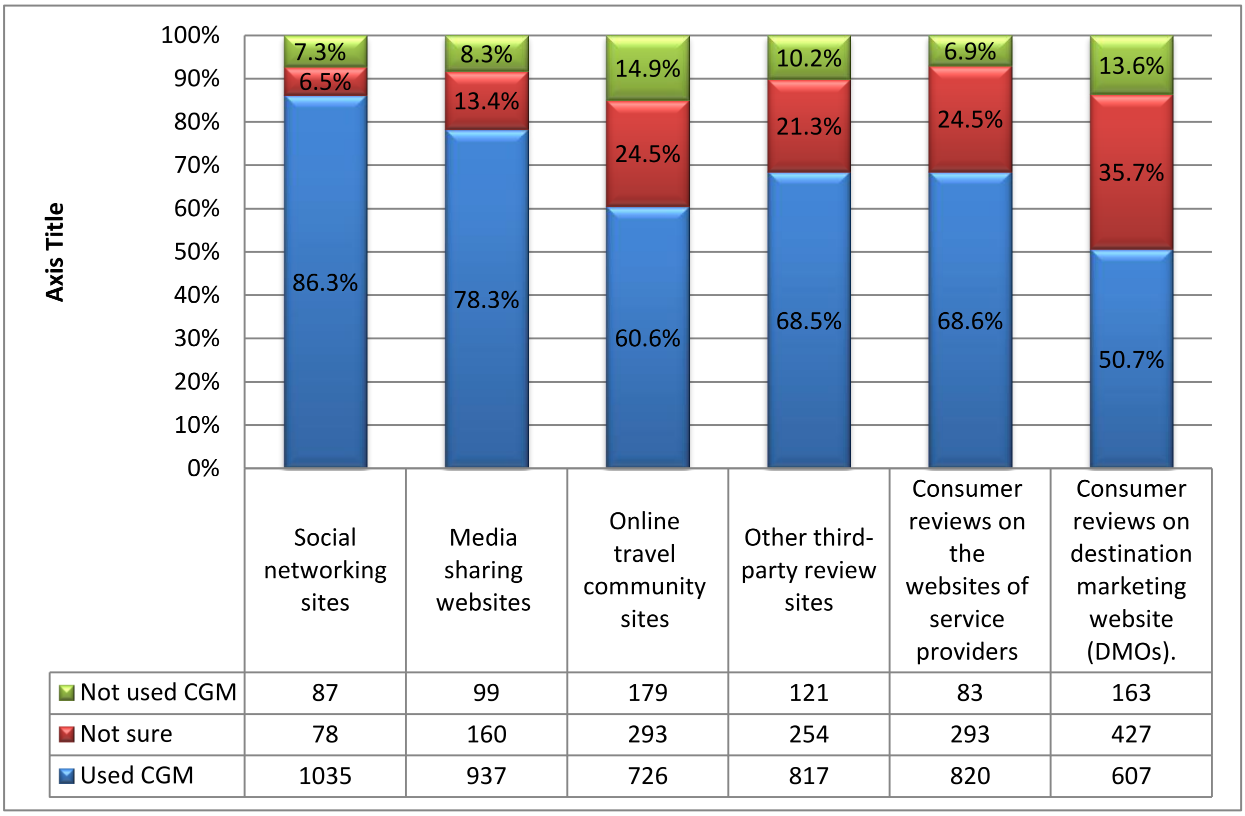
Table 5.3: Profile of Main Survey Respondents (*N*=1,202)

Profile category		*Frequency (Valid N)*	*Percentage (%)*
Gender	Female	640	53.3
	Male	561	46.7
Age	Less than 20 years	47	3.9
	21-30 years	308	25.6
	31-40 years	329	27.4
	41-50 years	263	21.9
	51-60 years	194	16.2
	60+ years	60	5.0
Education	High school/ Secondary school	304	25.3
	Diploma/Associate degree (2 years)	302	25.1
	Bachelor degree	342	28.5
	Graduate/Postgraduate degree	223	18.6
	Other	30	2.5
Occupation	Management, professional, and related	367	30.6
	Education	81	6.8
	Service	71	5.9
	Sales and office	114	9.5
	Construction, extraction, and maintenance	32	2.7
	Production, transportation, and material moving	27	2.3
	Government	43	3.6
	Farming, fishing, and forestry	3	.3
	Retired	75	6.3
	Not employed outside home	133	11.1
	Student	94	7.8
	Other	160	13.3
Country of Residence	Singapore	661	55.0
	USA	524	43.6
	Other	17	1.4
Embarking on a vacation trip in the next 12 months	Yes	1030	85.9
	Not Sure	150	12.5
	No	19	1.6

Profile category		*Frequency (Valid N)*	*Percentage (%)*
Internet use frequency	A few times a month or less	9	.7
	A few times a week	46	3.8
	About once a day	130	10.8
	Several times each day	1016	84.6

Table 5.4: Respondents' Previous Experience with Using CGM for Travel Planning

Prior experience with using CGM for travel planning	*Yes*		*Not sure*		*No*	
	n	*%*	*n*	*%*	*n*	*%*
Previously used TripAdvisor for travel planning	578	48.2	140	11.7	482	40.2
Previously used any other CGM website for travel planning	490	40.8	346	28.8	364	30.3



	Social networking sites	Media sharing websites	Online travel community sites	Other third-party review sites	Consumer reviews on the websites of service providers	Consumer reviews on destination marketing website (DMOs).
🟩 Not used CGM	87	99	179	121	83	163
🟥 Not sure	78	160	293	254	293	427
🟦 Used CGM	1035	937	726	817	820	607

Figure 5.1: Respondents' Prior Experiences with CGM Websites (*N*=1202)

5.3 CROSS-VALIDATION

To assess the degree of generalisability and reliability, cross-validation is often used to verify that a data structure is representative of the population. The most widely used approach is to move the results to a confirmatory perspective and assess the replicability of the results, using either a split sample from the original data set or with a separate sample (Hair *et al*., 2009). If the analysis using different samples reveals the same structure, reliability and generalisability of the results is achieved.

In the case of a large sample size, it is appropriate to randomly split the sample into two approximately equal subsets and evaluate factor models for each subset. Since the sample size of 1202 is considered large enough, cross-validation was applied. Thus, the stability of the parameter estimates was examined by means of a holdout sample. Following the recommendation of Hair *et al*. (2009), the entire dataset was randomly split into approximately two equal halves using SPSS. The procedure generated one dataset with 601 samples for calibration (PCA) and another 601 cases for validation (PLS factorial validity). Next, the results of the principal component analysis for the reflective constructs are presented followed by the validation procedure of the formative construct. From a confirmatory perspective, the subsequent section reports the results of the PLS factorial validity (equivalent to confirmatory factor analysis in covariance-based SEM) using the second-half of the data set. While the PCA ensures data reduction and helps to identify groups of variables that may represent an underlying dimension, the confirmatory perspective of PLS factorial validity analysis specifies the relationships between observed measures and their posited underlying constructs. The rationale for cross-validation using different samples is to assess how the results of the measurement analysis will generalise to an independent data set. This helps to guard against testing hypotheses suggested by the data (or post hoc theorising).

5.4 PRINCIPAL COMPONENTS ANALYSIS

Since the existing theories (see Section 3.2.) demonstrate that some of the constructs are conceptually linked and are thus expected to correlate, the components (factors) in this study cannot be assumed to be independent, and hence the more popular varimax rotation and other orthogonal techniques are inappropriate. In view of this, a non-orthogonal rotation technique – principal component analysis with an oblique rotation (Direct Oblimin) – was conducted. Oblique rotations are comparable to orthogonal rotations except that oblique rotations permit correlated factors in contrast to maintaining independence among the rotated factors (Kline, 2011). As noted by Costello and Osborne (2005), the use of orthogonal rotation leads to a loss of valuable information in cases where the factors are correlated, and hence an oblique rotation would theoretically deliver a more accurate and reproducible solution.

In the conduct of the PCA, a number of criteria were considered for component extraction. Initially, the KMO measure of sampling adequacy was examined. A value of 0 suggests diffusion in the pattern of correlations and therefore factor analysis is likely to be unsuitable. Kaiser (1979) recommends 0.50 as the minimum acceptable value. Second, an examination of the Bartlett's Test of Sphericity helps to ensure that the correlation matrix is significantly different from an identity matrix. Third, a factor loading of 0.40 is considered to be the cut-off point for component interpretation (Stevens, 2002). Items with factor loadings that are greater than 0.40 in more than one component are candidates for deletion to avoid cross-loadings (Hair *et al.*, 2010). Fourth, despite the usefulness of factor loadings, component selection need not be based on this criterion alone (Field, 2009). Communality can also be considered for component extraction. For larger sample sizes (i.e. 250 or more), the average communality should be greater than 0.60 (Kaiser, 1974). Fifth, the corrected item-total correlation values represent the correlations between each item and the total score for the questionnaire. Values of 0.30 or less are generally undesirable (Field, 2009). The scale reliability for each of the identified components was further assessed with Cronbach’s alpha, with 0.70 as the minimum acceptable value.

Principal component analysis with oblique rotation (Direct Oblimin) was conducted using the default Delta (0) in SPSS Statistics 17.0 and requesting for an eight-factor solution. The calibration sample of 601 cases is deemed to be more than adequate as it is well above the recommended minimum of 200 observations, based on Kass and Tinsley’s (1979) recommendation of 5-10 observations per variable and Kline’s (2011) suggestion of five times the number of variables to be analysed. The KMO measure of sampling adequacy confirmed the sampling adequacy for the analysis. Hutcheson and Sofroniou (1999) described KMO values between 0.5 and 0.7 as “mediocre”, 0.7 and 0.8 as “good”, 0.8 and 0.9 as “great” as and more than 0.9 as “superb” (p. 227). The

PCA results demonstrate that the patterns of correlations are relatively compact as the KMO value was 0. 969; well above Kaiser's (1974) minimum threshold of 0.5. Thus, the component analysis is appropriate and is therefore expected to yield distinct and reliable factors. Also, the Bartlett's Test of Sphericity $\chi 2$ (780) = 27591.829 was highly significant ($p < 0.001$), which implies that the item correlations are sufficiently large for the analysis. The communalities of all the items after extraction were found to be greater than 0.70; each item's communality is well above the 0.60 value of average community required by Kaiser's (1974) criterion. The correlation matrix of the individual items did not suggest any potential problem of severe multicollinearity as all items reported correlation coefficients which were below 0.90. Besides, multicollinearity is not problematic for principal component analysis as in common factor analysis (Field, 2009).

The results of the PCA after applying the oblique rotation suggest an optimal structure as all variables have high loadings on a single component (Table 5.5). Each item loaded precisely on its hypothesised construct/dimension without any cross-loadings, resulting in theoretically meaningful constructs/dimensions. In addition, all the factor loadings were well above the 0.40 minimum required (Field, 2009), with absolute values ranging from 0.626 to 0.924 (-/+). An inspection of the component correlation matrix revealed that the components met the criterion of discriminant validity; correlations between components were all below the 0.70 standard. This implies that variables relate more strongly to their own component than to the other components.

The sums of squared loadings cannot be added to obtain a total variance in situations where components are correlated. Nonetheless, the eigenevalue for the eight components ranged from 9.891 to 14.905. The items that cluster on the same components suggest that component 1 signifies *perceived ease of use* (accounted for eigenevalue of 13.032), component 2 *expertise* (eigenevalue of 9.924), component 3 *perceptual homophily* (eigenevalue of 9.891), component 4 *perceived usefulness* (eigenevalue of 12.567), component 5 *behavioural intention* (eigenevalue of 13.285), component 6 *attitude* (eigenevalue of 14.905), and component 7 *perceived trustworthiness* (eigenevalue of 12.144) and *perceived enjoyment* (eigenevalue of 13.729).

Subsequent analysis regarding each component's level of internal consistency suggests that the measurement items consistently reflect their respective latent construct. As shown in Table 5.6, all the corrected item-total correlation values were far above the minimum threshold of 0.3 (Field, 2009), implying that the manifest variables correlate very well with the scale. The values of the Cronbach's alphas further demonstrate that the scale for each of the constructs had high reliabilities; Cronbach's alphas exceed the more stringent criterion of 0.80 (Kline, 1999; Field, 2009). Besides, an examination of the values of *Cronbach's α If Item Deleted* suggests no considerable improvements in the overall alphas if any of the items were removed. Thus, the data met the requirement for PCA, and all the variables were kept for PLS factorial validation.

Table 5.5: PCA for the Reflective Constructs Using the Calibration Sample (*N*=601)

Component/Item	*Loading*	*Eigenevalue*	*Item-Total Correlation*	*α If Item Deleted*	*α*
Perceived Ease of Use		13.032			.959
Easy to learn how to use	.870		.862	.953	
Easy to use to find the information needed	.822		.891	.948	
Easy for me to become skilful at using	.829		.876	.950	
Easy to use content to plan my trips	.736		.877	.950	
Overall, I find easy to use	.823		.915	.944	
Credibility Factor 2: Expertise		9.924			.931
Inexperienced / Experienced in travel	.851		.822	.914	
Not experts / Experts in travel	.900		.805	.918	
Unknowledgeable / Knowledgeable in travel	.864		.859	.908	
Unqualified / Qualified to offer travel advice	.664		.761	.926	
Unskilled / Skilled in travel	.833		.848	.910	
Perceptual Homophily		9.891			.935
Likes and dislikes	.842		.799	.925	
Travel experiences	.858		.796	.926	
Values	.842		.848	.916	
Viewpoints	.859		.862	.913	
Preferences in travel-related products	.865		.830	.919	
Perceived Usefulness		12.567			.959
Improves my travel planning	.924		.894	.949	
Helps me plan trips more efficiently	.911		.895	.948	
Makes my travel planning easier	.909		.878	.951	
Makes it easier for me to reach travel-related decisions	.897		.869	.953	
Overall, I find useful for travel planning	.884		.893	.949	
Usage Intention		13.285			.960
Will not hesitate	-.702		.809	.963	
Plan to seek travel advice	-.845		.884	.951	
Expect to use the content	-.892		.917	.945	
Intend to use	-.883		.903	.947	

Component/Item	*Loading*	*Eigenevalue*	*Item-Total Correlation*	*α If Item Deleted*	*α*
Very likely to use	-.860		.920	.945	
Attitude		14.905			.957
Bad / Good	-.790		.870	.948	
Unpleasant / Pleasant	-.845		.881	.946	
Negative / Positive	-.889		.882	.946	
Foolish / Wise	-.900		.880	.946	
Unfavourable/ Favourable	-.899		.879	.946	
Credibility Factor 1: Trustworthiness		12.144			.934
Undependable / Dependable	-.682		.747	.933	
Dishonest / Honest	-.922		.836	.917	
Unreliable / Reliable	-.837		.861	.912	
Insincere / Sincere	-.883		.834	.917	
Untrustworthy / Trustworthy	-.788		.846	.915	
Perceived Enjoyment		13.729			.941
Enjoyable	-.626		.849	.926	
Pleasant	-.777		.866	.923	
Interesting	-.798		.844	.927	
Fun	-.868		.870	.922	
Entertaining	-.775		.778	.939	

Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) = 0. 969

Bartlett's Test of Sphericity: Chi-Square = 27591.829, *degree of freedom (df)* = 780, $p < 0.001$

α = Cronbach's Alpha (Reliability Coefficient)

Table 5.6: Component Correlation Matrix

Component	*Ease of use*	*Expertise*	*Homophily*	*Usefulness*	*Intention*	*Attitude*	*Trustworthiness*	*Enjoyment*
Ease of Use	1.000	.289	.348	.550	-.572	-.603	-.419	-.668
Expertise	.289	1.000	.421	.325	-.355	-.486	-.618	-.370
Homophily	.348	.421	1.000	.412	-.413	-.417	-.455	-.428
Usefulness	.550	.325	.412	1.000	-.559	-.543	-.439	-.544
Intention	-.572	-.355	-.413	-.559	1.000	.623	.413	.605
Attitude	-.603	-.486	-.417	-.543	.623	1.000	.597	.611
Trustworthiness	-.419	-.618	-.455	-.439	.413	.597	1.000	.451
Enjoyment	-.668	-.370	-.428	-.544	.605	.611	.451	1.000

Note: Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

5.5 VALIDATION OF THE FORMATIVE CONSTRUCT

As noted in the previous chapter, traditional statistical evaluation criteria for reflective measurement models cannot be applied to formative measures. More particularly, the concepts of internal consistency reliability and convergent validity are not meaningful when examining formative measures. This suggests that alternative approaches must be followed to evaluate the quality of measures involving formative indicators (Bollen, 1989; Diamantopoulos & Winklhofer, 2001; Petter *et al.*, 2007; Hair *et al.*, 2011). PLS-SEM offers some statistical criteria for validating formative measurement models.

Following the recommendations of Henseler *et al.* (2009), Hair *et al.* (2011) and Diamantopoulos and Winklhofer (2001), this study examined the validity of the formative construct *perceived media richness* at both the indicator and construct levels. At the indicator level, it is imperative to assess the item weights (in contrast to item loadings in reflective constructs) for significance to establish the relevance of the indicator for the latent construct. However, in contrast to reflective measures, modification of formative measurement models solely on the basis of statistical outcomes is inadmissible (Urbach & Ahlemann, 2010). Nevertheless, since non-significant indicators may imply a lack of theoretical relevance, Diamantopoulos and Winklhofer (2001) suggest they may be removed on condition that content validity is preserved and the remaining items still measure the entire domain of the latent construct. Henseler *et al*. (2009) also argue that both non-significant formative indicators should be kept in the scale provided this is conceptually justifiable. The significance of the formative indicators' coefficients was tested using the bootstrapping procedure with 601 cases, 5,000 sub-samples and individual sign changes (Hair *et al*., 2011). As shown in Table 5.7 the weights of all the indicators for the construct *perceived media richness* were significant ($p < 0.001$). Also, the path coefficient was more than 0.10 for each indicator, ensuring indicator validity.

Additionally, the validation of formative measurement models entails an assessment of the degree of multicollinearity among the indicators. Though multicollinearity does not affect the predictive effectiveness of the formative construct, it may lead to estimation biases and instability of items' coefficients (Diamantopoulos & Winklhofer, 2001). In this study, multicollinearity was assessed by means of the variance inflation factor (VIF) and the tolerance (the reciprocal of VIF). VIF values greater than the commonly accepted threshold of ten are indicative of the presence of harmful collinearity (Gefen *et al*., 2000; Diamantopoulos & Siguaw, 2006; Henseler *et al*. 2009). Hair *et al*. (2011), however, suggest a more stringent criterion of 5 or higher indicating potential multicollinearity problems in formative measurement models. The VIF values ranged from 2.047 to 3.434 for the construct *perceived media richness*, suggesting no serious level of multicollinearity. Likewise, the tolerance levels were all within the acceptable limits for the formative indicators.

Table 5.7: Indicator Validity and Collinearity for *Perceived Media Richness* (*N*=601)

Construct/Items	*Indicator Validity*			*Collinearity*	
	Weights	*Standard Error*	*t -value*	*Tolerance*	*VIF*
Great diversity of travel opinions	0.184**	0.009	21.292	.351	2.848
Clarification and appropriate response	0.137**	0.009	16.112	.424	2.360
Timely feedback	0.151**	0.006	24.365	.347	2.882
Image-provoking	0.150**	0.008	19.284	.488	2.047
Adapt discussions to personal requirements	0.154**	0.006	27.131	.291	3.434
Deduce various cues	0.132**	0.007	19.057	.435	2.300
Enrich my interaction.	0.133**	0.008	17.502	.430	2.327
Rich in travel-related content	0.180**	0.010	83.509	.346	2.892

Note: ***p* < 0.001; based on two tailed test.

The formative construct is validated at the construct level by testing for external validity from a nomological perspective (Petter *et al*., 2007; Henseler *et al*., 2009). The nomological validity test ensures that the formative construct functions as theorised. This study proposes a theoretical relationship between *perceived media richness* and *perceived usefulness* (see section 3.2.3). Hence PLS algorithm was applied to ascertain the nomological validity of the formative construct *perceived media richness*. The results reveal that *perceived media richness* has a strong and highly significant impact on *perceived usefulness* (γ=0.582, t=16.268, $p < 0.001$) and therefore, external validity is established. In sum, the results for indicator validity, multicollinearity and external validity tests all demonstrate that the scale for the formative construct *perceived media richness* is appropriate and valid for the context of this study. Since the aforementioned analysis using the calibration sample did not suggest any further modification to either the reflective and formative measures, all the measurement items were retained for the subsequent analysis.

5.6 MEASUREMENT MODEL TEST

Using the other sub-sample of 601 observations, the eight-factor solution identified in the PCA was verified by PLS factorial validity test which is synonymous with confirmatory factor analysis (CFA) in covariance-based SEM. In contrast to PCA, PLS factorial validation involves an explicit specification of the measurement items' pattern of loadings on the latent constructs. Thus, factorial validity deals with the extent to which the pattern of loadings of the indicators reflects the theoretically anticipated factors (Gefen & Straub, 2005). In this study, factorial validation was conducted using SmartPLS 2.0 (Beta) M3 (Ringle *et al.*, 2005). Since interest at this stage is in the measurement model, the PLS inner weighting option was set to the *factorial* scheme.

5.6.1 Reflective Outer Models

Reflective measurement models need to be assessed in connection with their reliability and validity. While reliability refers to the consistency of a measure, validity reflects the extent to which the measurement items measure what they are purported to measure (Bagozzi & Yi, 2012). Traditionally, the reliability test, which examines the internal consistency within a construct, is carried out using Cronbach's Alpha (α). However, researchers recommend a different measure for PLS path models – the Composite Reliability (ρ_c). This is because Cronbach's alpha, which is based on the assumption that all indicators are equally reliable, tends to underestimate the internal consistency reliability of latent variables in PLS path models (Henseler *et al.*, 2009). In contrast, composite reliability does not assume that all measures are equally reliable, and is therefore more appropriate for PLS-SEM, which prioritises indicators in accordance with their reliability leading to a more reliable composite (Hair *et al.*, 2012). In either case, internal consistency reliability value of more than 0.7 in early stages of research or values above 0.8 or 0.9 in more advance stages of research are deemed satisfactory (Nunnally & Bernstein, 1994) while values below 0.6 indicate a lack of reliability. Table 5.8 displays the factor loadings, AVE and reliability coefficients of the reflective measurement models. The values of both measures' are uniformly high as Cronbach's α values range from 0.936 to 0.963 whereas the values of ρ_c range from 0.952 to 0.972, thus exceeding the stipulated thresholds. Therefore, the PLS measurement model estimation demonstrates that all reflective constructs exhibit satisfactory internal consistency.

Similarly, it is imperative to assess indicator reliability. The absolute standardised outer loading for each indicator should be higher than 0.7. This implies that the latent construct should be able to explain at least 50 percent of each of its indicators' variance. Churchill (1979) recommends that reflective indicators with outer standardised loadings lower than 0.4 should be removed. However, given PLS' characteristics of consistency at large, Henseler *et al.* (2009) warn researchers to be cautious when eliminating indicators. This decision must be taken in careful consideration of whether deleting the indicator in question will lead to a substantial increase in composite reliability without threatening content validity (Hair *et al.*, 2011). Nonetheless, the measurement model test results in this study did not offer support for the deletion of any of the indicators from the scale. The standardised loadings of all items on their factors are significant ($p < 0.01$) and greater than 0.7, which ensures indicator reliability (Bagozzi & Yi, 1988).

The next stage is to assess the validity of the measurement models. Reflective measures' validity assessment centres on convergent validity and discriminant validity. Convergent validity depicts the extent to which a set of indicators reflects one and the same underlying construct (Henseler *et al.*, 2009). For convergent validity, researchers examine the average variance extracted (AVE). AVE values of 0.5 and higher imply that, on average, the latent construct explains more than half of its indicators' variance (Fornell & Larcker, 1981). As shown in Table 5.8, all the AVE values were above the threshold of 0.5, signifying satisfactory degree of convergent validity. Discriminant validity, on the other hand, refers to the extent to which measures of different constructs are distinct. In PLS path modelling, researchers propose two measures of discriminant validity: the Fornell-Larcker criterion and the cross-loadings (Chin, 1998; Henseler *et al*., 2009; Hair *et al*., 2011). The Fornell-Larcker criterion (Fornell & Larcker, 1981) theorizes that a latent construct shares more variance with its assigned indicators than with any other latent construct. Statistically, the AVE of each latent construct should be greater than the construct's highest squared correlation with any other latent construct. In other words, the square root of the AVE of each latent construct should be higher than the construct's highest correlation with any other latent construct. Comparing the square root of the AVEs with the correlation matrix of the constructs in Table 5.9 provides good evidence of discriminant validity. The second criterion examines discriminant validity at the indicator level; the loading of each indicator ought to be greater than all of its cross-loadings (Chin, 1988; Henseler *et al*., 2009). An examination of the cross-loadings in Appendix D reveals that each indicator's loading is greater than all of its cross-loadings. Therefore, a high degree of discriminant validity can be presumed with respect to all the reflective constructs in this study. This implies that the latent constructs are distinct from each other, with each construct explaining its measurement indicators better than it does for measures of other constructs.

Table 5.8: Factor-loadings, AVE and Reliability Coefficients (*N*=601)

Construct/Item	*Loading*	*SE*	*t-value*	*AVE*	*Cronbach's α*	*CR*
Attitude				0.849	0.956	0.966
Bad / Good	0.918	0.010	90.205			
Unpleasant / Pleasant	0.925	0.010	93.433			
Negative / Positive	0.934	0.009	103.886			
Foolish / Wise	0.919	0.008	112.848			
Unfavourable/ Favourable	0.911	0.011	82.066			
Credibility Factor 1: Trustworthiness				0.807	0.940	0.954
Undependable / Dependable	0.876	0.016	55.277			
Dishonest / Honest	0.903	0.012	77.483			
Unreliable / Reliable	0.914	0.01	89.92			
Insincere / Sincere	0.894	0.015	61.548			
Untrustworthy / Trustworthy	0.906	0.011	82.602			
Credibility Factor 2: Expertise				0.798	0.936	0.952
Inexperienced / Experienced in travel	0.852	0.016	52.553			
Not experts / Experts in travel	0.887	0.013	68.398			
Unknowledgeable / Knowledgeable in travel	0.927	0.008	120.592			
Unqualified / Qualified to offer travel advice	0.885	0.012	73.846			
Unskilled / Skilled in travel	0.913	0.01	95.366			
Perceived Enjoyment				0.819	0.944	0.957
Enjoyable	0.932	0.006	148.370			
Pleasant	0.913	0.009	106.478			
Interesting	0.918	0.008	108.468			
Fun	0.918	0.010	95.719			
Entertaining	0.840	0.017	48.540			
Perceived Ease of Use				0.860	0.959	0.969
Easy to learn how to use	0.914	0.010	94.371			
Easy to use to find the information needed	0.935	0.007	132.296			
Easy for me to become skilful at	0.919	0.009	102.259			

Construct/Item	*Loading*	*SE*	*t-value*	*AVE*	*Cronbach's α*	*CR*
using						
Easy to use content to plan my trips	0.923	0.008	110.222			
Overall, I find easy to use	0.946	0.006	164.37			
Perceptual Homophily				0.811	0.942	0.955
Likes and dislikes	0.880	0.014	64.099			
Travel experiences	0.869	0.017	52.205			
Values	0.921	0.007	126.402			
Viewpoints	0.927	0.007	137.943			
Preferences in travel-related products	0.904	0.011	79.437			
Usage Intention				0.873	0.963	0.972
Will not hesitate	0.903	0.01	88.592			
Plan to seek travel advice	0.929	0.009	104.05			
Expect to use the content	0.948	0.006	161.211			
Intend to use	0.936	0.007	129.096			
Very likely to use	0.953	0.005	174.737			
Perceived Usefulness				0.845	0.954	0.965
Improves my travel planning	0.915	0.01	90.121			
Helps me plan trips more efficiently	0.928	0.008	114.375			
Makes my travel planning easier	0.914	0.01	96.006			
Makes it easier for me to reach travel-related decisions	0.909	0.011	84.199			
Overall, I find useful for travel planning	0.931	0.008	116.041			

Table 5.9: Inter-construct Correlations and the Square-Root of AVE

Construct	*Attitude*	*Ease of use*	*Enjoyment*	*Homophily*	*Intention*	*Usefulness*	*Expertise*	*Trustworthiness*
Attitude	**0.921**							
Ease of use	0.717	**0.927**						
Enjoyment	0.745	0.812	**0.905**					
Homophily	0.449	0.435	0.526	**0.901**				
Intention	0.704	0.704	0.737	0.463	**0.934**			
Usefulness	0.663	0.691	0.687	0.400	0.659	**0.919**		
Expertise	0.554	0.379	0.483	0.459	0.432	0.418	**0.893**	
Trustworthiness	0.665	0.523	0.576	0.458	0.510	0.516	0.731	**0.898**

Note: Square-root of AVE in bold

5.6.2 Second-Order Factorial Validity

As the latent variable *source credibility* was a multidimensional construct, second-order factorial validity analysis was conducted to check the validity and reliability of the higher order portion of the measurement model. As shown in Table 5.10, all standardised loadings were statistically significant and the effects of *source credibility* on *trustworthiness* and *expertise* were 0.935 and 0.925 respectively. In addition, both the Cronbach's α and ρ_c coefficients (0.951 and 0.958 respectively) demonstrate strong internal consistency while the AVE value of 0.694 met the standard for convergent validity.

Table 5.10: Second-Order Factorial Validity Test Results (N=601)

Second-order construct	*Loading*	*SE*	*t-value*	*AVE*	*Cronbach's α*	*CR*
Credibility				0.694	0.951	0.958
Trustworthiness	0.935	0.006	166.064			
Expertise	0.925	0.008	122.422			

5.6.3 Formative Outer Model

The formative measurement model was also cross-validated with the hold-out sample. The criteria for evaluating a formative measurement model include the assessment of indicator weights and their significance, collinearity tests and nomological validity (Diamantopoulos & Winklhofer, 2001; Henseler *et al*., 2009). The resampling procedure of bootstrapping allows for the testing of the significance of the coefficients of the formative indicators. As shown Table 5.11, all the indicator weights for the formative construct *perceived media richness* were significant with coefficients greater than 0.1 which imply indicator validity. The tolerance values and the VIFs suggest that multicollinearity is not a serious concern in this formative model. Each of the tolerance values was above 0.20 while the VIFs passed the more stringent criterion of less than 5 (Hair *et al*., 2012). A test of nomological validity further suggest that *perceived media richness* has a strong and highly significant impact on *perceived usefulness* (γ=0.169, t=3.217, p< 0.01) and hence external validity can be assumed.

Table 5.11: Cross-Validation: Indicator Validity and Collinearity for *Perceived Media Richness* (N=601)

Construct/Items	*Indicator Validity*			*Collinearity*	
	Weights	*Standard Error*	*t -statistics*	*Tolerance*	*VIF*
Great diversity of travel opinions	0.184**	0.008	23.284	0.423	2.365
Clarification and appropriate response	0.146**	0.007	20.042	0.376	2.660
Timely feedback	0.139**	0.007	20.228	0.370	2.704
Image-provoking	0.144**	0.007	20.200	0.491	2.038
Adapt discussions to personal requirements	0.152**	0.007	22.567	0.299	3.342
Deduce various cues	0.137**	0.007	20.462	0.422	2.369
Enrich my interaction.	0.135**	0.006	23.109	0.365	2.738
Rich in travel-related content	0.179**	0.008	23.901	0.431	2.321

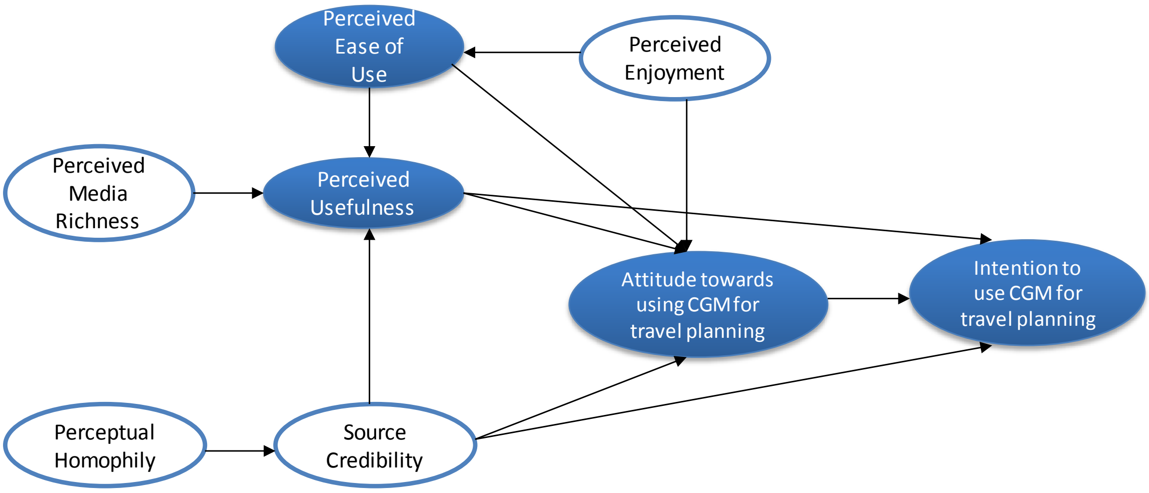
**$p < 0.001$; based on two tailed test.

From the PLS factorial validity test, it appears the measurement model is consistent with the theoretically derived expectations, and thus it can be concluded that the indicators possess adequate reliability and validity for measuring their respective latent constructs. The next step is to combine the two samples and estimate the overall measurement and structural models.

5.7 OVERALL STRUCTURAL MODEL TEST

Given the satisfactory cross-validation results of the measures, it seems appropriate to test the structural model which specifies a set of theoretical relationships among the constructs (Figure 5.3). In the overall measurement model, source credibility was defined as a second order construct composed of two dimensions: 1) trustworthiness and 2) expertise. The entire sample of 1202 observations was employed for this test.

PLS-SEM was conducted using SmartPLS 2.0 (Beta) M3 (Ringle *et al.*, 2005). At this stage, the PLS inner-weighting option was set to the path-weighting scheme. Typically, the assessment of PLS-SEM results follows a two-step process which involves separate evaluations of the outer and inner models.


Perceived Ease of Use
Perceived Enjoyment
Perceived Media Richness
Perceived Usefulness
Attitude towards using CGM for travel planning
Intention to use CGM for travel planning
Perceptual Homophily
Source Credibility

Note: Traditional TAM constructs are shaded

Figure 5.2: Structural Model

5.7.1 Outer Model Evaluation

The PLS path model analysis for the overall measurement model shows that all measures meet the commonly suggested criteria for measurement model assessment (Chin, 1998; Henseler *et al.*, 2009; Hair *et al.*, 2012). To assess convergent validity, the analysis determined that each indicator loaded significantly on the constructs they were intended to represent. As shown in Table 12, all the constructs' AVE values are well above the minimum threshold of 0.50 (Bagozzi & Yi, 1988; Henseler *et al.*, 2009). Also, all indicators exhibited significant standardized factor loadings which were above 0.70 (p<.001), demonstrating indicator reliability (Table 5.13). Similarly, the model constructs attained high Cronbach's α and ρ_c values greater than 0.80, implying satisfactory internal consistency.

Discriminant validity was then assessed using two approaches. First, an examination of the indicators' cross-loading revealed that no indicator loaded higher on an opposing construct (Hair *et al.*, 2011) (see Appendix E). Second, the Fornell and Larcker (1981) criterion was applied by testing whether the square root of each construct's AVE is greater than its correlation with each of the remaining constructs. As shown in Table 5.12, all the constructs exhibited discriminant validity. Thus, the parameter estimates and diagnostics for the overall measurement model offer strong evidence for the reliability and validity of the latent construct measures.

Regarding the formative construct (*perceived media richness*), Table 5.14 shows that all the indicator weights are significant, demonstrating indicator validity. Multicollinearity was not an issue since the tolerance values and the VIFs were all within the satisfactory range of more than .20 and less than 5 respectively (Hair *et al.*, 2011; Henseler *et al.*, 2011; Field, 2009). Nomological validity test results demonstrate that *perceived media richness* has a strong and highly significant impact on *perceived usefulness* (γ=0.194, t=5.269, p< 0.01) and hence, external validity is established. Following the verification of the overall measurement model, the next section discusses the results of the inner model test which hypothesises relationships among the latent constructs using PLS structural equation modelling.

Table 5.12: Descriptive Data, Inter-Construct Correlations and the Square-Root of AVE (*N*=1202)

Construct	*Attitude*	*Credibility*	*Ease of use*	*Enjoyment*	*Homophily*	*Intention*	*Usefulness*
Attitude	(0.922)						
Credibility	0.660	(0.826)					
Ease of use	0.703	0.500	(0.927)				
Enjoyment	0.721	0.567	0.797	(0.902)			
Homophily	0.468	0.525	0.441	0.524	(0.896)		
Intention	0.704	0.516	0.693	0.725	0.477	(0.931)	
Usefulness	0.623	0.493	0.655	0.652	0.432	0.639	(0.924)
AVE	0.851	0.682	0.859	0.814	0.803	0.867	0.853
Cronbach's α	0.956	0.948	0.959	0.943	0.938	0.961	0.957
Composite Reliability	0.966	0.955	0.968	0.956	0.953	0.970	0.967
Mean	5.690	5.073	5.698	5.484	4.322	5.492	5.522
Standard Deviation	1.098	1.106	1.098	1.123	1.267	1.232	1.182

Note: The number in parenthesis is the square root of AVE.

Table 5.13: Factor Loadings for Individual Items (*N*=1202)

Construct/Item	*Loading*	*SE*	*t-value*
Attitude			
Bad / Good	0.919	0.007	134.504
Unpleasant / Pleasant	0.925	0.006	149.348
Negative / Positive	0.929	0.006	149.153
Foolish / Wise	0.921	0.006	165.325
Unfavourable/ Favourable	0.917	0.007	130.873
Perceived Enjoyment			
Enjoyable	0.920	0.005	181.135
Pleasant	0.916	0.005	172.85
Interesting	0.910	0.006	145.513
Fun	0.917	0.006	149.366
Entertaining	0.846	0.012	73.296
Perceived Ease of Use			
Easy to learn how to use	0.912	0.007	138.658
Easy to use to find the information needed	0.933	0.005	180.872
Easy for me to become skilful at using	0.920	0.006	154.74
Easy to use content to plan my trips	0.924	0.006	158.845
Overall, I find easy to use	0.947	0.004	240.161
Credibility Factor 1: Trustworthiness	[a]0.932	0.004	229.662
Undependable / Dependable	0.853	0.013	63.307
Dishonest / Honest	0.898	0.010	94.006
Unreliable / Reliable	0.915	0.007	140.496
Insincere / Sincere	0.896	0.009	99.142
Untrustworthy / Trustworthy	0.908	0.007	128.14
Credibility Factor 2: Expertise	[a]0.921	0.005	172.854
Inexperienced / Experienced in travel	0.871	0.010	90.302
Not experts / Experts in travel	0.881	0.009	99.135
Unknowledgeable / Knowledgeable in travel	0.920	0.006	151.287
Unqualified / Qualified to offer travel advice	0.865	0.009	91.429
Unskilled / Skilled in travel	0.910	0.007	126.691

Construct/Item	*Loading*	*SE*	*t-value*
Perceptual Homophily			
Likes and dislikes	0.874	0.011	77.438
Travel experiences	0.868	0.011	82.034
Values	0.916	0.005	173.185
Viewpoints	0.922	0.005	176.478
Preferences in travel-related products	0.898	0.008	117.142
Usage Intention			
Will not hesitate	0.889	0.012	77.205
Plan to seek travel advice	0.928	0.006	146.276
Expect to use the content	0.948	0.004	233.784
Intend to use	0.938	0.005	173.098
Very likely to use	0.952	0.004	263.764
Perceived Usefulness			
Improves my travel planning	0.924	0.006	143.637
Helps me plan trips more efficiently	0.932	0.005	170.522
Makes my travel planning easier	0.918	0.007	138.082
Makes it easier for me to reach travel-related decisions	0.913	0.008	116.949
Overall, I find useful for travel planning	0.932	0.005	169.519

Note: [a]Factor loadings for the two dimensions of Credibility (Trustworthiness and Expertise) were first-order loadings based on a second-order model. All other loadings were for observed variables

Table 5.14: Indicator Weights, Significance and Collinearity for *Perceived Media Richness* (*N*=1202)

Construct/Items	*Indicator Validity*			*Collinearity*	
	Weights	*Standard Error*	*t -statistics*	*Tolerance*	*VIF*
Great diversity of travel opinions	0.184	0.006	31.728	0.392	2.548
Clarification and appropriate response	0.142	0.006	25.497	0.407	2.456
Timely feedback	0.145	0.005	31.639	0.361	2.768
Image-provoking	0.147	0.005	28.072	0.490	2.039
Adapt discussions to personal requirements	0.153	0.004	34.626	0.300	3.332
Deduce various cues	0.135	0.005	28.059	0.431	2.321
Enrich my interaction	0.134	0.005	28.196	0.402	2.486
Rich in travel-related content	0.180	0.005	33.666	0.395	2.534

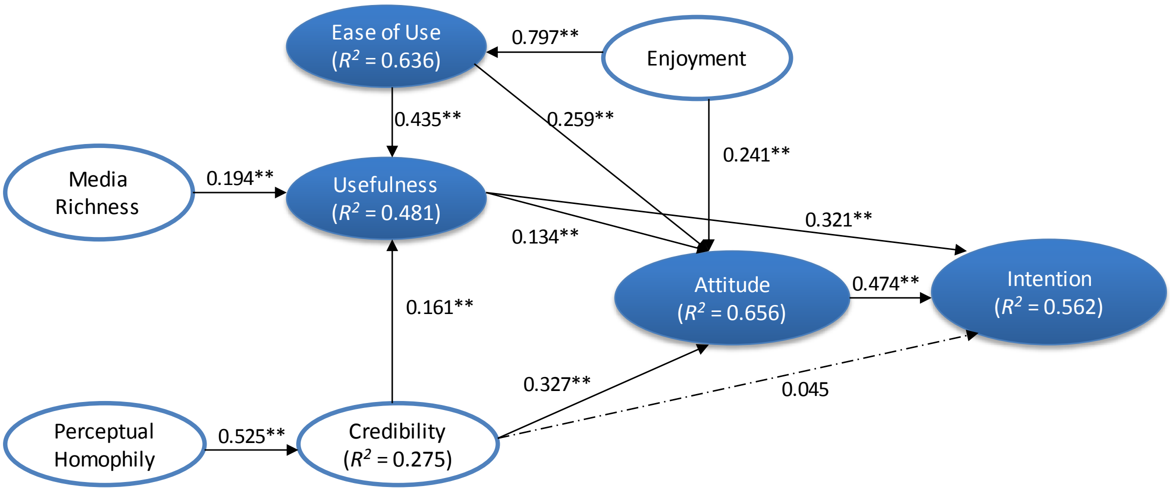
Note: Mean score = 5.310; Standard Deviation = 1.124

5.7.2 Inner Model Evaluation

Having established the appropriateness of the outer model, the next step is to evaluate the inner (structural) model. As indicated in the conceptual framework, the structural model specifies theoretical relationships involving the constructs *credibility, homophily, perceived enjoyment* and *media richness* to determine online travellers' attitudes and behavioural intention to use CGM for travel planning. PLS - SEM was used to assess the explanatory power and predictive relevance of the structural model as well as the hypothesised relationships. The hypothesised relationships were assessed in terms of their significance as well as the sign and size (magnitude) of the path coefficients.

5.7.2.1 *Variance Explained*

In PLS algorithm, the variance explained (R^2) represents the central criterion for the evaluation of the structural model. R^2 values of 0.19, 0.33 or 0.67 for endogenous latent constructs of the structural model are described as weak, moderate or substantial (Chin, 1998, p. 323). As shown in Figure 5.4, the model could explain 65.6 percent of the variance in *attitude towards using* and 56.2 percent of the variance in *intention to use* CGM for travel planning. In addition, the structural model explains 63.6 percent of the total variation in *ease of use*, 27.5 percent of the total variation in *credibility* and 48.1 percent of the total variation in *usefulness*. The R^2 values point to a very strong statistical ability of the hypothesised structural model in predicting perception of *ease of use*, *attitude* and *intention to use* CGM for travel planning; the model explains more than half of the variance for each of these three constructs. Thus, the structural model can be assumed to sufficiently reflect online travellers' attitude and intention to use CGM for travel planning.


Ease of Use
(R^2 = 0.636)
0.797**
Enjoyment
0.435**
0.259**
0.241**
Media Richness
0.194**
Usefulness
(R^2 = 0.481)
0.321**
0.134**
Attitude
(R^2 = 0.656)
0.474**
Intention
(R^2 = 0.562)
0.161**
0.327**
0.045
Perceptual Homophily
0.525**
Credibility
(R^2 = 0.275)

Note: *Significant at $p < 0.05$. **Significant at $p < 0.01$; Traditional TAM constructs are shaded

Figure 5.3: Structural Model with Standardised Parameter Estimates

5.7.2.2 Predictive Validity (Q^2)

The Stone–Geisser's Q^2 Test (Geisser, 1974; Stone, 1974) is the principal measure for the assessment of the predictive validity of the exogenous latent variables. The underlying theory for this measure is that the model should be able to adequately predict the indicators of each endogenous latent construct (Hair *et al.*, 2011). The blindfolding procedure was applied to estimate the cross-validated redundancy measure Q^2. Following the recommendations of Chin (1998), the omission distance was set to 7. Q^2 values were computed based on the equation:

$$Q^2 = 1 - (\textstyle\sum_D \mathrm{SSE}_D) / (\textstyle\sum_D \mathrm{SSO}_D) \qquad (4)$$

where D represents the omission distance, SSE is the sum of squares of prediction errors, and SSO is the sum of squares of observations. Resulting Q^2 values which are greater than zero is an indication that the observed values are well reconstructed and that the exogenous constructs have predictive relevance for the endogenous construct under consideration whereas Q^2 values less than zero imply a lack of predictive relevance (Chin, 1998). As shown in Table 5.15, all the Q^2 values are significantly above zero, evident of the model's predictive relevance.

Table 5.15: The Prediction Relevance (Q^2) Test

Endogenous Construct	*SSO*	*SSE*	Q^2
Attitude	6010	2697.416	0.551
Credibility	12020	9829.489	0.182
Ease of use	6010	2827.842	0.529
Intention	6010	3111.694	0.482
Usefulness	6010	3578.314	0.405

5.7.3 Hypotheses Testing

To test whether path coefficients differ significantly from zero, *t* values were calculated using bootstrapping. The non-parametric bootstrapping procedure was applied with 1202 cases, 5,000 sub-samples and individual sign changes (Henseler *et al.*, 2009; Hair *et al.*, 2011, 2012). The analysis revealed that 11 out of the 12 hypothesised relationships in the inner path model exhibit statistically significant figures. All the structural path estimates were in the expected direction. The only path estimate that was not significant was the direct relationship between credibility and intention, though the estimate was in the hypothesised direction. Table 5.16 displays the results of the hypotheses testing.

Hypothesis 1-1 posited that perceived source credibility positively influences perceived usefulness of CGM for travel planning. The hypothesis was tested by examining the path coefficient between the constructs perceived source credibility and perceived usefulness. As shown in Table 5.16, the path coefficient from perceived credibility to perceived usefulness was positive and significant (β=0.161, t=5.027, $p<$ 0.01); thus the hypothesis 1-1 was supported.

Hypothesis 1-2 proposed that perceived source credibility positively affects attitude towards using CGM for travel planning. The hypothesis was tested by studying the path coefficient between the constructs perceived source credibility and attitude towards using CGM for travel planning. The influence of credibility on attitude towards using CGM for travel planning was found to be positive and statistically significant (β=0.327, t=13.476, p< 0.01); thus hypothesis 1-2 was supported.

Hypothesis 1-3 posited that perceived source credibility positively influences the behavioural intention to use CGM for travel planning. The hypothesis was tested by evaluating the path coefficient between the constructs perceived source credibility and behavioural intention to use CGM for travel planning. The direct relationship between perceived credibility and behavioural intention to use CGM for travel planning was found to be positive but not statistically significant (β=0.045, t=1.607, p > 0.05); thus hypothesis 1-3 was not supported.

Hypothesis 2 proposed that perceptual homophily positively affects perceived source credibility. The hypothesis was tested by examining the path coefficient between the exogenous construct perceptual homophily and the endogenous construct perceived source credibility. The path coefficient from perceptual homophily to perceived credibility was found to be positive and highly significant (γ=0.525, t=19.205, p < 0.01); thus hypothesis 2 was supported.

Hypothesis 3 posited that perceived media richness positively influences perceived usefulness. The hypothesis was tested by studying the path coefficient between the exogenous construct perceived media richness and the endogenous construct perceived usefulness. The path coefficient from perceived media richness to perceived usefulness was positive and significant (γ = 0.194, t = 5.269, p < 0.01); thus hypothesis 3 was supported.

Hypothesis 4-1 posited that perceived enjoyment positively affects perceived ease of use. The hypothesis was tested by assessing the path coefficient between the exogenous construct perceived enjoyment and the endogenous construct perceived ease of use. The influence of perceived enjoyment on perceived ease of use was found to be very strong, positive and significant ($\gamma = 0.797$, $t = 55.474$, $p < 0.01$); thus hypothesis 4-1 was supported.

Hypothesis 4-2 specified that perceived enjoyment positively influences attitude towards using CGM for travel planning. The hypothesis was tested by examining the path coefficient between the exogenous construct perceived enjoyment and the endogenous construct attitude towards using CGM for travel planning. The path coefficient from perceived enjoyment to attitude towards using CGM for travel planning was positive and significant ($\gamma = 0.241$, $t = 6.763$, $p < 0.01$); thus hypothesis 4-2 was supported.

Hypothesis 5-1 postulated that perceived usefulness has a positive effect on attitude towards using CGM for travel planning. The hypothesis was tested by examining the path coefficient between the two endogenous constructs perceived usefulness and attitude towards using CGM for travel planning. The path coefficient from perceived usefulness to attitude towards using CGM for travel planning was found to be positive and significant (β=0.134, $t = 4.191$, $p < 0.01$); thus hypothesis 5-1 was supported.

Hypothesis 5-2 posited that perceived usefulness positively influences intention to use CGM for travel planning. The hypothesis was tested by studying the path coefficient between the constructs perceived usefulness and intention to use CGM for travel planning. The path coefficient from perceived usefulness to intention to use CGM for travel planning was positive and significant ($\beta = 0.321$, $t = 8.555$, $p < 0.01$); thus hypothesis 5-2 was supported.

Hypothesis 6-1 proposed that perceived ease of use positively affects attitude towards using CGM for travel planning. The hypothesis was tested by examining the path coefficient between the constructs perceived ease of use and attitude towards using CGM for travel planning. The path coefficient from perceived ease of use to attitude towards using CGM for travel planning was found to be positive and significant ($\beta = 0.259$, $t = 7.565$, $p < 0.01$); thus hypothesis 6-1 was supported.

Hypothesis 6-2 posited that perceived ease of use has a positive effect on perceived usefulness. The hypothesis was tested by studying the path coefficient between the constructs perceived ease of use and perceived usefulness. The path coefficient from perceived ease of use to perceived usefulness was significant and positive ($\beta = 0.435$, $t = 13.467$, $p < 0.01$); thus hypothesis 6-2 was supported.

Lastly, *hypothesis 7* postulated that attitude towards using CGM positively influences the intention to use CGM for travel planning. The hypothesis was tested by examining the path coefficient between the two endogenous constructs attitude towards using and the intention to use CGM for travel planning. The path coefficient from attitude towards using to intention to use CGM for travel planning was found to be positive and significant ($\beta = 0.474$, $t = 12.979$, $p < 0.01$); thus hypothesis 5-1 was supported.

Table 5.16: Results of Hypothesis Testing

Hypotheses		*Path coefficient*	*t-value*	*Supported?*
H1-1:	Credibility → Usefulness	0.161**	5.027	Yes
H1-2:	Credibility → Attitude	0.327**	13.476	Yes
H1-3	Credibility → Intention	0.045	1.607	No
H2:	Homophily → Credibility	0.525**	19.205	Yes
H3:	Richness → Usefulness	0.194**	5.269	Yes
H4-1:	Enjoyment → Ease of use	0.797**	55.474	Yes
H4-2:	Enjoyment → Attitude	0.241**	6.763	Yes
H5-1:	Usefulness → Attitude	0.134**	4.191	Yes
H5-2:	Usefulness → Intention	0.321**	8.555	Yes
H6-1:	Ease of use → Attitude	0.259**	7.565	Yes
H6-2:	Ease of use → Usefulness	0.435**	13.467	Yes
H7:	Attitude → Intention	0.474**	12.979	Yes

Note: *Significant at $p < 0.05$. **Significant at $p < 0.01$.

To conclude this section, 11 out of the 12 causal paths specified in the hypothesised model have been statistically validated. The direct relationship between perceived credibility and intention to use CGM for travel planning was the only hypothesised causal path that was not supported. In all, these paths reflect the influence of the relevant factors on travellers' attitude and intention to use CGM for travel planning.

5.7.4 Effect Size (Cohen's F^2)

The effect size for each hypothesised path was evaluated by means of Cohen's (1988) f^2. The effect size f^2 is computed as the increase in R^2 relative to the proportion of unexplained variance in the endogenous latent construct:

$$f^2 = \frac{(R^2_{\text{included}} - R^2_{\text{excluded}})}{(1 - R^2_{included})} \qquad (5)$$

where R^2_{included} and R^2_{excluded} are the R-squares of the dependent construct when the predictor construct is included or omitted in the structural equation respectively.

As recommended by Cohen (1988), f^2 values of 0.02, 0.15, and 0.35 can be regarded as a gauge for whether the predictor construct has a small, medium or large effect at the structural level. Table 5.17 displays the effect sizes f^2 for each hypothesised paths in the structural model. While the magnitude of the direct impact of perceived enjoyment on ease of use and that of perceptual homophily on credibility exceeded the threshold of large effect size, the effect of source credibility on usage intention was seemingly negligible. Of the remaining direct paths, the magnitude of the effect sizes ranged from small to large at the structural level. In contrast, the squared multiple correlation (SMC), which takes into account the variance explained in the endogenous construct by the total effect (both direct and indirect effects) of the predictor construct suggest that each of the hypothesised predictors explains a substantial portion of the variation in the respective dependent construct.

Table 5.17: Cohen's f^2 and Squared Multiple Correlation

Hypothesised Path		R^2_{included}	R^2_{excluded}	f^2	*SMC*
H1-1:	Credibility → Usefulness	0.481	0.465	0.031	0.242
H1-2:	Credibility → Attitude	0.656	0.586	0.203	0.436
H1-3	Credibility → Intention	0.562	0.561	0.002	0.266
H2:	Homophily → Credibility	0.275	0.000	0.379	0.275
H3:	Richness → Usefulness	0.481	0.465	0.031	0.361
H4-1:	Enjoyment → Ease of use	0.636	0.000	1.747	0.636
H4-2:	Enjoyment → Attitude	0.656	0.638	0.052	0.520
H5-1:	Usefulness → Attitude	0.656	0.647	0.026	0.388
H5-2:	Usefulness → Intention	0.562	0.500	0.142	0.408
H6-1:	Ease of use → Attitude	0.656	0.633	0.067	0.494
H6-2:	Ease of use → Usefulness	0.481	0.390	0.175	0.429
H7:	Attitude → Intention	0.562	0.461	0.231	0.496

Note: SMC= Squared Multiple Correlation

5.7.5 Mediating Effects

In view of the non-significance of hypothesis 1-3 which stipulates a direct relationship between perceived source credibility and usage intention, it is worth to investigate further any possible mediating effect regarding the relationship between perceived credibility and usage intention. A number of approaches have been suggested for assessing indirect effects in structural models (Mackinnon, Lockwood, Hoffman, West & Sheets, 2002). The traditional approach for the detection of mediating effect has been the *causal steps strategy* which follows Baron and Kenny (1986) and Judd and Kenny's (1981) suggestions. This approach which delineates a series of tests of links in a causal chain is the most widely used in literature. More recently, however, the causal steps strategy has been criticised for its low power and inability to directly address the hypothesis of interest (Mackinnon *et al.*, 2002). Many methodologists are of the view that approaches involving the product term a_1b_1 (where a is the path from the exogenous variable to the mediator, while b is the path from the mediator to the criterion variable) represent a more appropriate quantification of indirect effects (Preacher, Rucker & Hayes, 2007). Iacobucci and Duhachek (2003), for example, argue for the superiority of this approach which also involves a simultaneous assessment of the mediating effect. This study applied both techniques to verify potential mediating effects pertaining to the relationship between perceived source credibility and usage intention.

In assessing the indirect effect of credibility on usage intention, attitude was considered as a potential mediator. To test for the significance of this indirect effect, the z-statistics (Sobel, 1982) was applied. If the z-value exceeds 1.96 (at $p < 0.05$), the null hypothesis that there is no indirect effect of perceived source credibility on usage intention via the latent construct attitude can be rejected. The z-value is defined as follows:

$$Z = \frac{a \times b}{\sqrt{b^2 \times s_a^2 + a^2 \times s_b^2 + s_a^2 \times s_b^2}} \qquad (6)$$

where a signifies the path coefficient of the association between the predicting variable and the mediator, b is the path coefficient of the association between the mediator and the dependent variable while s_a and s_b represent the respective standard errors.

As shown in the structural model (Figure 5.4), there is a significant effect of credibility on attitude (β=0.327, t=13.476, p< 0.01) as well as of attitude on usage intention (β=0.474, t=12.979, p< 0.01). The mediating effect of attitude on the relationship between credibility and usage intention is established through the z-statistics:

$$Z= \frac{0.327 \text{ x } 0.474}{\sqrt{(0.474)^2 \text{ x } (0.024)^2+(0.327)^2 \text{ x } (0.037)^2+(0.024)^2 \text{ x } (0.037)^2}} = 9.320 \qquad (7)$$

Thus, the coefficient of the indirect effect (0.155) was positive and significant (z = 9.320, p < 0.01). To estimate the magnitude of this indirect effect, the Variance Accounted For (VAF) value which represents the ratio of the indirect effect to the total effect was computed.

$$\text{VAF} = \frac{a \text{ x } b}{a \text{ x } b+c} \qquad (8)$$

The magnitude of the indirect effect of credibility on usage intention via attitude is depicted by

$$\text{VAF} = \frac{0.327 \text{ x } 0.474}{0.262} = 0.592 \qquad (9)$$

A VAF value of 59.2 percent is an indication that more than half of the total effect of credibility onto usage intention is explained by the indirect effect through attitude. Similarly, the significance of the indirect effect of credibility via perceived usefulness was tested. There is a significant effect of credibility on perceived usefulness (β=0.161, t=5.027, p< 0.01) as well as a direct effect of perceived usefulness on intention (β=0.321, t=8.555, p< 0.01). The mediating effect of perceived usefulness on the relationship between credibility and usage intention is therefore established through the z-statistics:

$$Z= \frac{0.161 \text{ x } 0.321}{\sqrt{(0.321)^2 \text{ x } (0.032)^2+(0.161)^2 \text{ x } (0.038)^2+(0.032)^2 \text{ x } (0.038)^2}} = 4.300 \qquad (10)$$

Though the coefficient of the indirect effect of credibility on usage intention via perceived usefulness was positive (0.052) and significant (z = 4.300, p < 0.01), the magnitude of this effect was only 19.7 percent:

$$\text{VAF} = \frac{0.161 \text{ x } 0.321}{0.262} = 0.197 \qquad (11)$$

To further verify this mediation, the causal steps strategy was applied following the approach outlined by Judd and Kenny (1981) and Baron and Kenny (1986). First, a simple model with a direct path between credibility and usage intention (eliminating perceived usefulness and attitude) was tested. The path coefficient between credibility and intention was significant and positive (β=0.516, t=18.271, p < 0.01). When the mediating variables of perceived usefulness and attitude were included in the model, the path coefficient between credibility and usage intention became insignificant (β=0.045, t=1.607, p > 0.05), thus confirming the mediating effect. In sum, both attitude and perceived usefulness mediate the relationship between perceived credibility and usage intention. However, as illustrated by the VAF, attitude explains the most part of the total effect of perceived source credibility on usage intention.

A new paradigm has been proposed by Albers (2010) whereby the significance of direct path relationships in structural models is no longer of interest to researchers and practitioners. Instead, Albers (2010) recommends that the focus of evaluation for interpretation should be the aggregate of the direct effect and all indirect effects of a particular latent construct on another (i.e. total effects). Henseler *et al.* (2009) suggest that this new paradigm addresses a common observation in PLS path modelling that the standardised inner path coefficients decline with an increased number of indirect relationships and hence substantial direct relationships may become insignificant after including additional indirect relationships. The total effect, on the other hand, remains at a fairly constant, sizeable level and therefore offers a more reasonable ground for drawing conclusion on the structural model relationships (Henseler *et al.*, 2009). Table 5 .18 delineates the total effects as well as the direct and indirect effects of the structural model paths. The highest total effect in the structural model pertained to the relationship between perceived enjoyment and ease of use. In addition, the total effect of perceptual homophily on credibility, perceived enjoyment on attitude and perceived ease of use on usefulness were among the highest in the structural model, whereas the total effect of perceived usefulness on attitude was the least.

Table 5.18: Direct, Indirect and Total Effects

Path	*Direct effects*	*Indirect effects*	*Total Effects*	*t-value*
Attitude → Intention	0.474**	-	0.474**	12.979
Credibility → Attitude	0.327**	0.021**	0.349**	14.512
Credibility → Intention	0.045	0.217**	0.262**	8.829
Credibility → Usefulness	0.161**	-	0.161**	5.027
Ease of use → Attitude	0.259**	0.059**	0.318**	9.599
Ease of use → Intention	-	0.290**	0.290**	11.966
Ease of use → Usefulness	0.435**	-	0.435**	13.467
Enjoyment → Attitude	0.241**	0.254**	0.495**	19.716
Enjoyment → Ease of use	0.797**	-	0.797**	55.474
Enjoyment → Intention	-	0.346**	0.346**	15.157
Enjoyment → Usefulness	-	0.347**	0.347**	12.367
Homophily → Attitude	-	0.183**	0.183**	11.561
Homophily → Credibility	0.525**	-	0.525**	19.205
Homophily → Intention	-	0.137**	0.137**	7.415
Homophily → Usefulness	-	0.084**	0.084**	4.629
Richness → Attitude	-	0.026*	0.026*	2.922
Richness → Intention	-	0.075**	0.075**	4.099
Richness → Usefulness	0.194**	-	0.194**	5.269
Usefulness → Attitude	0.134**	-	0.134**	4.191
Usefulness → Intention	0.321**	0.064**	0.385**	9.788

Note: *Significant at $p < 0.05$. **Significant at $p < 0.01$.

Essentially, the results suggest that each of the proposed predictors in the model is critical to the understanding of the determinants of attitude and intention to use CGM for travel planning, although there are obvious differences in their relative importance. The next section reports the results of a PLS based multi-group analysis which was conducted as a post hoc testing for potential threats to the validity of the main findings to distinct sub-groups in the target population.

5.8 PLS-BASED MULTI-GROUP ANALYSIS

A potential threat to the interpretation of SEM results has to do with the heterogeneity of observations (Henseler *et al*. 2009). In view of this, a PLS-based multi-group analysis (PLS MGA) was conducted to test for group effects in the structural model relationships and thus determine the extent to which components of the structural model are equivalent across different groups. When conducting multi-group analysis, it is logical to ensure that that the construct measures are invariant across groups (Sarstedt, Henseler & Ringle, 2011). This implies that the estimates satisfy the requirement of measurement invariance and that a set of indicators measures the same latent construct in each group (Steenkamp & Baumgartner, 1998; Kline, 2011). Once measures are verified to be invariant across groups, the structural model is examined.

Different approaches have been proposed for multi-group analysis within the framework of PLS path modelling. The earliest approach (pioneered by Keil *et al*., 2000) is generally regarded as the parametric approach. This approach entails a separate estimation of model parameters for each group and the use of standard errors (derived from bootstrapping) for a parametric test. However, the suitability of this approach to group comparison for PLS path modelling has been questioned due to its inherent distributional assumptions which does not fit PLS path modelling distribution-free character (Chin & Dibbern, 2010; Sarstedt *et al*., 2011). In this regard, the current study employed a more recent approach proposed by Henseler (2007) and Henseler *et al*. (2009) which does not rely on distributional assumptions. The approach involves a direct comparison of group-specific bootstrap estimates from each sub-sample. Following the suggestion of Henseler's (2007), a separate bootstrap analysis was initially conducted for each of the sub-samples under consideration. The bootstrap results were then used as the basis for the hypothesis tests of group differences. Rather than depending on distributional assumptions, Henseler's (2007) approach evaluates the observed distribution of the bootstrap outcomes (Henseler *et al.*, 2009). The bootstrap outputs in this study were generated by the SmartPLS 2.0 (Beta) M3 software package (Ringle *et al.*, 2005). The final calculations for determining the probability of whether or not a population parameter differs across two sub populations was done with the MS Excel spreadsheet software.

Comparison of group-specific effects involves the consideration of a categorical moderator variable which influences the direction and/or strength of the relation between predictor variable and a dependent variable (Baron & Kenny, 1986; Sarstedt *et al.*, 2011). Prior research suggests that the perceptions and attitudes of individuals could differ across nations (e.g. de Mooij & Hofstede, 2002; Sia *et al.*, 2009) and gender (e.g. Venkatesh, Morris & Ackerman, 2000; Venkatesh & Morris, 2000; Kim *et al.*, 2007). There is also some evidence in information system research to suggest that users' prior experience with an application can potentially moderate their online behaviour (e.g. Taylor & Todd, 1995b; Weber & Roehl, 1999; Monsuwé *et al.*, 2004). In cognisance of this, respondents' country of residence, gender and previous experience with using CGM from *TripAdvisor* for travel planning were employed as a priori information for the conduct of the multi-group analysis.

5.8.1 Multi-Group Analysis: Singapore vs. USA

Prior to the conduct of multi-group comparison, it is imperative to first establish that the measures perform adequately in both sub-samples. Table 5.19 presents the group-specific results for the measurement model assessment. The findings for the evaluation of the measurement models in the aggregate sample also applies to the country-specific sub-samples. Indicator reliability was verified in both sub-samples. All loadings of the reflective measurement models were significant at the 0.01 level and above the recommended 0.7 threshold. Similarly, the item weights for the formative construct were all significant at the 0.01 level and multicollinearity was not a major concern. The estimated indices for composite reliability and Cronbach's alpha demonstrate the reliability of the constructs in each sub-sample. The respective AVE values were all above the minimum requirement of 0.50 (Bagozzi & Yi, 1988) confirming convergent validity. Discriminant validity was also assured as an inspection of the indicators' cross-loadings showed that none of the indicators loads higher on an opposing construct (Hair *et al.*, 2011) (Appendices G & H). An application of the Fornell and Larcker (1981) criterion further confirmed discriminant validity. A comparison of the measurement models in the two sub-samples did not reveal any significant differences, and thus indicative of measurement invariance across the Singapore and USA samples.

Table 5.19: Country-Specific Measurement Model Evaluation

		Overall	*Singapore*	*USA*	$\lvert\Delta\rvert$
Number of observations		1202	661	524	731
ρ_c	Attitude	0.966	0.966	0.963	0.003
	Credibility	0.955	0.955	0.955	0.000
	Ease of use	0.968	0.964	0.971	0.007
	Enjoyment	0.956	0.957	0.955	0.002
	Homophily	0.953	0.954	0.952	0.002
	Intention	0.970	0.964	0.975	0.011
	Usefulness	0.967	0.966	0.967	0.001
α	Attitude	0.956	0.956	0.952	0.004
	Credibility	0.948	0.947	0.948	0.001
	Ease of use	0.959	0.953	0.963	0.010
	Enjoyment	0.943	0.943	0.941	0.002
	Homophily	0.938	0.939	0.937	0.002
	Intention	0.961	0.953	0.968	0.015
	Usefulness	0.957	0.956	0.958	0.002
AVE	Attitude	0.851	0.851	0.84	0.011
	Credibility	0.682	0.678	0.681	0.003
	Ease of use	0.859	0.843	0.872	0.029
	Enjoyment	0.814	0.816	0.809	0.007
	Homophily	0.803	0.805	0.799	0.006
	Intention	0.867	0.841	0.886	0.045
	Usefulness	0.853	0.851	0.856	0.005

Note: $\lvert\Delta\rvert$ = Absolute difference of USA and Singapore's data results; ρ_c = Composite reliability; α = Cronbach's Alpha

Having established that the measures are valid for both the USA and Singaporean samples, the next step was to compare the explanatory power and the predictive relevance of the country-specific model for each endogenous construct. The sign, significance and magnitude of path coefficients in the inner model were also compared to ascertain whether the strength and directionality of the structural relationships differ across the two sub-samples. Table 5.20 presents the country-specific PLS path modelling results for Singapore and the US. The R^2 values in the two sub-samples suggest that the structural model adequately explains the variance of the endogenous constructs in both samples. Thus, the proposed model sufficiently reflects the attitude and intention of both Americans and Singaporeans to use CGM for travel planning. Nonetheless, a look at the differences in the R^2 values for the two samples reveals interesting findings. It appears the model does better at explaining the behavioural intention of Singaporean travellers (R^2=62.3%) than that of American travellers (R^2=55.6%). In contrast, the country-specific model estimation is much more efficient in predicting US online travellers' perceptions of the usefulness of CGM (R^2=53.2%) than that of their Singaporean counterparts (R^2=42.7%). The percentages of variance explained for the remaining endogenous constructs were fairly similar across the two sub-samples though that of the USA were on the higher side in all the remaining cases. The predictive relevance for the country-specific model estimations follows a similar trend. Each country-specific model met the requirement for strong predictive relevance for the dependent constructs with considerable differences in the absolute values of behavioural intention and perceived usefulness between the two sub-samples.

The significance, magnitude and direction of hypothesised paths were then examined across the sub-samples. The findings show solid support for the efficiency and effectiveness of the structural model estimation for especially the Singaporean sample. In contrast to the US results, all the path coefficients in the Singaporean model were significant at the 0.05 or 0.01 levels and exhibit the expected positive sign. The US results are however fairly similar to the aggregate data results: all path coefficients were significant at 0.01 with the exception of the insignificant path from credibility to usage intention. A comparison of the path coefficients in the two sub-samples also revealed some differences. The hypothesised paths from perceived usefulness to attitude ($|\Delta| = 0.116$) and usage intention ($|\Delta| = 0.060$) as well as from perceptions of ease of use to usefulness ($|\Delta| = 0.101$) take on greater effect in the US sample than in the Singaporean sample. The opposite was however the case with regard to the impact of credibility on usefulness ($|\Delta| = 0.066$) and usage intention ($|\Delta| = 0.051$) as well as the impact of enjoyment on attitude ($|\Delta| = 0.062$) and attitude on usage intention ($|\Delta| = 0.080$). The remaining paths were rather similar across samples.

The question that however remains is whether the observed differences between Singapore and the US structural models are statistically significant. This can be inferred from the last column of Table 5.20. The PLS MGA, conducted by means of Henseler's (2007) bootstrap test routine, revealed that only the differences in the effects of perceived usefulness on attitude ($|\Delta| = 0.116$, $p < 0.05$) and that of perceived ease of use on perceived usefulness ($|\Delta| = 0.101$, $p < 0.05$) were significant. It is worth noting that though the hypothesised effect of credibility on intention was significant in the Singaporean sample and yet insignificant in the US sample, this difference was proved to be not significant by Henseler's (2007) bootstrap test routine.

Table 5.20: Country-Specific PLS Path Modelling Results

		Overall (N=1202)	*Singapore* (n=661)	*USA* (n=524)	$\lvert\Delta\rvert$
Hypothesised Paths					
H1-1:	Credibility → Usefulness	0.161**	0.207**	0.141**	0.066
H1-2:	Credibility → Attitude	0.327**	0.334**	0.311**	0.023
H1-3	Credibility → Intention	0.045	0.089*	0.038	0.051
H2:	Homophily → Credibility	0.525**	0.499**	0.529**	0.030
H3:	Richness → Usefulness	0.194**	0.169**	0.199**	0.030
H4-1:	Enjoyment → Ease of use	0.797**	0.791**	0.793**	0.002
H4-2:	Enjoyment → Attitude	0.241**	0.273**	0.211**	0.062
H5-1:	Usefulness → Attitude	0.134**	0.091*	0.207**	0.116*
H5-2:	Usefulness → Intention	0.321**	0.268**	0.328**	0.060
H6-1:	Ease of use → Attitude	0.259**	0.250**	0.245**	0.005
H6-2:	Ease of use → Usefulness	0.435**	0.383**	0.484**	0.101*
H7:	Attitude → Intention	0.474**	0.539**	0.459**	0.080
R^2	Attitude	0.656	0.642	0.661	0.019
	Credibility	0.275	0.249	0.280	0.031
	Ease of Use	0.636	0.626	0.629	0.003
	Intention	0.562	0.623	0.556	0.067
	Usefulness	0.481	0.427	0.532	0.105
Q^2	Attitude	0.551	0.538	0.546	0.008
	Credibility	0.182	0.168	0.189	0.021
	Ease of Use	0.529	0.525	0.547	0.022
	Intention	0.482	0.519	0.489	0.030
	Usefulness	0.405	0.356	0.443	0.087

Note: $\lvert\Delta\rvert$ = Absolute difference of USA and Singapore's data results R^2 = Variance explained; Q^2 = Predictive Relevance; *Significant at 0.05; **Significant at 0.01.

5.8.2 Multi-Group Invariance: Users vs. Non-Users

PLS –MGA was also conducted for groups of respondents who have used CGM from *TripAdvisor* to plan their holidays and those who were yet to do so. An overview of the measurement model test results for the two sub-samples can be inferred from Table 5.21. The previous findings for the evaluation of the reflective measurement models also hold for the segments on online travellers' prior experience with using CGM from *TripAdvisor* for travel planning. The individual item reliabilities, composite reliabilities, Cronbach's alphas and average variances extracted by the constructs for the segment-specific models exhibited acceptable levels of convergent validity and reliability (Bagozzi & Yi, 1988; Henseler *et al*., 2009). The constructs also demonstrated sufficient discriminant validity as the square root of the AVE for each construct was greater than the respective inter-construct correlations (Fornell & Larcker, 1981) and no indicator loaded highly on another construct (Appendices I & J). An assessment of the segment-specific measurement models confirmed measurement invariance across the two sub-samples.

Table 5.21: Group-Specific Measurement Model Evaluation for Users and Non-Users

		Overall	*Users*	*Non-users*	$\lvert\Delta\rvert$
	Number of observations	1202	578	482	96
ρ_c	Attitude	0.966	0.957	0.971	0.014
	Credibility	0.955	0.952	0.959	0.007
	Ease of use	0.968	0.962	0.970	0.008
	Enjoyment	0.956	0.950	0.957	0.007
	Homophily	0.953	0.955	0.952	0.003
	Intention	0.970	0.962	0.971	0.009
	Usefulness	0.967	0.962	0.967	0.005
α	Attitude	0.956	0.943	0.963	0.020
	Credibility	0.948	0.944	0.952	0.008
	Ease of use	0.959	0.950	0.961	0.011
	Enjoyment	0.943	0.934	0.943	0.009
	Homophily	0.938	0.941	0.936	0.005
	Intention	0.961	0.950	0.963	0.013
	Usefulness	0.957	0.951	0.957	0.006
AVE	Attitude	0.851	0.815	0.870	0.055
	Credibility	0.682	0.666	0.701	0.035
	Ease of use	0.859	0.834	0.866	0.032
	Enjoyment	0.814	0.792	0.816	0.024
	Homophily	0.803	0.810	0.798	0.012
	Intention	0.867	0.834	0.871	0.037
	Usefulness	0.853	0.836	0.854	0.018

Note: $\lvert\Delta\rvert$ = Absolute difference of prior users and non-users' data results; ρ_c = Composite reliability; α = Cronbach's Alpha

Following the verification of measurement invariance, the segment-specific model estimations for the users and non-users' groups were compared at the structural level. As shown in Table 5.22, the R^2 and Q^2 values suggest that each of the segment-specific models adequately reflects online travellers' intention to use CGM for travel planning. However, substantial differences can be observed with regards to the variances explained in some of the endogenous constructs. Notably, the model explains 57.3 percent of the variance in the attitude of those who have used CGM for travel planning, while accounting for as much as 67.9 percent of the variance in the attitude of those who have never done so ($|\Delta| =0.106$). Similarly, in comparison with the prior users' group, the non-users' group exhibited considerably higher explained variances in perceived usefulness ($|\Delta| =0.136$), ease of use ($|\Delta| =0.112$) and behavioural intention ($|\Delta| =0.040$), but a lower R^2 value for credibility. The Stone-Geisser's Q^2 test results appear to follow the same trend. These findings generally imply that – in relative terms – the model is more relevant to online travellers who are yet to use CGM for travel planning.

The next step was to assess the significance and magnitude of the structural paths in each of the group-specific models. The findings offer further support for the superiority of the structural model estimation for the non-users' group over the users' group. All hypothesised paths in the non-users' model were significant. On the other hand, the group-specific model for prior users' revealed weaker and insignificant relationships between credibility and usage intention (β=-0.016, $p > 0.05$) as well as usefulness and attitude (β=0.088, $p > 0.05$). The differences in the path coefficients of the corresponding structural paths for the two sub-samples were then compared. The analysis revealed that the path coefficients of the group-specific model estimations entail stronger differences that range (in absolute values) from 0.007 to 0.153. The strongest difference was the link between perceived media richness and perceived usefulness ($|\Delta| = 0.153$). The application of Henseler's (2007) test routine however substantiates that four of these structural model relationships significantly differed across the two groups of respondents. Explicitly, in comparison with the users' group, the non-users' group exhibited a considerably stronger relationship between credibility and usage intention ($|\Delta| = 0.123$, $p < 0.010$), perceived media richness and perceived usefulness ($|\Delta| = 0.153$, $p < 0.05$), perceived enjoyment and perceived ease of use ($|\Delta| = 0.071$, $p < 0.050$) and a weaker relationship between attitude and usage intention ($|\Delta| = 0.148$, $p < 0.050$).

The differences across the two groups certainly make sense. For instance, non-users may be more apprehensive and concerned about the credibility of CGM and hence the direct impact on their behavioural intention to use CGM for travel planning. By contrast, online travellers who have previously employed CGM for their travel planning may be less anxious about its credibility. Likewise, non-users encounter more variations in their perceptions of media richness and enjoyment and these subsequently may challenge their perceptions of usefulness and ease of use respectively. On the other hand, the usage intention of those who have already experienced CGM usage in the travel planning process would be much more affected by their disposition towards use. Thus, it can be concluded that the factors which principally determine the attitude and intention of online travellers to use CGM for travel planning are somewhat moderated by their usage experience.

Table 5.22: Group-Specific Path Modelling Results for Users and Non-Users

		Overall (N=1202)	*Users (n=578)*	*Non-users (n=482)*	ǀΔǀ
Hypothesised Paths					
H1-1:	Credibility → Usefulness	0.161**	0.165**	0.158**	0.007
H1-2:	Credibility → Attitude	0.327**	0.321**	0.338**	0.017
H1-3	Credibility → Intention	0.045	-0.016	0.107*	0.123**
H2:	Homophily → Credibility	0.525**	0.546**	0.494**	0.052
H3:	Richness → Usefulness	0.194**	0.108*	0.261**	0.153*
H4-1:	Enjoyment → Ease of use	0.797**	0.742**	0.813**	0.071**
H4-2:	Enjoyment → Attitude	0.241**	0.193**	0.276**	0.083
H5-1:	Usefulness → Attitude	0.134**	0.088	0.136**	0.048
H5-2:	Usefulness → Intention	0.321**	0.272**	0.335**	0.063
H6-1:	Ease of use → Attitude	0.259**	0.323**	0.215**	0.108
H6-2:	Ease of use → Usefulness	0.435**	0.437**	0.389**	0.048
H7:	Attitude → Intention	0.474**	0.543**	0.395**	0.148*
R^2	Attitude	0.656	0.573	0.679	0.106
	Credibility	0.275	0.298	0.244	0.054
	Ease of Use	0.636	0.550	0.662	0.112
	Intention	0.562	0.506	0.546	0.040
	Usefulness	0.481	0.374	0.510	0.136
Q^2	Attitude	0.551	0.458	0.585	0.127
	Credibility	0.182	0.197	0.169	0.028
	Ease of Use	0.529	0.454	0.570	0.116
	Intention	0.482	0.419	0.474	0.055
	Usefulness	0.405	0.305	0.428	0.123

Note: ǀΔǀ = Absolute difference of prior users and non-users' data results; R^2 = Variance explained; Q^2= Predictive Relevance; *Significant at 0.05; **Significant at 0.01.

5.8.3 Multi-Group Invariance: Females vs. Males

The test for multi-group invariance was then conducted for male and female respondents. Table 5.23 presents the group-specific results for the measurement model assessment. The results for each gender-specific group are consistent with that of the overall set of data. All measures met the commonly suggested criteria for measurement model assessment (Fornell & Larcker, 1981; Bagozzi & Yi, 1988; Henseler *et al*., 2009). Specifically, the analyses per gender demonstrated that all indicators exhibited loadings above 0.70, and that the constructs' AVE values were above 0.50. Likewise, the measures of the formative constructs were significant and multicollinearity was not a major concern. In addition, all the reflective constructs achieved reliability coefficients of 0.80 and higher. An inspection of the cross-loadings confirmed discriminant validity as no indicator loaded higher on an opposing construct (Appendices K & L). In essence, no significant differences were found between the group-specific measurement models for males and females, implying measurement invariance.

Table 5.23: Group-Specific Measurement Model Evaluation for Females and Males

		Overall	*Females*	*Males*	$\lvert\Delta\rvert$
	Number of observations	1202	640	561	79
ρ_c	Attitude	0.966	0.972	0.958	0.014
	Credibility	0.955	0.956	0.955	0.001
	Ease of use	0.968	0.970	0.966	0.004
	Enjoyment	0.956	0.961	0.950	0.011
	Homophily	0.953	0.951	0.956	0.005
	Intention	0.970	0.974	0.965	0.009
	Usefulness	0.967	0.968	0.965	0.003
α	Attitude	0.956	0.965	0.946	0.019
	Credibility	0.948	0.949	0.947	0.002
	Ease of use	0.959	0.961	0.956	0.005
	Enjoyment	0.943	0.949	0.934	0.015
	Homophily	0.938	0.935	0.942	0.007
	Intention	0.961	0.967	0.955	0.012
	Usefulness	0.957	0.959	0.955	0.004
AVE	Attitude	0.851	0.876	0.822	0.054
	Credibility	0.682	0.687	0.679	0.008
	Ease of use	0.859	0.867	0.850	0.017

	Overall	*Females*	*Males*	ǀΔǀ
Number of observations	1202	640	561	79
Enjoyment	0.814	0.832	0.792	0.04
Homophily	0.803	0.795	0.811	0.016
Intention	0.867	0.883	0.847	0.036
Usefulness	0.853	0.858	0.846	0.012

Note: ǀΔǀ = Absolute difference of prior users and non-users' data results; ρ_c = Composite reliability; α = Cronbach's Alpha

After testing the measurement model, the structural model was assessed for equivalence across gender-specific groups. As shown in Table 5.24, the results suggest that the structural model was generally invariant across gender groups. In the structural model, the R^2 values of latent constructs for the gender-specific model estimation exhibited the same rank order compared with the results of the R^2 values on the aggregate data level. Synonymous with the aggregate levels, the bootstrap results revealed that, with only one exception, all structural paths in each group were significant. No evidence can be found for the significant impact of credibility on usage intention in the two sub-samples. The gender-specific results show slight differences (in absolute values) in comparison with the aggregate level results. Nevertheless, the structural path coefficients mainly exhibited the same order of relative relevance. The application of Henseler's (2007) test routine established that none of the observed differences between male and female respondents are significant. It is worth noting that though the relative importance of media richness in determining perception of usefulness was substantially higher among female travellers than their male counterparts, this difference was found to be statistically insignificant at the 0.05 level. Therefore, the measurement and structural models were equivalent across male and females sub-samples. The interpretation of the non-significant differences is certainly an important aspect of the discussion on marketing implications in the next chapter.

Table 5.24: Group-Specific Path Modelling Results for Females and Males

Hypotheses		*Overall (N=1202)*	*Females (n=640)*	*Males (n=561)*	$\lvert\Delta\rvert$
Hypothesised Paths					
H1-1:	Credibility → Usefulness	0.161**	0.157**	0.164**	0.007
H1-2:	Credibility → Attitude	0.327**	0.316**	0.347**	0.031
H1-3	Credibility → Intention	0.045	0.022	0.067	0.045
H2:	Homophily → Credibility	0.525**	0.565**	0.484**	0.081
H3:	Richness → Usefulness	0.194**	0.251**	0.132*	0.119
H4-1:	Enjoyment → Ease of use	0.797**	0.794**	0.803**	0.009
H4-2:	Enjoyment → Attitude	0.241**	0.265**	0.214**	0.051
H5-1:	Usefulness → Attitude	0.134**	0.130**	0.135**	0.005
H5-2:	Usefulness → Intention	0.321**	0.340**	0.305**	0.035
H6-1:	Ease of use → Attitude	0.259**	0.256**	0.259**	0.003
H6-2:	Ease of use → Usefulness	0.435**	0.426**	0.444**	0.018
H7:	Attitude → Intention	0.474**	0.455**	0.496**	0.041
R^2	Attitude	0.656	0.675	0.633	0.042
	Credibility	0.275	0.319	0.234	0.085
	Ease of Use	0.636	0.630	0.644	0.014
	Intention	0.562	0.546	0.582	0.036
	Usefulness	0.481	0.534	0.424	0.110
Q^2	Attitude	0.551	0.584	0.512	0.072
	Credibility	0.182	0.218	0.158	0.060
	Ease of Use	0.529	0.544	0.544	0.000
	Intention	0.482	0.478	0.492	0.014
	Usefulness	0.405	0.450	0.349	0.101

Note: $\lvert\Delta\rvert$ = Absolute difference of females and males' data results; R^2 = Variance explained; Q^2= Predictive Relevance; *Significant at $p < 0.05$; **Significant at $p < 0.01$.

5.9 CHAPTER SUMMARY

This chapter presents the results of the main survey. More specifically, the chapter reports on a series of statistical tests regarding measurement model validation, structural model testing, hypothesis, mediation and multi-group analyses. The chapter first describes the data screening process. After addressing issues related to missing data, outliers and normality, a total of 1202 valid questionnaires are retained for the analyses. The chapter then describes the profile of the respondents before randomly splitting the sample into two approximately equal subsets for cross-validation of the measures. The analyses by means of PCA and PLS factorial validity tests using different samples revealed the same structure. First, using a calibration sample of 601 observations, a PCA was conducted to explore the underlying structure of the components. The results offered support for the dimensionality of the reflective measures for each hypothesised construct. The formative construct also met the necessary requirements for indicator validity, collinearity and nomological validity. Second, a PLS factorial validity test was conducted using a validation sample of 601 cases. In all cases, the reliability and validity of each measurement model were found to be satisfactory. Following the successful validation of the measurement model, it was then considered appropriate to test the structural model. The R^2 and Q^2 values demonstrate that the model adequately reflects online travellers' attitude and intention to use CGM for travel planning. At the aggregate data level, 11 out of the 12 hypotheses were fully supported, reporting path coefficients that were all positive and significant at the 0.01 level. Mediation effects were examined and found to be responsible for the non-significance of the direct relationship between credibility and usage intention. PLS-based multi-group analyses were then conducted to compare the performance of the measurement and structural models across different sub-groups. While the measurement models were found to be generally invariant across different groups, some significant differences were observed in the structural relationships regarding the country-specific models as well as the group-specific models on respondents' experience with CGM usage for travel planning. The gender-specific models were however found to be equivalent across groups. Further interpretations and implications of these results are discussed in the next chapter.

Chapter 6. DISCUSSION AND IMPLICATIONS

This chapter focuses on the interpretation of the study findings and how they relate to previous studies. The chapter first discusses the overall model performance before reviewing the major research constructs and their causal relationships with other constructs. The group-specific differences are also discussed, and the results of this study are compared with those of previous research. The chapter concludes with a discussion of the implications that emerge from the findings for theory and practice.

6.1 OVERALL MODEL PERFORMANCE

The findings of this study provide support for the proposed model which specifies the relationships among a number of constructs in predicting online travellers' attitudes and intention to use CGM for travel planning. The scale validation indicates that the operational measures have satisfactory psychometric properties and confirmatory component analysis supports the proposed structure. The results suggest that the measurement of each latent construct is robust and exhibits very satisfactory indices. In all cases, the internal consistency and construct validity of the respective latent constructs were found to be satisfactory, demonstrating that the measurement scales are reliable and valid in the context of online travellers' use of CGM for travel planning. The cross-validation results further imply that the components of the measurement models are equivalent across different populations.

The extremely good results for the validity, reliability and generalisability of the measurement models can be attributed to a number of reasons. First, most of the constructs examined in this study were selected from prior studies that have employed appropriate methodologies, despite the fact that the contexts were different from that of this study. More explicitly, the constructs from the original TAM have been validated in a wide variety of settings (e.g. Davis *et al.*, 1992; Venkatesh, 2000; Venkatesh *et al.*, 2003) though the present study is one of the first attempts to consider their applicability to the particular context of CGM use for travel planning. Also, Ohanian's (1990; 1991) credibility scale has been widely accepted and replicated by other researchers (Pornpitakpan, 2004) and is proven to be valid in both Western and Asian contexts (Yoon, Kim, & Kim, 1998; Pornpitakpan, 2003). However, considering that the application of these measures to the particular context of this study led to some modifications in the scales, the rigour of the present study's design as well as the careful observation of recommended guidelines for scale development may have also accounted for the reasons why the current study produced reliable and generalisable measurement models.

Generally, the findings of this study provide strong support for the proposed structural model and the hypothesised relationships, implying that the proposed model used to understand CGM usage for travel planning can be generalised to the field of online consumer behaviour. The explained variances in the endogenous constructs and the respective Stone–Geisser's Q^2 predictive validity test results demonstrate that the structural model adequately reflects online travellers' attitude and intention to use CGM for travel planning. The hypothesised model is able to explain the majority of the variances in attitude towards using, behavioural intention to use, and ease of use, as well as, substantial portions of the total variations in source credibility and perceived usefulness. The results of Stone–Geisser's Q^2 tests for predictive validity further demonstrate that the model has very high predictive relevance for the respective endogenous constructs. In addition, 11 of the 12 established hypotheses were supported. Subsequent investigation using the Sobel Test (Sobel, 1982) and the causal steps strategy (Baron & Kenny, 1986) revealed that the mediation effects of attitude and perceived usefulness were responsible for the only non-significant hypothesised effect in the model. Thus, the specified structural model has strong statistical ability to predict online travellers' attitude and intention to use CGM for travel planning

The PLS-based multi-group analyses revealed that the measurement models were invariant across different populations. Thus this study also contributes to the validation of the measurement models in both Western and Asian settings. The findings offered empirical evidence that the measurement scales could be effectively used across different groups. The factorial validity tests suggest that the measures are less restricted by country of residence, gender or respondents' prior experience and have proven to be effective measurement models. In addition, the structural model was adequately supported in each of the sub-samples related to respondents' country of residence, prior experience and gender. Nonetheless, the study recognised significant differences in the structural relationships and the explained variances regarding the country-specific models as well as respondents' prior experience with the use of CGM for travel planning. The implication is that though the model is generalisable across different samples, the relative importance of these factors in determining online travellers' attitude and intention to use CGM for travel planning vary with nationality and respondents' usage experience.

6.2 SOURCE CREDIBILITY

Initial studies on credibility in the online domain principally focused on cross-media comparisons which evaluated the credibility of the Internet in contrast to other communication channels. While a variety of information types has also been studied over the years (Johnson & Kaye, 1998, 2000; Flanagin & Metzger, 2000; Kim *et al*., 2001; Kiousis, 2001; Sundar & Nass, 2001; Metzger *et al*., 2003; Hu & Sundar, 2010), very little attention has been given to travel information and consumer-generated media. Yet the changing dynamics in the new media environment brought by the emergence of Web 2.0 and consumer-generated media necessitate further investigation to better understand the role of credibility in this context.

In this direction, the present study has explored the effect of source credibility perceptions on online travellers' perceived usefulness as well as on their attitude and intention to use CGM for travel planning. Following the most conventional approach in the Communication and Marketing literature, source credibility was conceptualised as a two-dimensional construct with expertise and trustworthiness as the factors. While the context of Ohanian's (1991) study differs considerably, the adaptation of her measurement scale to the context of this study proved to be effective, valid and reliable.

On average, respondents rated the *trustworthiness* dimension higher than the *expertise* dimension. Based on the means of items, honesty and sincerity ranked the highest on the *trustworthiness* scale. This is probably because travellers who post CGM are assumed to have no potential conflict of interest. Due to the lack of commercial interest in the travel product in question, respondents might believe that the source had no grounds to be dishonest or insincere. On the other hand, "Experienced in travel" scored the highest in the *expertise* scale. The intangibility and inseparability nature of hospitality and tourism services (Werthner & Klein, 1999; Hsu *et al*., 2006) make this attribute highly valuable to prospective travel consumers. Since prospective travellers are not able to test or inspect hospitality and tourism products before purchase, the opinions of other travel consumers who have experienced the product beforehand serves as a good basis for judgment. Hence, it appears this attribute somewhat gives the CGM source "cognitive authority" – the influence one has on other people's thoughts by being recognised as proper (Wilson, 1983; Hilligoss & Rieh, 2007). In other words, these travel consumers are thought to be credible and worthy of belief (Wilson, 1983) in view of their consumption experience. Thus a foremost reason why prospective travellers resort to CGM is the service consumption experience that CGM contributors have gained vis-à-vis the travel product or brand in question. Therefore, individuals offering travel advice or opinion on a travel destination, product or service ought to be in a position to have experienced the product first-hand and possess the capability to make an objective evaluation of the destination or service concerned. The challenge is that this is not always obvious in CGM settings since messages are posted by complete strangers who present themselves as travel consumers.

The outcome of the structural model test confirmed that source credibility is a valuable addition to the model. The study found that source credibility perception wields a significant positive impact on perceived usefulness and attitude. However, its direct effect on usage intention was not significant, though the path coefficient was in the hypothesised direction. The significant impact of source credibility on perceived usefulness and attitude towards using CGM for travel planning is consistent with the results of earlier studies on the relationship between source credibility and disposition toward information (Lafferty & Goldsmith, 1999; Kerstetter & Cho, 2004; Cheung *et al.*, 2008; Jin *et al.*, 2009). This would imply that online travellers are more favourably disposed towards the use of CGM for travel planning when they believe that CGM is from credible travellers. In a study on how knowledge workers are influenced to adopt the advice that they receive in mediated contexts, Sussman and Siegal (2003) also established that perceived credibility influences information usefulness. The present study found that the strongest impact of perceived credibility was on attitude towards using CGM for travel planning. Each standard deviation variation in source credibility is associated with a 32.7 percent variation in attitude. In a related study, Goldsmith, Lafferty and Newell (2000) also found that endorser's credibility had its strongest effect on attitude.

Credibility is regarded as a fundamental cue in the decision-making process which impacts not only individuals' overall attitude, but also, their behavioural intention (Manfredo & Bright, 1991). Researchers argue that a high credible source stimulates and aids the activation of more favourable behavioural intentions toward a message, product or service, while the opposite inhibits any such influence (Lafferty & Goldsmith, 1999; Metzger *et al*., 2003; Kerstetter & Cho, 2004). A study carried out by Xie *et al*. (2011), for instance, found perceived source credibility of online reviews to have a significant effect on participants' intention to book a hotel. The current study, however, yielded mixed results regarding a direct relationship between credibility and online travellers' intention to use CGM for travel planning. The direct effect of source credibility on behavioural intention was not supported at the aggregate data level. However, the relationship between source credibility and usage intention appears to be more complex than has been previously hypothesised. Subsequent multi-group analysis found this relationship to be significant in the Singaporean sub-sample as well as groups of respondents who have never used CGM for travel planning. The interpretation of these group differences is further discussed in Section 6.11.

While source credibility is an important factor in communication research, it seems to have a minimal impact on behavioural intention in the present study. These findings can be partially explained by the fact that, in CGM contexts, it is difficult to ascertain the credibility of the source, and as such, online travellers have a mindset in which source credibility is not a determinant factor in their actual decision to use. This may also imply that even as credibility perception is very critical in determining online travel consumers' attitude towards CGM, travellers consider other factors to be much more crucial when deciding to use CGM for travel planning. This is because CGM does not only constitute an information source, but it also represents a technological application. Subsequent sections shed more light on these other significant predictors of usage intention.

The results also suggest that the trustworthiness and expertise dimensions of source credibility have differential importance in affecting attitude and behavioural intention. The current study found trustworthiness to be more influential. This mirrors previous research on source credibility in other contexts. Findings of a study conducted by Pornpitakpan (2004) show that trustworthiness is more impactful than expertise. An earlier study conducted by McGinnies and Ward (1980) also reported that a trustworthy communicator is more influential than an untrustworthy one, regardless of his/her expertise. However, in this regard, the findings of the present study differ from Ohanian's (1991). Ohanian's study reported expertise as more influential while the trustworthiness dimension was found to be an insignificant factor. This disparity can be explained by the differences in the two study contexts. Ohanian (1991) defines trustworthiness as the "consumer's confidence in the source for providing information in an objective and honest manner" (p. 47). Whereas Ohanian's study regarded the source as celebrity endorsers, the present study refers to the source as travellers who post CGM. In the case of celebrity endorsement, one can surmise that given the prevalent use of celebrities in paid commercials, consumers would not assign high levels of trustworthiness to individuals who get paid substantially to promote a product (Ohanian, 1991). Thus, prospective consumers may doubt the trustworthiness of celebrity endorsers due to potential conflict of interest. In contrast, in the context of CGM, travellers would consider other travel consumers to be trustworthy since they have no commercial interest in the travel product concerned. This implies that trustworthiness lies at the heart of travel consumers' attitudes towards consumer-generated media; and hence in cases where it is perceived to be compromised, the potential impact could be very severe.

6.3 PERCEPTUAL HOMOPHILY

Research on homophily has suggested that individuals tend to interact with similar others, and that these 'similar others' are often considered to be more credible (Brown & Reingen, 1987). CGM usually originates from travel consumers who have experienced a travel product. Therefore, in comparison with other sources of travel information (which are predominantly from suppliers or marketers perspectives), the opinions offered on CGM platforms are from consumers' perspective. However, given the subjective nature of online opinions, it was important to explore the effect of *perceptual homophily* on source credibility. The study found a very strong positive relationship between perceptual homophily and source credibility. The implication is that the degree to which online travellers consider other travel consumers who post CGM to be similar with them in terms of likes and dislikes, viewpoints or perceptions greatly influences the extent of credibility allotted to the CGM source. Returning to the homophily literature, this finding mirrors theoretical perspectives from the broader literature on homophily as well as specific findings on perceptual homophily. Overall, the current empirical evidence suggests that consumers are likely to consider similar sources to be more credible than non-similar others. For example, Brown and Reingen (1987) opined that homophilous sources of information are perceived as more credible than heterophilous ones.

A number of consumer behaviour studies provide support for the applicability of this theory in the context of personal influence. For instance, one of the earliest studies on homophily (Feldman & Spencer, 1965) investigated the similarity between new residents seeking physicians and the personal sources they used in their search. They found couples with children tended to depend on other couples with children for physician referral, while childless couples typically relied on other childless couples. Their study demonstrates a high probability to turn to homophilous sources rather than product experts when seeking medical information. The role of homophily in enhancing product related interactions has also been emphasised in earlier literature. For instance, Price and Feick (1984) had suggested that homophily facilitates the flow of product information because of perceived ease of communication. Feldman and Spencer (1965) also argued that homophilous individuals were more likely to have similar product needs and wants than heterophilous ones and thus this is expected to lead to the most personally relevant product information. More recently, Gilly *et al.* (1998) found perceptual homophily to be directly related to word-of-mouth influence. The current study represents one of the initial attempts to examine the effect perceptual homophily on credibility perceptions in the context of travel-related CGM. Findings imply that the congruence of likes and dislikes among online travellers is very important, especially in today's Web 2.0 environment. CGM from sources with similar tastes and preferences are more likely to generate interests from prospective travellers due to credibility perceptions.

The findings of the present study further confirm the validity of the “like-me” principle (Laumann, 1966) in the context of CGM. This could be a major driving force behind the rising importance of consumer-generated websites. Earlier research on online communities from the general IS and social psychology literature (e.g. Preece, 2000; Brown *et al.*, 2007) have suggested that people go online to find “similar others” to interact with. This same concept can be transferred to travellers’ search for online information. Online travellers tend to look for “similar others” for travel advice and consumer-generated platforms make this possible. Perhaps this explains the reason why some CGM sites highlight on their homepages statements such as “***…*** *where* ***travellers like you*** *store their* ***free travel blogs”*** **(Traveloblog.com),** **“***... reviews from ...* ***cruisers like you!***” (Cruisereviews.com), and “*... the perfect trip, network with* ***like-minded travellers*** *from across the globe*” (iloho.com).

6.4 PERCEIVED MEDIA RICHNESS

The importance of the Media Richness Theory with regards to traditional media has been well recognised in literature (Daft & Lengel, 1984, 1986; Daft *et al*., 1987) yet its value in the context of the new media environment of Web 2.0 is yet to be explored. In view of this, the current study investigated the effect of perceived media richness on travellers' perception of the usefulness of consumer generated media. Several scales exist to measure the "richness" of a medium (e.g. Nisbett & Ross, 1980; D'Ambra *et al*, 1998; Dennis & Kinney, 1998); however, they were found not to be readily applicable to the context of this study. Also, the existing scales have been challenged. This study developed a new scale to measure perceived media richness in the context of consumer-generated media.

The means of the indicator scores suggest that richness in travel-related content, diversity of travel opinions and timely feedback ranked the highest among the media richness attributes. This is not very surprising considering that *TripAdvisor* is the largest travel-specific CGM platform with over 60 million travel reviews and opinions. In an exploratory qualitative study, Papathanassis and Knolle (2010) found the amount of information and multiplicity of sources as a potential factor affecting the adoption degree of holiday reviews in the holiday decision making process. CGM can be regarded as informational enrichment to what is already available through traditional sources of travel information. Papathanassis and Knolle (2010) further argue that consumers value information availability and seek to make the most of it. Furthermore, the intangibility and inseparability nature of travel-related services makes media richness even more critical to determining the usefulness of any CGM platform.

The structural model test results showed that perceived media richness has a significant positive influence on the perceived usefulness of CGM for travel planning. This means that the degree to which consumer-generated media is perceived to be useful is affected by the extent of media richness allotted to the CGM platform. These results reflect findings from prior studies on media richness. For instance, in investigating the process by which media characteristics influence consumer response, Klein (2003) found that media richness is associated with positive evaluation of a website. Similarly, Jacob, Guégen and Petr (2010) reported that media richness has a positive effect on behavioural intention toward a product presented on a website. Thus, the findings of the current study confirm and extend the applicability of the media richness theory to the new media environment of Web 2.0. In traditional media contexts, the theory has been useful for determining the most appropriate communication medium for reducing uncertainty and resolving equivocality (Daft *et al.*, 1987) but its value in the social media context has not been given the necessary attention. The present study also demonstrates the value of media richness to message receivers. Though the theory assumes that all parties engage equally in both communication roles, previous studies have largely centred on message senders – principally, how managers decide which channel to use to communicate which message. Also, researchers in this field have not given attention to the emerging platform of consumer-generated media. Given that most users of consumer generated media are readers and not creators (Rubicon Consulting, Inc., 2008), understanding how the theory applies to this context is valuable. El-Shinnawy and Markus (1997) and Grudin (1988) had suggested that communication initiators would evaluate media channels quite differently from those who are primarily receivers.

6.5 PERCEIVED ENJOYMENT

Perceived enjoyment has been regarded in various research settings as a weaker predictor of user acceptance compared with the traditional TAM constructs of perceived usefulness and ease of use (Venkatesh, 2000; Mathieson *et al*., 2001). More recently, however, researchers have observed a strong effect of perceived enjoyment in hedonic systems such as games and certain online contexts (van der Heijden, 2004; Ryu *et al*., 2009). Since social media can be regarded as a hedonic system but this study concerns the utilitarian or instrumental value of CGM for travel planning, it was imperative to investigate how the hedonic value of 'perceived enjoyment' could be influential in this context. The outcome of the structural model test offer significant support for a strong positive impact of perceived enjoyment on online travellers' perception of ease of use. This effect was found to be the strongest in the structural model. The close relationship between perceived ease of use and perceived enjoyment has been found in other TAM studies as well (Venkatesh, Speier & Morris, 2002; van der Heijden, 2004; Sun & Zhang, 2006). For instance, in a study by Venkatesh *et al*. (2002), intrinsic motivation strongly predicted perceptions of ease of use. Also, empirical evidence shows that information systems that are visually appealing and enjoyable to use are also deemed to be easier to use (van der Heijden, 2003; 2004). The findings of the current study suggest that perceived enjoyment also influences online travellers' attitude towards the use of CGM for travel planning. This effect was found to be stronger than that of perceived usefulness on attitude. While this result somewhat contradicts prior research in other technological contexts (e.g. Venkatesh, 2000), the findings are consistent with other studies on hedonic systems. In investigating the determinants of perceived ease of use among employees in three different contexts (namely, a new interactive online help desk system, a new multimedia system for property management and personal computer-based payroll application), a study by Venkatesh (2000) found perceived enjoyment as one of the least influential. Similarly, the findings of a study by Venkatesh *et al.* (2002) further shows that perceived enjoyment is less dominant than perceived usefulness and ease of use. Another study by Anetta, Zsuzsa and László (2012) did not even find the impact of perceived enjoyment significant when investigating Romanian teens' intention to use mobile phones. Yet the present study finds that perceived enjoyment, which represents the hedonic value of using social media, is much more influential in determining online travellers' attitude towards the use CGM for travel planning. This concurs with a number of prior studies which underscores a stronger effect of perceived enjoyment in hedonic systems and systems used in the home or leisure environment (van der Heijden, 2004; Ryu *et al.*, 2009). For example, van der Heijden (2004) observed that perceived enjoyment has a greater effect on the intention to use a

Dutch movie website than usefulness perceptions. More recently, Ryu *et al*. (2009) also found perceived enjoyment as one of the key determinants of online elderly users' participation in video user-created content services.

In the present study, perceived enjoyment, which represents intrinsic value, proved to be more salient in predicting attitude than the extrinsic value of perceived usefulness. This finding is somewhat surprising given that this current study focuses on the instrumental use of CGM for travel planning. The findings therefore suggest that online travellers' disposition towards the instrumental use of CGM for travel planning is much more related to the hedonic value of using CGM than its utilitarian value. This implies that when individual travellers feel that using CGM goes with fun and pleasure, they tend to have more positive attitudes toward its use for travel planning.

6.6 PERCEIVED USEFULNESS

Numerous studies on the TAM have established that perception of usefulness influences attitudes and intention to use information system (Davis *et al*., 1989; Mathieson *et al*., 2001; Law & Jogaratnam, 2005; Huh *et al*., 2009). The current study demonstrates this in the domain of consumer-generated media. The structural model explained nearly half of the total variation in perceived usefulness. Perception of ease of use was the strongest determinant of perceived usefulness. This is followed by perceived media richness and credibility perception. The findings suggest that the effort required when using CGM for travel planning is the most critical determinant of online travellers' evaluation of the utility of CGM for travel planning. Previous studies recognise that due to the information overload in the current online environment, Internet users have problems finding what they are looking for (Frías, Rodríguez & Castañeda, 2008). This information overload is caused by excessive information from too many different sources. In view of this, it is reasonable that online travellers will give less attention to any travel information source which is regarded as difficult to access or use. This may have accounted for the reason why perceived usefulness was impacted most by ease of use.

The results of the structural model test further demonstrate that perceived usefulness significantly impacts attitude and intention to use CGM for travel planning. The effect of perceived usefulness on usage intention was found to be stronger than its effect on attitude. Each standard deviation variation in perceived usefulness was associated with 13.4 percent variation in attitude and as much as 32.1 percent variation in usage intention. This finding mirrors prior research in several contexts (Davis *et al.*, 1989; Mathieson *et al.*, 2001; Law & Jogaratnam, 2005; Huh *et al.*, 2009; Morosan, 2012). In testing an extended version of the TAM on the Institute of Management Accountant's bulletin board system, Mathieson *et al.* (2001) found that perceived usefulness was significantly related to attitude. In hospitality and tourism settings, a study by Morosan (2012) also found that perceived usefulness wields considerable influence on guests' attitude towards the use of biometric systems in hotels. Another study by Huh *et al.* (2009) reports that perceived usefulness significantly affects employees' attitude to use hotel information system. The significant direct relationship between perceived usefulness and intention has also been established in literature. While Mathieson *et al.* (2001) did not find this relationship significant, numerous studies in the TAM stream of research demonstrate that perceived usefulness, or extrinsic motivation, has a significant direct impact on behavioural intention (e.g. Venkatesh *et al.*, 2002; Yi & Hwang, 2003; Huh *et al.*, 2009). The findings in the context of the current study implies that in the presence of attitude, the utilitarian value of CGM is still important in deciding online travellers' intention to use CGM for travel planning.

Among the above mentioned relationships, comparing the relative importance of perceived usefulness with the other predictors in the model using Cohen's f^2 effect size and the path coefficient' sizes reveal some interesting findings. Prior research shows that perceived usefulness is the most dominant predictor of attitude/intention (Davis, 1993; Yi & Hwang, 2003; Huh *et al.*, 2009; Morosan, 2012). For example, a study by Davis (1993) reported that perceived usefulness exerts more than four times as much direct influence on attitude than ease of use. Another study by Morosan (2012) found the effect of perceived usefulness on attitude to be three times more than that of ease of use. A meta-analysis of TAM literature by King and He (2006) further confirms this assertion with perceived usefulness reported to be about 50% more influential than ease of use in determining information system usage. The present study however finds that, of all the hypothesised determinants of attitude in the structural model, perceived usefulness was the least impactful. This may imply that, while extrinsic motivation or utilitarian value of the media is still important in the context of online social media, other cognitive factors such as perceived ease of use and hedonic value are much more critical in determining online travellers' affective responses to CGM usage, even if the purpose of usage is utilitarian.

6.7 PERCEIVED EASE OF USE

Ease of use, the second primary predictor of attitude in the conventional TAM, has also received substantial attention from information system researchers. However, some inconsistencies have been observed in recent literature regarding its relative importance. Therefore, it was important to investigate the role of perceived ease of use in the context of the present study. The structural effect of ease of use perception in the model offers empirical support for Gefen and Straub's (2000) observation that perceived ease of use respond differently in accordance with the task type. Perceived ease of use was found to have a strong impact on both perceived usefulness and attitude towards the use of CGM for travel planning. The strongest effect of ease of use was on perceived usefulness. This implies that the more online travel consumers regard CGM platforms to be easy to use, the more they consider CGM to be useful for their holiday planning. This strong effect of ease of use on usefulness is not new in literature. Most prior research found perceived ease of use to have its strongest impact on perception of usefulness (Mathieson *et al.*, 2001; Venkatesh *et al.*, 2002; Huh *et al.*, 2009; Morosan, 2012). What is interesting here, however, is the effect of ease of use on attitude. Ease of use has traditionally been considered as the weaker of the two traditional predictors in this regard (e.g. Davis *et al.* 1989; Davis, 1993; Venkatesh, 2000). Other researchers have been unable to establish a direct relationship between perceived ease of use and attitudes, and have therefore construed this relationship to be perfectly mediated by perceived usefulness in some technological contexts (Kim *et al.*, 2008). While the present study confirms the significance of this indirect effect via perceived usefulness, the study also reveals a significant direct effect of ease of use on attitude.

It can also be observed that the effect of ease of use on attitude in the current study is much stronger than that of usefulness on attitude. This suggests that in the context of CGM utilisation for travel planning, ease of use take on a stronger effect than has been established in the conventional TAM literature. This finding is rather consistent with some of the more recent studies that applied the TAM to investigate tourists' use of information sources as well as the use of some online applications. For example, in investigating travellers' intention to accept the information offered by advanced traveller information systems, Xu and colleagues (2010) report that perceived ease of use exerts the strongest total effect. Likewise, other studies by Luque-Martínez *et al.* (2007) and Castañeda *et al.* (2007a, 2009) further demonstrate that ease of use takes on greater importance in the acceptance and use of travel information sources. What this implies is that, in the process of seeking travel information, the prospective traveller is primarily concerned with the ease of accessing and using the information source. This can be explained by the multiplicity of travel information sources and the vast amount of information on the World Wide Web competing for the tourists' attention. Thus the travel information seeker is most likely to turn to the one which is more user-friendly.

6.8 ATTITUDE TOWARDS USING CGM FOR TRAVEL PLANNING

Attitude has traditionally been regarded as a central mediator of behaviour and an antecedent of behavioural intention (e.g. Ajzen & Fishbein, 1980; Ajzen, 1989; Wang & Ritchie, 2012). Attitude has also been found to be important in information processing in general (Derbaix, 1995) and travel information acquisition in particular (Verplanken *et al.*, 1997; Castañeda *et al.*, 2009). Although the original theoretical conceptualization of TAM (i.e. Davis, 1986) incorporated the attitude construct on the basis of empirical evidence (see Davis *et al.*, 1989, pp. 995-996), the final model eliminated the attitude construct as it did not fully mediate the effect of cognitive factors on usage intention. Many recent studies also tend to ignore the 'attitude' construct (e.g. van der Heijden, 2004; Ryu *et al*, 2009). However, given the role of attitude in the travel information acquisition process (Verplanken *et al.*, 1997; Castañeda *et al.*, 2009), it was important to assess the effect of attitude in the particular context of consumer-generated media. The structural model performs remarkably well when it comes to explaining the variation in attitude. The variance explained at the aggregate data level is an impressive 65.6 percent, suggestive of a relatively comprehensive model. Similarly, the Stone–Geisser's Q^2 was a positive value of 0.551, further illustrating that the model is able to adequately predict the measurement indicators of attitude. Of all the proposed predictors of attitude, source credibility had the strongest impact. This may imply that an online traveller's affective response towards the use of CGM for travel planning is primarily determined by the credibility perceptions he/she holds about the source.

In addition, the current study verified the close association between attitude and intention in the context of CGM use for travel planning. The findings revealed that every standard deviation variation in attitude results in 47.4 percent variation in behavioural intention. This concurs with prior research in other behavioural contexts. Wang and Ritchie (2012), for instance, found that attitude is a significant predictor of accommodation managers' crisis planning intention. Also, Zhang and Lei (2012) report that attitude significantly determines residents' behavioural intention to participate in ecotourism. In TAM research contexts, studies by Mathieson *et al.* (2001), Venkatesh *et al.* (2002), Huh *et al.* (2009) and Morosan (2012) demonstrate that attitude is the most important predictor of usage intention. These findings suggest that online travellers' are likely to use CGM for travel planning if they have positive affect towards its use. The present study also highlights the mediating role of attitude as it is found to mediate the effect of source credibility on intention. This indirect effect is further discussed in Section 6.10.

6.9 BEHAVIOURAL INTENTION TO USE CGM FOR TRAVEL PLANNING

There is such a rich tradition of research on behavioural intention as a surrogate for actual behaviour in the literature that it seems reasonable to treat it as the final endogenous construct in the present study. Research in social psychology and information systems has established that individuals' intention to use information system is the single best predictor of actual usage (Davis & Venkatesh, 1996; Legris *et al.*, 2003). This view has also been verified in marketing and hospitality/tourism literature (Bruner & Kumar, 2005; Wang & Qualls, 2007). Nonetheless, researchers have been cautioned to exercise due diligence when requiring respondents to predict their response to a future hypothetical situation, especially when subjects are not in the position to have adequate direct experience on which to base their answers (Fowler, 1995). In view of this, a selection criterion was put in place to ensure that respondents were in the proper situation to be able to decide their future behavioural intentions regarding the use of CGM for travel planning. The screening process required respondents to (1) have taken a leisure trip in the last 12 months preceding the survey and (2) used the Internet for travel information search. The goal for this was to limit the focal group to potential users of CGM and thus ensure respondents were in the position to predict their future use intentions.

In summary, behavioural intention was impacted most by attitude and perceived usefulness at the aggregate data level. The findings revealed that the proposed structural model explains over half (52.6%) of the variance in behavioural intention. The multi-group analyses further revealed that the model can explain as much as 62.3 percent of the variability in usage intention in certain contexts (Singapore). This is an indication that the model adequately reflects online travellers' behavioural intention to use CGM for travel planning. The resulting Stone–Geisser's Q^2 value of 0.482 suggests that the observed values are well reconstructed and that the model has predictive relevance for behavioural intention. Behavioural intention has been regarded as a person's subjective probability that he or she will exhibit a given behaviour (Fishbein & Ajzen, 1975). Therefore, its implications for actual behaviour cannot be ignored. Both the TAM and the TRA regard behavioural intention as the most important determinant of usage behaviour. Davis *et al.* (1989) contend that that any factor that affects user behaviour does so indirectly by influencing behavioural intention. Also, in their Theory of Reasoned Action, Fishbein and Ajzen (1975) assert that behavioural intention represents the best and most proximal psychological predictor of actual behaviour. This assumption is overwhelmingly supported by empirical evidence from several longitudinal field studies (e.g. Davis *et al.*, 1989; 1992; Venkatesh & Davis, 2000; Venkatesh & Morris, 2000).

6.10 MEDIATING EFFECTS

A major unexpected result in the current study is the non-significance of the direct relationship between source credibility and the behavioural intention to use CGM for travel planning. Since source credibility has a significant and a stronger effect on attitude; and on perceived usefulness than on behavioural intention, the present study investigated whether source credibility might actually affect behavioural intention indirectly by influencing attitude and perceived usefulness. That is, positive source credibility perceptions may lead an online traveller to think more favourably about using CGM for travel planning, as measured by attitude and perceived usefulness. The Sobel Test (Sobel, 1982) verified the significance of the indirect effects through attitude and perceived usefulness at the aggregate data level. The causal steps strategy (Judd & Kenny, 1981; Baron & Kenny, 1986) further confirmed that the effect of source credibility on usage intention is perfectly mediated by attitude and usefulness perceptions. In other words, in the presence of attitude and perceived usefulness, source credibility no longer has a significant direct effect on usage intention. This suggests that the influence of source credibility on behavioural intention occurs as a function of its transformation into attitude and perception of usefulness, a transformation that appears to be affected by respondents' country of residence and experience with CGM usage for travel planning as revealed by the multi-group analysis (see Section 6.11). Therefore, one can construe this relationship to be perfectly mediated by perceived usefulness and attitude only in certain contexts.

In assessing the relative magnitude of the indirect effect, the VAF values show that attitude is primarily responsible for the mediating effect as more than half of the total effect of credibility onto usage intention was explained by the indirect effect through attitude. This finding suggests that when attitude is not fully activated, credibility perception is not expected to have much sway on the decision to use CGM for travel planning.

This result draws attention to the central mediating role of attitude. While attitude causes the direct relationship between credibility and intention to be insignificant, it also partially mediates the link between the remaining cognitive factors and usage intention. A study by Sussman and Siegal (2003) lends support to the indirect effect of credibility via perceived usefulness. In knowledge adoption contexts, Sussman and Siegal (2003) find that usefulness plays a mediating role between source credibility and information adoption. Their study found source credibility to be associated with usefulness but not information adoption. The indirect effect of source credibility through attitude can also be supported by existing literature on credibility. A study by Lutz, MacKenzie and Belch (1983) delineates the possible causal mediating role of attitude in determining consumers' reaction to an advertising stimulus. Their study reports that attitude successfully mediates the relationship between credibility among other factors, on one hand, and purchase intentions on the other hand. This finding is also closely related to one supported empirically by Goldsmith *et al.* (2000) which emphasizes the mediating role of attitude on the effect of credibility. Nonetheless, other studies have still been able to establish a direct association between credibility and intention. For instance, Kavanoor, Grewal and Blodgett (1997) found that higher levels of credibility consistently produced the most favourable set of responses, namely attitudes and purchase intention. One can surmise that this contradictory finding is due to the differences in the studies' contexts. Kavanoor *et al.* (1997) studied the effect of credibility on purchase intention in the context of over-the-counter (OTC) medications – which is more highly involving due to the concomitant health risks – whereas the current research investigates the use of CGM in the travel planning situation. Thus, source credibility is expected to take on a more dominant role in deciding intention in Kavanoor *et al.*'s (1997) study.

While the above mentioned contextual difference is a plausible reason for the somewhat inconsistent findings, the results of the PLS MGA also revealed that this direct relationship is significant among certain groups of respondents in the current study. This suggests that the explanation for the inconsistency goes beyond the contextual difference delineated above. As discussed below (Section 6.11), the theory of elaboration likelihood model (Petty & Cacioppo, 1986) offers another reasonable explanation for this contradiction.

6.11 INTERPRETING THE GROUP DIFFERENCES

Up to this point, the present discussion has been concerned primarily with the results at the aggregate data level. This section therefore turns attention to the differences in the group-specific models. The current study undertook a closer examination of group differences based on PLS MGA using Henseler's (2007) bootstrap test routine, with some interesting findings. As noted by Baron and Kenny (1986), comparing group-specific effects requires the consideration of a categorical moderator variable which affects the direction and/or strength of the relationships under examination. Based on prior research, respondents' country of residence, usage experience and gender were chosen as a priori information for the multi-group analyses.

6.11.1 Country of Residence

The country-specific structural models reveals considerable differences in the variance explained in perceived usefulness as well as in behavioural intention. While the model accounts for a remarkable 62.3 percent of the total variation in the usage intention of Singaporean respondents, the magnitude of this variance drops to 55.6 percent in the American sample. The contrary was the case for perceived usefulness. The model explained more variation in Americans' perception of CGM usefulness (R^2=0.532) than in that of Singaporeans (R^2=0.427). The differences in R^2 values allow for the examination of the substantive impact of taking into consideration the online traveller's country of residence in the structural model. It is apparent that the magnitudes of the impact that the predictors in the model wield on these two major constructs differ significantly by country.

This leads to an examination of the differences in the path coefficients. The present study finds that most of the factors that explain variations in online travellers' attitudes and intention to use CGM for travel planning are the same in both countries, while other influences differ significantly between the two countries. The most significant difference in the magnitudes of the path coefficients is the impact of perceived usefulness on attitude. The results suggest that the usefulness of CGM is much more important in determining the affective response of American travellers than that of their Singaporean counterparts. Again, perceived usefulness seemingly exerts greater influence on the behavioural intention of American respondents than the Singaporeans, though the difference was not as significant. Another significant difference concerns the effect of ease of use on perceived usefulness. The present study finds that perception of ease of use is noticeably a more important determinant of perceived usefulness to online travellers from the US than those from Singapore.

The findings further suggest that credibility is much more important to Singaporeans than Americans when deciding CGM usefulness and behavioural intention to use for travel planning. In contrast to the Singaporean sample, no evidence could be found for the significant impact of source credibility on usage intention among US travellers. In addition, the influence of perceived enjoyment on attitude, as well as that of attitude on usage intention, is less pronounced in the American sample than in the Singaporean sample. Though Henseler's (2007) bootstrap test routine did not find these latter differences significant, it is worth taking these differences into consideration since Henseler's (2007) approach is generally considered as more conservative in nature (Sarstedt *et al.*, 2011).

The results, while not surprising, provide a sense of how country-specific differences may impact the generalisability of the structural model. This distinction may be arising from socio-cultural differences or other geographical factors. The former is in line with the empirical literature on the role of culture in online consumer behaviour. Traditional marketing researchers (e.g. Straughan & Albers-Miller, 2001; de Mooij & Hofstede, 2002) have recognised the importance of culture in influencing consumer behaviours. In conducting a multiple-country analysis, a study by Lim, Leung, Sia and Lee (2004) also found that the cultural dimension of individualism–collectivism is a major determinant of online behaviour. A more recent study by Sia *et al*. (2009) which investigated respondents from Australia and Hong Kong further highlights the need to consider cultural differences in online contexts.

An important relationship that was found to be sensitive to country-specific differences is the link between source credibility and usage intention. Gefen and Heart (2006) asserts that trust could be formed differently in different cultures. The results of a laboratory experiment by Sia *et al*. (2009) on the website of an online bookstore, for example, revealed that the impact of peer customer endorsements on trust perceptions is stronger for subjects in Hong Kong than those in Australia.

Also, it is important to note that, in terms of Internet usage, the US population is generally regarded as a matured market while the Singaporean market can be described as an emerging market. It is possible that these differences may have also conditioned online behaviour.

6.11.2 Prior Experience with Using CGM for Travel Planning

The group-specific models for respondents' prior experience with using CGM for travel planning turned out to be the most interesting as they revealed stronger differences between users and non-users. In other words, more structural invariance propositions can be significantly rejected due to this grouping variable than any other. The model explained a respectable 57.3 percent of the variance in the attitude of online travellers who have previously used CGM from *TripAdvisor* for travel planning, but accounted for an impressive 67.9 percent of the total variation in the attitude of those who have never done so. Likewise, in contrast to the prior users' group, the non-users' group shows significantly higher explained variances in perceived usefulness, ease of use and usage intention, but a lower R^2 value for credibility. The PLS MGA results demonstrate that the relative importance of the antecedents in the structural model differs quite substantially within the two groups. One can see the different mechanisms at work in these two groups from the path coefficients' absolute values.

Whereas the impact of source credibility on perceived usefulness and on attitude in the two groups are comparable to the overall PLS path model estimates, the effect of source credibility on usage intention is less consistent. While solid support can be found for the direct impact of credibility on the non-users' intention to use CGM for travel planning, this same relationship is insignificant and negative instead of positive as predicted in the model. One can surmise that non-users might be more uneasy with CGM and hence may therefore possess greater credibility concerns which would play a more dominant role in deciding their behavioural intention to use CGM for travel planning. On the other hand, online travellers with prior experience in using CGM for travel planning may be less anxious about its credibility.

Alternatively, this finding may be explained from the theoretical perspective of the Elaboration Likelihood Model (ELM; Petty & Cacioppo, 1986), one of the dual-process models of information processing. Petty and Cacioppo's view of persuasion is a potentially useful one for examining the role of source credibility in the present study's context. Using this theory, researchers have underlined several mechanisms by which source credibility may affect persuasion, depending on situational or individual difference factors (Lutz *et al.*, 1983). ELM postulates that under conditions of high elaboration, credibility influences persuasion by prejudicing the nature of thoughts that come to mind and affecting cognitive responses. On the other hand, when motivational and ability are low, people tend to use the peripheral route by relying on environmental characteristics of the message such as the perceived credibility of the source (Petty & Cacioppo, 1986). It is reasonable to assume that, unlike the prior users, the non-users lack the experience and ability to judge the value of CGM for travel planning so they tend to also depend on credibility perceptions in decision making.

The results further show that the path coefficient from media richness to usefulness in the model for non-users is significantly stronger than the corresponding path in the model for users. Similarly, the link between perceived enjoyment and ease of use is significantly stronger in the non-users' group than in that of the users. Perceived usefulness did not exert a significant impact on attitude in the users' group, suggesting that usefulness perception is not an important issue in determining users' affective response to the use of CGM for travel planning. In addition, several of the hypothesised relationships were found to be stronger in the non-users' sub-sample than in the users' group. These findings suggest that despite the validity of the model to both online travellers with previous experience in using CGM for travel planning and those without, the model performs better in explaining potential CGM users' attitude and intention to use CGM for travel planning than that of existing users. Research suggests that the best predictor of intention is past relevant behaviour (Ouellette & Wood, 1998). It is therefore reasonable to assume that, in this case, previous relevant behaviour biases the impacts of the antecedents in the structural model.

A noticeable exception, however, is the impact of perceptual homophily on source credibility as well as attitude on usage intention. The credibility perceptions of online travellers who have used CGM in the past for travel planning are more likely to be influenced by their perception of similarity with the other travellers who post CGM than with those who have not. This is understandable considering that prior experience with usage places respondents in a better position to assess the extent of their similarity with CGM contributors.

The stronger impact of attitude on usage intention in the users' group than in the non-users' group suggest that when online travellers begin using CGM for travel planning, their affective response (attitude) takes on a more dominant role in deciding their conative response (behavioural intention). Concurrently, the role of cognitive responses (represented by perceived usefulness and perceived credibility) diminishes to some degree, leading finally to the irrelevance of source credibility perceptions to behavioural intention. This transformation in the psychological process is reasonable given that online travellers who are yet to use CGM are more likely to be critical and cautious. Therefore, they would tend to depend on a more rational approach when deciding to use CGM than to merely rely on their feelings. This also explains why the impact of perceived usefulness and source credibility on usage intention are more salient in the non-users' group than the users' group.

The role of usage experience in online behaviour has some theoretical base in existing literature (Weber & Roehl, 1999; Monsuwé *et al*., 2004). For example, in a review of existing literature on what drives online shopping, Monsuwé *et al*. (2004), found that previous online experiences moderates the relationship between consumers' attitude and intentions to shop online. Weber and Roehl (1999) also report that online usage experience influences online behaviour regarding information search and product purchase. In TAM research, Taylor and Todd (1995b) found that although TAM can be applied to understand the behaviour of both experienced and inexperienced users of a computing resource centre, inexperienced users tend to put a different emphasis on the determinants of intention and usage. The findings of the present study have also demonstrated that online travellers react differently to the idea of using CGM for travel planning depending on their prior experience with usage.

6.11.3 Gender

The gender of respondents did not produce any differential impacts on the variances explained in the endogenous constructs. The absolute values of the total variations explained in each of the dependent constructs among male and female respondents were only marginally different**.** Gender-specific path analyses show similar results when female respondents are compared with males, with regard to the driver constructs. None of the differences between these two groups was significant, suggesting that the gender group specific influences of the antecedents of attitude and usage intention do not vary in the present study's population. Each of the gender-specific models exhibited comparable results with the overall PLS path model estimates. Thus this grouping variable is not subject to obtaining additional conclusions.

Nonetheless, gender has been one of the most important forms of segmentation employed by marketers. A study by Holbrook (1986) considered gender as an important variable in moderating consumers' evaluative judgments. In online contexts, Kim *et al*. (2007) found substantial gender differences in terms of attitudes to information channels and travel Website functionality preferences. Similarly, Venkatesh *et al*. (2000) reported that men were more strongly influenced by their attitude toward using a new technology than women. Previous research has also suggested that perceived credibility is influenced by the sex of the respondent (e.g. Flanagin & Metzger, 2003). However, the present study finds that gender does not moderate the factors affecting online travellers' attitude and behavioural intention to use CGM for travel planning. This may imply that women have reached parity with men in online usage and hence gender difference no longer conditions this aspect of online behaviour.

6.12 THEORETICAL CONTRIBUTIONS

The current study contributes to theory in several ways. The emergence of Web 2.0 and user-generated content has profoundly transformed consumer behaviour as well as marketing approaches on the Web. For this reason, online behaviour in the context of social media is increasingly a problem of interest to researchers, and this study offers a theoretically grounded approach to an important aspect of this complex phenomenon. Notwithstanding the growing popularity of social media, empirical research findings have suggested that the majority of Internet users are still not using consumer-generated media for travel planning (e.g. Cox *et al*., 2009; World Travel Market, 2010).

The present study contributes to addressing an important research gap in the existing literature. While an increasing number of researchers have recently turned attention to social media, dominant emphasis in much of the research focused on user behaviours toward social media has been on the impact of social media on product awareness and purchase decisions (e.g. Arsal *et al*., 2008; Gupta & Harris, 2010; Ye *et al*., 2011) and on online community participation (e.g. Wang & Fesenmaier, 2004; Casaló *et al*., 2010; Chen & Hung, 2010), with very little attention given to the relevant factors determining usage for travel planning purpose. This study presents a theory of how online travellers' form attitudes and behavioural intentions in this particular context.

The present study borrows concepts and theories from social psychology, information systems, marketing and communication studies to explain online travellers' use of CGM for travel planning. The central contribution to hospitality and tourism research here is the integration of the theories of Homophily, Media Richness, Motivation as well as TAM, and the light this sheds on our understanding of the antecedents of online travellers' attitudes and intention to use CGM for travel planning. In the current social media environment, information system theories alone are insufficient for our understanding of online usage behaviour. By employing this hybrid approach, the current study puts forward a more comprehensive conceptual framework in reflecting the complicated phenomenon of consumer-generated media in the Web 2.0 cyberspace. The results demonstrate how theories and concepts from different disciplines can successfully be employed to explain a complex online phenomenon.

In addition, the present study builds on the growing body of literature on the antecedents of attitude and intention in the context of TAM (Karahanna *et al*. 1999, Venkatesh & Davis 2000; Mathieson *et al*., 2001; Venkatesh *et al*., 2002). Prior studies have commonly taken a generalised approach to understanding the predictors of usage intention. As observed by Lee *et al*. (2003), a key problem of TAM studies is that the theory has been applied to tasks that are too broad. Yet studies of task-technology fit (Goodhue & Thompson, 1995) have suggested that individuals' perception of information system varies in accordance with the task type. Research by Moon and Kim (2001) and Karahanna and Straub (1999) have also recognised that research findings cannot be generalised under conditions which are task-dependent. In addition, Goodhue and Thompson (1995) argue that the lack of task focus in studying information systems accounts for the mixed results in the existing literature. The present study addresses this concern by focusing on the use of CGM for a specific task – travel planning. The findings offer new insights into the antecedents of use in this particular context and echoes Lee and colleagues' (2003) call for the need for TAM studies to specify tasks more granularly.

While extending the scope of IS adoption research to CGM in the travel planning context, this study validates the significant roles of perceived usefulness, perceived ease of use, and perceived enjoyment in predicting online travellers' attitude and intention to use CGM for travel planning. The present study also draws attention to the differences in terms of the relative importance of the antecedents in the present study's setting. For example, factors such as perceived enjoyment and ease of use, which are known to have weaker effects in the conventional TAM literature, take on greater importance when it comes to CGM usage in the travel planning situation.

Additionally, this empirical study supports the appropriateness of the attitude construct in TAM research when investigating individual adoption intentions in non-work place situations. Although the results show that perceived usefulness has a direct effect on usage intention, attitude seems to partially mediate this relationship. In addition, attitude perfectly mediates the relationship between perceived credibility and behavioural intention in certain contexts.

In the present study, attitude seems to have the strongest impact on usage intention.

The results are not unique in this regard. Other studies that have examined the relationship between attitude and intention in various contexts have generally found attitude to be a strong predictor of behavioural intention (e.g. Ajzen & Fishbein, 1980; Wang & Ritchie, 2012). What is most crucial here, however, is recognising the factors that determine travellers' attitudes in the study's context. In this regard, the current study contributes to the existing theory by verifying the role of source credibility, among others, in predicting travellers' attitudes towards using CGM for trip planning.

While credibility has become a major problem for social media platforms and despite the concept source credibility having been introduced over half a century ago (Hovland *et al.*, 1953), the concept has relatively not been given sufficient attention in online travel contexts, particularly in the present Web 2.0 environment. A number of studies have examined trust in the online domain but, as noted in the previous chapters, credibility goes beyond trust. Earlier, credibility studies in the general literature have, for the most part, focused on traditional media sources and in contexts largely unrelated to travel. A major contribution of the present study is helping to address this gap in the literature by testing source credibility in the context of CGM utilisation for travel planning. The dimensions of source credibility stress the distinction between CGM contributors' *potential of truth* ("know the truth" i.e. expertise) and *inclination towards truth* ("will tell the truth" i.e. trustworthiness) (Eisend, 2006; p. 23). The hospitality and tourism literature has to some extent ignored the role of these two distinct dimensions of credibility in determining attitudes and intentions towards information sources. The results from the principal component analysis, and the PLS discriminant validity analysis as well as the structural model offer strong support for the value of these factors.

Also, this study has implications for the antecedents of perceived usefulness and source credibility online. While the emerging literature on source credibility has often focused on source credibility as a predictor, less attention has been given to its antecedents. A combination of social psychological and communication approaches allowed the present study to investigate certain antecedents in the cognitive processes, namely perceptual homophily and perceived media richness, which has not been previously considered by TAM researchers. Similarity as perceptual resemblance is a psychological construct which underlies transfer of learning, perceptual organization, social bonding, among others (Blough, 2001). The present study finds support for perceptual homophily as a critical determinant of source credibility in online contexts. Also, the significant impact of perceived media richness on perceived usefulness calls for the construction of a technology acceptance model that could be extended to embrace media richness.

The results of the PLS MGA are important contributions of this research. The findings deepen our understanding of how online travellers' backgrounds moderate the influence of the predictors in the model. The study finds that the determinants of online travellers' affective and conative responses to using CGM for travel planning are moderated by their country and prior usage experience. These findings advance theory and contribute to the foundation for future research aimed at improving our understanding of online consumer behaviour towards CGM. The findings illustrate that employing a universalistic approach to theory development does not appear to be appropriate in all consumer groups. The results lend support to the call by consumer behaviour scholars and information system researchers to be cognisant of the heterogeneity of consumers across different countries and user experiences in the online environment (Weber & Roehl, 1999; de Mooij & Hofstede, 2002; Monsuwé *et al*., 2004; Sia *et al*., 2009).

6.13 METHODOLOGICAL CONTRIBUTIONS

The present study differs from previous research in terms of design. Prior studies, in the general literature, largely examined credibility with controlled experiments and student samples (e.g. Lafferty & Goldsmith, 1999; Eisend, 2006; Yoo & Gretzel, 2008; Xie *et al*. 2011). A study conducted by Xie *et al*. (2011), for example, used a controlled experiment to test perceived credibility with a convenience sample of 274 undergraduate students. In addition, some researchers in the hospitality and tourism field tend to measure perceived credibility with only one or two items (e.g. Xie *et al*., 2011). While these approaches may still offer valuable insights into credibility perceptions, they raise questions about sample representativeness, generalisability, and measurement reliability. The present study contributes to existing research by examining credibility in CGM context with a sample of real online travel consumers from diverse backgrounds. Furthermore, the current study ensures measurement reliability by using several multiple items to measure each of the two distinct dimensions of credibility. Thus, a major contribution of this study is the validation of a revised instrument that facilitates the measurement of source credibility, perceptual homophily and the TAM latent constructs in the particular context of travel-related CGM. In addition, the current study contributes to existing literature by developing and validating new measures of perceived media richness within the context of social media.

Another important contribution of the present study is the validation of the measurement items in different settings. An assessment of the group-specific measurement models verified measurement invariance across the various sub-samples. This is an extremely important property given the problem researchers commonly face concerning data distributions and non-random samples in surveys. Thus, an encouraging finding in the present study is the notion that both male and female respondents across different nationalities and user experience categories have similar perceptions of what comprises the latent constructs in the model. In other words, regardless of online travel consumers' country, gender or prior experience with CGM usage, these latent constructs can be measured with equal precision.

The measurement invariance across the American and Singaporean samples is of particular importance. Pornpitakpan (2003) noted that researchers cannot assume that a scale developed from subjects of one country/culture will have equivalent psychometric properties when administered on respondents of another nation/culture.

This is regarded to be particularly the case when the two cultures differ considerably from each other, as in the case of Asian and Western countries. The current study has, however, verified the factor structure of the measurement scales and found it to be equally relevant to both American and Singaporean contexts. This result is consistent with the findings of Yoon *et al.* (1998) who investigated whether the commonly reported measures of source credibility were applicable to both Americans and Koreans. Yoon *et al.* (1998) found the dimensionality of source credibility to be extremely similar across cultures but the effect of the dimensions varied by the dependent variables. The findings of the current study are most likely due to the reliable and valid nature of the measurement instrument. This should therefore encourage its greater usage in studies dealing with online behaviour in the Travel 2.0 context.

Another important aspect that distinguishes the current study from previous research in the hospitality and tourism field is the use of an alternative approach to structural equation modelling technique – the more recent technique of partial least squares – to examine the hypothesised theoretical relationships. PLS – SEM is increasingly becoming popular among a growing number of researchers from various disciplines such as strategic management, information systems, marketing and consumer behaviour (Venkatesh *et al.*, 2000; Henseler *et al.*, 2009; Ryu *et al.*, 2009; Hair *et al.*, 2012). However, in hospitality and tourism settings, researchers applying structural equation modelling generally rely on the more traditional covariance-based technique of maximum likelihood (LISREL/AMOS). Yet this approach has several limitations and makes certain demands on data distribution which is often difficult to meet, consequently leading to estimation biases (Hair *et al*., 2011). The more recent component-based technique of partial least squares offers several advantages which could address the misuse and abuse of the covariance-based alternative by researchers. Among others, PLS has the advantage of not holding the distributional assumption of normality, making less demand on measurement scales, readily integrating formative as well as reflective constructs, having the ability to work with much smaller as well as much larger samples, and the capacity to handle more complex models (Gefen *et al*., 2000; Hair *et al*., 2011; 2012). The present study illustrates how PLS –SEM can successfully be applied in tourism research. The outcome suggests that this technique is a promising method of data analysis which offers enormous potential for SEM researchers in the hospitality and tourism field as well.

Lastly, the PLS MGA is shown to provide useful information for researchers in applied areas such as cross-cultural studies (Henseler *et al*., 2009; Chin & Dibbern, 2010). Using the technique, the present study has been able to ascertain that country-specific differences and prior experience play substantial roles in conditioning the factors affecting online travellers' affective responses and behavioural intentions to employ CGM for travel planning. The successful application of the novel PLS –MGA technique proposed by Henseler (2007) has demonstrated that behavioural differences between countries as well as user experience can appreciably limit the generalisability of theories on social media applications in the travel context. This should encourage researchers to test invariance across sub-samples using this PLS –MGA technique.

6.14 PRACTICAL CONTRIBUTIONS

This section indicates the practical value of the estimated model for guiding recommendations aimed at increasing travellers' intention to accept CGM for travel planning. Several managerial implications emerge from the findings.

6.14.1 Implications for CGM Platform Managers and System Designers

The model might help managers understand how travellers' assess CGM websites. The study offers insights into the cognitive factors which determine travellers' decision to use CGM for travel planning, and CGM platform managers and marketers should attend to these factors as they attempt to leverage social media in the hospitality and tourism setting.

The findings demonstrate that perceptions of enjoyment and ease of use are crucial determinants of online travellers' affective responses to the idea of using CGM for travel planning. This highlights the need to make the process of using CGM enjoyable, if online travel consumers are to have favourable attitudes towards its use for travel planning. The findings also underscore the value of integrating appropriate functional capabilities in CGM applications. This implies providing a well designed human-computer-interaction which is entertaining, fun, enjoyable and easy to use. The study findings further suggest that hedonic value can play a dominant role in driving the utilitarian use of CGM. Earlier, van der Heijden (2004) has observed that "user acceptance of hedonic and utilitarian systems proceeds along two different belief configurations" (p. 701). This study finds that the utilitarian use of CGM for travel planning depends very much on its hedonic value, and thus system developers may need to integrate hedonic features to invoke travel consumers' usage of CGM for the utilitarian purpose of travel planning.

The significant roles of perceived usefulness and media richness highlight the need for CGM platform managers to emphasize the richness and the utility of CGM for travel planning. This may imply using innovative means to encourage more travellers to post travel photos, videos and reviews as well as motivating travel consumers to offer immediate responses to enquiries about travel destinations and services they have previously experienced. System designers also need to keep updating the CGM platform with new Web 2.0 tools that would enhance greater interaction among online travellers.

Given the significant influence of attitude on usage intention and the mediating role of attitude, it is imperative for CGM platform managers and hospitality and tourism practitioners not to ignore the factors which determine attitudes. The results suggest that the strongest predictor of attitudes in the CGM context is perceived credibility. Source credibility is a widely employed cue in many contexts, and this study confirms that it plays a critical role in CGM context as well. Regardless of country, gender or prior usage experience, the more credible the source of CGM is perceived to be, by an online travel consumer, the more favourable is their affective responses towards the use of CGM for travel planning. By understanding online travellers' credibility perceptions in the present study's context, practitioners can design platforms that support effective CGM utilisation for travel planning. The significant influence of credibility on behavioural intention among online travellers who have never used CGM for travel planning, for instance, suggests that system designers and managers may need to consider how best to enhance credibility perceptions, if they are to widen the number of users beyond the existing ones.

In addition, the findings show that travel consumers evaluate the credibility of CGM favourably if they perceive some level of congruence between their own viewpoints and that of the other travellers who generate the media content. Thus, there is a need for platform managers to emphasize this aspect of homophily. Hospitality and tourism service providers planning to integrate social media into their online marketing strategies may as well target CGM platforms which exude these qualities. Those intending to create their own CGM platforms might consider marketing to bring consumers with perceptual resemblance together. Creating such platforms for information sharing among consumers with similarities is especially important in hospitality and tourism given that services are intangible and difficult to assess before consumption, and consumers thus rely a great deal on word-of-mouth (Litvin *et al.*, 2008; Yoo & Gretzel, 2009).

The study results demonstrate that a notion of homophily among online travel consumers can improve credibility perceptions, which in turn would encourage CGM usage in the travel planning context. The fact that the perceptual homophily of the source was consistently related to source credibility emphasizes the importance of stressing on similarities among online travellers on the CGM platform. It is therefore imperative for user-generated websites' managers to highlight cues that give online travellers a sense of similarity with those who contribute reviews, comments and other travel-related CGM on their platforms.

The influential role of perceptual homophily has further implications for market segmentation. Segmenting the market is critical for ensuring the alignment of user expectations in addition to increasing perceptions of credibility (Deloitte, 2011). As CGM sites increasingly focus on specific market segments, Deloitte (2011) purports that "the key strategy is to bring like-minded people together" (p. 2). For example, *Couch Surfing* (www.couchsurfing.org) caters for travellers who shun conventional tourist accommodation, whereas *WAYN* (www.wayn.com) focuses on younger travellers, while *Silver Travel Advisor* (www.silvertraveladvisor.com) targets mature travellers.

The management of travel-related user-generated websites may also need to give attention to other credibility cues such as personal identifying information. Prior research suggests that the provision of such information could improve perceptions of credibility (Dellarocas, 2000; Xie *et al*., 2011). CGM contributors with profiles tend to post legitimate reviews as they write under an identifiable name (Deloitte, 2011).

Some user-generated websites have recognised the value of this and are therefore employing general social networking sites to authenticate postings by requiring contributors to login using, for example, their *Facebook* profile.

It behoves on CGM website managers to institute effective mechanisms in order to ensure a more secure reviewing platform where the best is done to guarantee credible CGM. One approach will be to review and verify every posting, as practiced by *Silver Travel Advisor* (Deloitte, 2011). However, such an approach may not be feasible with widely used CGM sites like *TripAdvisor*. Other approaches have been suggested by Tnooz (2011) including linking each review with a GPS assigned location which is traceable to the location of the travel product under review, tracking IP addresses and frequency of postings, using mobile apps to permit reviews to be submitted only if they are within range, among others. The implementation of such strategies in the travel domain may have their own challenges, given that most travel reviews are written after return from the trip. Deloitte (2011) also suggests other sophisticated methods that can be implemented to validate and risk-assess CGM such as algorithms, data mining tools and rules-based analysis. Approaches being employed by *TripAdvisor* to address credibility concerns include the application of sophisticated fraud detection filters to scan and flag suspicious reviews for inspection. Disclaimers are posted to warn potential guests of hotels writing fake reviews to improve their popularity rankings or hurt competitors. Other user-generated review sites go a step further to ensure that consumers stayed in the hotels they review (e.g. agoda.com). In essence, it is paramount to emphasize credibility cues and communicate to users, the mechanisms being implemented to ensure this so as to enhance credibility perceptions.

6.14.2 Implications for Hospitality, Travel and Tourism Managers

From hospitality, travel and tourism marketers' perspective, the findings suggest that CGM has the potential to influence consumers' travel planning and decision making process. For instance, online consumers are likely to employ consumer-generated reviews for their travel planning as long as the cognitive process delineated in this study are present – regardless of whether the review reflects the truth or not. Incidentally, researchers in the Field of Communication Studies describe credibility not as a characteristic inherent in the source *per se*, but as a judgment made by the information receiver (Johnson & Kaye, 1998; Flanagin & Metzger, 2007; 2008). Flanagin and Metzger (2008) contend that while accurate information is most probable to be regarded as credible, technically, inaccurate information can also be perceived as credible as long as the information recipient believes it. The present study investigated credibility as a *perceptual variable* and found it as a crucial determinant in the model. This implies that negative reviews and comments about services posted by consumers could have far reaching implications for a travel brand's reputation as well as sales and profitability, regardless of the reality.

There are several possible ways to lessen any such undesirable effect. First, hospitality and tourism businesses may need to set in place mechanisms for monitoring ongoing discussions about their service offerings on various social media platforms. This can be quite scary to practitioners considering the multiplicity of such social media platforms recently. However, new automated tools like *Social Mention* (www.socialmention.com) make this task easier. This approach can help managers' easily identify negative consumer-generated reviews about their offerings and respond accordingly (particularly when such CGM is dishonest or exaggerated). Second, organisations could consider creative ways to mitigate the adverse implications of negative CGM on their businesses. A recent study by Ayeh, Leung, Au and Law (2012), for instance, identified some strategies that hospitality and tourism practitioners are employing to address negative reviews. Furthermore, Xie *et al*. (2011) suggest that hotel managers could minimize the negative impact of their past service failures by drawing consumers' attention to the most recent online reviews, assuming such failures have been rectified. Essentially, it is important for managers to respond professionally to negative reviews. They may also do well to offer high quality services in order to avoid negative complaints from consumers on CGM platforms.

The results of the PLS MGA are certainly an important aspect of marketing implications. In light of the empirical findings of this study, it should not be surprising that online marketers seeking to implement "one-size fits all" social media campaign strategies have faced considerable challenges. The findings suggest that online travellers react differently to the idea of using CGM for travel planning. The relative importance of the dominant predictors of travellers' conative responses to using CGM for travel planning, for example, changes with usage experience. In sum, the findings of the MGA highlight the need to consider country-specific differences and user experiences when determining the mix of web strategies to employ in social media contexts. Thus, it is imperative for practitioners to translate these differences into market segmentation strategies.

6.15 CHAPTER SUMMARY

This chapter reviews the study results and discusses how the findings relate to previous research. The chapter also discusses the new measures developed and the validity of the borrowed scales to the context of this study. The measurement models were proven to be valid and reliable across different contexts and were able to achieve the present study's objectives. With the exception of the causal relationship between perceived credibility and usage intention, which was found to be valid in only certain contexts, the findings fully support the proposed model. The structural model shows a strong statistical ability to predict online travellers' attitude and behavioural intention to use CGM for travel planning. The chapter also highlights mediation effects and group differences and their potential to limit the generalisability of the findings. Comparing the results with previous research reveals several interesting findings. While this study finds support for prior findings in existing literature, the results also offer new insights into online traveller behaviour which differ from existing perspectives. The chapter concludes by addressing the theoretical, methodological and practical implications of the study. Overall, the present study provides a valid theoretical framework for studying the complex phenomenon of CGM use for travel planning and offers insights to practitioners on social media marketing strategies within the travel domain.

Chapter 7. CONCLUSION

This chapter concludes the present study. The chapter begins with a summary of the thesis project and a recap of the key findings. In addition, the chapter revisits the research objectives and discusses the extent to which they were addressed. Lastly, the limitations of the study are recognised and recommendations are made for future research.

7.1 OVERVIEW OF THE STUDY

The present study aims at developing and testing a structural model for understanding the factors affecting online travellers' attitude and intention to use CGM for travel planning. The thesis is organized as follows. Chapter 1 introduces the background to the study, defines the research problem and outlines the research objectives. In today's Web 2.0 environment, social media have gained increasing importance. However, prior research has suggested that several Internet users are still not utilising CGM for travel planning. More recently, there has been a surge in research on social media in the travel sphere but the determinants of CGM usage for the particular purpose of travel planning have rarely been the focus of these studies. The current study therefore sought to address this research gap by investigating the relevant factors affecting online travellers' attitude and intention to use CGM for travel planning. Chapter 1 also highlights the importance of the current study, and defines the key terms in the thesis.

Chapter 2 reviews existing literature relevant to the phenomenon under study. The chapter begins with a discussion of the need for information in the travel planning process and the growing importance of the Internet in this regard. The chapter presents an extensive literature review, which covers studies on the impact of user-generated content and related research in the hospitality and tourism field. In addition, the pertinent issues surrounding CGM platforms as media channels are discussed before reviewing existing research on technology adoption in the hospitality and tourism domain. Chapter 2 also provides a comprehensive review of alternative theories that could be applied to this research. Lastly, the chapter offers a critical overview of prior studies that have applied TAM to research contexts in the hospitality and tourism field as well as research that offered theoretical extensions to the TAM. Though the TAM has been proven useful in explaining the use of information system applications in varied contexts, it was yet to address consumers' behaviour towards newly emerging technologies like CGM in the specific context of travel planning. In addition, most previous studies have taken a generalised approach yet the factors affecting usage intentions are expected to vary with technology, target users and context.

On the basis of the literature review, Chapter 3 develops a conceptual framework for the study and delineates the hypothesised relationships among the research constructs. Based on Davis' *et al.* (1989) TAM, perceived usefulness and ease of use are postulated as the determinants of online travellers' attitude and intention to use CGM for the specific purpose of travel planning. The chapter illustrates how the theoretical framework could explain online travellers' attitude and usage intention and how it is modified by integrating constructs from the theories of Source Credibility, Motivation, Media Richness and Homophily. Source credibility is hypothesised to have a direct and positive effect on usefulness perception, attitudes and usage intention. Perceived enjoyment is posited as a determinant of attitude and perception of ease of use. Also, perceptual homophily and perceived media richness are assumed to be exogenous constructs and directly related to source credibility and perceived usefulness respectively.

Chapter 4 explicates the research design and the methodology adopted for the current study. The chapter also discusses the measurement instruments and how they were developed. The design of the pilot study is discussed focusing on the procedure of data collection, screening and analysis. Following a thorough screening process which resulted in the deletion of outliers and incomplete responses, a usable sample of 201 valid responses was retained from the pilot study for measurement analysis. Principal component analysis with oblique rotation (Direct Oblimin) was conducted for the reflective constructs. The formative construct was validated by ensuring content validity, indicator validity, collinearity and nomological validity. On the basis of the results of the pilot study, minor revisions were made prior to the conduct of the main survey. The chapter goes further to elaborate on the methods and procedures employed in the conduct of the main survey. Finally, the chapter discusses the data analysis method of the main survey, emphasizing on SEM – the key technique used to examine the structural relationships.

Chapter 5 presents the results of the main survey and reports on a series of statistical tests regarding measurement model validation, structural model testing, hypotheses, mediation and multi-group analysis. After addressing issues related to missing data, outliers and normality, a total of 1202 valid questionnaires were retained for the analyses. This is followed by a description of the procedures employed for establishing reliable and valid measurement models. The analyses by means of PCA and PLS factorial validity tests using different samples revealed similar structures. The structural model test results demonstrated that the model adequately reflects online travellers' attitude and intention to use CGM for travel planning. The results confirmed 11 out of the 12 hypothesised relationships and established mediation effects in the model. The chapter concludes with PLS-based multi-group analyses which assessed the performance of the measurement and structural models across different groups. The results offered evidence of measurement invariance but found significant differences in the structural relationships across the country-specific samples as well as user experience groups.

Chapter 6 discusses the study findings and the implications for theory and practice. The chapter first reviews the overall model performance, the constructs and their structural relationships. The findings are also compared with those of previous studies to draw attention to similarities and differences. While this study found support for prior findings in existing literature, the results also offer new insights into online traveller behaviour, which have not been previously considered by researchers. The findings shed light on the differences in terms of antecedents of usage in the present study's context. Lastly, the chapter highlights the theoretical, methodological and practical contributions of the study.

Chapter 7 represents the conclusion of the thesis. In this final chapter, the study draws conclusions about each of the research objectives. Following the overview, this chapter reiterates the key findings. The limitations of the present study are also discussed and recommendations are made for future research. The next section recaps the results of the hypotheses, reviews the research objectives and reports on the extent to which they were addressed in the current study.

7.2 SUPPORT FOR THE HYPOTHESES

This study proposed a new conceptual framework for understanding the factors affecting online travellers' attitudes and intentions regarding the use of CGM for travel planning. The study examined the role of various cognitive factors in deciding the affective and conative responses of online travellers towards the use of CGM for travel planning. Usefulness perception is posited to directly influence attitude and usage intention. Perceived ease of use, on the other hand, is proposed as a determinant of perceived usefulness and attitude. The role played by source credibility perception in the CGM context is also investigated. Source credibility is proposed to directly influence usefulness perception, attitude and usage intention. The study also postulates perceived enjoyment, perceptual homophily and perceived media richness as antecedents in the structural relationships. In sum, the present study attempted to address the ability to predict online travellers' intention to use consumer-generated media for travel planning, from measures of their attitudes towards usage as well as their perceptions of usefulness, ease of use, enjoyment, media richness, source credibility and perceptual homophily.

The findings of this study offer valuable evidence in support of the proposed structural model and the hypothesised relationships. In summary: (H1-1) perceived source credibility has a positive, direct effect on perceived usefulness; (H1-2) perceived source credibility has a positive, direct impact on attitude; (H1-3) perceived source credibility has no direct effect on usage intention at the aggregate data level; (H2) perceptual homophily has a positive, direct influence on source credibility perception; (H3) perceived media richness has a positive, direct effect on usefulness perception; (H4-1) perceived enjoyment has a positive, direct impact on ease of use; (H4-2) perceived enjoyment has a positive, direct influence on attitude; (H5-1) perceived usefulness has a positive, direct effect on attitude; (H5-2) perceived usefulness has a positive, direct impact on usage intention; (H6-1) perceived ease of use has a positive, direct influence on attitude; (H6-2) perceived ease of use has a positive, direct effect on usefulness perception; and (H7) attitude has a positive, direct influence on usage intention.

In essence, the proposed constructs play a central role in online travellers' acceptance of CGM for travel planning. However, the relationship between source credibility and usage intention (H1-3) seems to be more complex than has been previously hypothesised. Source credibility is a widely utilised cue in several settings, and this study provides evidence that it plays a critical role in determining online travellers' usefulness perception and attitude. The present study, however, did not find support for a direct effect of source credibility on usage intention at the aggregate data level. Subsequent statistical tests confirmed that attitude and perceived usefulness perfectly mediate this relationship between credibility and usage intention. Nonetheless, the PLS based multi-group analyses found that credibility perception has a positive, direct effect on usage intention in certain contexts. This relationship should therefore only be cautiously interpreted as generalisable within certain groups of online travellers. All the same, a major implication here is that, without prior experience with the target CGM platform, credibility perceptions play a critical role in driving behavioural intention. This is a very powerful result because it suggests that the behavioural intention of non-users is strongly anchored to general beliefs about the credibility of the CGM source. This, however, changes with usage experience as credibility perception ceases to have a direct influence on usage intention, at this stage, and CGM users tend to depend more on their attitudes in deciding their conative responses to CGM usage. The multi-group analyses further demonstrated that online travellers react differently to the use of CGM for travel planning. Respondents' country of residence and prior experience with CGM usage were found to moderate, to some degree, the cognitive and affective processes depicted in the structural model.

7.3 ACHIEVEMENT OF RESEARCH OBJECTIVES

The outcome of the present study shows that all six research objectives have been achieved. The first objective is to expand upon Davis' (1989) Technology Acceptance Model by introducing new predictors that are appropriate for the CGM context. The study offers a theoretical extension to Davis' model by integrating new constructs from the theories of Homophily, Media Richness, Motivation and Source Credibility. The study findings further established the relevance of the proposed factors to the context of CGM usage for travel planning. Thus, the first objective is achieved.

The second objective is to identify the underlying structure of the proposed constructs. The results of the PCA and the PLS factorial validity tests fully supported the proposed dimensions. A two-factor underlying structure was identified in relation to source credibility (*perceived expertise* and *perceived trustworthiness*). In addition, the latent constructs *perceived enjoyment*, *ease of use*, *perceptual homophily*, *perceived usefulness*, *attitude* and *usage intention* were fully identified as distinct components. The findings further demonstrate the reliable and valid nature of the measurement of these constructs. Therefore, the second objective is realised.

The third objective is to investigate how source credibility, perceived enjoyment, perceived usefulness and perceived ease of use influence online travellers' attitudes and behavioural intention to use CGM for travel planning. Consistent with previous research, this study found significant support for the conventional TAM related constructs – perceived usefulness and ease of use – in predicting online travellers' attitude and intention to use CGM for travel planning. However, perceived ease of use takes on a much more influential role than has been previously recognised in TAM literature. Similarly, the effect of perceived enjoyment on attitude is stronger than that of perceived usefulness, in contrast to prior findings in the traditional literature. The findings further showed that perceived source credibility and enjoyment perceptions are important determinants of CGM usefulness for travel planning. The present study did not find support for the direct effect of source credibility on usage intention in the aggregate data due to mediation effects. However, multi-group analyses revealed that this direct relationship is valid in certain contexts. The study also finds that online travellers react differently to the idea of using CGM for travel planning based upon their country of residence and usage experience. Thus, the third objective is attained.

The fourth objective is to explore the effects of perceptual homophily and perceived media richness on source credibility and usefulness perceptions, respectively. The results reveal a strong positive relationship between perceptual homophily and perceived source credibility. Also, the current study finds that perceived media richness contributes to perceived usefulness. Explicitly, the degree of media richness allotted to a CGM platform by online travellers influences their evaluation of the usefulness of the CGM for travel planning. Hence, the fourth objective is achieved.

The fifth objective is to assess the effectiveness of the proposed model in predicting online travellers' attitude and behavioural intention to use CGM for travel planning. The results of the structural model tests demonstrated that the proposed model explains up to 65.6 percent of the total variation in attitude and 56.2 percent of the variance in intention to use CGM for travel planning. The Stone–Geisser's Q^2 Test (Geisser, 1974; Stone, 1974) predictive validity test confirmed the prediction relevance of all five endogenous constructs. Thus, the fifth objective is realised.

The sixth objective is to investigate measurement and structural invariance in the proposed model. An assessment of measurement invariance revealed that the measurement models were equivalent across sub-groups related to country, usage experience and gender. The PLS based multi-group analyses, however, identified some significant differences in the structural relationships with regards to the group-specific models on respondents' country of residence and usage experience. Conversely, the study established structural invariance across groups related to respondents' gender. Hence, the sixth objective is achieved.

In sum, all questions associated with the research objectives have been effectively addressed. This study attempted to illustrate the appropriateness of using an extended model of Davis (1989) TAM which integrates theories from communication, marketing, social psychology and information system to explain online travellers' attitude and intention to use CGM for travel planning. The findings highlight the critical factors relevant to the cognitive processes determining online travellers' affective and conative responses to using CGM for travel planning. The study outcome holds important implications for theory and practice. While establishing the theoretical validity and empirical applicability of Davis' (1989) TAM to the context of CGM, the present study also offers a theoretical extension to explain online behaviour in this particular context. Furthermore, the estimated model also has practical value for guiding recommendations aimed at driving travellers' acceptance of CGM for travel planning. The insights this study offers can further be translated into appropriate social media strategies for system designers as well as hospitality and tourism marketers. Overall, the present study provides a valid theoretical framework for studying the complex phenomenon of CGM use for travel planning and offers insights to practitioners on social media marketing strategies within the travel domain. In concert with the empirical findings, the proposed model can serve as a foundation for future research regarding this aspect of online behaviour.

7.4 STUDY LIMITATIONS

The current study is not without limitations and their recognition should help refine future research efforts. Despite the attempt to ensure a sound research design, the present study was still vulnerable to problems such as self-selection and non-response which is typical of online surveys. It is common for most people contacted by e-mail not to respond to the survey. In an overview of Internet-based surveys in hospitality and tourism journals, Hung and Law (2011) reported that online studies generally yield response rates of less than 30%. Therefore, a major limitation of a study like this one is the inability to determine whether respondents and non-respondents differ in significant ways. Nonetheless, comparing the resulting group of respondents with the general statistics of Internet users in the USA and Singapore suggest that the structure of the sample obtained is quite similar to the typical profile of adult Internet users in both countries. Secondly, the interest of this study is primarily not in the generalisation of the results to an empirical population (i.e. USA and Singapore), but rather theoretical generalisation.

Furthermore, the fact that the study was conducted online rules out other travellers who are not habitual users of the Internet. Though the goal for choosing online users is to limit the focal group to potential users of CGM, travellers who regularly use the Internet are likely to be more active and less resistant than those who do not. Therefore, much caution should be exercised when generalising the findings. Nonetheless, the results of the study offer valuable insights for managers and researchers who are seeking to understand consumer behaviour in relation to social media usage in the context of travel planning given that nearly 80 percent of the US population and 77 percent of the Singaporean population are Internet users (Internet World Stats, 2012).

The cross-sectional nature of this study and the reliance on self-report questionnaires to measure the proposed constructs imply that the results are liable to common method variance (CMV). CMV refers to the "variance that is attributable to the measurement method rather than to the constructs the measures represent" (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003, p. 879). While scholarly views on the implications of CMV for common method bias differ (Podsakoff *et al*., 2003; Chang, van Witteloostuijn, & Eden, 2010), it is still important to recognise CMV as a potential limitation to this study.

The present study investigates only one CGM website (*TripAdvisor*), one that is widely used by travellers around the world. *TripAdvisor* was chosen because it is the largest and most popular travel-specific CGM site; hence respondents will have no problem understanding what the study is looking for. However, this may have repercussions on the relative scores for belief factors such as credibility, usefulness and perceived media richness. All the same, since the present study's interest is in the relationships among latent constructs and not descriptive scores *per se*, this is not problematic to the realization of the study's objective. Hence the results can be generalised to other CGM platforms that offer similar services. However, to what extent the findings could be generalised to non-travel-specific CGM platforms remains to be found out.

Another potential concern is that the final dependent construct used here represents behavioural intention to use rather than actual usage of CGM for travel planning, yet the latter is the real construct of interest. Some scholars have argued that reliance on self reported measures of variables like behavioural intention makes models built on these variables susceptible to questioning (Straub & Burton-Jones, 2007). Bradley

(2009) suggests that a better approach is to employ an independent measure of actual use. However, this is not possible in the case of the present study due to practical limitations such as the difficulty in measuring actual usage in view of restrictions such as privacy considerations. Given this particular context, it is believed that intention to use and actual usage behaviour are likely to be highly correlated to each other. Furthermore, previous studies demonstrate that the link between behavioural intention and subsequent behaviour, though imperfect, is often extremely high (e.g. Venkatesh & Davis, 2000; Venkatesh & Morris, 2000). In addition, usage intention has generally been accepted as the best surrogate of actual behaviour in existing literature (Davis & Venkatesh, 1996; Lee *et al*., 2003).

7.5 FUTURE RESEARCH DIRECTIONS

Obviously, this study is only a first step toward understanding online travellers' behaviour in CGM environment. The conceptualization of the CGM adoption process in the present study's context offers interesting avenues of research for TAM researchers interested in social media usage and for hospitality and tourism researchers interested in the travel planning process. First, while the TAM related constructs remain dominant factors in driving individuals' intention to use CGM for travel planning, other variables influence CGM usage in this context as well. The present study provides support for the inclusion of such variables as perceptual homophily, media richness and source credibility. Future studies can concentrate on further validation of these factors. Also, it is hoped that future studies might explore additional context-specific factors to better explain the complex relationships among variables in pursuit of understanding the use of CGM in the travel planning context. Researchers investigating individual adoption in voluntary settings also need to reconsider the importance of the attitude construct.

Second, the results reported here are largely limited to responses from online travel consumers in Singapore and the USA. Though findings may generally apply to similar contexts particularly in Asia and North America, the extent to which the results can be generalised to contexts outside these regions remains to be found out. An earlier study conducted by Yoon *et al.* (1998), for example, found some of the dimensions used in this study to be extremely similar across countries/ cultures but their effects varied by the dependent variables. The present study also finds important differences in the structural relationships between the two country-specific models. Thus, caution must be exercised in any attempt to generalise the results to other populations and settings. Future research may replicate this study in other cultural contexts to further validate these findings.

Also, while the present study identifies certain significant differences in the responses from Singapore and the USA, the extent to which Singaporean respondents are representative of Asian travellers, or American respondents are typical of Western travellers in general, are unclear. Although the sample respondents are much more varied than that of previous studies, additional studies could further investigate the importance of cultural differences within these sub-regions, with regards to online travel consumers' perceptions, attitudes and intentions to use CGM for travel planning. Future research could also investigate the effects of cultural dimensions on the cognitive processes in the model.

Fourth, the present study examine online behaviour in relation to one particular type of CGM site which also happens to be the largest and most widely utilised CGM site for travel planning. However, future studies might test the model in alternative CGM platforms, including other travel-specific online communities (e.g. *VirtualTourist, and IgoUgo*), and general social networking sites (e.g. *Facebook* and *Myspace*) as well as CGM that are accessible from the websites of service providers and destination marketers. It is plausible for the effects of the dimensions in the model to vary across CGM platforms due to, perhaps, visual effects or other related factors.

Further research should focus on designing and testing managerial interventions to improve perceptions about CGM with regards to the identified determinants with the goal of fostering increased usage for travel planning purposes. Managers would be especially interested in what determines travel consumers' perceptions of ease of use, usefulness, credibility and enjoyment. While this study sheds light on the role of perceptual homophily and media richness, among others, it is beyond the scope of this study to explore how online travellers formed these perceptions, but this is a potentially fruitful avenue for future research. Further exploration of these links will be particularly valuable. Equally, research should centre on designing managerial interventions that will ensure facilitating conditions which favour the formation of positive perceptions about the relevant factors identified in this study.

Another important avenue for future research relates to the different forms of credibility. The present study examined source credibility. However, there are other forms of credibility in the existing literature such as corporate credibility, message credibility and channel credibility (Metzger *et al.*, 2003; Pornpitakpan, 2004). It is hoped that future research will explore these aspects as well. Also, the present study represents an initial attempt to examine media richness in the social media context. Perceived media richness was found to be a critical determinant of usefulness perception in this study. It will be valuable for future research to concentrate on further validating these construct and its structural effects in the model.

For the PLS MGA, the current study employed Henseler's (2007) bootstrap test routine. However, other techniques exist (e.g. Keil *et al.*, 2000; Chin & Dibbern, 2010). Although Henseler’s approach was chosen due to its advantages over existing techniques, this technique is noted to be more conservative (Sarstedt *et al.*, 2011). Future research which compares alternative methods, building on the present study’s findings, would be extremely valuable. The results of the multi-group analyses further suggest that the cognitive processes involved in online travellers’ use of CGM for travel planning remains relatively stable regardless of gender differences. The study demonstrates that the factors that explain variations in online travellers’ attitudes and behavioural intention are the same among males and females. Nonetheless, given the seemingly important role of gender in moderating online behaviour in previous studies (e.g. Venkatesh *et al*., 2000; Kim *et al*., 2007), the issue of gender is still a very intriguing one, hence further investigation of its role in CGM context is warranted.

A broader implication for further research is that the findings draw attention to the central role of the purpose of a system's use. The results of this empirical study differ from those obtained by IS adoption studies that apply the TAM in other contexts using a generalised approach. Therefore, the present study demonstrates that if the usage purpose relates to a specific context, then the predictive importance of the determinants changes. The findings resonates the call for future TAM researchers to focus on the specific nature of the task for system use (Lee *et al*., 2003; van der Heijden, 2004).

Finally, the current study explains the determinants of attitude and intention to use CGM for travel planning which contribute much to our understanding of online behaviour regarding CGM. However, many questions remain to be answered about CGM in the evolving cyber space. For example, how does the use of CGM sites for other purposes (e.g. social networking, media sharing, etc.) influence its usage for travel planning? How do online travellers differ in terms of extent of CGM usage in the travel planning process? How does the moderation and management of the CGM platform influence its perceptions and usage? How well does the model apply to CGM usage for other purposes such as social networking, media sharing and entertainment? Answers to these questions, and related others, will be extremely valuable. There are several other ways the model could be further analysed. Future studies could go beyond the concept of travellers' intention to use CGM for travel planning and consider how these same predictors in the model drive online travellers' intention to contribute to CGM during and after their travel experiences. In addition, this model may be more or less valid for explaining information usage through channels other than CGM websites. It is imperative to also recognise that the research approach of combining social psychology, information systems, communication and marketing approaches could be applied to other aspects of online travellers' behaviour as well.

7.6 CONCLUDING REMARKS

This final chapter presents an overview of the study and draws conclusion about the realisation of the research objectives. The chapter also discusses the limitations of the present study and offers suggestions for future research. In brief, the present study provides an exposition of how different determinants influence attitude and usage intention and how their influence is affected by travellers' country of residence and usage experience with the CGM platform, thus providing researchers and practitioners with an in-depth understanding of the dynamics underlying the formation and change of attitudes and intention to use CGM specifically for travel planning.

Several studies have suggested a variety of perceptual factors which affects individuals’ use of information systems (Davis, 1992; Venkatesh *et al*., 2000; Venkatesh, 2000; Mathieson *et al*., 2001; Ryu *et al*., 2009). The current study has identified the kinds of perceptual factors which are relevant in the context of CGM usage for travel planning. This study makes several significant contributions to both theory and practice. It applies a well-known information systems theory to an online phenomenon that is of increasing importance and popularity to hospitality and tourism marketers, thus providing a theoretical tool for understanding CGM platforms and the behaviour of online travellers. The present study verifies the important roles played by the traditional TAM factors. The study also introduces source credibility, perceived media richness, perceived enjoyment and perceptual homophily as important constructs in this setting, and suggests that attitude and usefulness perceptions perfectly mediate the relationship between credibility and usage intention in certain contexts. The findings further imply that country of residence and usage experience somewhat moderate the cognitive and affective processes involved in online travellers’ decision to use CGM for travel planning. Limitations of the study centre on issues related to the interpretability and generalisability of the findings. This study further presents interesting avenues for future research. On the whole, the current study offers a valid theoretical framework for examining the complex phenomenon of CGM usage in the travel planning context and may therefore serve as a valuable foundation for future research.

REFERENCES

Agarwal, R., & Karahanna, E. (2000). Time flies when you’re having fun: Cognitive absorption and beliefs about information technology usage. *MIS Quarterly,* 24(4), 665-94.

Ahuja, R. D., Michels, T. A., Walker, M. M., & Weissbuch, M. (2007). Teen perceptions of disclosure in buzz marketing. *Journal of Consumer Marketing,* 24, 151–159.

AirPlus Int. (2010). Travel management pros see real value in social media tools for increasing travel program agility and enhancing traveller satisfaction. *Airplus International Community*. Retrieved July 12, 2010, from http://www.airpluscommunity.com/2010/06/28/

Ajzen, I. (1985). From intentions to actions: A theory of planned behaviour. In J. Kuhl, & J. Beckman (Eds.), *Action control: From cognition to behaviour* (pp. 11-39). New York, NY: Springer.

Ajzen, I. (1988). *Attitudes, personality and behaviour*. Milton Keynes: OUP.

Ajzen, I. (1989). Attitude structure and behavior. In: A. Pratkanis, S. Breckler, A. Greenwald (Eds.), *Attitude Structure and Function* (pp. 241–274). Hillsdale, NJ: Laurence Erlbaum Associates.

Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50, 179-211.

Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin,* 84, 888-918.

Ajzen, I., & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior.* Englewood Cliffs, NJ: Prentice-Hall.

Ajzen, I., & Madden, T. J. (1986). Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral control. *Journal of Experimental Social Psychology*, 22, 453-474.

Albaum, G. S., & Smith, S. M. (2006). *Handbook of Marketing Research*. London, UK: Sage Publications.

Albers, S. (2010). PLS and success factor studies in marketing. In: V. Esposito Vinzi, W. W. Chin, J. Henseler & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods, and applications* (Chapter 18, pp. 409-425), Berlin: Springer.

Alexander, J. E., & Tate, M. A. (1999). *Web Wisdom: How to Evaluate and Create Information Quality on the Web*. Hillsdale, NJ: Lawrence Erlbaum.

Alpert, M. I., & Anderson, W. T., Jr. (1973). Optimal heterophily and communication effectiveness. Some empirical findings. *Journal of Communication*, 23, 328-343.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin* 103 (3), 411-423.

Anetta, A. M., Zsuzsa, P., & László, S. (2012). Using the Theory of Technology

Acceptance Model to Explain Teenagers' Adoption of Smart phones in Transylvania. *Studia Ubb Negotia*, 57(1), 3-19.

Aristotle (1934). *Rhetoric. Nichomachean ethics.* In *Aristotle in 23 volumes*. Rackman translation. Cambridge: Harvard University Press.

Armstrong, A., & Hagel, J. (1995). Real Profits from Virtual Communities. *The McKinsey Quarterly,* 3, 127-141.

Armstrong, A., & Hagel, J. (1996). The real Value of On-line Communities. *Harvard Business Review,* 74(May-June), 134-141.

Armstrong, T. S., Cohen, M. Z., Eriksen, L., & Cleeland, C. (2005). Content validity of self-report measurement instruments: An illustration from the development of the brain tumor module of the M.D. Anderson symptom inventory. *Oncology Nursing Forum,* 32(3), 669-676.

Arsal, I., Backman, S., & Baldwin, E. (2008). Influence of an Online Travel Community on Travel Decisions. In P. O'Connor, W. Höpken, & U. Gretzel (Eds.), *Information and Communication Technologies in Tourism 2008* (pp. 82-93). New York, NY: Springer Wien.

Arsal, I., Baldwin, E., & Backman, S. (2009). Member Reputation and Its Influence on Travel Decisions: A Case Study of an Online Travel Community. *Information Technology & Tourism*, 11, 235–246.

Arsal, I., Woosnam, K. M., Baldwin, E. D, & Backman, S. J. (2010). Residents as Travel Destination Information Providers: An Online Community Perspective. *Journal of Travel Research,* 49(4), 400–413.

Au, N., Buhalis, D., & Law, R. (2009). Complaints on the Online Environment: The Case of Hong Kong Hotels. In W. Hoepken, U. Gretzel, & R. Law (Eds). *Information and Communication Technologies in Tourism* 2009. (pp. 73-85). New York, NY: Springer.

Ayeh, J. K. (2007). Determinants of Internet usage in Ghanaian hotels: The case of the Greater Accra Region (GAR). *Journal of Hospitality Marketing & Management*, 15(3), 87-109.

Ayeh, J. K., Leung, D., Au, N., & Law, R. (2012). Perceptions and Strategies of hospitality and tourism practitioners on social media: An exploratory study. In M. Fuchs, F. Ricci, & L. Cantoni (Eds.), *Information and Communication Technologies in Tourism 2012* (pp. 1-12). Vienna, Austria: Springer-Verlag.

Bagozzi, R. P. (1981). Attitudes, intentions and behavior: a test of some key hypotheses. *Journal of Personality and Social Psychology,* 41(4), 607–27.

Bagozzi, R. P. (1992). The self-regulation of attitudes, intentions and behavior. *Social Psychology Quarterly,* 55, 178-204.

Bagozzi, R. P. (2007). The Legacy of the Technology Acceptance Model and a Proposal for a Paradigm Shift. *Journal of the Association for Information Systems*, 8, 244–254.

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74–94.

Bagozzi, R. P., & Yi, Y. (2012). Specification, evaluation, and interpretation of structural equation models. *Journal of the Academy of Marketing Science,* 40(1), 8-34.

Bandura, A. (1977). *Social Learning Theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist,* 37, 122-147.

Barclay, D., Thompson, R., & Higgins, C. (1995). The Partial Least Squares (PLS) Approach to Causal Modelling: Personal Computer Adoption and Use: An Illustration. *Technology Studies,* 2(2), 285-309.

Barki, H., & Hartwick, J. (1994). Measuring user participation, user involvement, and user attitude. *MIS Quarterly*, 18(1), 59-82.

Barnett, W., & Presley, A. (2004). Theory of planned behaviour model in electronic learning: A pilot study. *Journal of Issues in Information Systems*, 1, 22-28.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.

Bateson, J. (1985). Self-service consumer: An exploratory study. *Journal of Retailing,* 61(Fall), 49-76.

Belleau, B. D., Summers, T. A., Xu, Y., & Pinel, R. (2007). Theory of Reasoned Action: Purchase Intention of Young Consumers. *Clothing & Textiles Research Journal*, 25(3), 244-257.

Benini, A. (2000). *Construction of Knowledge.* Rome: Gnome.

Berthon, P. R., Pitt, L. F., Plangger, K., & Shapiro, D. (2012). Marketing meets Web 2.0, social media, and creative consumers: Implications for international marketing strategy. *Business Horizons*, 55(3), 261–271.

Bettman, J. (1979). *Information Processing Theory of Consumer Choice*. Boston: Addison-Wesley.

Bickart, B., & Schindler, R. M. (2001). Internet forums as influential sources of consumer information. *Journal of Interactive Marketing,* 15 (3), 31-40.

Bieger, T., & Laesser, C. (2004). Information Sources for Travel Decisions: Toward a Source Process Model. *Journal of Travel Research,* 42(4), 357-371.

Blough, D. S. (2001). The Perception of Similarity. In R. G. Cook (Ed.), *Avian Visual Cognition,* Retrieved July 2, 2012, from http://www.pigeon.psy.tufts.edu/avc/dblough/default.htm

Bollen, K.A. (1989). *Structural Equations with Latent Variable.* New York, NY: John Wiley.

Bradley, J. (2009). The Technology Acceptance Model and Other User Acceptance Theories. In Y. K. Dwivedi, B. Lal, M. D. Williams, S. L. Schneberger, & M. Wade (Eds.), *Handbook of Research on Contemporary Theoretical Models in Information Systems* (pp. 544-562). Hershey, PA: Information Science Reference.

Brady, M. K., Knight, G. A., Cronin, J. J., Jr., Tomas, G., Hult, M., & Keillor, B. D. (2005). Removing the contextual lens: A multinational, multi-setting comparison of service evaluation models. *Journal of Retailing,* 81(3), 215-230.

Bray, J., & Schetzina, C. (2006). Travel 2.0: Harnessing the Power of User-Generated Content and Tagging. *Hospitality Upgrade,* Fall, 28–29.

Bressler, S., & Grantham, C. (2000). *Community of commerce.* New York: McGraw-Hill.

Brown, J. J., & Reingen, P. H. (1987). Social ties and word-of-mouth referral behavior. *Journal of Consumer Research,* 14(3), 350−362.

Brown, J., Broderick, A. J., & Lee, N. (2007). Word of mouth communication within online communities: Conceptualizing the online social network. *Journal of Interactive Marketing,* 21(3), 1-20.

Brown, T. J. (1999). Antecedents of culturally significant tourist behaviour. *Annals of Tourism Research*, 26(3), 676–700.

Bruner, G. C., & Kumar, A. (2000). Web commercials and advertising hierarchy-of-effects. *Journal of Advertising Research*, 40(1/2), 35-42.

Bruner, G. C., & Kumar, A. (2002). Similarity analysis of three attitude-toward-the-website scales. *Quarterly Journal of Electronic Commerce,* 3(2), 163-72.

Bruner, G. C., & Kumar, A. (2005). Explaining consumer acceptance of handheld Internet devices. *Journal of Business Research,* 58, 553-558.

Brunson, K. W. (2008). Electronic Textbooks: An Empirical Study of Adoption Potential. *The Liberty Business Review,* 6(1), 44-55.

Bruyn, A., & De Lilien, G., L. (2008). A multi-stage model of word-of-mouth influence through viral marketing. *International Journal of Research in Marketing*, 25, 151–163.

Budd, R. J. (1987). Response bias and the theory of reasoned action. *Social Cognition*, 5, 95-107.

Bullock, H. E., Harlow, L. L., & Mulaik, S. A. (1994). Causation Issues in Structural Equation Modeling Research. *Structured Equation Modeling,* 1(3), 253-267.

Burgess, S., Sellitto, C., Cox, C., & Buultjens, J. (2009). Trust perceptions of online travel information by different content creators: Some social and legal implications. *Information System Frontiers,* Springer Science & Business Media, LLC. Retrieved January 8, 2011, from http://www.springerlink.com/content/042534467t55m0t5/

Byrne, D. (1961). Interpersonal attraction and attitude similarity. *Journal of Abnormal and Social Psychology*, 62, 713-715.

Cai, L., Feng, R., & Breiter, D. (2004). Tourist purchase decision involvement and information preferences. *Journal of Vacation Marketing,* 10(2), 138–149.

Callister, T. A., Jr. (2000). Media literacy: On-ramp to the literacy of the 21st century or cul-de-sac on the information superhighway. *Advances in Reading/Language Research,* 7, 403–420.

Card, S. K., Moran, T. P., & Newell, A. (1980). The keystroke-level model for user performance time with interactive systems. *Communications of the ACM*, 23, 396–410.

Carley, K. M. (1991). A theory of group stability. *American Sociological Review,* 56, 331-54.

Casaló, L. V., Flavián, C., & Guinalíu, G. (2010). Determinants of the intention to participate in firm-hosted online travel communities and effects on consumer behavioural intentions. *Tourism Management,* 31(6), 898-911.

Castañeda, J. A., Frías, D. M., & Rodríguez, M. A. (2007b). The influence of the Internet on destination satisfaction. *Internet Research,* 17(4), 402-420.

Castañeda, J. A., Frías, D. M., & Rodríguez, M. A. (2009). Antecedents of Internet acceptance and use as an information source by tourists. *Online Information Review*, 33(3), 548-567.

Castañeda, J. A., Frías, D. M., Munoz, F., & Rodríguez, M. A. (2007a). Extrinsic and intrinsic motivation in the use of Internet as a tourist information source. *International Journal of Internet Marketing & Advertising,* 4(1), 37-52.

Chaffee, S. H. (1982). Mass Media and Interpersonal Channels: Competitive, Convergent, or Complementary? In G. Gumpert & R. Cathcart (Eds.), *Inter/Media: Interpersonal Communication in a Media World* (pp. 57–77). New York: Oxford University Press.

Chang, S.-J., van Witteloostuijn, A., & Eden, L. (2010). From the Editors: Common method variance in international business research. *Journal of International Business Studies,* 41, 178-184.

Chau, P.K. (2001). Influence of computer attitude and self-efficacy on IT usage behaviour. *Journal of End User Computing*, 13(1), 26-33.

Chen, C.-J., & Hung, S.-W. (2010). To give or to receive? Factors influencing members’ knowledge sharing and community promotion in professional virtual communities. *Information & Management,* 47(4), 226-236.

Cheung, C. M. K., Lee, M. K. O., & Rabjohn, N. (2008). The impact of electronic word-of-mouth: The adoption of online opinions in online consumer communities. *Internet Research,* 18(3), 229–247.

Childers, T. L., & Rao, R. (1992). The influence of familial and peer-based reference groups. *Journal of Consumer Research*, 19(2), 198–212.

Childers, T. L., Carr, C. L., Peck, J., & Carson, S. (2001). Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of Retailing,* 77(4), 511–535.

Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In G. A. Marcoulides (Ed.), *Modern Methods for Business Research* (pp. 295–358). Mahwah, NJ: Lawrence Erlbaum Associates.

Chin, W. W. (2010). How to Write Up and Report PLS Analyses. In V. Esposito Vinzi, W. W. Chin, J. Henseler & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods, and applications* (Chapter 28, pp. 655-690). Berlin: Springer.

Chin, W. W., & Dibbern, J. (2010). An introduction to a permutation based procedure for multi-group PLS analysis: Results of tests of differences on simulated data and a cross cultural analysis of the sourcing of information system services between Germany and the USA. In V. Esposito Vinzi, W.W. Chin, J. Henseler,

& H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods, and applications* (Part 1, pp.171 - 193). Berlin: Springer-Verlag.

Chin, W. W., & Gopal, A. (1995). Adoption intention in GSS: Relative importance of beliefs. *The Data Base for Advances in IS,* 26(2/3), 42-63.

Chin, W. W., & Newsted, P. R. (1999). Structural equation modelling analysis with small samples using partial least squares. In R. H. Hoyle (Ed.), *Statistical strategies for small sample research* (pp. 307–341). Thousand Oaks: Sage.

Chiu, C.-M., Hsu, M.-H., & Wang, E. T. G. (2006). Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. *Decision Support Systems,* 42(3), 1872-1888.

Choi, S. J., Lehto, X. Y., & O'Leary, J. T. (2007). What does the consumer want from a DMO website? A study of US and Canadian tourists' perspectives. *International Journal of Tourism Research,* 9, 59–72.

Chung, J. Y., & Buhalis, D. (2008a). Web 2.0: A study of online travel community. In P. O'Connor, W. Höpken, & U. Gretzel (Eds.), *Information and Communication Technologies in Tourism 2008* (pp. 70-81). New York, NY: Springer Wien.

Chung, J. Y., & Buhalis, D. (2008b). Information Needs in Online Social Networks. *Information Technology & Tourism,* 10(4), 267–281.

Churchill, G. A., Jr. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research,* 26(February), 64-73.

Cialdini, R. B. (2001). *Influence: Science and Practice.* Boston: Allyn and Badon.

Cohen, J. (1988). *Statistical power analysis for the behavioural sciences*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Collier, J. E., Bienstock, C. C. (2006). Measuring service quality in e-retailing. *Journal of Service Research,* 8(3), 260-275.

Compete, Inc. (2006). *Embracing consumer buzz creates measurement challenges for marketers*. Retrieved December 1, 2009, from http://media.competeinc.com/med/uploads/files/Compete_Spark_12_06_Embracing_Consumer_Buzz_Creates_Measurement_Challenges.pdf

Conrady, R. (2007). Travel technology in the era of Web 2.0. In R. Conrady & M. Buck (Eds). *Trends and Issues in Global Tourism* (Part 5, pp. 165-184), doi: 10.1007/978-3-540-70905-3_13 Retrieved March 2, 2011, from http://www.springerlink.com/content/w4r9942u34810726/fulltext.pdf

Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research and Evaluation*, 10, 1–9.

Couper, M. P., & Nicholls, W. L., II. (1998). The history and development of computer assisted survey information collection methods. In M. P. Couper, R. P. Baker, J. Bethlehem *et al*. (Eds.), *Computer assisted survey information collection* (pp. 1-21). New York: Johnson Wiley & Sons.

Cox, C., Burgess, S., Sellitto, C., & Buultjens, J. (2009). The role of user-generated content in tourists' travel planning behaviour. *Journal of Hospitality Marketing & Management*, 18, 743–764.

Cronin, J., & Taylor, S. (1992). Measuring service quality: A re-examination and extension. *Journal of Marketing,* 56(3), 55-68.

Crotts, J. (1999). Consumer Decision Making and Prepurchase Information Search. In A. Pizam, & Y. Mansfeld (Eds.), *Consumer Behavior in Travel and Tourism* (pp. 149–168). New York: The Haworth Hospitality Press.

Crotts, J., Mason, P., & Davis, B. (2009). Measuring guest satisfaction and competitive position in the tourism industry: An application of stance shift analysis to travel blog narratives. *Journal of Travel Research,* 48(2), 139-151.

Culnan, M. J., & Markus, M. L. (1987). Information technologies. In F. M. Jablin, L. L. Putnam, K. H. Roberts, & L. W. Porter (Eds.), *Handbook of organizational communication: An interdisciplinary perspective* (pp. 420-443). Newbury Park, CA: Sage.

Cunningham, S. M. (1967). The major dimensions of perceived risk. In D.F. Cox (Ed.), *Risk Taking and Information Handling in Consumer Behavior* (pp. 82-108), Boston: Harvard University Press.

Curran, J.M., & Meuter, M.L. (2005). Self-service technology adoption: Comparing three technologies. *Journal of Services Marketing,* 19(2), 103–113.

Czaja, R., & Blair, J. (2005). *Designing surveys: A guide to decisions and procedures*. Thousand Oks, CA: Sage Publications

Daft, R. L., & Lengel, R. H. (1984). Information richness: A new approach to managerial behavior and organization design. In B. M. Staw & L. L.

Cummings (Eds.), *Research in organizational behavior* (Vol. 6, pp. 191-233). Greenwich, CT: JAI Press.

Daft, R. L., & Lengel, R. H. (1986). Organizational information requirements, media richness, and structural determinants. *Management Science,* 32, 554-571.

Daft, R.L., Lengel, R.H., Trevino, L. (1987). Message equivocality, media selection, and manager performance. *MIS Quarterly,* 11(3), 355–366.

D'Ambra, J. R., Rice, R. E., & O'Connor, M. (1998). Computer-mediated communication and media preference: An investigation of the dimensionality of perceived task equivocality and media richness. *Behaviour and Information Technology,* 17(3), 164-174.

Das, M., Ester, P., & Laczmirek, L. (2011). Introduction. In M. Das, P. Ester, & L. Laczmirek (Eds.), *Social and Behavioural Research and the Internet: Advances in Applied Methods and Research* (pp. 11-44). New York, NY: Routledge.

Davis, F. D. (1986). *A technology acceptance model for empirically testing new end-user information systems: Theory and results.* Doctoral dissertation, Sloan School of Management, Massachusetts Institute of Technology, Amherst, MA.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly,* 13(3), 319 - 339.

Davis, F. D. (1993). User acceptance of information technology: System characteristics, user perceptions and behavioural impacts. *International Journal of Man-Machine Studies*, 38(3), 475-487.

Davis, F. D., & Venkatesh, V. (1996). A Critical Assessment of Potential Measurement Biases in the Technology Acceptance Model: Three Experiments. *International Journal of Human- Computer Studies,* 45(1), 19-45.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science,* 35(8), 982–1003.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology,* 22 (1), 1111–1132.

de Leeuw, E. D. (2008). Choosing the method of data collection. In E. D. de Leeuw, J. J. Hox, & D. A. Dillman (Eds.), *International Handbook of Survey Methodology* (pp. 113-135). New York: Lawrence Erlbaum Associates.

de Mooij, M., & Hofstede, G. (2002). Convergence and Divergence in Consumer Behavior: Implications for International Retailing. *Journal of Retailing,* 78(1), 61-69.

de Pelsmacker, P., & Janssens, W. (2007). The effects of norms, attitudes, and habits on speeding behavior: Scale development and model building and estimation. *Accident Analysis and Prevention,* 39, 6–15.

Dean, D. H., & Biswas, A. (2001). Third-party organisation endorsement of products: An advertising cue affecting consumer pre-purchase evaluation of goods and services. *Journal of Advertising,* 30(4), 41-57.

Dearstyne, B. W. (2007). Blogs, mashups, and wikis: Oh my! *Information Management Journal,* 41(4), 24–33.

Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology*, 53(6), 1024–1037.

Dellarocas, C. (2000). Immunizing online reputation reporting systems against unfair ratings and discriminatory behavior. *Proceedings of the 2nd ACM Conference on Electronic Commerce*. Association for Computing Machinery, Minneapolis, MN, 150-157.

Dellarocas, C. (2003). The digitization of word-of-mouth: Promise and challenge of online feedback mechanisms. *Management Science*, 49, 1407–1424.

Dellarocas, C. (2006). Reputation Mechanisms. In T. Hendershott (Ed.), *Handbook on Information Systems and Economics* (pp. 629-660). Amsterdam: Elsevier Publishing.

Deloitte LLP. (2011). Can today’s online travel consumers’ really believe what they read? *Travel, Hospitality and Leisure*. Retrieved April 14, 2012, from http://www.deloitte.com/assets/Dcom-UnitedKingdom/Local%20Assets/Documents/Industries/THL/uk-thl-todays-online-travel-consumers.pdf

Dennis, A. R., & Kinney, S. T. (1998). Testing media richness theory in the new media: The effect of cues, feedback and task equivocality. *Information Systems Research*, 9(May), 30-33.

Derbaix, C.M. (1995). The Impact of Affective Reactions on Attitudes toward the Advertisement and the Brand: A Step toward Ecological Validity. *Journal of*

Marketing Research, 32, 470–479.

Diamantopoulos, A., & Winklhofer, H. (2001). Index Construction with Formative Indicators: An Alternative to Scale Development. *Journal of Marketing Research*, 38(2), 269-277.

Dickinger, A. (2011). The Trustworthiness of Online Channels for Experience- and Goal-Directed Search Tasks. *Journal of Travel Research*, 50 (4), 378-391.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, Mail, and Mixed Mode Surveys: The tailored design approach* (3rd Ed.). Hoboken, NJ: John Wiley & Sons.

Dishaw, M. T., & Strong, D.M. (1999). Extending the technology acceptance model with task-technology fit constructs. *Information & Management,* 36 (1), 9-21.

Doob, L. (1947). The behavior of attitudes. *Psychological Review,* 54, 135-156.

Duan, W., Gu, B., & Whinston, A. B. (2008). The dynamics of online word-of-mouth and product sales – An empirical investigation of the movie industry. *Journal of Retailing,* 84 (2), 233–242.

Eagly, A. H., & Chaiken, S. (1984). Cognitive theories of persuasion. *Advanced Experimental Social Psychology*, 17, 268-359.

Eagly, A. H., & Chaiken, S. (1993). *The Psychology of Attitudes.* Fort Worth, TX: Hartcourt Brace Jovanovich

Eastin, M. S. (2001). Credibility assessments of online health information: The effects of source expertise and knowledge of content. *Journal of Computer-Mediated*

Communication, 6(4). Retrieved January 8, 2010, from http://www.ascusc.org/jcmc/vol6/issue4/eastin.html

Eggers, W. D. (2005). *Government 2.0: Using Technology to Improve Education, Cut Red Tape, Reduce Gridlock, and Enhance Democracy*. Lanham, MD: Rowman & Littlefield Publishers. Retrieved March 1, 2010, from http://www.manhattan-institute.org/government2.0/

Eisend, M. (2006). Source Credibility Dimensions in Marketing Communication – A Generalized Solution. *Journal of Empirical Generalizations in Marketing*, 10(2), 1-33.

El-Shinnawy, M., & Markus, M. L. (1992). Media richness theory and new electronic communication media: A study of voice mail and electronic mail. *Proceedings of international conference on information systems (ICIS),* Minneapolis, MN: University of Minnesota, pp. 91-105.

El-Shinnawy, M., & Markus, M. L. (1997). The poverty of media richness theory: Explaining people's choice of electronic mail vs. voice-mail. *International Journal of Human-Computer Studies*, 46, 443-467.

El-Shinnawy, M., & Markus, M. L. (1998). Acceptance of communication media in organizations: Richness or features? *IEEE Transactions on Professional Communication*, 41(4), 242-253.

eMarketer (2009). *Social Network Content: Are Users Willing to Pay?* Retrieved December 5, 2009, from http://www.emarketer.com/Reports/All/Emarketer_2000608.aspx eMarketer. (2010). UK Social network traffic overtakes search engine visits. *The eMarketer Blog*. Retrieved July 12, 2010, from http://www.emarketer.com/blog/index.php/uk-social-network-traffic-overtakes-search-engine-visits/

Engel, J., Blackwell, R., & Miniard, P. (1995). *Consumer Behavior* (8th Ed.). Fort Worth: Dryden.

Enoch, Y., & Grossman, R. (2010). Blogs of Israeli and Danish Backpackers to India. *Annals of Tourism Research,* 37(2), 520-536.

Erdogan, B. Z. (1999). Celebrity endorsement: A literature review. *Journal of Marketing Management*, 15(3), 291–314.

Erdogan, B. Z., Baker, M. J., & Tagg, S. (2001). Selecting celebrity endorsers: The practitioner's perspective. *Journal of Advertising Research,* 41(3), 39–49.

Facebook (2012). Key Facts. *Facebook Newsroom*. Retrieved August 23, 2012, from http://newsroom.fb.com/content/default.aspx?NewsAreaId=22.

Fazio, R. H. (1995). Attitudes as object-evaluation associations: Determinants, consequences, and correlates of attitude accessibility. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 247-282). Hillsdale, NJ: Erlbaum.

Featherman, M., & Pavlou, P. (2003). Predicting e-services adoption: A perceived risk facets perspective. *International Journal of Human-Computer Studies*, 59(4), 451-74.

Feldman, S. P., & Spencer, M. C. (1965). The effect of personal influence in the selection of consumer services. In P. D. Bennett (Ed.), *Proceedings of the Fall Conference of the American Marketing Association* (pp. 440-452), Chicago: American Marketing Association.

Fenech, T. (1998). Using perceived ease of use and perceived usefulness to predict acceptance of the World Wide Web. *Computer Networks and ISDN Systems,* 30 (1–7), 629–630.

Fernando, A. (2007). Social media change the rules: Say farewell to top-down and hello to consumer-led communication. *Communication World,* 24(1), 9–10.

Field, A. (2009). *Discovering Statistics using SPSS* (3rd Ed.). London: SAGE Publications.

Fishbein, M. (1968). An investigation of relationships between beliefs about an object and the attitude towards that object. *Human Relationships,* 16, 233-240.

Fishbein, M., & Ajzen, 1. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison—Wesley.

Fishbein, M., & Ajzen, 1. (1981). Attitudes and voting behavior: An application of the theory of reasoned action. In G. M. Stephenson & J. M. Davis (Eds.), *Progress in Applied Social Psychology* (Vol. I, pp. 253—3 13). London: Wiley.

Flanagin, A. J., & Metzger, M. J. (2000). Perceptions of Internet information credibility. *Journalism and Mass Communication Quarterly*, 77, 515–540.

Flanagin, A. J., & Metzger, M. J. (2003). The perceived credibility of personal Web page information as influenced by the sex of the source. *Computers in Human Behavior*, 19, 683–701

Flanagin, A. J., & Metzger, M. J. (2007). The role of site features, user attributes, and information verification behaviors on the perceived credibility of web-based information. *New Media Society,* 9(2), 319–342.

Flanagin, A. J., & Metzger, M. J. (2008). The credibility of volunteered geographic information. *GeoJournal,* 72,137–148.

Fodness, D., & Murray, B. (1997). Tourist information search. *Annals of Tourism Research*, 24(3), 503–523.

Fodness, D., & Murray, B. (1998). A typology of tourist information search strategies. *Journal of Travel Research,* 37(2), 108–119.

Fogg, B. J. (1999). Persuasive technologies - Now is your chance to decide what they will persuade us to do - and how they'll do it. *Communications of the ACM*, 42, 26–29.

Fogg, B. J. (2002). *Stanford guidelines for Web credibility*. Stanford Persuasive Technology Lab, Stanford University. Retrieved August 27, 2012, from http://credibility.stanford.edu/guidelines/index.html.

Fogg, B. J. (2003). *Persuasive technology: Using computers to change what we think and do.* San Francisco: Morgan Kaufmann.

Fogg, B. J., &. Tseng, H. (1999). *The elements of computer credibility*. Paper presented at the Conference on Human Factors and Computing Systems, Pittsburgh, PA, May 15–20, 1999.

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing*

Research, 18(3), 328–388.

Forrester Research (2006). *The State Of Retailing Online 2006: The 9th Annual Shop.org Study*. Published online by Shop.org, June 2006. Retrieved December 1, 2009, from http://www.clickz.com/3611181.

Fowler Jnr., F. J. (1995). *Improving survey questions: Design and evaluation*. (Vol. 38). Thousand Oaks, CA: Sage Publications.

Fox, L. (2010). Exclusive: 'Fake review' firms are not an issue, says TripAdvisor. *Travolution*. Retrieved September 3, 2010, from http://www.travolution.co.uk/articles/2010/01/22/3184/exclusive-fake-review-firms-are-not-an-issue-says-tripadvisor.html

Frías, D. M., Rodríguez, M. A., & Castañeda, J. A. (2008). Internet vs. travel agencies on pre-visit destination image formation: An information processing view. *Tourism Management*, 29(1), 163–179.

Friedman, E., Resnick, P. (2001). The social cost of cheap pseudonyms. *Journal of Economic Management Strategy,* 10(1), 173-199.

Fritch, J. W., & Cromwell, R. L. (2001). Evaluating Internet resources: Identity, affiliation, and cognitive authority in a networked world. *Journal of the American Society for Information Science and Technology,* 52(6), 499–507.

Fuchs, M., Höpken, W., Föger, A., & Kunz, M. (2010). E-Business Readiness, Intensity, and Impact: An Austrian Destination Management Organization Study. *Journal of Travel Research,* 49(2), 165–178.

Fulk, J., Steinfield, C. W., Schmitz, J., & Power, J. G. (1987). A social information processing model of media use in organizations. *Communication Research*, 14, 529–552.

Galbraith, J. R. (1973). *Designing Complex Organizations*. Reading MA: Addison-Wesley.

Garner, W. R. (1962). *Uncertainty and Structure as Psychological Concepts.* New York, NY: Wiley.

Gass, R. H., & Seiter, J. S. (1999). *Persuasion, Social Influence, and Compliance Gaining*. Needham Heights, MA: Allyn and Bacon.

Gefen, D., & Heart, T. (2006). On the Need to Include National Culture as a Central Issue in E-Commerce Trust Beliefs. *Journal of Global Information Management,* 14(4), 1-30.

Gefen, D., & Ridings, C. M. (2003). IT acceptance: Managing user-IT group boundaries. *The DATA BASE for Advances in Information Systems*, 34(3), 25–40.

Gefen, D., & Straub, D. (2000). The relative importance of perceived ease of use in IS adoption: A study of E-commerce adoption. *Journal of the Association for Information Systems,* 1(8), 1–28.

Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 27(1), 51-90.

Gefen, D., Rigdon, E. E., & Straub, D. (2011). Editor's comments: An update and extension to SEM guidelines for administrative and social science research.

MIS Quarterly, 35(2), 3-14.

Gefen, D., Straub, D., & Boudreau, M. (2000). Structural Equation Modeling and Regression: Guidelines for Research Practice. *Communication of the Association for Information Systems,* 4(7), 1-70.

Geisser, S. (1974). A predictive approach to the random effect model. *Biometrika*, 61(1), 101–107.

George, J. F. (2000). The effects of Internet experience and attitudes toward privacy and security on Internet purchasing. In *Proceedings of the 8th European Conference in Information Systems (ECIS)* (pp. 1053-1058). Austria: Vienna Universituy of Economics and Business Administration.

Gilly, M. C., Graham, J. L., Wolfinbarger, M. F., & Yale, L. J. (1998). A dyadic study of interpersonal information search. *Journal of the Academy of Marketing Science*, 26(2), 83-100.

Gitelson, R. J., & Crompton, J. L. (1983). The planning horizons and sources of information used by pleasure vacationers. *Journal of Travel Research*, 23(3), 2–7.

Gitelson, R., & Kerstetter, D. (1994). The influence of friends and relatives in travel decision-making. *Journal of Travel & Tourism Marketing*, 3(3), 59–68.

Goldsmith, R. E., Lafferty, B. A., & Newell, S. J. (2000). The Impact of Corporate Credibility and Celebrity Credibility on Consumer Reaction to Advertisements and Brands. *Journal of Advertising*, 29(3), 43-54.

GomdaWeb (1998). *Perceptions of Reliability*. Retrieved December 4, 2009, from http://www.stanford.edu/class/comm217/reliability/perceptions.

Goodhue, D. L., & Thompson, R. L. (1995). Task-technology fit and individual performance. *MIS Quarterly*, 19 (2), 213-36.

Gosling, S. D., & Johnson, J. A. (2010). How to use this Book. In S. D. Gosling, & J. A. Johnson (Eds.), *Advance Methods for Conducting Online Behavioral Research* (pp. 3-7). Washington, DC: American Psychological Association

Gosling, S. D., & Vazire, S., Srivastava, S., & John, O. P. (2004). Should we trust Web-based studies? A comparative analysis of six preconceptions about Internet questionnaires. *American Psychologist*, 59, 93-104.

Gretzel, U. (2006). Consumer generated content – trends and implications for branding. *e-Review of Tourism Research*, 4(3), 9–11.

Gretzel, U., & Yoo, K. H. (2008). Use and impact of online travel reviews. In P. O'Connor, W. Höpken, & U. Gretzel (Eds.), *Information and Communication Technologies in Tourism 2008* (pp. 35-46). New York, NY: Springer Wien.

Gretzel, U., Fesenmaier, D. R., & O'Leary, J. T. (2006). The transformation of consumer behaviour. In D. Buhalis & C. Costa (Eds), *Tourism Business Frontiers*, Oxford: Butterworth-Heinemann

Gretzel, U., Yoo, K. Y., & Purifoy, M. (2007). *Online Travel Reviews Study: Role & Impact of Online Travel Reviews*. Laboratory for Intelligent Systems in Tourism, Texas A&M University. Retrieved December 1, 2009, from http://www.tripadvisor.com/pdfs/OnlineTravelReviewReport.pdf

Grønflaten, Ø. (2009). Predicting Travelers’ Choice of Information Sources and Information Channels. *Journal of Travel Research,* 48(2), 230-244

Grudin, J. (1988). Why cscw applications fail: problems in the design and evaluation of organizational interfaces. *Proceedings of the Conference on Computer-Supported Cooperative work* (pp. 85–93). New York, NY: ACM Press.

Guadagnoli, E., & Velicer, W. F. (1988). Relation of sample size to the stability of component patterns. *Psychological Bulletin, 103*, 265-275.

Gunther, A. C. (1992). Biased press or biased public? Attitudes toward media coverage of social groups. *Public Opinion Quarterly,* 56, 147–167.

Gupta, P., & Harris, J. (2010). How e-WOM recommendations influence product consideration and quality of choice: A motivation to process information perspective. *Journal of Business Research*, 63 (9-10), 1041–1049.

Gupta, S., & Kim, H.W. (2004). Virtual Community: Concepts, Implications, and Future Research Directions. *Proceedings of the Tenth Americas Conference on Information Systems*. New York, August, pp. 2679-2687.

Gursoy, D. (2003). Prior product knowledge and its influence on the traveler’s information search behavior. *Journal of Hospitality and Leisure Marketing,* 10(3/4), 113–131.

Gursoy, D., & McCleary, K. W. (2004). An integrative model of tourists’ information search behaviour. *Annals of Tourism Research*, 31(2), 353–73.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective* (7th Edition). Upper Saddle River, NJ: Pearson Prentice Hall.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice,* 19(2), 139–151.

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An Assessment of the Use of Partial Least Squares Structural Equation Modeling in Marketing Research. *Journal of the Academy of Marketing Science*, 40, 414–433.

Ham, S., Kim, W. G., & Forsythe, H. W. (2008). Restaurant Employees' Technology Use Intention: Validating Technology Acceptance Model with External Factors. *Journal of Hospitality & Leisure Marketing,* 17(1/2), 78-98.

Hardgrave, B., Davis, F., & Riemenschneider, C. (2003). Investigating determinants of software developers' intentions to follow methodologies. *Journal of MIS*, 20(1), 123-151.

Harrison, D. A., & McLaughlin, M. E. (1991). Exploring the cognitive processes underlying responses to self report instruments: Effects of item context on work attitude measures. *Academy of Management Best Paper Proceedings*, pp. 310-314. Miami Beach, FI.

Hartwick, J., & Barki, H. (1994). Explaining the Role of User Participation in Information System Use. *Management Science,* 40(4), 40-465.

Harwood, S. (2007). Travellers trust user reviews over travel agent content. *Revolution UK*, p 1.

Heerwegh, D., & Loosveldt, G. (2003). An evaluation of the semi-automatic login procedure to control Web survey access. *Social Science Computer Review,* 21, 223-234.

Hennig-Thurau, T., Gwinner, K., Walsh, G., & Gremler, D. (2004). Electronic word of mouth via consumer-opinion platforms: What motivates consumers to articulate themselves on the Internet? *Journal of Interactive Marketing,* 18 (1), 38-52.

Henseler, J. (2007). A new and simple approach to multi-group analysis in partial least squares path modelling, *Proceedings of the 5th International symposium on PLS and related methods*, September 5-7, Matforsk, Aas, Norway.

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modelling in international marketing. In R. R. Sinkovics and P. N. Ghauri (Eds.), *Advances in International Marketing* (Vol. 20, pp. 277-320). Bingley: Emerald.

Hilligoss, B., & Rieh, S.Y. (2008). Developing a unifying framework of credibility assessment: Construct heuristics and interaction in context. *Information Processing & Management,* 44(4), 1467-1484.

Hippner, H. (2006). Bedeutung, Anwendungen und Ensatzpotentiale von Social Software. In K. Hildebrand, & J. Hofmann (Eds.), *Social Software, Praxis der Wirtschaftsinformatik* (Vol. 43, No. 252; pp. 6-16). Heidelberg: Dpunkt.verlag

Hirschman, E. C., & Holbrook, M. B. (1981). *Symbolic Consumer Behavior*. Ann Arbor, MI: Association for Consumer Research

Hoffmann, R. G., Rodrigue, J. R., & Johnson, J. H. (1999). Effectiveness of a school-based program to enhance knowledge of sun exposure: Attitudes toward sun exposure and sunscreen use among children. *Child Health Care,* 28, 69-86.

Hofstaetter, C., & Egger, R. (2009). The importance and use of weblogs for backpackers. In W. Hopken, U. Gretzel, & R. Law (Eds), *Information and Communication Technologies in Tourism 2009* (pp. 99-110). Vienna, Austria: Springer.

Holbrook, M. B. (1986). Aims, concepts, and methods for the presentation of individual differences to design features. *Journal of Consumer Research*, 13, 337–347.

Holbrook, M. B., & Batra, R. (1987). Assessing the Role of Emotions as Mediators of Consumer Responses to Advertising. *Journal of Consumer Research*, 14, 405–420.

Holbrook, M. B., & Hirschman, E.C. (1982). The experiential aspects of consumption: Consumer fantasies, feelings, and fun. *Journal of Consumer Research,* 9(2), 132-140.

Homer, P. M. (1990). The Mediating Role of Attitude toward the Ad: Some Additional Evidence. *Journal of Marketing Research,* 27 (February), 78–86.

Horton, R. P., Buck, T., Waterson, P. E., & Clegg, C. W. (2001). Explaining intranet use with the technology acceptance model. *Journal of Information Technology,* 16(4), 237-49.

Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). *Communication and persuasion*. New Haven, CT: Yale University Press.

Hsiao, K.-L., & Lu, H.-P. (2007). Understanding intention to continuously share information on weblogs. *Internet Research,* 17 (4), 345-361.

Hsu, C. H. C., Kang, S. K., & Lam, T. (2006). Reference group influences among Chinese travellers. *Journal of Travel Research,* 44 (4), 474-484.

Hsu, C. L., Lu, H. P., & Hsu, H. H. (2007). Adoption of the mobile Internet: An empirical study of multimedia message service (MMS). *Omega*, 35, 715–726.

Hu, P. J., Clark, T. H. K., & Ma, W. W. (2003). Examining technology acceptance by school teachers: a longitudinal study. *Information and Management,* 41(2), 227–41.

Hu, Y., & Sundar, S. S. (2010). Effects of online health sources on credibility and behavioral intentions. *Communication Research,* 37(1), 105-132.

Huang, C.-Y., Chou, C.-J., & Lin, P.-C. (2010). Involvement theory in constructing bloggers' intention to purchase travel products. *Tourism Management,* 31(4), 513–526.

Huber, G. P., & Daft, R. L. (1987). The information environment of organizations. In F. M. Jabin, L. L. Putnam, K. H. Roberts, & L. W. Porter (Eds.), *Handbook of Organizational Communication: An Interdisciplinary Perspective* (pp. 130-164). Newbury Park, CA: Sage Publications.

Huh, H. J., Kim, T., & Law, R. (2009). A comparison of competing theoretical models for understanding acceptance behavior of information systems in upscale hotels. *International Journal of Hospitality Management,* 28(1), 121-134.

Hung, K., & Law, R. (2011). An overview of Internet based surveys in Hospitality and Tourism Journals. *Tourism Management*, 31(1), 717-724.

Hunt, S. K. (2004). Theories of Persuasion. In J. R. Baldwin, S.D. Perry, & M. A. Moffitt (Eds.), *Communication Theories for Everyday Life* (pp. 138-155), Boston: Pearson Education Incorporated

Hunter, J., & Allen, M. (1992). Adaptation to electronic mail. *Journal of Applied Communications Research*, 20, 254-274.

Huston, T. L., & Levinger, G. (1978). Interpersonal attraction and relationships. *Annual Review of Psychology,* 29, 115-56.

Hutcheson, G., & Sofroniou, N. (1999). *The multivariate social scientist: Introductory statistics using generalized linear models*. Thousand Oaks, CA: Sage Publications.

Hyde, K. F. (2008). Information processing and touring planning theory. *Annals of Tourism Research,* 35(3), 712-731 .

Iacobucci, D., & Duhachek, A. (2003). Advancing alpha: Measuring reliability with confidence. *Journal of Consumer Psychology*, 13, 478-487

Ibarra, H. (1992). Homophily and Differential Returns: Sex Differences in Network Structure and Access in an Advertising Firm. *Administrative Science Quarterly,* 37(3), 422-447.

Ibrahim, Y. (2008). The new risk communities: Social networking sites and risk. *International Journal of Media & Cultural Politics,* 4(2), 245–253.

Igbaria, M., Iivari, J., & Maragahh, H. (1995). Why do individuals use computer technology? *Information & Management,* 29(5), 227-38.

Igbaria, M., Parasuraman, S., & Baroudi, J. (1996). A motivational model of microcomputer usage. *Journal of MIS,* 13 (1), 127-143.

Igbaria, M., Zinatelli, N., Cragg, P., & Cavaye, A. (1997). Personal computing acceptance factors in small firms: A structural equation model. *MIS Quarterly,* 21(3), 279-302.

Internet World Stats (2011). Top 20 countries with the highest number of Internet users. *Internet Worlds Stats: Usage and Population Statistics*. Retrieved February 1, 2011, from http://Internetworldstats.com/top20.htm

Internet World Stats (2012). Internet Usage and Population in North America. *Internet World Stats: Usage and Population Statistics.* Retrieved March 22, 2012, from http://www.Internetworldstats.com/stats14.htm

Jackson, C. M., Chow, S., & Leitch, R. A. (1997). Toward an Understanding of the Behavioral Intention to Use an Information System. *Decision Sciences*, 28(2), 357-389.

Jacob, C., Gueguen, N., & Petr, C. (2010). Media Richness and Internet Exploration. *International Journal of Tourism Research*, 12, 303-305.

Jang, S. (2004). The past, present, and future research of online information search. *Journal of Travel & Tourism Marketing*, 17(2/3), 41–47.

Jarvis, C. B., MacKenzie, S. B., & Podsakoff, P. M. (2003). A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of Consumer Research,* 30(2), 199-218.

Jeng, J., & Fesenmaier, D. R. (2002). Conceptualizing the Travel Decision-making Hierarchy: A Review of Recent Developments. *Tourism Analysis,* 7(1), 15-32.

Jin, X. L., Cheung , C. M. K., Lee, M. K. O., & Chen, H. P. (2009). How to keep members using the information in a computer-supported social network. *Computers in Human Behavior,* 25(5), 1172–1181.

Jin, Y., Bloch, P., & Cameron, G. T. (2002). A Comparative Study: Does the Word-of–mouth Communications and Opinion Leadership Model Fit Epinions on the Internet? *Proceedings of the 35th Hawaii International Conference on System Sciences* (pp. 1-31), January.

Johnson, T. J., & Kaye, B. K. (2000). Using is believing: The influence of reliance on the credibility of online political information among politically interested Internet users. *Journalism and Mass Communication Quarterly*, 77, 865–879.

Johnson, T. J., & Kaye, B. K. (2002). We believability: A path model examining how convenience and reliance predict online credibility. *Journalism and Mass Communication Quarterly*, 79, 619–642.

Johnson, T. J., &. Kaye, B. K. (1998). Cruising is believing? Comparing Internet and traditional sources on media credibility measures. *Journalism and Mass Communication Quarterly*, 75, 325–340.

Jöreskog, K. G., & Wold, H. (1982). The ML and PLS techniques for modeling with latent variables: Historical and competitive aspects. In K. G. Jöreskog & H. Wold (Eds.), *Systems under Indirect Observation: Part 1* (pp. 263–270), Amsterdam: North-Holland.

Judd, C. M., & Kenny, D. A. (1981). Process Analysis: Estimating mediation in treatment evaluations. *Evaluation Review*, 5(5), 602-619.

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39, 31-36.

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons,* 53(1), 59–68.

Karahanna, E., & Limayem, M. (2000). E-mail and v-mail usage: generalizing across technologies. *Journal of Organisational Computing and Electronic Commerce,* 10(1), 49-66.

Karahanna, E., & Straub, D. (1999). The psychological origins of perceived usefulness and ease-of-use. *Information & Management*, 35 (4), 237-50.

Karahanna, E., Straub, D., & Chervany, N. (1999). Information technology adoption across time: A cross-sectional comparison of pre-adoption and post-adoption beliefs. *MIS Quarterly,* 23(2), 183-213.

Kass, R. A., & Tinsley, H. E. A. (1979). Factor analysis. *Journal of Leisure Research*, 11, 120-138.

Kavanoor, S., Grewal, D., & Blodgett, J. (1997). Ads Promoting OTC Medications: The Effect of Ad Format and Credibility on Beliefs, Attitudes, and Purchase Intentions. *Journal of Business Research*, 40, 219-227.

Keil, M., Saarinen, T., Tan, B. C. Y., Tuunainen, V., Wassenaar, A., & Wei, K.-K.

(2000). A cross-cultural study on escalation of commitment behavior in software projects. *Management Information Systems Quarterly*, 24, 299-325.

Kelley, H. H., & Thibaut, J. W. (1978). *Interpersonal Relations: A Theory of Interdependence.* Wiley: New York.

Kerstetter, D., & Cho, M. H. (2004). Prior knowledge, credibility and information search. *Annals of Tourism Research,* 31 (4), 961–985.

Kilian, T., Hass, B. H., & Walsh, G. (2008). Grundlagen des Web 2.0. In T. Kilian, B. H. Hass, & G. Walsh (Eds.), *Web 2.0. Neue Perspektiven für Marketing und Medien* (pp. 3-21), Berlin: Springer .

Kim, D.-Y., Lehto, X. Y., & Morrison, A. M. (2007). Gender differences in online travel information search: Implications for marketing communications on the Internet. *Tourism Management,* 28(2), 423-433.

Kim, T. G., Lee, J. H., & Law, R. (2008). An empirical examination of the acceptance behaviour of hotel front office systems: An extended technology acceptance model. *Tourism Management* 29 (3), 500–513.

Kim, W. G., Lee, C., & Hiemstra, S. J. (2004). Effects of online virtual community on customer loyalty and travel product purchases. *Tourism Management,* 25, 343–355.

King, M. F., & Balasubramanian, S. K. (1994). The effects of expertise, end goal, and product type on adoption of preference formation strategy. *Journal of the Academy of Marketing Science*, 22(2), 146–159.

King, W. R., & He, J. A. (2006). Meta-analysis of the technology acceptance model. *Information & Management,* 43 (6), 740–755.

Kiousis, S. (2001). Public trust or mistrust? Perceptions of media credibility in the information age. *Mass Communication & Society*, 4, 381–403.

Klein, L. R. (1998). Evaluating the potential of interactive media through a new lens: Search versus experience goods. *Journal of Business Research*, 41(3), 195–203.

Klein, L. R. (2003). Creating virtual product experiences: The role of telepresence. *Journal of Interactive Marketing*, 17(1), 41-55.

Kline, R. B. (2011). *Principles and Practice of Structural Equation Modeling* (3rd Edition). New York, NY: Guildford Press.

Kotler, P., Bowen, J., & Makens, J. (2010). *Marketing for Hospitality and Tourism* (5th Ed.). Boston: Prentice Hall.

Koufaris, M. (2002). Applying the technology acceptance model and flow theory to online consumer behavior. *Information Systems Research*, 13(2), 205–223.

Kraemer, L., Danziger, .N., Dunkle, D. E., & King, J. L. (1993). The usefulness of computer-based information to public managers. *MIS Quarterly*, 17(2), 129-148.

Krantz, J. H., & Dalal, R. (2000). Validity of Web-based Psychological Research. In M. H. Birnbaum (Ed.), *Psychological Experiences on the Internet* (pp. 35-60). San Diego. CA: Academic Press.

Krones, T., Keller, H., Becker, A., Sonnichsen, A., Baum, E., & Donner-Banzhoff, N. (2010). The theory of planned behaviour in a randomized trial of a decision aid on cardiovascular risk prevention. *Patient Education and Counselling,* 78(2), 169–176.

Kroski, E. (2007). *Community 2.0*. InfoTangle. Retrieved March 2, 2011, from http://infotangle.blogsome.com/2006/04/07/community-20/

Lafferty, B. A., & Goldsmith, R. E. (1999). Corporate Credibility's Role in Consumers' Attitudes and Purchase Intentions when a High versus a Low Credibility Endorser Is used in the Ad. *Journal of Business Research,* 44 (2), 109–116.

Lam, T., Baum, T., & Pine, R. (2003). Subjective norms: Effects on Job Satisfaction. *Annals of Tourism Research*, 30(1), 160–177.

Lam, T., Cho, V., & Qu, H. (2007). A study of hotel employee behavior intentions towards adoption of information technology. *International Journal of Hospitality Management,* 26 (1), 49–65.

Laumann, E. O. (1966). *Prestige and Association in an Urban Community.* Indianapolis, IN: Bobbs-Merrill

Law, R., & Jogaratnam, G. (2005). A study of hotel information technology applications. *International Journal of Contemporary Hospitality Management,* 17 (2), 170–180.

Lazarsfeld, P. F., & Merton, R. K. (1954). Friendship as a social process: A substantive and methodological analysis. In M. T. Berger, T. Abel, & C. H.

Page (Eds.), *Freedom and Control in Modern Society* (pp. 18-66). New York: Van Nostrand.

Lederer, A. L., Maupin, D. J., Sena, M. P., & Zhuang, Y. (2000). The technology acceptance model and the World Wide Web. *Decision Support Systems,* 29, 269– 282.

Lee Y., Kozar, K. A., & Larsen, K. R. T. (2003). The technology acceptance model: past, present, and future. *Communication of the Association of Information Systems,* 12, 752–780.

Lee, H. Y., Kim, W. G., & Lee, Y.K. (2006). Testing the determinants of computerized reservation system users' intention to use via a structural equation model. *Journal of Hospitality and Tourism Research,* 30 (2), 246–266.

Lee, M. K. O., Cheung, C. M. K., & Chen, Z. (2005). Acceptance of Internet-based learning medium: The role of extrinsic and intrinsic motivation. *Information and Management,* 42, 1095–1104.

Legris, P., Ingham, J., & Collerette, P. (2003). Why do people use information technology? A critical review of the technology acceptance model. *Information & Management*, 40, 191-204.

Lengel, R. H., & Daft, R. L. (1984). *An exploratory analysis of the relationship between media richness and managerial information processing.* Working Paper, Texas A & M University, TX, USA.

Li, Y., Qi, J., & Shu, H. (2007). A Review on the Relationship between New Variables and Classical TAM Structure. In L. Xu, A. Tjoa, S. Chaudhry (Eds.), *IFIP International Federation for Information Processing*, *254, Research and Practical Issues of Enterprise Information Systems II* (Volume 1, pp. 53-63), Boston: Springer.

Liao, Z., & Landry, R. (2000). An Empirical Study on Organizational Acceptance of New Information Systems in a Commercial Bank Environment. In *Proceedings of the 33rd Hawaii International Conference on System Sciences*, January, pp. 1-7.

Lim, K. H., Leung, K. Sia, C. L., & Lee, M. K. O. (2004). Is eCommerce Boundary-Less? Effects of Individualism– Collectivism and Uncertainty Avoidance on Internet Shopping. *Journal of International Business Studies,* 35(6), 545-559.

Lin, H.-F. (2007). Predicting consumer intentions to shop online: An empirical test of competing theories. *Electronic Commerce Research and Applications,* 6 (4), 433–442.

Lincoln, J. R., & Miller, J. (1979). Work and friendship ties in organizations: A comparative analysis of relational networks. *Administrative Science Quarterly,* 2(4), 181-199.

Litvin, S. W., Goldsmith, R. E., & Pan, B. (2008). Electronic word-of-mouth in hospitality and tourism management. *Tourism Management,* 29, 458–468.

Lo, S. K., & Lie, T. (2008). Selection of communication technologies—A perspective based on information richness theory and trust. *Technovation,* 28(3), 146-153.

Loda, M. D., Teichmann, K., & Zins, A. H. (2009). Destination websites' persuasiveness. *International Journal of Culture, Tourism and Hospitality Research*, 3(1), 70-80.

Lohmöller, J.-B. (1989). *Latent variable path modelling with partial least squares*. Heidelberg, Germany: Physica Verlag.

Loomis, C. P. (1946). Political and occupational cleavages in a Hanoverian village. *Sociometry* 9, 316-33.

Loyd, B. H., & Gressard, C.P. (1984). Reliability and factorial validity of computer attitude scales. *Educational and Psychological Measurement,* 44, 501-505.

Lu, J., Liu, C., Yu, C. S., & Wang, K. (2008). Determinants of accepting wireless mobile data services in China. *Information & Management*, 45, 52-64.

Lucas, H. C., & Spitler, V. K. (1999). Technology use and performance: A field study of broker workstations. *Decision Sciences,* 30, 291-311.

Luna, D., Peracchio, L.A., & de Juan, M. D. (2002). Cross-cultural and cognitive aspects of web site navigation. *Journal of the Academy of Marketing Science,* 30(4), 397-410.

Luo, M., R. Feng, & Cai, L. A. (2004). Information Search Behaviour and Tourist Characteristics: The Internet vis-à-vis Other Information Sources. *Journal of Travel and Tourism Marketing*, 17 (2/3), 15-25.

Luque-Martínez, T., Castañeda, J.A., Frías, D. M., Muñoz, F., & Rodríguez, M.A.

(2007). Determinants of the use of Internet as a tourist information source. *Service Industries Journal, 27*(7), 881-891.

Lutz, R. J., MacKenzie, S. B., & Belch, G. (1983). Attitude toward the Ad as a Mediator of Advertising Effectiveness: Determinants and Consequences. In R.P. Bagozzi, & A. Tybout (Eds.), *Advances in Consumer Research* (Vol 10, pp. 532-539). Ann Arbor, MI: Association for Consumer Research.

Ma, Q., & Liu, L. (2004). The Technology Acceptance Model: A Meta analysis of empirical findings. *Journal of Organizational and End User Computing,* 16(1), 59–72.

MacCallum, R. C., & Austin, J.T. (2000). Applications of structural equation modeling in psychological research. *Annual Review of Psychology,* 51, 201–226.

MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods,* 1, 130-149.

MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods,* 4, 84–99.

Mack, R. W., Blose, J. E., & Pan, B. (2008). Believe it or not: Credibility of blogs in tourism. *Journal of Vacation Marketing,* 14(2), 133–144.

MacKenzie, S. B., Podsakoff, P. M., & Podsakoff, N. P. (2011). Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques. *MIS Quarterly,* 35(2), 293-334.

MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, 7, 83-104.

Madden, M., & Fox, S. (2006). *Riding the waves of ''Web 2.0'': More than a buzzword, but still not easily defined.* Retrieved December 5, 2009, from http://www.pewInternet.org/pdfs/PIP_Web_2.0.pdf.

Mahr, W. (1995). *Politische Struktur der Sozialforschung.* Leipzig: Selbstverlag.

Malhotra, Y., & Galletta, D. F. (1999). Extending the technology acceptance model to account for social influence: Theoretical bases and empirical validation. *Proceedings of the Hawaii International Conference on System Sciences*, 32, January, pp. 6-19.

Malone, T. (1981). Toward a theory of intrinsically motivating instruction. *Cognitive Science,* 4, 333-369.

Manfredo, M., & Bright, A. (1991). A Model for Assessing the Effects of Communication on Recreationists. *Journal of Leisure Research*, 23 (1), 1–20.

Markus, M. L. (1994). Electronic mail as the medium of managerial choice. *Organization Science,* 5(4), 502-527.

Martin, K. N., & Johnson, M. A. (2010). Digital Credibility & Digital Dynamism in Public Relations Blogs. *Visual Communication Quarterly*, 17(3), 162 – 174.

Mathieson, K., Peacock, E., & Chin, W. (2001). Extending the technology acceptance model: The influence of user resources. *The DataBase*, 32(3), 86-104.

McAfee, A. (2009). *Enterprise 2.0: New collaborative tools for your organization's toughest challenges.* Boston: Harvard Business Press. Retrieved March 2, 2011, from http://www.danpontefract.com/images/McAfee_Enterprise2_Introduction.pdf

McCroskey, J. C., Richmond, V. P., & Daly, J. A. (1975). The Development of a Measure of Perceived Homophily in Interpersonal Communication. *Human Communication Research*, 1(4), 323-332.

McGinnies, E., & Ward, C. (1980). Better liked than right: Trustworthiness and expertise as factors in credibility. *Personality and Social Psychology Bulletin*, 6, 467-472.

McIntosh, R. W., & Goeldner, C. R. (1990). *Tourism: Principles, practices, philosophies.* New York: John Wiley.

McLoughlin, C., & Lee, M. J. W. (2007). Social software and participatory learning: Pedagogical choices with technology affordances in the Web 2.0 era. In *ICT: Providing choices for learners and learning. Proceedings ascilite Singapore 2007* (pp. 665-674). Retrieved March 4, 2010, from http://www.ascilite.org.au/conferences/singapore07/procs/mcloughlin.pdf

McPherson, J. M., & Smith-Lovin, L. (1987). Homophily in voluntary organizations: Status distance and the composition of face-to-face groups. *American Sociological Review,* 52, 370-379.

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology,* 27, 415−444.

Mehta, S. C., Lalwani, A. K., & Ping, L. (2001). Reference Group Influence and Perceived Risk in Services among Working Women in Singapore: A Replication and Extension. *Journal of International Consumer Marketing*, 14 (1), 43-65.

Mendes-Filho, L., Tan, F. B., & Milne, S. (2010). Backpacker Use of User-Generated Content: A Consumer Empowerment Study. In U. Gretzel, R. Law, M. Fuchs (Eds), *Information and Communication Technologies in Tourism 2010* (pp. 455-466). Vienna, Austria: Springer.

Merkl, D., & Scharl, A. (2008). Introduction: Virtual Communities in Travel and Tourism. *Information Technology & Tourism,* 10, 265.

Messmer, D. J., & Johnson, R. R. (1993). Inquiry conversion and travel advertising effectiveness. *Journal of Travel Research,* 31(4), 14–21.

Metzger, M. J., Flanagin, A. J., Eyal, K., Lemus, D. R., & McCann, R. M. (2003). Credibility for the 21st century: Integrating perspectives on source, message, and media credibility in the contemporary media environment. In P. J. Kalbfleisch (Ed.), *Communication Yearbook* (Vol. 27, pp. 293–335). Mahwah, NJ: Erlbaum.

Milan, R. (2007). *10 things you can do in response to traveler reviews*. Retrieved December 10, 2009, from http://www.hotelmarketing.com/index.php/content/article/070920 lOtliings you can do in responseto traveler reviews/

Miniard, P. W., & Cohen, J. B. (1981). An examination of the Fishbein behavioral intentions model's concepts and measures. *Journal of Experimental Social Psychology*, 17, 309-—329.

Monsuwé, T. P. Y., Dellaert, B. G. C., & de Ruyter, K. (2004). What Drives Consumers to Shop Online? A Literature Review. *International Journal of Service Industry Management,* 15, 102-121.

Montazemi, A., Cameron, D., & Gupta, K. (1996). An empirical study of factors affecting software package selection. *Journal of MIS,* 13 (1), 89-105.

Moon, J. W., & Kim, Y. G. (2001). Extending the TAM for a world-wide-web context. *Information & Management,* 38(4), 217-30.

Moore, G. C., & Benbasat, I. (1991). Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation. *Information Systems Research,* 2(3), 192-222.

Moorthy, S., Ratchford, B., & Talukdar, D. (1997). Consumer Information Search Revisited: Theory and Empirical Analysis. *Journal of Consumer Research*, 23 (March), 263-77.

Morosan, C. (2012). Theoretical and Empirical Considerations of Guests' Perceptions of Biometric Systems in Hotels: Extending the Technology Acceptance Model. *Journal of Hospitality & Tourism Research,* 36(1), 52-84.

Morosan, C., & Jeong, M. (2008). Users' perceptions of two types of hotel reservation Web sites. *International Journal of Hospitality Management,* 27(2), 284–292.

Moutinho, L. (1987). Consumer Behavior in Tourism. *European Journal of Marketing,* 21, 5–44.

Muthén, L. K., & Muthén, B. O. (2002). How to Use a Monte Carlo Study to Decide on Sample Size and Determine Power. *Structural Equation Modeling: A Multidisciplinary Journal*, 9(4), 599-620.

Nelson, P. (1974). Advertising as information. *Journal of Political Economy*, 83(4), 729–754.

Niininen, O., March, R., & Buhalis, D. (2006). Consumer-centric tourism marketing. In D. Buhalis & C. Costa (Eds.), *Tourism management dynamics: Trends, management and tools*. Amsterdam/London: Buttterworth Heinemann.

Nisbett, R. E., & Ross, L. D. (1980). *Human Inference: Strategies and Shortcomings of Social Judgment*. Englewood Cliffs, NJ: Prentice-Hall.

O'Connor, P. (2008). User-Generated content and travel: A case study on TripAdvisor. In P. O'Connor, W. Höpken, & U. Gretzel (Eds.), *Information and Communication Technologies in Tourism 2008* (pp. 47-58). New York, NY: Springer Wien.

O'Connor, P. (2010). Managing a Hotel's Image on TripAdvisor. *Journal of Hospitality Marketing & Management,* 19(7), 754-772.

O'Hara, B., Netemeyer, R., & Burton, S. (1991). An examination of the relative effects of source expertise, trustworthiness, and likability. *Social Behavior & Personality,* 19, 305–314.

O'Keefe, D. J. (1990). *Persuasion: Theory and research.* Newbury Park, CA: Sage.

O'Keefe, D. J. (2002). *Persuasion: Theory and research.* Beverly Hills, CA: Sage.

O'Reilly, T. (2005). *What is Web 2.0? Design patterns and business models for the next generation of software*. O'Reilly Network. Retrieved December 10, 2009, from http://www.oreillynet.com/lpt/a/6228.

Oh, H., & Hsu, C. H. (2001). Volitional degrees of gambling behaviours. *Annals of Tourism Research*, 28(3), 618–637.

Oh, S. H., Kim, Y. M., Lee, C. W., Shim, G. Y., & Park, M. S. (2009). Consumer adoption of virtual stores in Korea: Focusing on the role of trust and playfulness. *Psychology & Marketing,* 26, 652-668.

Ohanian, R. (1990). Construction and validation of a scale to measure celebrity endorsers' perceived expertise, trustworthiness, and attractiveness. *Journal of Advertising,* 19(3), 39-52.

Ohanian, R. (1991). The Impact of Celebrity Spokespersons' Perceived Image on Consumers' Intention to Purchase. *Journal of Advertising Research,* February/March, 46-53.

Olsen, M. D., & Connolly, D. J. (2000). Experience-based travel: How technology is changing the hospitality industry. *Cornell Hotel and Restaurant Administration Quarterly*, 41(1), 30–40.

Oppenheim, A. N. (1992). *Questionnaire design, interviewing and attitude measurement.* London, UK: Pinter Publishers.

Ouellette, J. A., & Wood, W. (1998). Habit and intention in everyday life: The multiple processes by which past behavior predicts future behavior.

Psychological Bulletin, 124(1), 54-74.

Paganelli, F., & Giuli, D. (2008). Context-Aware Information Services to Support Tourist Communities. *Information Technology & Tourism*, 10, 313–327.

Pan, B., & Fesenmaier, D. R. (2006). Online information search: Vacation planning process. *Annals of Tourism Research*, 33, 809–832.

Pan, B., McLaurin, T., & Crotts, J. C. (2007). Travel blogs and the implications for destination marketing. *Journal of Travel Research,* 46(1), 35-45.

Papathanassis, A., & Knolle, F. (2010). Exploring the adoption and processing of online holiday reviews: A grounded theory approach. *Tourism Management,* 32(2), 215-224.

Parasuraman, A., Zeithaml, V.A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(4), 41-50.

Park, D., Lee, J., & Han, I. (2007). The effect of on-line consumer reviews on consumer purchase intention: The moderating role of involvement. *International Journal of Electronic Commerce*, 11(4), 125–148.

Park, K. (2006). *User acceptance of the intranet in restaurant franchise systems: An empirical study*. Unpublished PhD Dissertation, 2006, Virginia Polytechnic Institute and State University, Blacksburg, VA.

Pavlou, P. A. (2002). What drives electronic commerce? A theory of planned behavior perspective. A*cademy of Management Annual Meeting* (pp. 9–14). Denver, CO, August.

Pavlou, P. A. (2003). Consumer acceptance of electronic commerce – integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce*, 7(3), 69–103.

Pavlou, P. A., & Fygenson, M. (2006). Understanding and predicting electronic commerce adoption: An extension of the theory of planned behaviour. *MIS Quarterly,* 30(1), 115–144.

Pavlou, P. A., & Gefen, D. (2004). Building effective online marketplaces with institution-based trust. *Information Systems Research,* 15(1), 37-59.

Perdue, R. R. (1985). Segmenting state travel information inquirers by timing of the destination decision and previous experience. *Journal of Travel Research*, 23(3), 6–11.

Peterson, R., & Merino, M. (2003). Consumer Information Search Behavior and the Internet. *Psychology & Marketing*, 20(2), 99-121.

Petter, S., Straub, D. W., & Rai, A. (2007). Specifying Formative Constructs in IS Research. *MIS Quarterly,* 31(4), 623-656.

Petty, R. E., & Cacioppo, J. (1990). Involvement and persuasion: Tradition versus integration. *Psychological Bulletin,* 107, 367–374.

Petty, R. E., & Cacioppo, J. T. (1981). *Attitude and persuasion: Classic and contemporary approaches.* Boulder, CO: Westview Press.

Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. *Advances in Experimental Social Psychology*, 19, 123–205.

Pew Internet & American Life Project (2008). *Demographics of Internet users.* Retrieved March 23, 2011, from http://www.pewInternet.org/trends/User_Demo_7.22.08.htm

Peytchev, A., & Crawford, S. (2005). A typology of real-time validations in Web-based surveys. *Social Science Computer Review*, 23, 235-249.

Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., & Pahnila, S. (2004). Internet research consumer acceptance of online banking: An extension of the technology acceptance Model. *Internet Research,* 14(3), 224–235.

Plato (1968). Laws. *Plato in Twelve Volumes, Vol. 11*. Bury translator. Cambridge: Harvard University Press.

Plouffe, C. R., Hulland, J.S., & Vandenbosch, M. (2001). Richness versus Parsimony in Modeling Technology Adoption Decisions-Understanding Merchant Adoption of a Smart Card-based Payment Systems. *Information Systems Research,* 12(2), 208-222.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.

Pornpitakpan, C. (2003). Validation of the Celebrity Endorsers' Credibility Scale: Evidence from Asians. *Journal of Marketing Management*, 19(1/2), 179–95.

Pornpitakpan, C. (2004). The Persuasiveness of Source Credibility: A Critical Review of Five Decades' Evidence. *Journal of Applied Social Psychology*, 34(2), 243-281.

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Assessing moderated mediation hypotheses: Theory, method, and prescriptions. *Multivariate Behavioral Research*, 42, 185-227.

Preece, J. (2000). *Online communities: Designing usability, supporting sociability.* Chichester: John Wiley and Sons.

Premkumar, G., & Potter, M. (1995). Adoption of Computer Aided Software Engineering (CASE) Technology: An Innovation Adoption Perspective. *The Data Base for Advances in IS,* 26 (2/3), 105-124.

Premkumar, G., Ramamurthy, K., & Liu, H. N. (2008). Internet messaging: An examination of the impact of attitudinal, normative, and control belief systems. *Information & Management,* 45, 451-457.

Price, L. L., & Feick, L. F. (1984). The Role of Interpersonal Sources in External Search: An Informational Perspective. In T. C. Kinnear (Ed.), *Advances in Consumer Research* (Vol. 11, *250-255*). Arm Arbor, MI: Association for Consumer Research.

Puri, A. (2007). The web of insights: The art and practice of webnography. *International Journal of Market Research,* 49(3), 387-208.

Ranking.com (2012). *Top 25 Sites*. Retrieved August 26, 2012, from http://www.ranking.com/

Ratchford, B.T., Talukdar, D., & Lee, M.-S. (2001). A model of consumer choice of the Internet as an information source. *International Journal of Electronic Commerce,* 5(3), 7-21.

Raymond, L. (2001). Determinants of Website implementation in small businesses. *Internet Research: Electronic Networking Applications and Policy*, 11(5), 411-424.

Reactive. (2007). *Web 2.0 for the tourism & travel industry*. Melbourne, Australia: Reactive.

Reisinger, Y., & Mavondo, F. T. (2006). Structural Equation Modelling: Critical issues and new development. *Journal of Travel & Tourism Marketing,* 21(4), 41-72.

Rice, R. E. (1992). Task Analyzability, Use of New Media, and Effectiveness: A Multi-Site Exploration of Media Richness. *Organization Science*, 3, 475-500.

Rice, R. E. (1993). Media appropriateness. Using social presence theory to compare traditional and new organizational media. *Human Communication Research,* 19(4), 451-484.

Ridings, C. M., Gefen, D., & Arinze, B. (2002). Some antecedents and effects of trust in virtual communities. *The Journal of Strategic Information Systems*, 11 (3/4), 271-295.

Rieh, S. Y. (2002). Judgment of information quality and cognitive authority in the Web. *Journal of the American Society for Information Science and Technology*, 53, 145–161.

Rieh, S. Y., & Danielson, D. R. (2007). Credibility: A multidisciplinary framework. In B. Cronin (Ed.), *Annual review of information science and technology* (Vol. 41, pp. 307–364). Medford, New Jersey: Information Today.

Ringle, C. M, Wende, S., & Will, A. (2005). SmartPLS 2.0 (beta). Retrieved December 5, 2011, from http://www.smartpls.de.

Roca, J. C., Chiu, C. M., & Martinez, F. J. (2006). Understanding e-learning continuance intention: An extension of the technology acceptance model. *International Journal of Human-Computer Studies,* 64, 683–696.

Rogers, E. M. (1983). *Diffusion of Innovations New York*, NY: The Free Press.

Rogers, E. M., & Shoemaker, F. F. (1971). *Communication of Innovations: A Cross-Cultural Approach*. New York: Free Press.

Rosenblum, D. (2007). What Anyone Can Know: the Privacy Risks of Social Networking Sites, *IEEE Security & Privacy*, May/June, 40–49.

Rubicon Consulting, Inc. (2008). Online Communities and their Impacts on Business: Ignore at your Peril. *Web Users and Web Community.* Retrieved December 1, 2009, from http://rubiconconsulting.com/downloads/whitepapers/Rubicon-web-community.pdf

Rubio, D. M., Berg-Weger, M., Tebb, S. S., Lee, E. S., & Rauch, S. (2003). Objectifying content validity: Conducting a content validity study in social work research. *Social Work Research,* 27(2), 94-104.

Ruef, M., Aldrich, H. E., & Carter, N. M. (2003). The Structure of Founding Teams: Homophily, Strong Ties and Isolation Among U.S. Entrepreneurs. *American Sociological Review,* 68, 195–222.

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology,* 52, 141–166.

Ryu, M.-H., Kim, S., & Lee, E. (2009). Understanding the factors affecting online elderly user's participation in video UCC services. *Computers in Human Behavior,* 25 (3), 619–632.

Sanchez-Franco, M. J., & Rondan-Cataluña, F. J. (2010). Virtual travel communities and customer loyalty: Customer purchase involvement and website design. *Electronic Commerce Research and Applications,* 9(2), 171-182.

Sarantakos, S. (2005). *Social research* (3rd Ed). Basingstoke: Palgrave Macmillan.

Sarstedt, M., Henseler, J., & Ringle, C. (2011). Multi-group analysis in partial least squares (PLS) path modeling: Alternative methods and empirical results. *Advances in International Marketing*, 22, 195-218.

Schacter, S. (1959). *The Psychology of Affiliation: Experimental Studies of the Source of Gregariuosness*. Stanford, CA: Stanford University Press.

Schepers, J., & Wetzels, M. (2007). A meta-analysis of the technology acceptance model: Investigating subjective norm and moderation effects. *Information & Management,* 44, 90-103.

Scherpenzeel, A. C., & Bethlehem, J. G. (2011). How representative are online panels? Problems of Coverage and Selection and Possible Solutions. In M. Das, P. Ester, & L. Laczmirek (Eds.), *Social and Behavioural Research and the*

Internet: Advances in Applied Methods and Research (pp. 11-44). New York, NY: Routledge.

Schertler, W., Schmid, B., Tjoa, A. M., & Werthner, H. (1995). *Information and Communication Technologies in Tourism 1995*. New York: Springer-Verlag Wien.

Schmidt, J. B., & Spreng, R. A. (1996). A Proposed Model of External Consumer Information Search. *Journal of the Academy of Marketing Science*, 24 (3), 246-56.

Schreisheim, C. A., Powers, K. J., Scandura, T. A., Gardiner, C. C., & Lankau, M. J. (1993). Improving construct measurement in management research: Comments and a quantitative approach for assessing the theoretical content adequacy of paper-and-pencil survey-type instruments. *Journal of Management,* 19(2), 385-417.

Schul, P., & Crompton, J. (1983). Search Behavior of International Vacationers: Travel-Specific Lifestyle and Sociodemographic Variables. *Journal of Travel Research,* 22(3), 25–31.

Schweiger, W. (2000). Media Credibility – Experience or Image? A Survey on the Credibility of the World Wide Web in Germany in Comparison to Other Media. *European Journal of Communication,* 15(1), 37–59.

Seabra, C., Abrantes, J. L., & Lages, L. F. (2007). The impact of using non-media information sources on the future use of mass media information sources. The mediating role of expectations fulfilment. *Tourism Management,* 28, 1541–1554.

Sejwacz, D., Ajzen, I., & Fishbein, M. (1980). Predicting and understanding weight loss. In I. Ajzen & M. Fishbein (Eds.), *Understanding attitudes and predicting social behaviour* (pp. 101-112). Englewood-Cliffs, N.J: Prentice-Hall

Self, C. C. (1996). Credibility. In M. B. Salven, & D. W. Stacks (Eds.), *An integrated approach to communication theory and research* (pp. 421–441). Mahwah, NJ: Lawrence Erlbaum Associates.

Senecal, S., & Nantel, J. (2004). The Influence of Online Product Recommendations on Consumers' Online Choices. *Journal of Retailing,* 80 (2), 159-169.

Shannon, C. E., & Weaver, W. (1949). *The Mathematical Theory of Communication.* Urbana, IL: University of Illinois Press.

Shareef, M. A., Kumar, V., Kumar, U., & Hasin, A. A. (2009). Theory of Planned Behaviour and Reasoned Action in Predicting Technology Adoption Behaviour. In Y. K. Dwivedi, B. Lal, M. D. Williams, S. L. Schneberger, & M. Wade (Eds.), *Handbook of Research on Contemporary Theoretical Models in Information Systems* (pp. 544-562). Hershey, PA: Information Science Reference

Shirky, C. (2003). A group is its own worst enemy: Social structure in social software. Paper presented at the *O'Reilly Emerging Technology conference*, Santa Clara, CA, April 24, 2003. Retrieved March 1, 2011, from http://www.shirky.com/writings/group_enemy.html

Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. London: John Wiley and Sons.

Sia, C. L., Lim, K. H., Leung, K., Lee, M. K. O., Huang, W., & Benbasat, I. (2009). Web Strategies to Promote Internet Shopping: Is Cultural-Customization Needed? *MIS Quarterly*, 33, 491-512.

Simonson, M. R., Maurer, M., Montag-Torardi, M., & Whitaker, M. (1987). Development of a standardized test of computer literacy and computer anxiety index. *Journal of Educational Computing Research,* 3(2), 231–247.

Singer, E., & Couper, M. P. (2011). Ethical Considerations in Internet Surveys. In M. Das, P. Ester, & L. Laczmirek (Eds.), *Social and Behavioural Research and the Internet: Advances in Applied Methods and Research* (pp. 11-44). New York, NY: Routledge.

Smith, D., Menon, S., & Sivakumar, K. (2005). Online Peer and Editorial Recommendations, Trust, and Choice in Virtual Markets. *Journal of Interactive Marketing,* 19 (3), 15-37.

Smyth, J. D., & Pearson, J. E. (2011). Internet Survey Methods: A Review of Strengths, Weaknessess, and Innovations. In M. Das, P. Ester, & L. Laczmirek (Eds.), *Social and Behavioural Research and the Internet: Advances in Applied Methods and Research Strategies* (pp. 11-44). New York, NY: Routledge.

Snepenger, D., & Snepenger, M. (1993). Information search by pleasure travelers. In M. A. Kahn, M. D. Olsen & T. Var (Eds.), *Encyclopaedia of Hospitality and Tourism* (pp. 830–835). New York, NY: Van Nostrand Reinhold.

Snepenger, D., Meged, K., Snelling, M., & Worrall, K. (1990). Information search strategies by destination-naive tourists. *Journal Travel Research,* 29(1), 13–16.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13(1), 290-312.

Soe, L. L., & Markus, M. L. (1993). Technological or social utility? Unraveling explanations of email, vmail, and fax use. *Information Society*, 9, 213-236.

Solomon, M. R., Bamossy, G. J., & Askegaard, S. (2002). *Consumer behaviour: A European perspective* (2nd Ed.). Harlow: Financial Times/Prentice-Hall.

Sparks, B. A., & Browning, V. (2011). The impact of online reviews on hotel booking intentions and perception of trust. *Tourism Management,* 32(6), 1310-1323.

Spindler, A. D., Norrie, N. C., & Grossniklaus, M. (2008). Recommendation Based On Opportunistic Information Sharing Between Tourists. *Information Technology & Tourism*, 10, 297–311.

Steenkamp, J. E. M., & Baumgartner, H. (1998). Assessing Measurement Invariance in Cross-National Consumer Research. *Journal of Consumer Research*, 25(June), 78-90.

Stevens, J. (2002). *Applied Multivariate Statistics for the Social Sciences* (4th Edition). Mahwah, NJ: Lawrence Erlbaum Associates.

Stone, M. (1974). Cross-validatory choice and assessment of statistical predictions. *Journal of the Royal Statistical Society*, 36, 111–147.

Straub, D. W., Keil, M., & Brenner, W. (1997). Testing the technology acceptance model across cultures: A three country study. *Information & Management*, 33 (1), 1-11.

Straub, D.W. (1989). Validating Instruments in MIS Research, *MIS Quarterly*, 13(2), 147-169.

Straughan, R. D., & Albers-Miller, N. D. (2001). An International Investigation of Cultural and Demographic Effects on Domestic Retail Loyalty. *International Marketing Review,* 18(5), 521-541.

Sue, V. M., & Ritter, L. A. (2007). *Conducting Online Surveys*. Los Angeles, CA: Sage Publications.

Suh, K. S. (1999). Impact of communication medium on task performance and satisfaction: An examination of media-richness theory. *Information Management*, 35(5), 295 - 312.

Sun, H., & Zhang, P. (2006). Causal Relationships between Perceived Enjoyment and Perceived Ease of Use: An Alternative Approach. *Journal of the Association for Information Systems*, 7 (9), 618-645.

Sundar, S. S. (1999). Exploring receivers’ criteria for perception of print and online news. *Journalism & Mass Communication Quarterly,* 76(2), 373–386.

Sundar, S. S., & Nass, C. (2001). Conceptualizing sources in online news. *Journal of Communication,* 51, 52–72.

Sussman, S. W., & Siegal, W. S. (2003). Informational influence in organizations: An integrated approach to knowledge adoption. *Information Systems Research,* 14(1), 47–65.

Taylor, S., & Todd, P. (1995a). Understanding information technology usage: A test of competing models. *Information Systems Research,* 6 (2), 144-176.

Taylor, S., & Todd, P. (1995b). Assessing IT usage: The role of prior experience. *MIS Quarterly,* 19 (4), 561-570.

Teo, T., Lim, V., & Lai, R. (1999). Intrinsic and extrinsic motivation in Internet usage. *Omega,* 27 (1), 25-37.

Thompson, R.L., Higgins, C. A., & Howell, J. M. (1991). Personal Computing: Toward a Conceptual Model of Utilization. *MIS Quarterly,* 15(1), 125-143.

Thraenhart, J. (2010). China's netizens hooked on social media. *4Hoteliers.* Retrieved July 12, 2010, from http://www.4hoteliers.com/4hots_nshw.php?mwi=7454

Tnooz (2011). *So you found a fake hotel review – now what?* Retrieved May 14, 2012, from http://www.tnooz.com/2011/04/20/how-to/so-you-found-a-fake-hotel-review-now-what

Toluna (2011). Our Panel Community. *Toluna – In Touch with people*. Retrieved December 20th, 2011, from http://www.toluna-group.com/our-panel-community/about-toluna/

Triandis, H. C. (1977). *Interpersonal behavior*. Monterey, CA: Brooks/Cole.

TripAdvisor Inc. (2012). About Trip Advisor. *Trip Advisor*. Retrieved February 4, 2012, from http://www.tripadvisor.com/pages/about_us.html

Tseng, S., & Fogg, B. J. (1999). Credibility and computing technology. *Communications of the ACM*, 42(5), 39–44.

Urbach, N., & Ahlemann, F. (2010). Structural Equation Modeling in Information Systems Research Using Partial Least Squares. *Journal of Information Technology Theory and Application*, 11(2), 5-40.

Vallerand, R. J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. In M. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 29, pp. 271–360). New York: Academic Press.

van der Heijden, H. (2003). Factors influencing the usage of websites: The case of a generic portal in the Netherlands. *Information & Management,* 40(6), 541-549.

van der Heijden, H. (2004). User acceptance of hedonic information systems. *MIS Quarterly*, 28(4), 695–704.

van der Veen, R. (2008). *Celebrity Endorsement Effectiveness for Print Destination Advertising*. Unpublished PhD Thesis, School of Hotel and Tourism Management, Hong Kong Polytechnic University, Hong Kong.

van Raaij, E. M., & Schepers, J. J. L. (2008). The acceptance and use of a virtual learning environment in China. *Computers & Education*, 50(3), 838–852.

Vehovar, V., Batagelj, Z., Lozar Manfreda, K., & Zaletel, M. (2002). Non-response in Web surveys. In R. M. Groves, D. A. Dillman, J. L. Eltinge, & R. J. A. Little (Eds.), *Survey Non response* (pp. 229-242). New York: John Wiley & Sons.

Venkatesh, V. (1999). Creation of favorable user perceptions: Exploring the role of intrinsic motivation. *MIS Quarterly*, 23(2), 239-260.

Venkatesh, V. (2000). Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model. *Information Systems Research,* 11(4), 342-365.

Venkatesh, V., & Davis, F. D. (1996). A model of the antecedents of perceived ease of use: Development and test. *Decision Sciences*, 27(3), 451–481.

Venkatesh, V., & Davis, F. D. (2000). Theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186–204.

Venkatesh, V., & Morris, M.G. (2000). Why Don't Men Ever Stop to Ask for Directions? Gender, Social Influence, and Their Role in Technology Acceptance and Usage Behavior. *MIS Quarterly*, 24(1), 115-139.

Venkatesh, V., & Speier, C. (1999). Computer Technology Training in the Workplace: A Longitudinal Investigation of the Effect of the Mood. *Organizational Behavior and Human Decision Processes,* 79(1), 1-28.

Venkatesh, V., & Speier, C. (2000). Creating an Effective Training Environment for Enhancing Telework. *International Journal of Human Computer Studies,* 52(6), 991-1005.

Venkatesh, V., Morris, M. G., & Ackerman, P. L. (2000). A Longitudinal Field Investigation of Gender Differences in Individual Technology Adoption Decision-Making Processes. *Organizational Behavior and Human Decision Processes*, 83(1), 33–60.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478.

Venkatesh, V., Speier, C., & Morris, M. G. (2002). User acceptance enablers in individual decision making about technology: Toward an integrated model. *Decision Sciences,* 33(2), 297-317.

Verplanken, B., Aarts, H., & van Knippenberg, A. (1997). Habit, information acquisition, and the process of making travel mode choices. *European Journal of Social Psychology*, 27, 539-560.

Voermans, M, & van Veldhoven, M. (2007). Attitude towards E-HRM: An empirical study at Philips. *Personnel Review,* 36(6), 887-902.

Vogt, C. A., & Fesenmaier, D. R. (1998). Expanding the functional information search. *Annals of Tourism Research*, 25(3), 551–578.

Vriens, M., & Melton, E. (2002). Managing missing data. *Marketing Research*, 14(3), 12-17.

Wang, J., & Ritchie, B. W. (2012). Understanding accommodation managers' crisis planning intention: An application of the theory of planned behaviour. *Tourism Management,* 33(5), 1057-1067.

Wang, X., Teo, H. H., & Wei, K. K. (2007). The Acceptance of Product Recommendations from Web-based Word-of-Mouth Systems: Effects of Information, Informant, and System Characteristics. *Proceedings of 28th International Conference on Information Systems (ICIS2007),* December, Montreal.

Wang, Y., & Fesenmaier, D. R. (2004a). Towards understanding members' general participation in and active contribution to an online travel community. *Tourism Management*, 25(6), 709–722.

Wang, Y., & Fesenmaier, D. R. (2004b). Modeling participation in an online travel community, *Journal of Travel Research,* 42(3), 261–270.

Wang, Y., & Qualls, W. (2007). Towards a theoretical model of technology adoption in hospitality organizations. *International Journal of Hospitality Management,* 26, 560-573.

Wang, Y., Yu, Q., & Fesenmaier, D. R. (2002). Defining the virtual tourist community: Implications for tourism marketing. *Tourism Management,* 23, 407-417.

Wang, Z., Walther, J. B., Pingree, S., & Hawkins, R. P. (2008). Health information, credibility, homophily, and influence via the Internet: Web sites versus discussion groups. *Health Communication,* 23, 358-368.

Warkentin, M. Gefen, D., Pavlou, P., & Rose, G. (2002). Encouraging citizen adoption of e-government by building trust. *Electronic Markets*, 12(3), 157-162.

Warms, A., Cothrel, J., & Underberg, T. (June, 2000). Active Management: The Discipline of Successful Online communities. *Participate.com White Report*. Retrieved August 27, 2012, from http://www.docstoc.com/docs/84958555/Participatecom--Research--White-Papers.

Warshaw, P. R., & Davis, F. D. (1985). Disentangling behavioral intention and behavioral expectation. *Journal of Experimental Social Psychology,* 21, 213-228.

Wasserman, T. (2006). Consumers don't trust blogs. *Brandweek,* 47 (31), 10.

Wathen, C. N., & Burkell, J. (2002). Believe it or not: Factors influencing credibility on the web. *Journal of the American Society for Information Science and Technology*, 53(2), 134–144.

Weber, K., & Roehl, W. S. (1999). Profiling people searching for and purchasing travel products on the World Wide Web. *Journal of Travel Research*, 37, 291-298.

Webster, J., & Martocchio, J. J. (1992). Microcomputer playfulness: Development of a measure with workplace implications. *MIS Quarterly,* 16(2), 201–226.

Welman, C., Kruger, F., & Mitchell, B. (2005). *Research Methodology* (3rd Ed). Cape Town: Oxford University Press.

Werthner, H., & Klein, S. (1999). *Information Technology and Tourism: A challenging relationship*. Vienna: Springer

Werthner, H., & Ricci, F. (2004). E-Commerce and Tourism. *Communications of the ACM*, 47(12), 101-105.

Williams, R., Wiele, T., Iwaarden, J., & Eldridge, S. (2010). The importance of user-generated content. *The TQM Journal,* 22(2), 117-128.

Williamson, O. E. (1985). *A History of Computing Technology.* Englewood Cliffs, NJ: Prentice Hall.

Wilson, E., & Sherrell, D. (1993). Source effects in communication and persuasion research: A meta-analysis of effect size. *Journal of the Academy of Marketing Science,* 21, 101–112.

Wilson, P. (1983). *Second-hand knowledge: An inquiry into cognitive authority.* Westport, CT: Greenwood Press.

Wöber, K., & Gretzel, U. (2000). Tourism managers' adoption of marketing decision support systems. *Journal of Travel Research,* 39 (2), 172–181.

Wold, H. (1975). Path models with latent variables: The NIPALS approach. In H. M. Blalock, A. Aganbegian, F. M. Borodkin, R. Boudon, & V. Capecchi (Eds.), *Quantitative sociology: International perspectives on mathematical and statistical modeling* (pp. 307–357). New York: Academic Press.

Wolfinbarger, M. F., & Gilly, M. C. (1993). *The encoding and decoding of gift symbolism*. Working paper. Irvine: University of California.

World Tourism News (2010). *TripAdvisor's 'Dirtiest Hotels' list angers UK's hospitality industry, Tourism Industry News*. Retrieved February 17, 2010, from http://www.world-tourism-news.eu/news/tripadvisors-dirtiest-hotels-list-angers-uks-hospitality-industry/

World Travel Market (2010). *World Travel Market 2010 Industry Report*. Retrieved March 31, 2011, from http://www.wtmlondon.com/files/wtm2010_industry_report.pdf

Wright, K. B. (2000). Perceptions of on-line support providers: An examination of perceived homophily, source credibility, communication and social support within on-line support groups. *Communication Quarterly,* 48, 44-59.

Wu, I. L., & Chen, J. L. (2005). An extension of trust and TAM model with TPB in the initial adoption of on-line tax: An empirical study. *International Journal of Human-Computer Studies*, 62, 784-808.

Wunsch-Vincent, S., & Vickery, G. (2007). *Participative Web: User-Created Content.* Retrieved May 29, 2010, from http://www.oecd.org/dataoecd/57/14/38393115.pdf

Xia, W., & Lee, G. (2000). The Influence of Persuasion, Training and Experience on User Perceptions and Acceptance of IT Innovation. In *Proceedings of the 21st International Conference on Information Systems* (pp. 371-384). Atlanta, GA.

Xiang, Z., & Gretzel, U. (2010). Role of social media in online travel information search. *Tourism Management,* 31(2), 179-188.

Xiao, H., & Smith, S. L. J. (2007). The use of Tourism knowledge: Research propositions. *Annals of Tourism Research,* 34(2), 310-331.

Xie, H., Miao, L., Kuo, P. J., & Lee, B. Y. (2011). Consumers' responses to ambivalent online hotel reviews: The role of perceived source credibility and pre-decisional disposition. *International Journal of Hospitality Management*, 30(1), 178–183.

Xu, C., Wang, W., Chen, J., Wang, W., Yang, C., & Li, Z. (2010). Analyzing Travelers' Intention to Accept Travel Information: Structural Equation Modeling. *Transportation Research Record: Journal of the Transportation Research Board,* 2156, 93-100.

Yahoo! News (2010). *Authorities Search for O.C. Sexual Predator*. Retrieved February 19, 2010, from http://news.yahoo.com.

Yan, D. (2010, June 17). The invisible hands behind web postings. *China Daily*, p. 1.

Ye, Q., Law, R., Gu, B., & Chen, W. (2011). The influence of user-generated content on traveler behavior: An empirical investigation on the effects of e-word-of-mouth to hotel online bookings. *Computers in Human Behavior*, 27(2), 634–639.

Yi, M. Y., & Hwang, Y. (2003). Predicting the use of web-based information systems: Self-efficacy, enjoyment, learning goal orientation, and the technology acceptance model. *International Journal of Human-Computer Studies,* 59(4), 431-449.

Yoo, K. H., & Gretzel, U. (2006). Measuring the Credibility of Recommender Systems. In M. Hitz, M. Sigala, & J. Murphy (Eds.), *Information and Communication Technologies in Tourism 2006* (pp. 285-295). Vienna, Austria: Springer-Verlag.

Yoo, K. H., & Gretzel, U. (2008). The Influence of Perceived Credibility on Preferences for Recommender Systems as Sources of Advice. *Journal of IT & Tourism,* 10(2), 133-146.

Yoo, K. H., & Gretzel, U. (2009). Comparison of Deceptive and Truthful Travel Reviews. In W. Höpken, U. Gretzel, & R. Law (Eds.), *Information and Communication Technologies in Tourism 2009* (pp. 37-47). Vienna, Austria: Springer.

Yoo, K. H., & Gretzel, U. (2011a). Influence of personality on travel-related consumer-generated media creation. *Computers in Human Behavior*, 27(2), 609-621.

Yoo, K. H., & Gretzel, U. (2011b). Creating More Credible and Persuasive Recommender Systems: The Influence of Source Characteristics on Recommender System Evaluations. In F. Ricci, L. Rokach, B. Shapira, & P. B. Kantor (Eds.), *Recommender Systems Handbook 2011* (pp. 455-477). New York, NY: Springer.

Yoon, K., Kim, C. H., & Kim, M. S. (1998). A cross-cultural comparison of the effects of source credibility on attitudes and behavioral intentions. *Mass Communication and Society*, l (3-4), 153-173.

yStats.com (2012). *Global Online Travel Report 2012*. Retrieved April 24, 2012 from http://www.marketresearch.com/yStats-com-GmbH-Co-KG-v3734/Global-Online-Travel-6849587/

Zeithaml, V.A., Berry, L. L., & Parasuraman, A. (1993). The nature and determinants of customer expectations of service. *Journal of the Academy of Marketing science*, 21(1), 1-12.

Zhang, H., & Lei, S. (2012). A structural model of residents' intention to participate in ecotourism: The case of a wetland community. *Tourism Management*, 33(4), 916–925.

Zhang, W., & Watts, S. (2008). Capitalizing on Content: Information Adoption in Two Online Communities. *Journal of the Association for Information Systems,* 9(2), 73-94.

Zimbardo, P., & Leippe, M. (1991). *The Psychology of Attitude Change and Social Influence.* New York: McGraw-Hill.

Zins, A. H. (2007). Exploring travel information search behavior beyond common frontiers. *Information Technology & Tourism*, 9(3/4), 149-164.

APPENDICES

Appendix A. PRELIMINARY DRAFT OF THE QUESTIONNAIRE FOR EXPERT PANEL REVIEW

School of Hotel & Tourism Management
酒店及旅遊業管理學院

THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

Research Topic:

Analysing the Factors Affecting Online Travellers' Attitude and Intention to Use Consumer-Generated Media for Travel Planning

Thank you for accepting to help review the content validity of the measurement items for my Ph.D study. The **first part** involves a review of established measures that have been adapted for this study. You are kindly asked to evaluate the items' relevance, clarity and conciseness.

The **second part** requires you to rate some new and existing items with respect to their representativeness vis-à-vis the measurement of the intended constructs. Should you require further clarification, please contact me.

Julian Ayeh
(PhD Candidate)
Tel: 6481
julian.ayeh@

NB: Please note that the writings in DARK RED COLOUR are instructions for you solely (i.e. as an expert reviewer) and NOT the survey respondents.

PART 1: EXPERT REVIEW

As you examine the following items for content validity, kindly point out the awkward or confusing items and suggest alternative wordings where necessary. In addition, you can comment on the adequacy of the item pool, the length, and the appropriateness of the response format as well as the instructions. You may also recommend other ways of tapping the phenomenon which have been overlooked.

The Meaning of Consumer-Generated Media (CGM)

An increasing number of websites are integrating features which allow ordinary people to contribute their own content and enable users to communicate about special interest topics, products or services through the Internet. Such content is generally referred to as 'Consumer-Generated Media'.

In relation to travel and tourism, some examples of consumer-generated media (CGM) include:

- individuals sharing their opinions about travel destinations, attractions and accommodation properties through blogs (weblogs), wikis, travel review sites or other discussion forums
- travellers submitting photos or videos to the Internet to share their travel experiences with other online users (including family, friends or total strangers who may be interested)
- consumers posting reviews of accommodation properties to sites such as TripAdvisor.com, IgoUgo.com and Virtualtourist.com
- individuals using social networking sites such as Facebook, MySpace and Friendster to share travel information.

[*Participants are directed to the website of TripAdvisor.com*]

If you are new to this CGM website, kindly take a few moments to familiarise yourself with the content before answering the following questions:

The following statements describe your views about *TripAdvisor*. Please indicate the extent to which you agree or disagree with each item (Mark one of the seven spaces on each row).

1 = Strongly disagree
2 = Moderately disagree
3 = Slightly disagree
4 = Neutral
5 = Slightly agree
6 = Moderately agree
7 = Strongly agree

Usefulness	*1*	*2*	*3*	*4*	*5*	*6*	*7*
Using *TripAdvisor* will improve my travel planning.							
Using *TripAdvisor* will help me to plan my trips more efficiently.							
Using *TripAdvisor* will make my travel planning easier.							
Using *TripAdvisor* will enhance my effectiveness in travel							

planning.							
Using TripAdvisor will make it easier for me to reach travel-related decisions.							
Overall, I find *TripAdvisor* useful for travel planning.							
Ease of Use	*1*	*2*	*3*	*4*	*5*	*6*	*7*
I will find it easy to learn to use *TripAdvisor*.							
I will find it easy to use *TripAdvisor* to plan my trips.							
It will be easy for me to become skilful at using *TripAdvisor*.							
I will find it easy to locate the information I need for my travel planning on *TripAdvisor.*							
My interaction with *TripAdvisor* is clear and understandable.							
Overall, I will find *TripAdvisor* easy to use.							
Enjoyment	*1*	*2*	*3*	*4*	*5*	*6*	*7*
I find the use of *TripAdvisor* to be enjoyable.							
The actual process of browsing information/content through *TripAdvisor* is pleasant.							
I will have fun interacting with the content of *TripAdvisor.*							
Viewing other travellers' photographs, videos, comments and reviews on travel destinations and products from *TripAdvisor* is pleasurable.							
Using *TripAdvisor* is interesting.							

This section is about your views on the credibility of CGM. (Note that the words on the same row have opposite meanings.) How would you evaluate the source of the content on *TripAdvisor* in general? (Mark one of the seven spaces on each row).

I believe that, generally, the travellers who post content on *TripAdvisor* are…

Dependable								Undependable
Honest								Dishonest
Reliable								Unreliable
Sincere								Insincere
Trustworthy								Untrustworthy
Experienced								Inexperienced
Experts								Novices
Knowledgeable								Unknowledgeable
Qualified								Unqualified
Skilled								Unskilled

Each item below describes your attitude towards the utilisation of CGM from *TripAdvisor* for trip planning. Note that the words on the same row have opposite meanings. Please mark in one of the seven spaces on each row, the position that best describes your feelings towards the use of *TripAdvisor* for travel planning.

Generally, my using *TripAdvisor* for travel planning is …

A good idea								A bad idea
A wise idea								A foolish idea

A pleasant idea								An unpleasant idea
A positive idea								A negative idea
Favourable								Unfavourable

This part has a few more questions about your intention to use *TripAdvisor* to plan your holiday trips. Please mark in one of the seven spaces below to indicate the extent to which you agree or disagree with the corresponding statement

1 = Strongly disagree
2 = Moderately disagree
3 = Slightly disagree
4 = Neutral
5 = Slightly agree
6 = Moderately agree
7 = Strongly agree

Intention	*1*	*2*	*3*	*4*	*5*	*6*	*7*
I would want to use *TripAdvisor* for my future travel planning.							
I intend to use *TripAdvisor* for planning my future trips.							
I predict that I would use *TripAdvisor* in planning my next trip.							

Assuming you are preparing for a one week leisure holiday to a destination you are not familiar with, what is the probability that you will actually use *TripAdvisor* to plan this trip?
(Note that the words on the same row have opposite meanings. Please mark in one of the seven spaces on each row).

Improbable								Probable

Further Comments:

PART II: ITEM SCREENING TEST

Please **rate each of the following items** with respect to their relevance and representativeness in relation to the measurement of the intended constructs as defined below.

In addition, kindly evaluate the items' clarity and conciseness, pointing out awkward or confusing items and suggesting alternative wordings where appropriate. Also, you may comment on the adequacy of the item pool, the length of the instrument, the appropriateness of the response format and instructions as other ways of tapping the phenomenon that have been ignored.

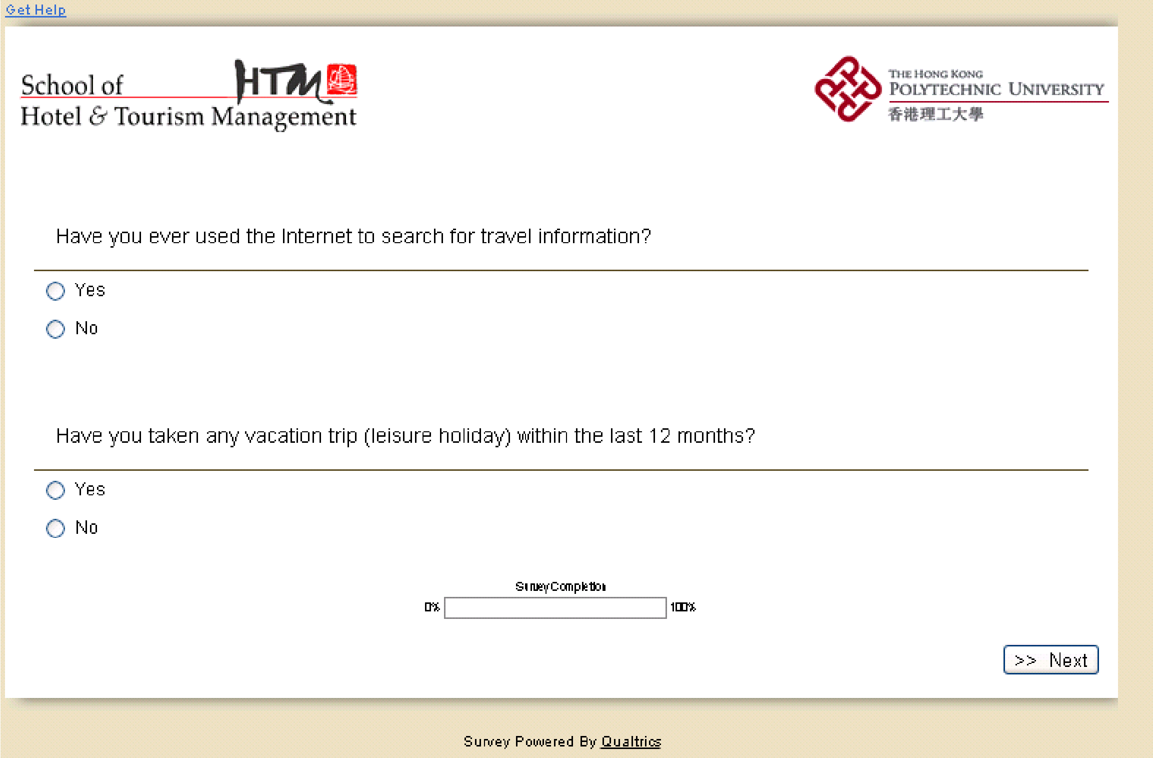
PERCEPTUAL HOMOPHILY			
This part concerns perceptions about the similarities or dissimilarities between survey respondents and the travellers who post content on *TripAdvisor*. Survey respondents will be asked to consider the profiles of the travellers in *TripAdvisor*, the nature of discussions/interactions on *TripAdvisor*, and their own views, and mark one of the seven spaces on each row to indicate the extent of their belief about the similarities (*1=not at all similar; 7=similar to extremely large extent*).			
Perceptual homophily refers to the similarities among people regarding their likes, dislikes, values, and experiences.			
Kindly rate the representativeness of each item to measure the construct perceptual homophily by placing "X" in the relevant box *(1=not representative, 2=somewhat representative, and 3=clearly representative).*	***1***	***2***	***3***
Considering your travel interests, how similar are you to those travellers who post content on *TripAdvisor*?			
Considering your likes and dislikes, how similar are you to those travellers who post content on *TripAdvisor*?			
Considering your values and travel experiences, how similar are you to those travellers who post content on *TripAdvisor*?			
Considering your outlook on life, how similar are you to those travellers who post content on *TripAdvisor*?			
In your opinion, how similar are your tastes in travel-related products compared to the travellers who post content on *TripAdvisor*?			
PERCEIVED MEDIA RICHNESS			
The following statements describe perceptions about the media richness of *TripAdvisor*. Participants will be asked to indicate the extent to which they agree or disagree with each item (*1 = strongly disagree; 7= strongly agree*).			
Perceived Media Richness: An individual's perception of A medium's ability to convey certain types of information and is determined by the medium's capacity for immediate feedback, multiple cues and senses involved, language variety, and personalisation The amount of information and multiplicity of sources required to satisfy one's requirement of informedness			
Kindly rate the representativeness of each item to measure the	***1***	***2***	***3***

construct ‘perceived media richness’ by placing “X” in the respective box *(1=not representative, 2=somewhat representative, and 3=clearly representative).*			
TripAdvisor will allow other travellers and me to give and receive timely feedback from each other.			
TripAdvisor will allow other travellers and me to tailor our interaction to our own personal requirements.			
TripAdvisor will allow other travellers and me to communicate a variety of different cues (such as emotional tone, attitude or formality) in our messages.			
TripAdvisor will allow me and other travellers to use rich and varied languages in our messages.			
TripAdvisor offers me a great amount of travel opinions.			
TripAdvisor offers me a diversity of travel opinions.			
If I am unclear about something, *TripAdvisor* will allow me to ask questions for clarification and obtain timely feedback.			
The travel pictures, videos and other content posted on *TripAdvisor* are emotionally interesting and image provoking.			
TripAdvisor will allow me to deduce various cues from the other travellers who post content.			
The nature of *TripAdvisor* will allow me to better understand the travellers who post content.			
TripAdvisor will help me and other travellers to easily explain things to each other			
Features like chat, email, message boards/forums, and other multimedia tools on *TripAdvisor* will enrich my interaction with other travellers.			
TripAdvisor is rich in travel-related content.			
TripAdvisor is rich in multimedia.			
Further comments:			

Thank you for your kind help.

Julian Ayeh
Tel: 6481
julian.ayeh@

Appendix B. ONLINE QUESTIONNAIRE FOR THE PILOT STUDY

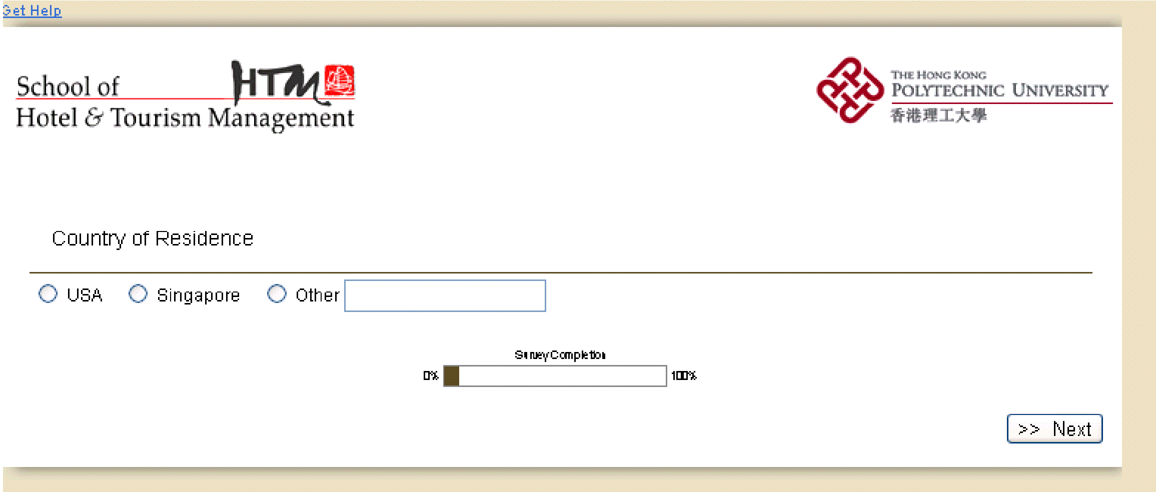

Get Help
School of Hotel & Tourism Management
HTM
THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學
Survey Completion
0%
100%
>> Next
Survey Powered By Qualtrics

Have you ever used the Internet to search for travel information?

○ Yes
○ No

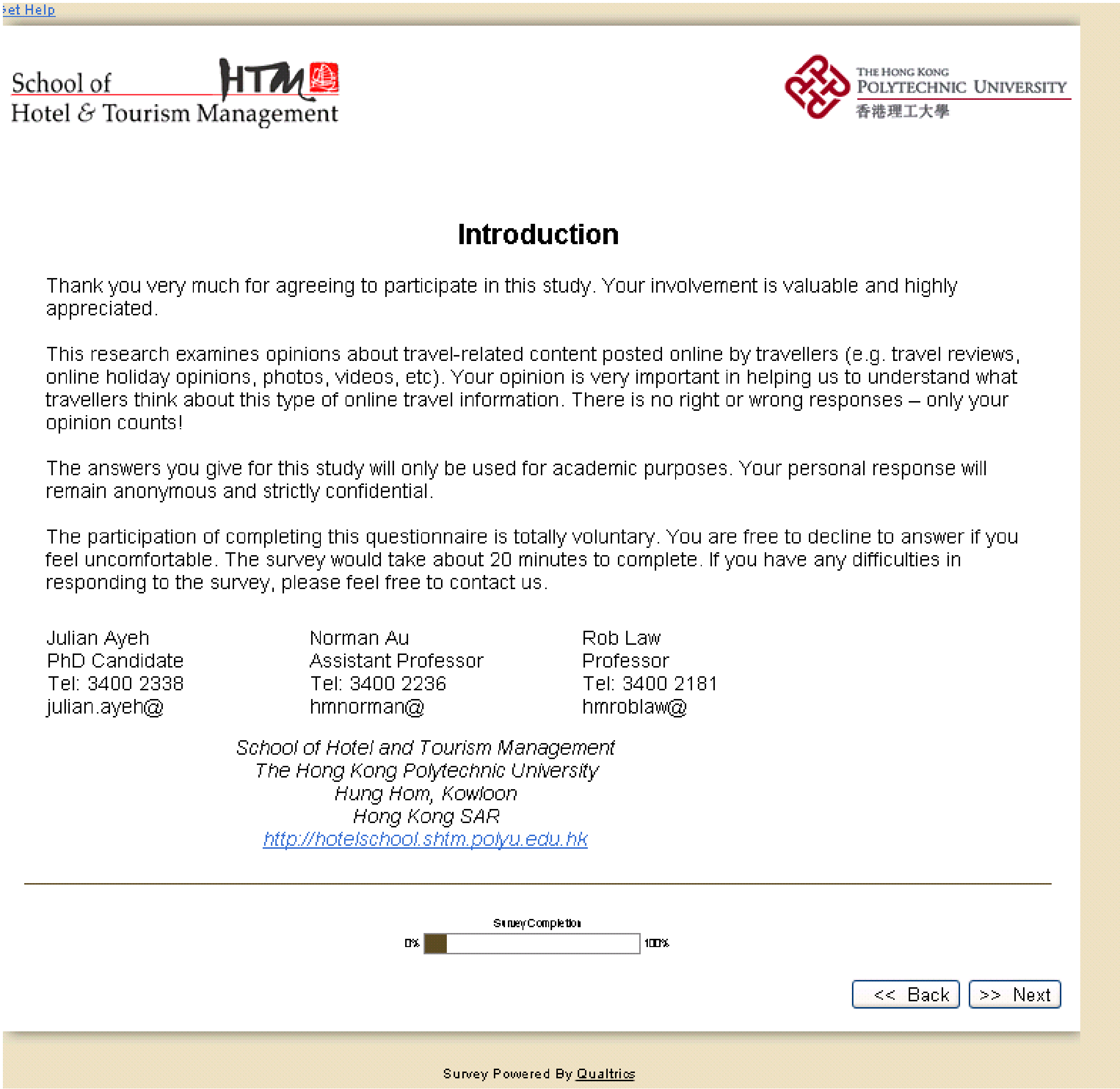
Have you taken any vacation trip (leisure holiday) within the last 12 months?

○ Yes
○ No


Get Help
School of Hotel & Tourism Management
HTM
THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學
Survey Completion
0%
100%
>> Next

Country of Residence

○ USA ○ Singapore ○ Other


et Help
School of Hotel & Tourism Management
HTM
The Hong Kong Polytechnic University
香港理工大學

Introduction

Thank you very much for agreeing to participate in this study. Your involvement is valuable and highly appreciated.

This research examines opinions about travel-related content posted online by travellers (e.g. travel reviews, online holiday opinions, photos, videos, etc). Your opinion is very important in helping us to understand what travellers think about this type of online travel information. There is no right or wrong responses – only your opinion counts!

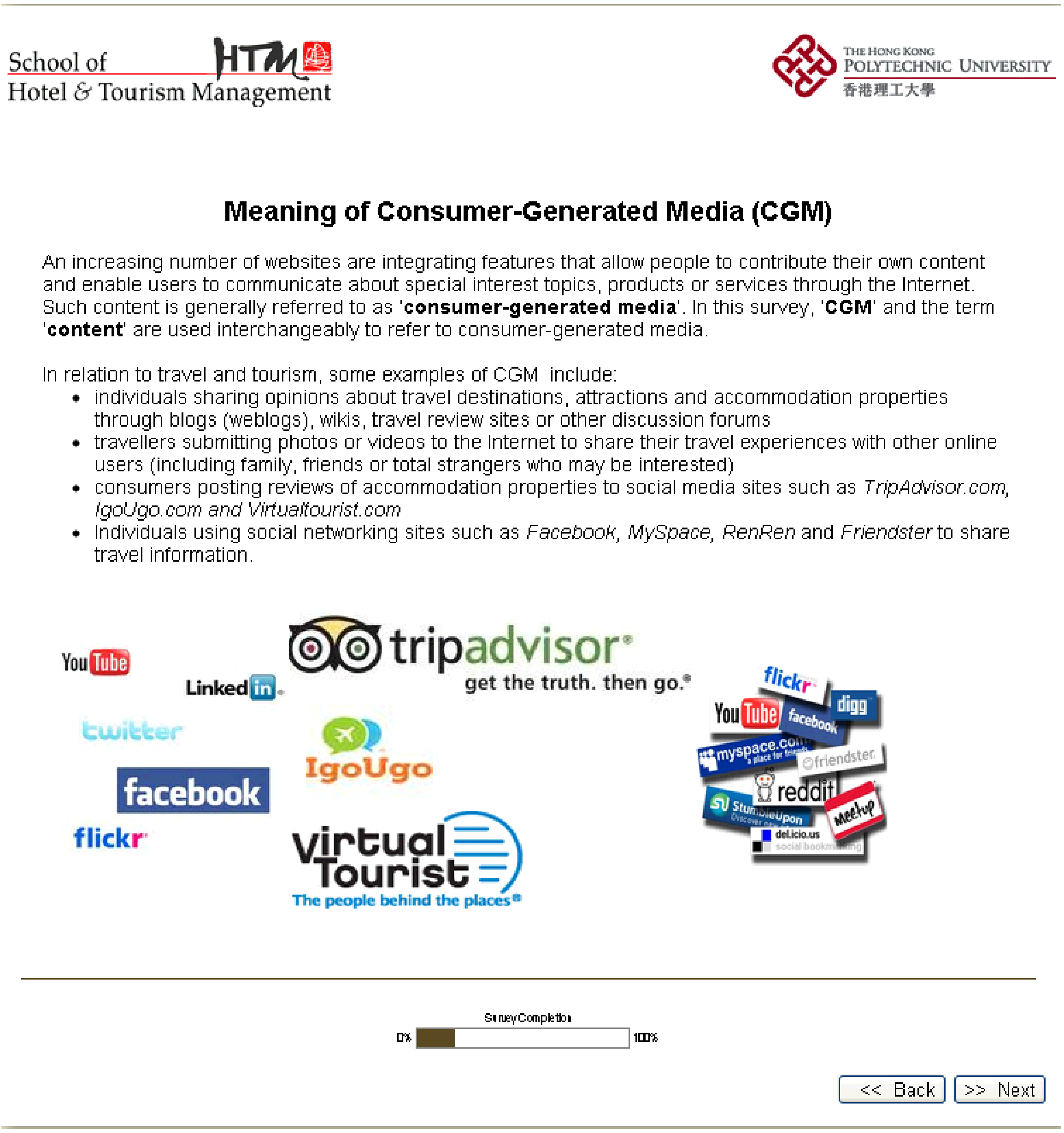
The answers you give for this study will only be used for academic purposes. Your personal response will remain anonymous and strictly confidential.

The participation of completing this questionnaire is totally voluntary. You are free to decline to answer if you feel uncomfortable. The survey would take about 20 minutes to complete. If you have any difficulties in responding to the survey, please feel free to contact us.

Julian Ayeh	Norman Au	Rob Law
PhD Candidate	Assistant Professor	Professor
Tel: 3400 2338	Tel: 3400 2236	Tel: 3400 2181
julian.ayeh@	hmnorman@	hmroblaw@

School of Hotel and Tourism Management
The Hong Kong Polytechnic University
Hung Hom, Kowloon
Hong Kong SAR
http://hotelschool.shtm.polyu.edu.hk

Survey Completion
0%
100%
<< Back
>> Next
Survey Powered By Qualtrics

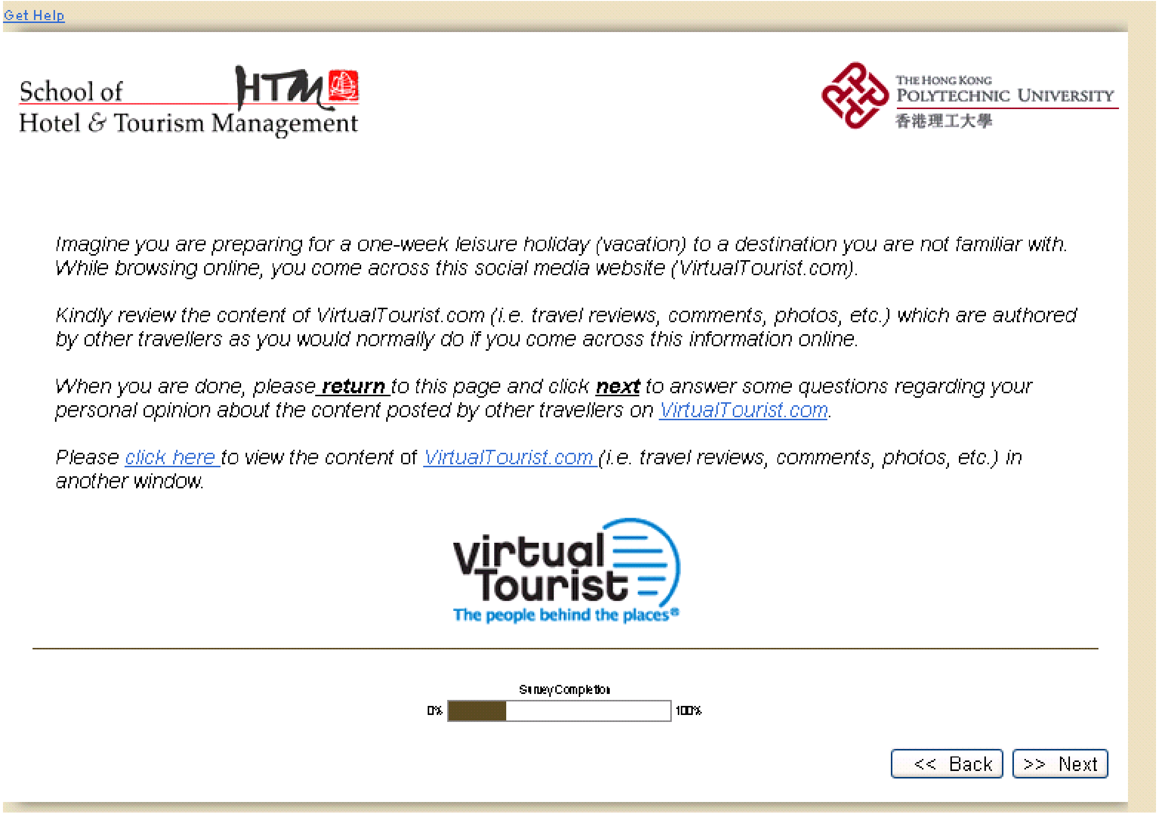

School of Hotel & Tourism Management
HTM
The Hong Kong Polytechnic University
香港理工大學
You Tube
LinkedIn
tripadvisor
get the truth. then go.
twitter
IgoUgo
facebook
flickr
virtual Tourist
The people behind the places
flickr
digg
myspace.com
friendster
reddit
StumbleUpon
Meetup
del.icio.us
Survey Completion
0%
100%
<< Back
>> Next

Meaning of Consumer-Generated Media (CGM)

An increasing number of websites are integrating features that allow people to contribute their own content and enable users to communicate about special interest topics, products or services through the Internet. Such content is generally referred to as '**consumer-generated media**'. In this survey, '**CGM**' and the term '**content**' are used interchangeably to refer to consumer-generated media.

In relation to travel and tourism, some examples of CGM include:

- individuals sharing opinions about travel destinations, attractions and accommodation properties through blogs (weblogs), wikis, travel review sites or other discussion forums
- travellers submitting photos or videos to the Internet to share their travel experiences with other online users (including family, friends or total strangers who may be interested)
- consumers posting reviews of accommodation properties to social media sites such as *TripAdvisor.com, IgoUgo.com and Virtualtourist.com*
- Individuals using social networking sites such as *Facebook, MySpace, RenRen* and *Friendster* to share travel information.


Get Help
School of Hotel & Tourism Management
HTM
The Hong Kong Polytechnic University
香港理工大學

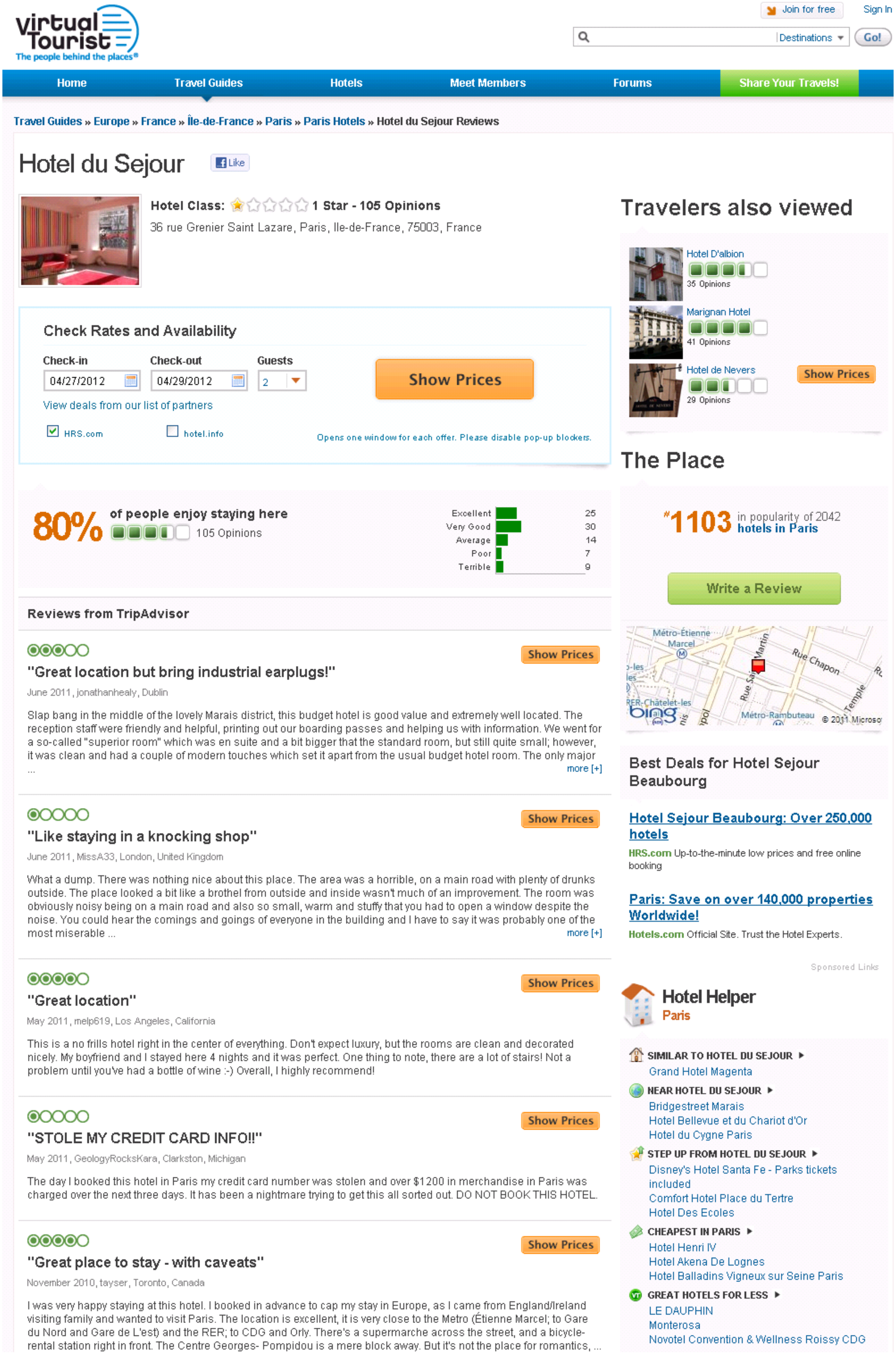
Imagine you are preparing for a one-week leisure holiday (vacation) to a destination you are not familiar with. While browsing online, you come across this social media website (VirtualTourist.com).

Kindly review the content of VirtualTourist.com (i.e. travel reviews, comments, photos, etc.) which are authored by other travellers as you would normally do if you come across this information online.

*When you are done, please **return** to this page and click **next** to answer some questions regarding your personal opinion about the content posted by other travellers on VirtualTourist.com.*

Please click here to view the content of VirtualTourist.com (i.e. travel reviews, comments, photos, etc.) in another window.

virtual Tourist
The people behind the places®
Survey Completion
0%
100%
<< Back
>> Next



Travel Guides » Europe » France » Île-de-France » Paris » Paris Hotels » Hotel du Sejour Reviews

Hotel du Sejour

Hotel Class: ★☆☆☆☆ **1 Star - 105 Opinions**

36 rue Grenier Saint Lazare, Paris, Ile-de-France, 75003, France

Check Rates and Availability

Check-in	Check-out	Guests
04/27/2012	04/29/2012	2

View deals from our list of partners

☑ HRS.com ☐ hotel.info

Opens one window for each offer. Please disable pop-up blockers.

80% of people enjoy staying here

105 Opinions

Excellent	25
Very Good	30
Average	14
Poor	7
Terrible	9

Reviews from TripAdvisor

●●●○○

"Great location but bring industrial earplugs!"

June 2011, jonathanhealy, Dublin

Slap bang in the middle of the lovely Marais district, this budget hotel is good value and extremely well located. The reception staff were friendly and helpful, printing out our boarding passes and helping us with information. We went for a so-called "superior room" which was en suite and a bit bigger that the standard room, but still quite small; however, it was clean and had a couple of modern touches which set it apart from the usual budget hotel room. The only major ...

more [+]

●○○○○

"Like staying in a knocking shop"

June 2011, MissA33, London, United Kingdom

What a dump. There was nothing nice about this place. The area was a horrible, on a main road with plenty of drunks outside. The place looked a bit like a brothel from outside and inside wasn't much of an improvement. The room was obviously noisy being on a main road and also so small, warm and stuffy that you had to open a window despite the noise. You could hear the comings and goings of everyone in the building and I have to say it was probably one of the most miserable ...

more [+]

●●●●○

"Great location"

May 2011, melp619, Los Angeles, California

This is a no frills hotel right in the center of everything. Don't expect luxury, but the rooms are clean and decorated nicely. My boyfriend and I stayed here 4 nights and it was perfect. One thing to note, there are a lot of stairs! Not a problem until you've had a bottle of wine :-) Overall, I highly recommend!

●○○○○

"STOLE MY CREDIT CARD INFO!!"

May 2011, GeologyRocksKara, Clarkston, Michigan

The day I booked this hotel in Paris my credit card number was stolen and over $1200 in merchandise in Paris was charged over the next three days. It has been a nightmare trying to get this all sorted out. DO NOT BOOK THIS HOTEL.

●●●●○

"Great place to stay - with caveats"

November 2010, tayser, Toronto, Canada

I was very happy staying at this hotel. I booked in advance to cap my stay in Europe, as I came from England/Ireland visiting family and wanted to visit Paris. The location is excellent, it is very close to the Metro (Étienne Marcel; to Gare du Nord and Gare de L'est) and the RER; to CDG and Orly. There's a supermarche across the street, and a bicycle-rental station right in front. The Centre Georges- Pompidou is a mere block away. But it's not the place for romantics, ...

Travelers also viewed

Hotel D'albion
35 Opinions

Marignan Hotel
41 Opinions

Hotel de Nevers
29 Opinions

The Place

#1103 in popularity of 2042 hotels in Paris

Best Deals for Hotel Sejour Beaubourg

Hotel Sejour Beaubourg: Over 250,000 hotels
HRS.com Up-to-the-minute low prices and free online booking

Paris: Save on over 140,000 properties Worldwide!
Hotels.com Official Site. Trust the Hotel Experts.

Sponsored Links

Hotel Helper
Paris

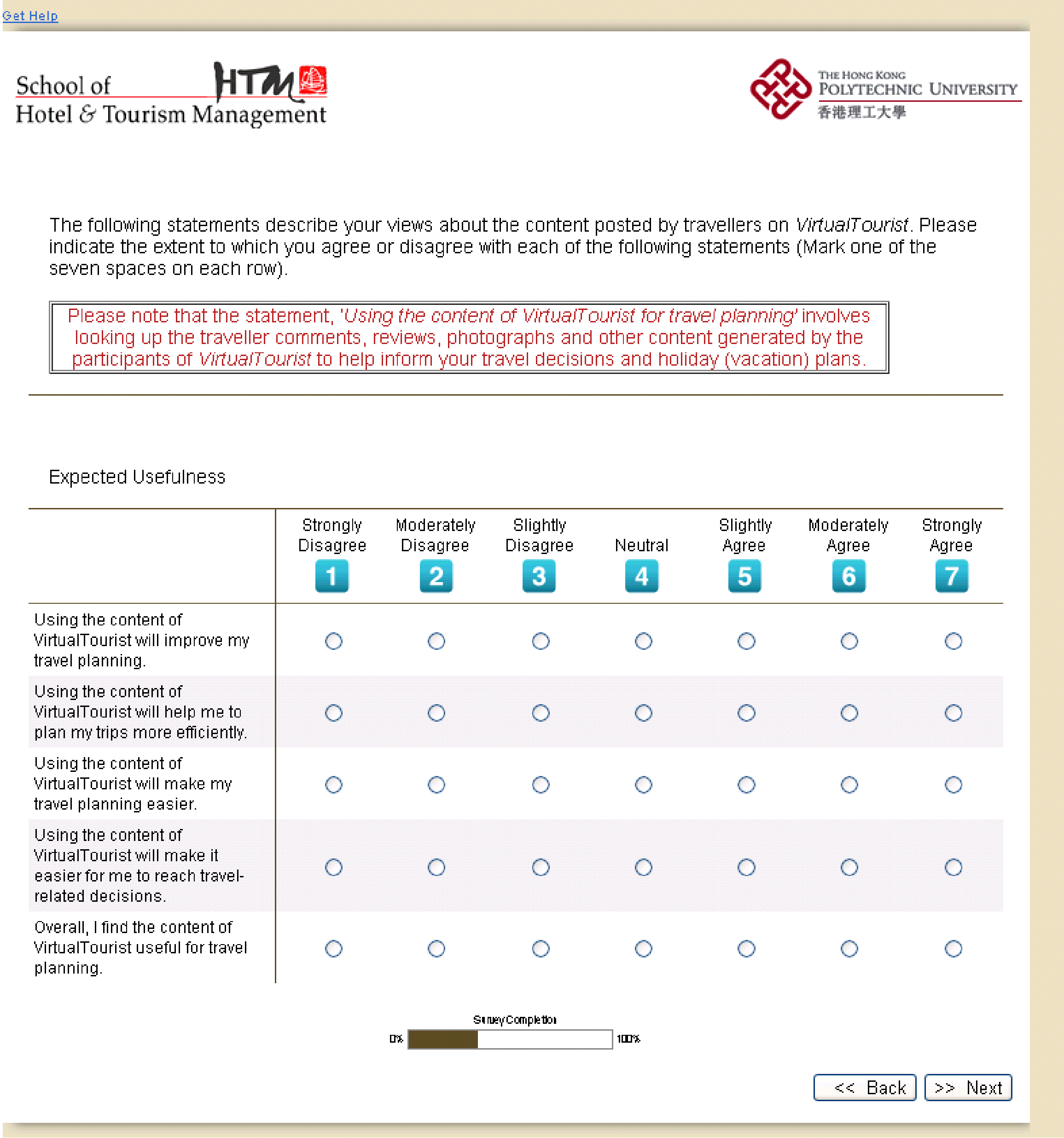
SIMILAR TO HOTEL DU SEJOUR ▸
- Grand Hotel Magenta

NEAR HOTEL DU SEJOUR ▸
- Bridgestreet Marais
- Hotel Bellevue et du Chariot d'Or
- Hotel du Cygne Paris

STEP UP FROM HOTEL DU SEJOUR ▸
- Disney's Hotel Santa Fe - Parks tickets included
- Comfort Hotel Place du Tertre
- Hotel Des Ecoles

CHEAPEST IN PARIS ▸
- Hotel Henri IV
- Hotel Akena De Lognes
- Hotel Balladins Vigneux sur Seine Paris

GREAT HOTELS FOR LESS ▸
- LE DAUPHIN
- Monterosa
- Novotel Convention & Wellness Roissy CDG

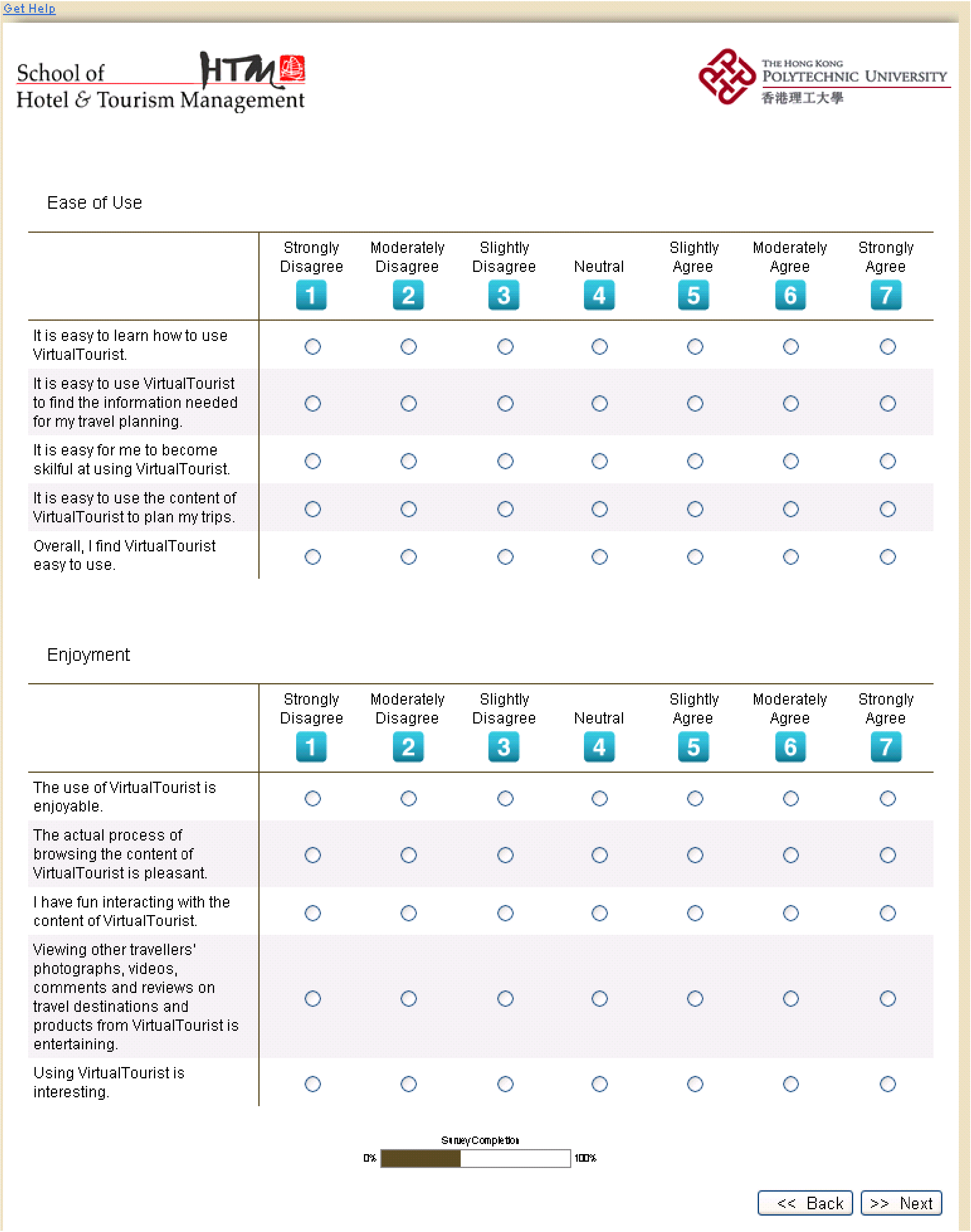

Get Help
School of HTM
Hotel & Tourism Management
The Hong Kong Polytechnic University
香港理工大學
Survey Completion
0%
100%
<< Back
>> Next

The following statements describe your views about the content posted by travellers on *VirtualTourist*. Please indicate the extent to which you agree or disagree with each of the following statements (Mark one of the seven spaces on each row).

Please note that the statement, '*Using the content of VirtualTourist for travel planning*' involves looking up the traveller comments, reviews, photographs and other content generated by the participants of *VirtualTourist* to help inform your travel decisions and holiday (vacation) plans.

Expected Usefulness

	Strongly Disagree 1	Moderately Disagree 2	Slightly Disagree 3	Neutral 4	Slightly Agree 5	Moderately Agree 6	Strongly Agree 7
Using the content of VirtualTourist will improve my travel planning.	○	○	○	○	○	○	○
Using the content of VirtualTourist will help me to plan my trips more efficiently.	○	○	○	○	○	○	○
Using the content of VirtualTourist will make my travel planning easier.	○	○	○	○	○	○	○
Using the content of VirtualTourist will make it easier for me to reach travel-related decisions.	○	○	○	○	○	○	○
Overall, I find the content of VirtualTourist useful for travel planning.	○	○	○	○	○	○	○



Get Help
School of HTM Hotel & Tourism Management
The Hong Kong Polytechnic University
香港理工大學

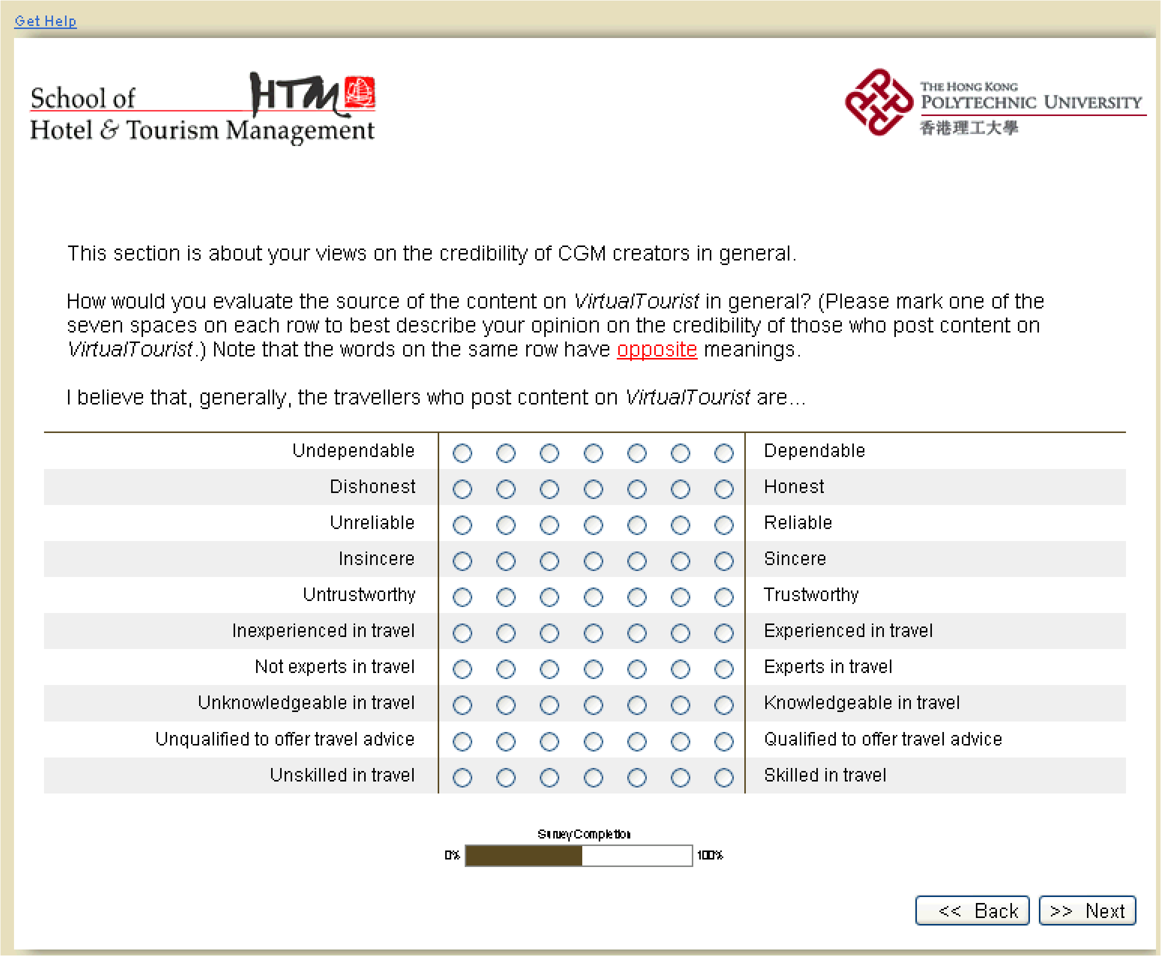
Ease of Use

	Strongly Disagree 1	Moderately Disagree 2	Slightly Disagree 3	Neutral 4	Slightly Agree 5	Moderately Agree 6	Strongly Agree 7
It is easy to learn how to use VirtualTourist.	○	○	○	○	○	○	○
It is easy to use VirtualTourist to find the information needed for my travel planning.	○	○	○	○	○	○	○
It is easy for me to become skilful at using VirtualTourist.	○	○	○	○	○	○	○
It is easy to use the content of VirtualTourist to plan my trips.	○	○	○	○	○	○	○
Overall, I find VirtualTourist easy to use.	○	○	○	○	○	○	○

Enjoyment

	Strongly Disagree 1	Moderately Disagree 2	Slightly Disagree 3	Neutral 4	Slightly Agree 5	Moderately Agree 6	Strongly Agree 7
The use of VirtualTourist is enjoyable.	○	○	○	○	○	○	○
The actual process of browsing the content of VirtualTourist is pleasant.	○	○	○	○	○	○	○
I have fun interacting with the content of VirtualTourist.	○	○	○	○	○	○	○
Viewing other travellers' photographs, videos, comments and reviews on travel destinations and products from VirtualTourist is entertaining.	○	○	○	○	○	○	○
Using VirtualTourist is interesting.	○	○	○	○	○	○	○

Survey Completion
0%
100%
<< Back
>> Next


Get Help
School of HTM
Hotel & Tourism Management
The Hong Kong Polytechnic University
香港理工大學

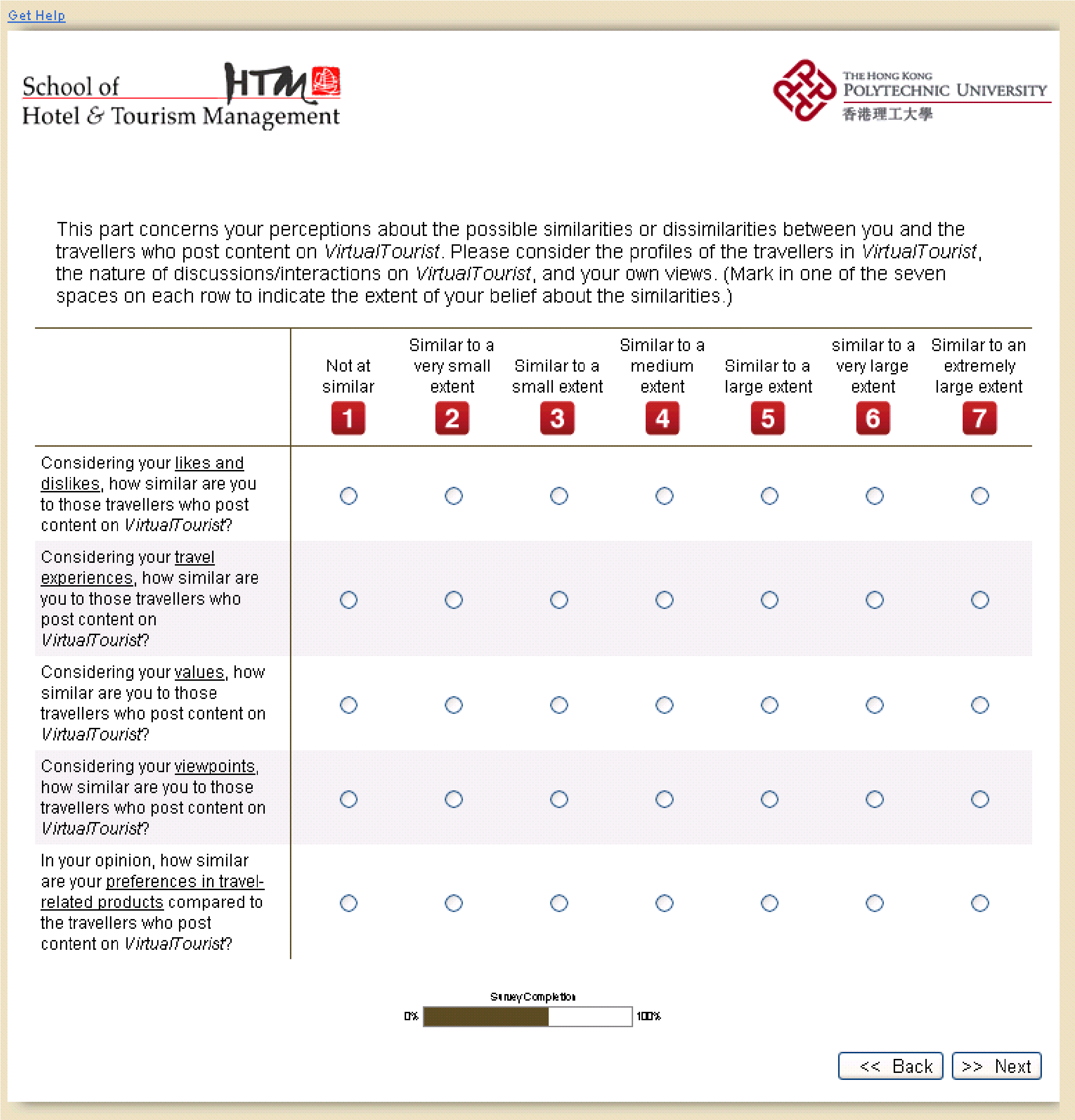
This section is about your views on the credibility of CGM creators in general.

How would you evaluate the source of the content on *VirtualTourist* in general? (Please mark one of the seven spaces on each row to best describe your opinion on the credibility of those who post content on *VirtualTourist*.) Note that the words on the same row have opposite meanings.

I believe that, generally, the travellers who post content on *VirtualTourist* are…

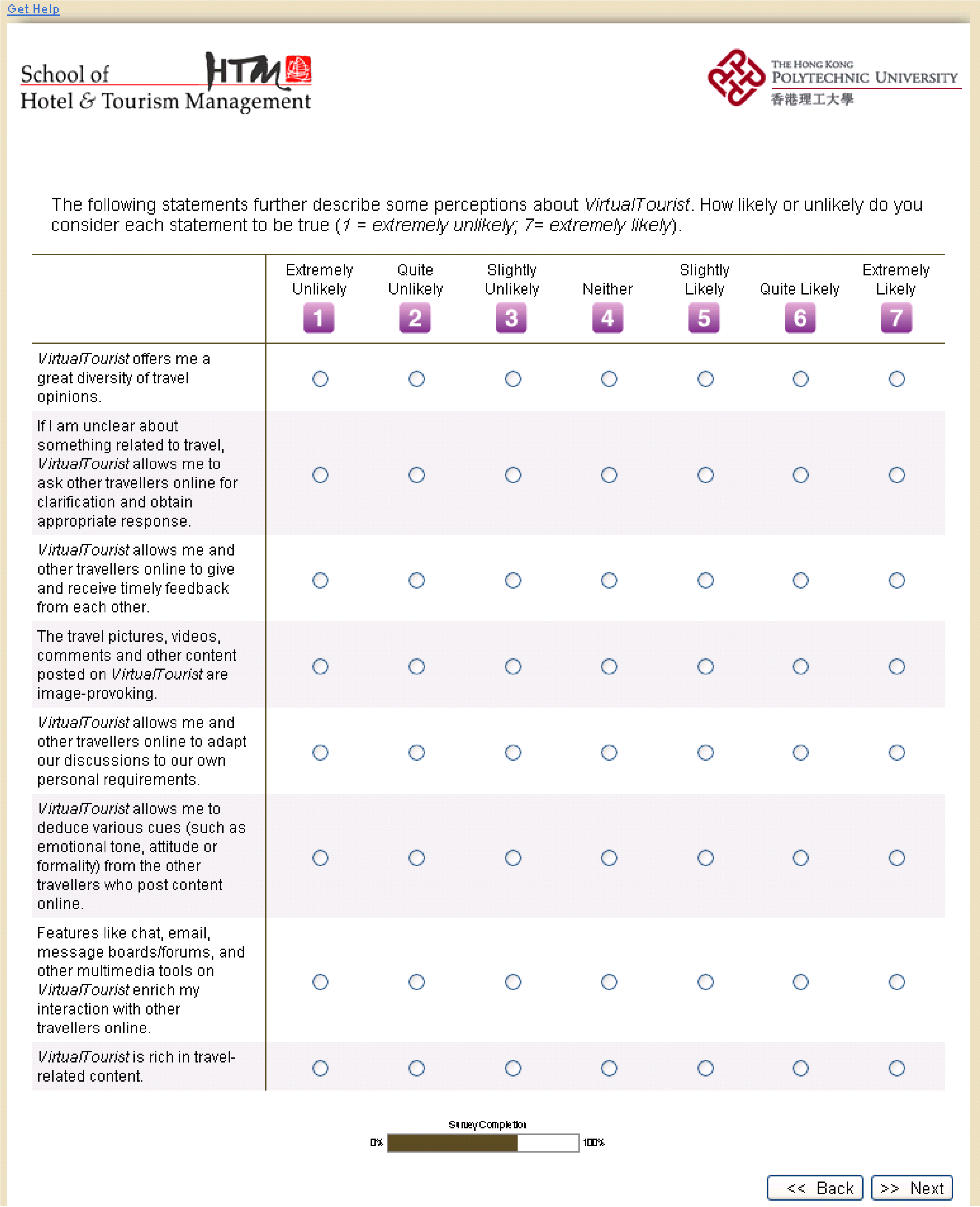
Undependable	○	○	○	○	○	○	○	Dependable
Dishonest	○	○	○	○	○	○	○	Honest
Unreliable	○	○	○	○	○	○	○	Reliable
Insincere	○	○	○	○	○	○	○	Sincere
Untrustworthy	○	○	○	○	○	○	○	Trustworthy
Inexperienced in travel	○	○	○	○	○	○	○	Experienced in travel
Not experts in travel	○	○	○	○	○	○	○	Experts in travel
Unknowledgeable in travel	○	○	○	○	○	○	○	Knowledgeable in travel
Unqualified to offer travel advice	○	○	○	○	○	○	○	Qualified to offer travel advice
Unskilled in travel	○	○	○	○	○	○	○	Skilled in travel

Survey Completion
0%
100%
<< Back
>> Next


Get Help
School of Hotel & Tourism Management
HTM
The Hong Kong Polytechnic University
香港理工大學

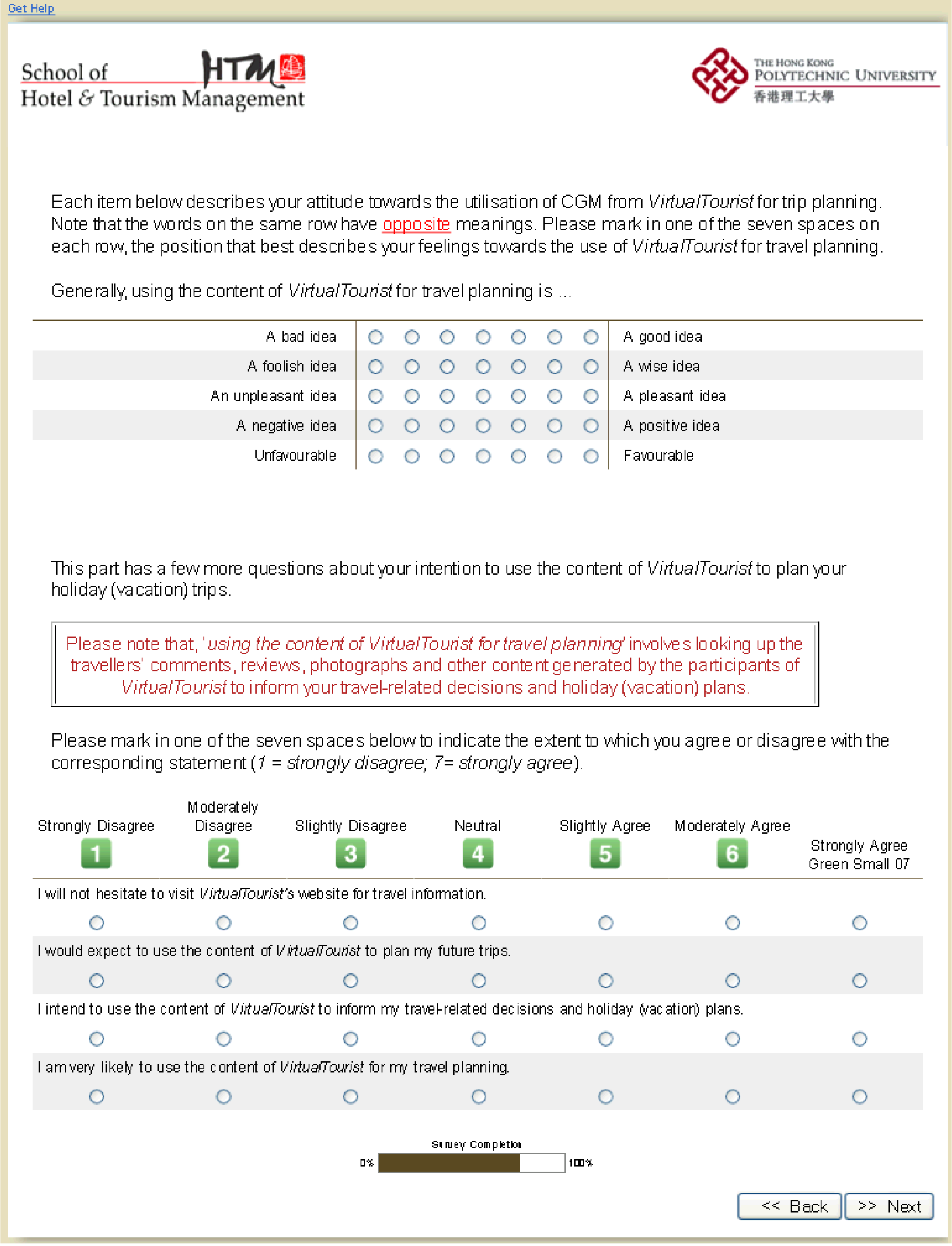
This part concerns your perceptions about the possible similarities or dissimilarities between you and the travellers who post content on *VirtualTourist*. Please consider the profiles of the travellers in *VirtualTourist*, the nature of discussions/interactions on *VirtualTourist*, and your own views. (Mark in one of the seven spaces on each row to indicate the extent of your belief about the similarities.)

	Not at similar 1	Similar to a very small extent 2	Similar to a small extent 3	Similar to a medium extent 4	Similar to a large extent 5	similar to a very large extent 6	Similar to an extremely large extent 7
Considering your likes and dislikes, how similar are you to those travellers who post content on *VirtualTourist*?	○	○	○	○	○	○	○
Considering your travel experiences, how similar are you to those travellers who post content on *VirtualTourist*?	○	○	○	○	○	○	○
Considering your values, how similar are you to those travellers who post content on *VirtualTourist*?	○	○	○	○	○	○	○
Considering your viewpoints, how similar are you to those travellers who post content on *VirtualTourist*?	○	○	○	○	○	○	○
In your opinion, how similar are your preferences in travel-related products compared to the travellers who post content on *VirtualTourist*?	○	○	○	○	○	○	○


Get Help
School of HTM Hotel & Tourism Management
The Hong Kong Polytechnic University
香港理工大學

The following statements further describe some perceptions about *VirtualTourist*. How likely or unlikely do you consider each statement to be true (*1 = extremely unlikely; 7= extremely likely*).

	Extremely Unlikely 1	Quite Unlikely 2	Slightly Unlikely 3	Neither 4	Slightly Likely 5	Quite Likely 6	Extremely Likely 7
VirtualTourist offers me a great diversity of travel opinions.	○	○	○	○	○	○	○
If I am unclear about something related to travel, *VirtualTourist* allows me to ask other travellers online for clarification and obtain appropriate response.	○	○	○	○	○	○	○
VirtualTourist allows me and other travellers online to give and receive timely feedback from each other.	○	○	○	○	○	○	○
The travel pictures, videos, comments and other content posted on *VirtualTourist* are image-provoking.	○	○	○	○	○	○	○
VirtualTourist allows me and other travellers online to adapt our discussions to our own personal requirements.	○	○	○	○	○	○	○
VirtualTourist allows me to deduce various cues (such as emotional tone, attitude or formality) from the other travellers who post content online.	○	○	○	○	○	○	○
Features like chat, email, message boards/forums, and other multimedia tools on *VirtualTourist* enrich my interaction with other travellers online.	○	○	○	○	○	○	○
VirtualTourist is rich in travel-related content.	○	○	○	○	○	○	○


Get Help
School of Hotel & Tourism Management HTM
The Hong Kong Polytechnic University
香港理工大學
<< Back
>> Next

Each item below describes your attitude towards the utilisation of CGM from *VirtualTourist* for trip planning. Note that the words on the same row have opposite meanings. Please mark in one of the seven spaces on each row, the position that best describes your feelings towards the use of *VirtualTourist* for travel planning.

Generally, using the content of *VirtualTourist* for travel planning is ...

A bad idea	○	○	○	○	○	○	○	A good idea
A foolish idea	○	○	○	○	○	○	○	A wise idea
An unpleasant idea	○	○	○	○	○	○	○	A pleasant idea
A negative idea	○	○	○	○	○	○	○	A positive idea
Unfavourable	○	○	○	○	○	○	○	Favourable

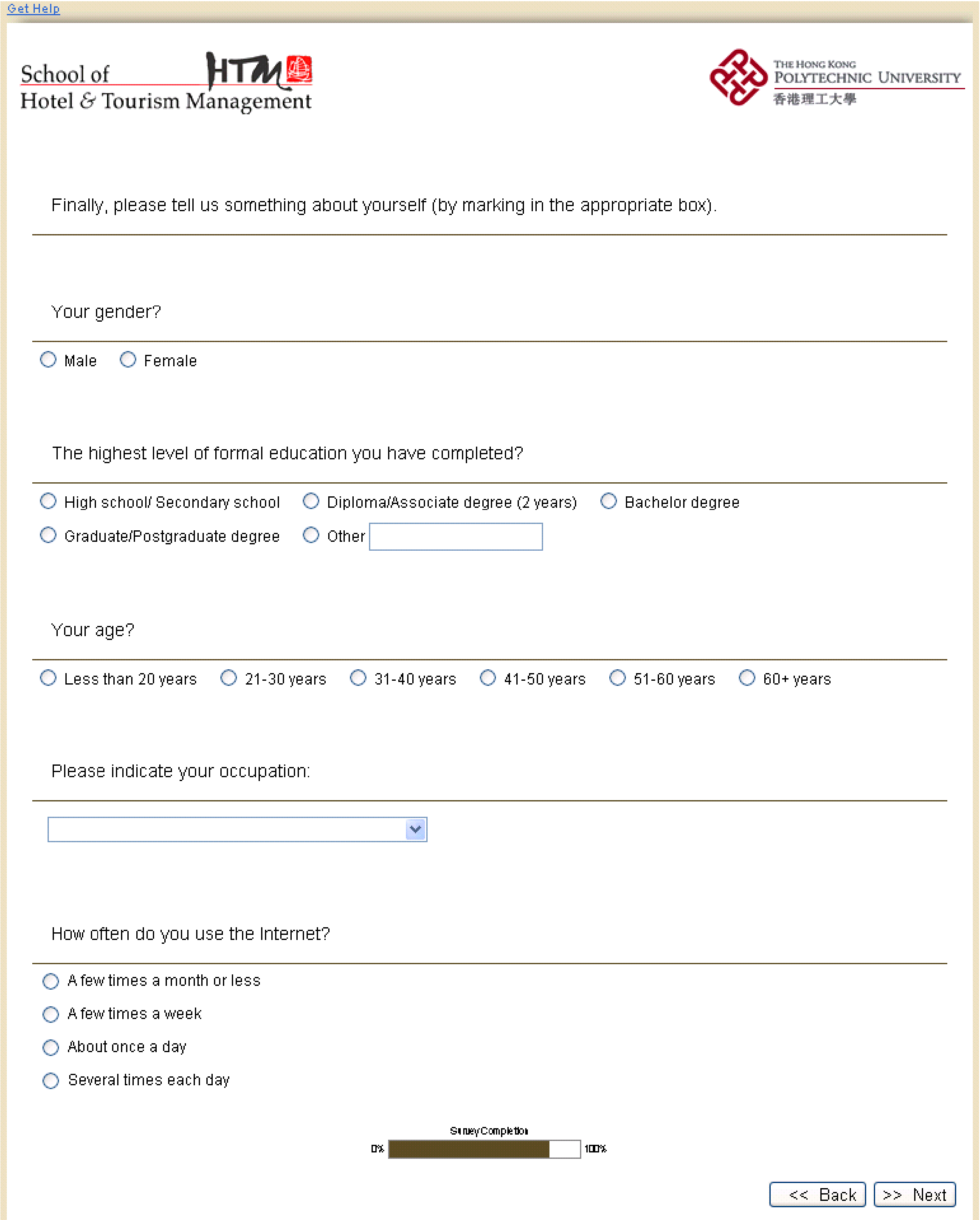
This part has a few more questions about your intention to use the content of *VirtualTourist* to plan your holiday (vacation) trips.

Please note that, '*using the content of VirtualTourist for travel planning*' involves looking up the travellers' comments, reviews, photographs and other content generated by the participants of *VirtualTourist* to inform your travel-related decisions and holiday (vacation) plans.

Please mark in one of the seven spaces below to indicate the extent to which you agree or disagree with the corresponding statement (*1 = strongly disagree; 7= strongly agree*).

Strongly Disagree 1	Moderately Disagree 2	Slightly Disagree 3	Neutral 4	Slightly Agree 5	Moderately Agree 6	Strongly Agree Green Small 07
I will not hesitate to visit *VirtualTourist's* website for travel information.						
○	○	○	○	○	○	○
I would expect to use the content of *VirtualTourist* to plan my future trips.						
○	○	○	○	○	○	○
I intend to use the content of *VirtualTourist* to inform my travel-related decisions and holiday (vacation) plans.						
○	○	○	○	○	○	○
I am very likely to use the content of *VirtualTourist* for my travel planning.						
○	○	○	○	○	○	○

Survey Completion
0% 100%


Get Help
School of Hotel & Tourism Management
The Hong Kong Polytechnic University
香港理工大學

Finally, please tell us something about yourself (by marking in the appropriate box).

Your gender?

○ Male ○ Female

The highest level of formal education you have completed?

○ High school/ Secondary school ○ Diploma/Associate degree (2 years) ○ Bachelor degree
○ Graduate/Postgraduate degree ○ Other ______

Your age?

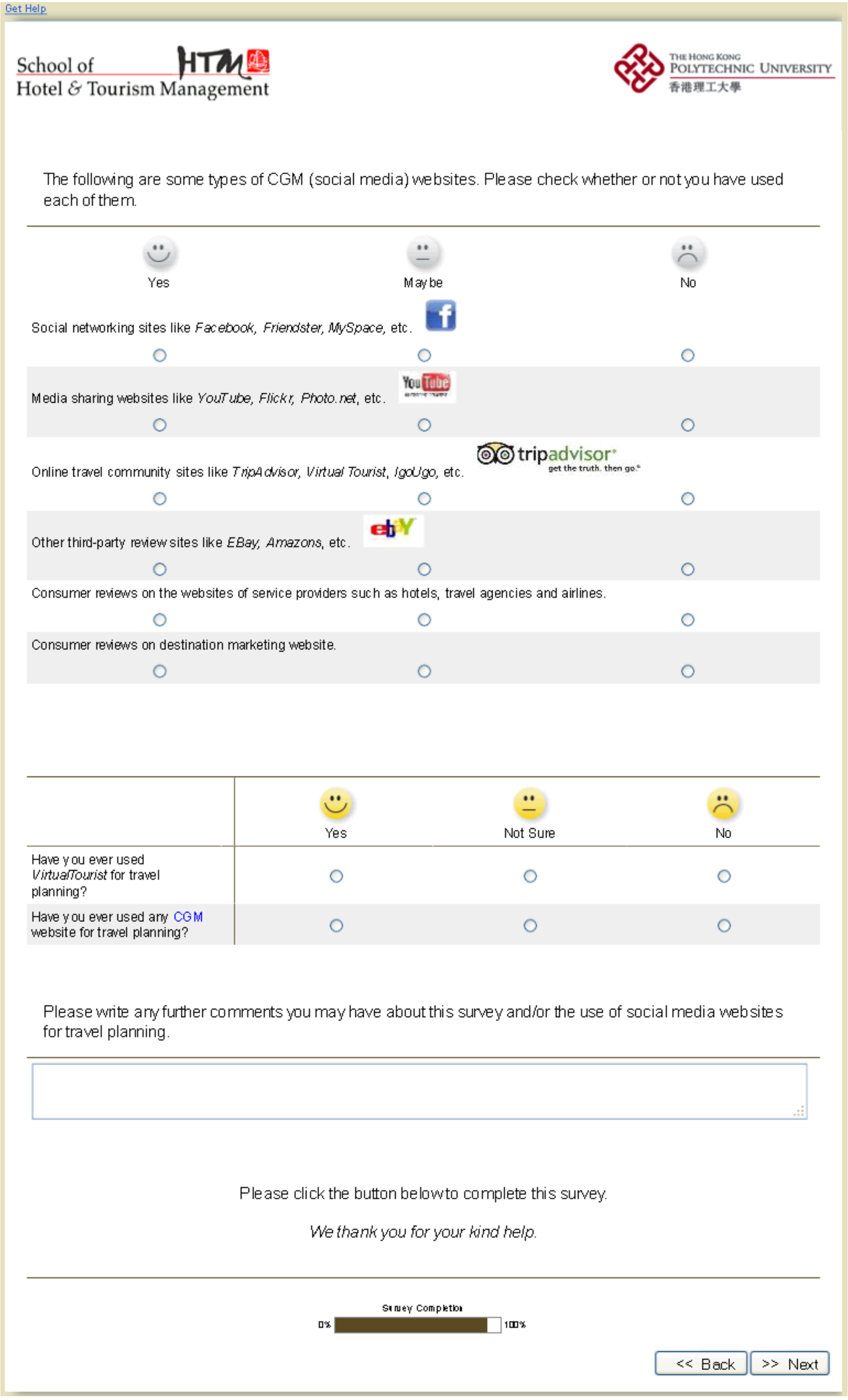
○ Less than 20 years ○ 21-30 years ○ 31-40 years ○ 41-50 years ○ 51-60 years ○ 60+ years

Please indicate your occupation:

How often do you use the Internet?

○ A few times a month or less
○ A few times a week
○ About once a day
○ Several times each day

Survey Completion
0%
100%
<< Back
>> Next


Get Help
School of Hotel & Tourism Management
HTM
The Hong Kong Polytechnic University
香港理工大學

The following are some types of CGM (social media) websites. Please check whether or not you have used each of them.

	Yes	Maybe	No
Social networking sites like *Facebook, Friendster, MySpace*, etc.	○	○	○
Media sharing websites like *YouTube, Flickr, Photo.net*, etc.	○	○	○
Online travel community sites like *TripAdvisor, Virtual Tourist, IgoUgo*, etc.	○	○	○
Other third-party review sites like *EBay, Amazons*, etc.	○	○	○
Consumer reviews on the websites of service providers such as hotels, travel agencies and airlines.	○	○	○
Consumer reviews on destination marketing website.	○	○	○

f
You Tube
tripadvisor
get the truth. then go.
ebY

	Yes	Not Sure	No
Have you ever used *VirtualTourist* for travel planning?	○	○	○
Have you ever used any CGM website for travel planning?	○	○	○

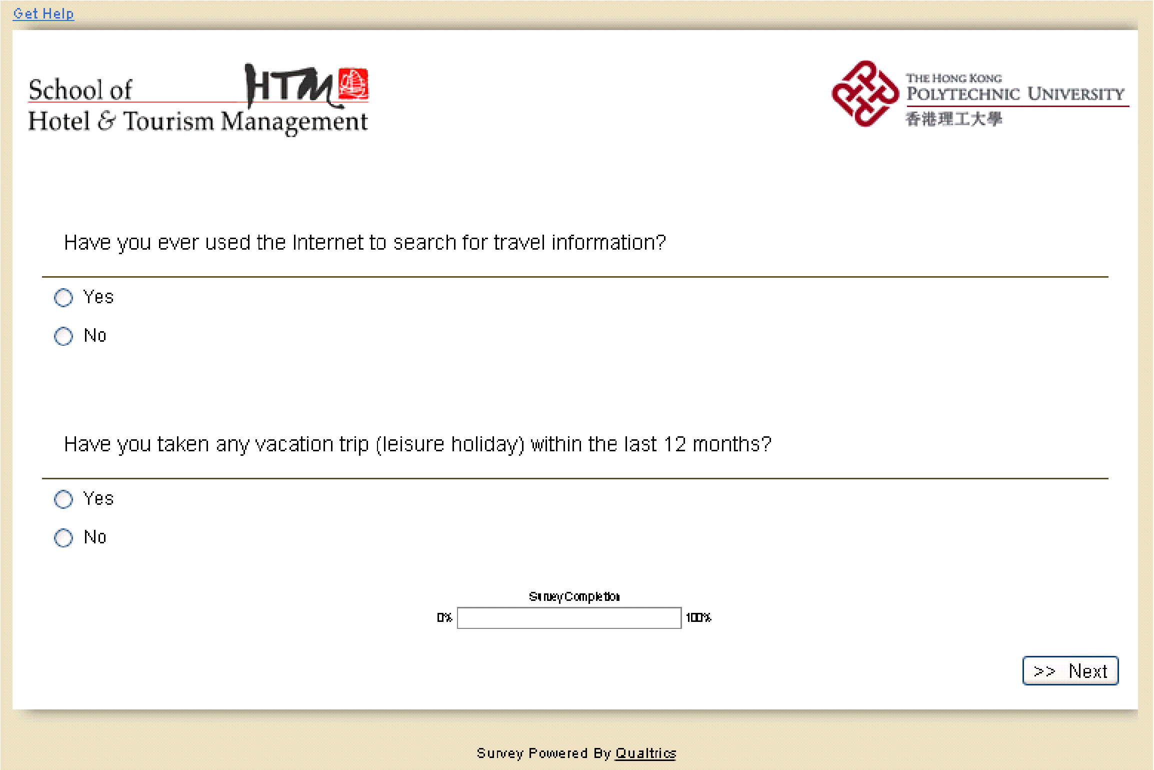
Please write any further comments you may have about this survey and/or the use of social media websites for travel planning.

Please click the button below to complete this survey.

We thank you for your kind help.

Survey Completion
0%
100%
<< Back
>> Next

Appendix C. ONLINE QUESTIONNAIRE FOR THE MAIN SURVEY

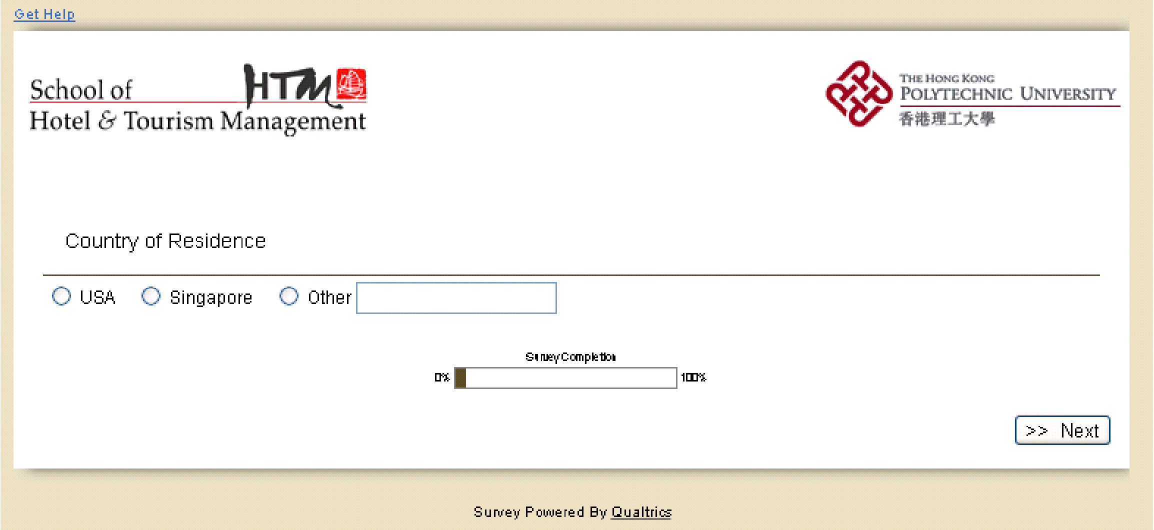

Get Help
School of Hotel & Tourism Management
HTM
The Hong Kong Polytechnic University
香港理工大學
Survey Completion
0%
100%
>> Next
Survey Powered By Qualtrics

Have you ever used the Internet to search for travel information?

○ Yes
○ No

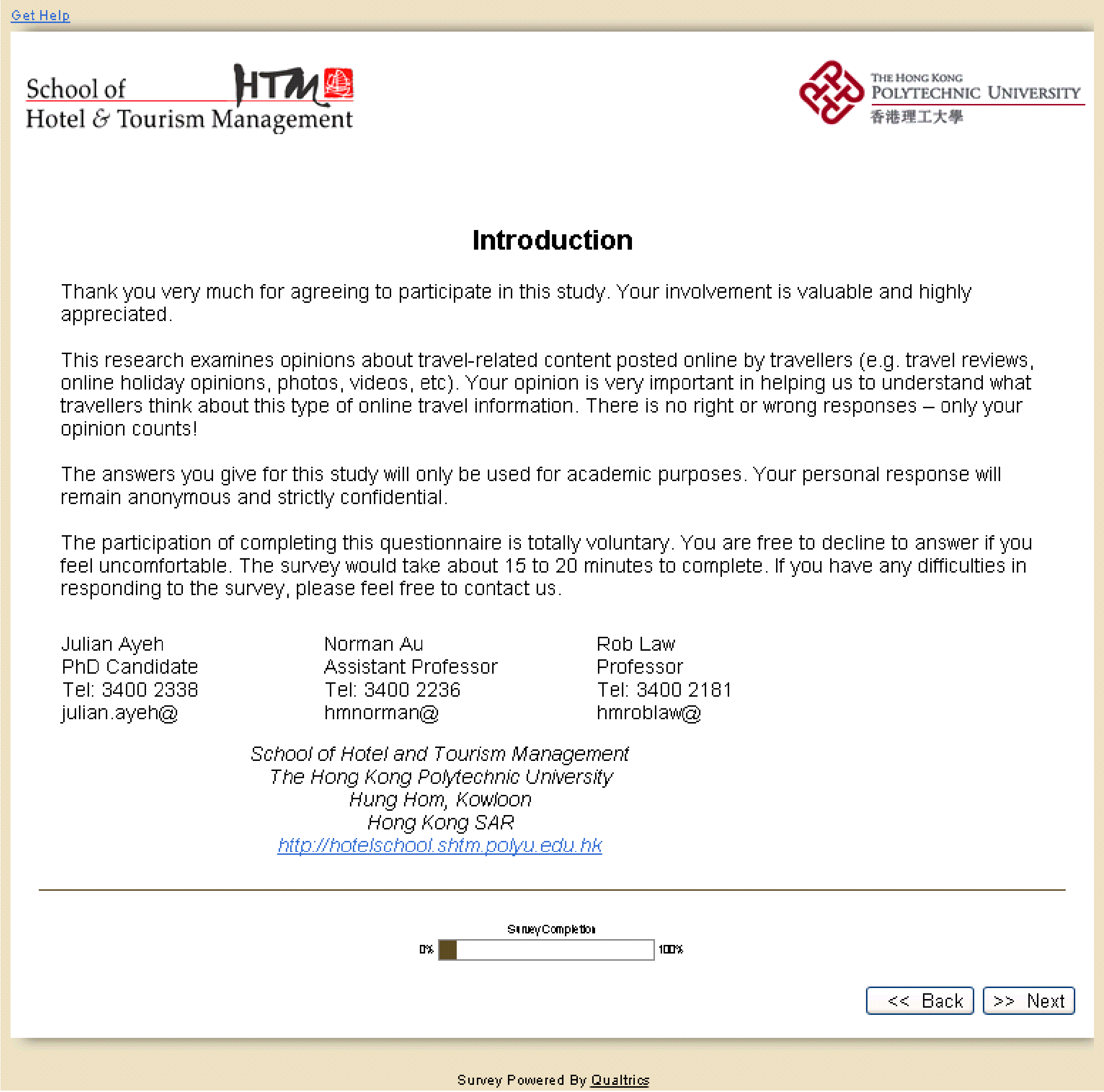
Have you taken any vacation trip (leisure holiday) within the last 12 months?

○ Yes
○ No


Get Help
School of Hotel & Tourism Management
HTM
The Hong Kong Polytechnic University
香港理工大學
Survey Completion
0%
100%
>> Next
Survey Powered By Qualtrics

Country of Residence

○ USA ○ Singapore ○ Other ☐


Get Help
School of Hotel & Tourism Management
HTM
The Hong Kong Polytechnic University
香港理工大學

Introduction

Thank you very much for agreeing to participate in this study. Your involvement is valuable and highly appreciated.

This research examines opinions about travel-related content posted online by travellers (e.g. travel reviews, online holiday opinions, photos, videos, etc). Your opinion is very important in helping us to understand what travellers think about this type of online travel information. There is no right or wrong responses – only your opinion counts!

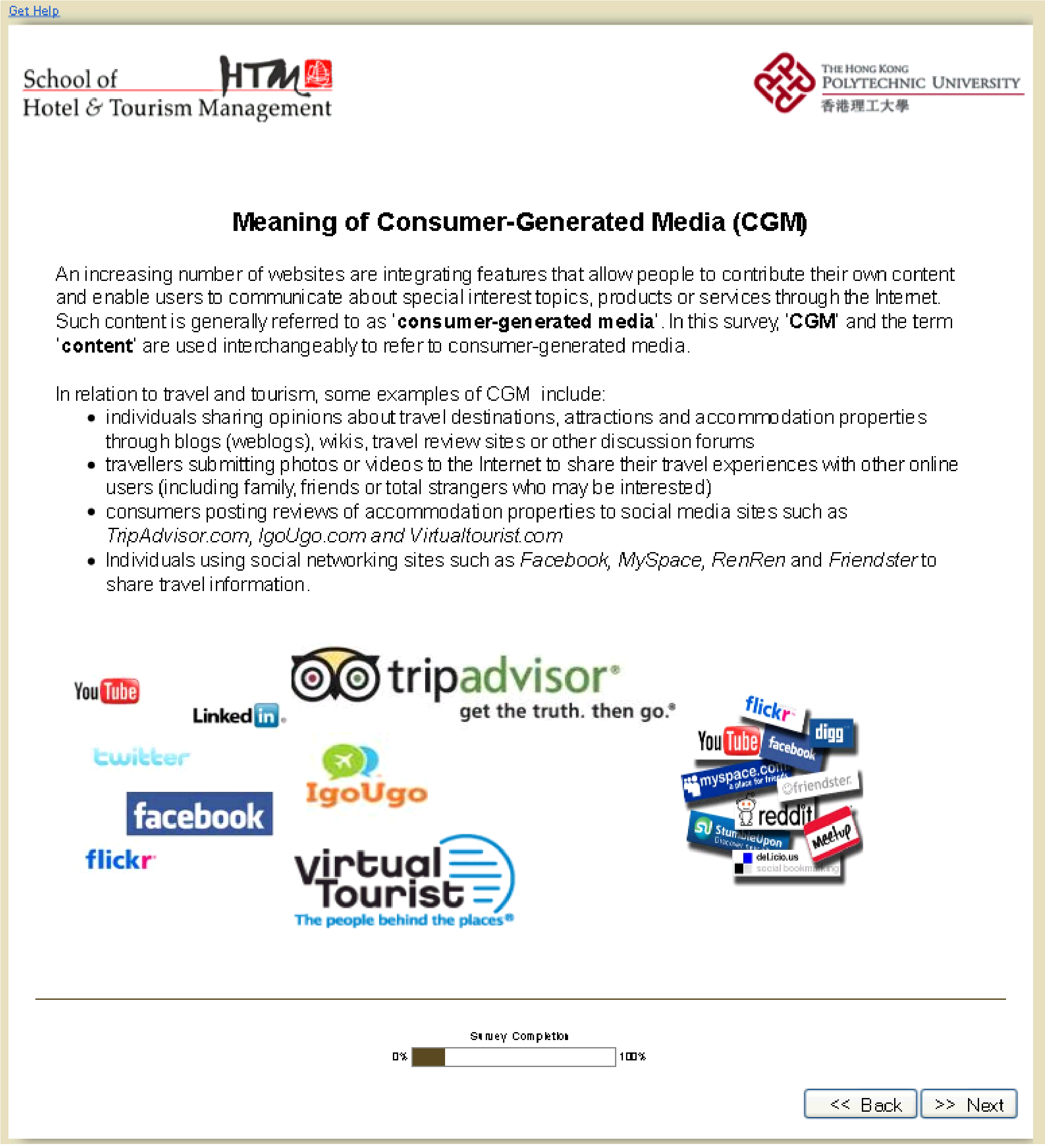
The answers you give for this study will only be used for academic purposes. Your personal response will remain anonymous and strictly confidential.

The participation of completing this questionnaire is totally voluntary. You are free to decline to answer if you feel uncomfortable. The survey would take about 15 to 20 minutes to complete. If you have any difficulties in responding to the survey, please feel free to contact us.

Julian Ayeh	Norman Au	Rob Law
PhD Candidate	Assistant Professor	Professor
Tel: 3400 2338	Tel: 3400 2236	Tel: 3400 2181
julian.ayeh@	hmnorman@	hmroblaw@

School of Hotel and Tourism Management
The Hong Kong Polytechnic University
Hung Hom, Kowloon
Hong Kong SAR
http://hotelschool.shtm.polyu.edu.hk

Survey Completion
0%
100%
<< Back
>> Next
Survey Powered By Qualtrics


Get Help
School of Hotel & Tourism Management
HTM
The Hong Kong Polytechnic University
香港理工大學

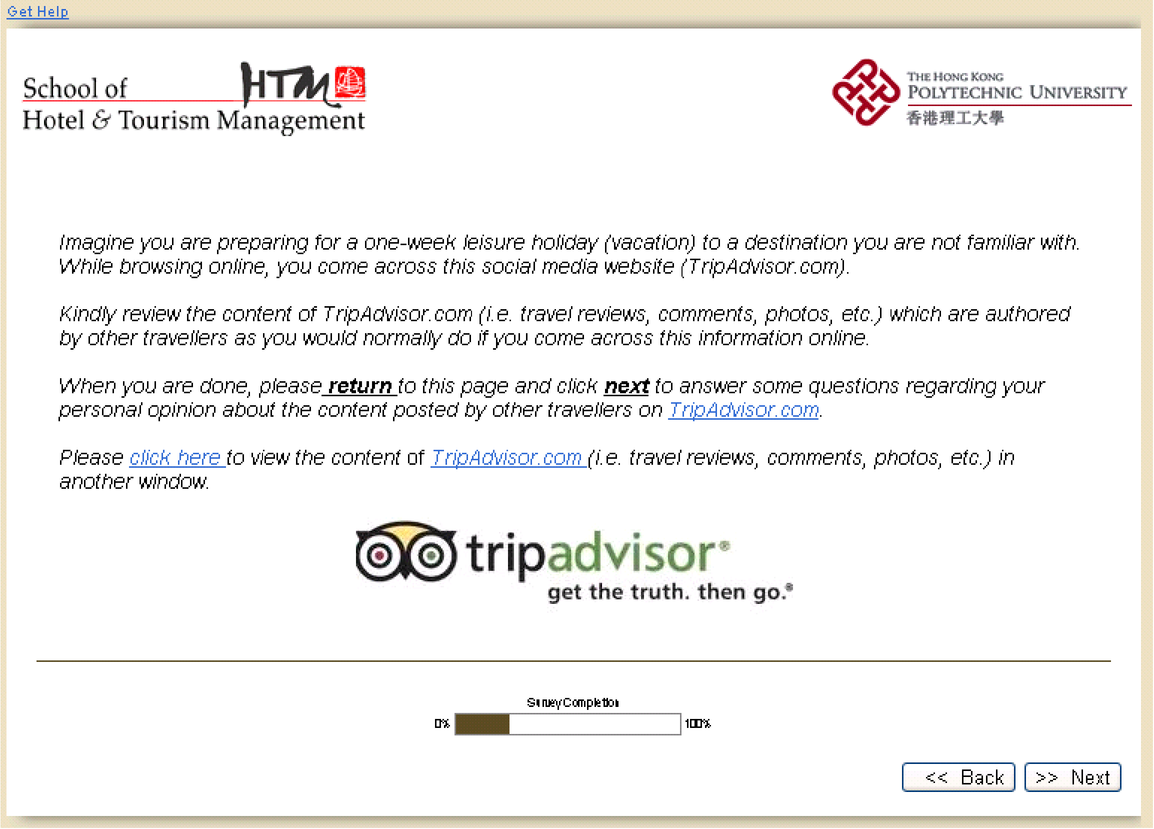
Meaning of Consumer-Generated Media (CGM)

An increasing number of websites are integrating features that allow people to contribute their own content and enable users to communicate about special interest topics, products or services through the Internet. Such content is generally referred to as '**consumer-generated media**'. In this survey, '**CGM**' and the term '**content**' are used interchangeably to refer to consumer-generated media.

In relation to travel and tourism, some examples of CGM include:

- individuals sharing opinions about travel destinations, attractions and accommodation properties through blogs (weblogs), wikis, travel review sites or other discussion forums
- travellers submitting photos or videos to the Internet to share their travel experiences with other online users (including family, friends or total strangers who may be interested)
- consumers posting reviews of accommodation properties to social media sites such as *TripAdvisor.com, IgoUgo.com and Virtualtourist.com*
- Individuals using social networking sites such as *Facebook, MySpace, RenRen* and *Friendster* to share travel information.

YouTube
LinkedIn
tripadvisor
get the truth. then go.
twitter
IgoUgo
facebook
flickr
virtual Tourist
The people behind the places
flickr
digg
YouTube
facebook
myspace.com
friendster
reddit
StumbleUpon
meetup
del.icio.us
Survey Completion
0%
100%
<< Back
>> Next

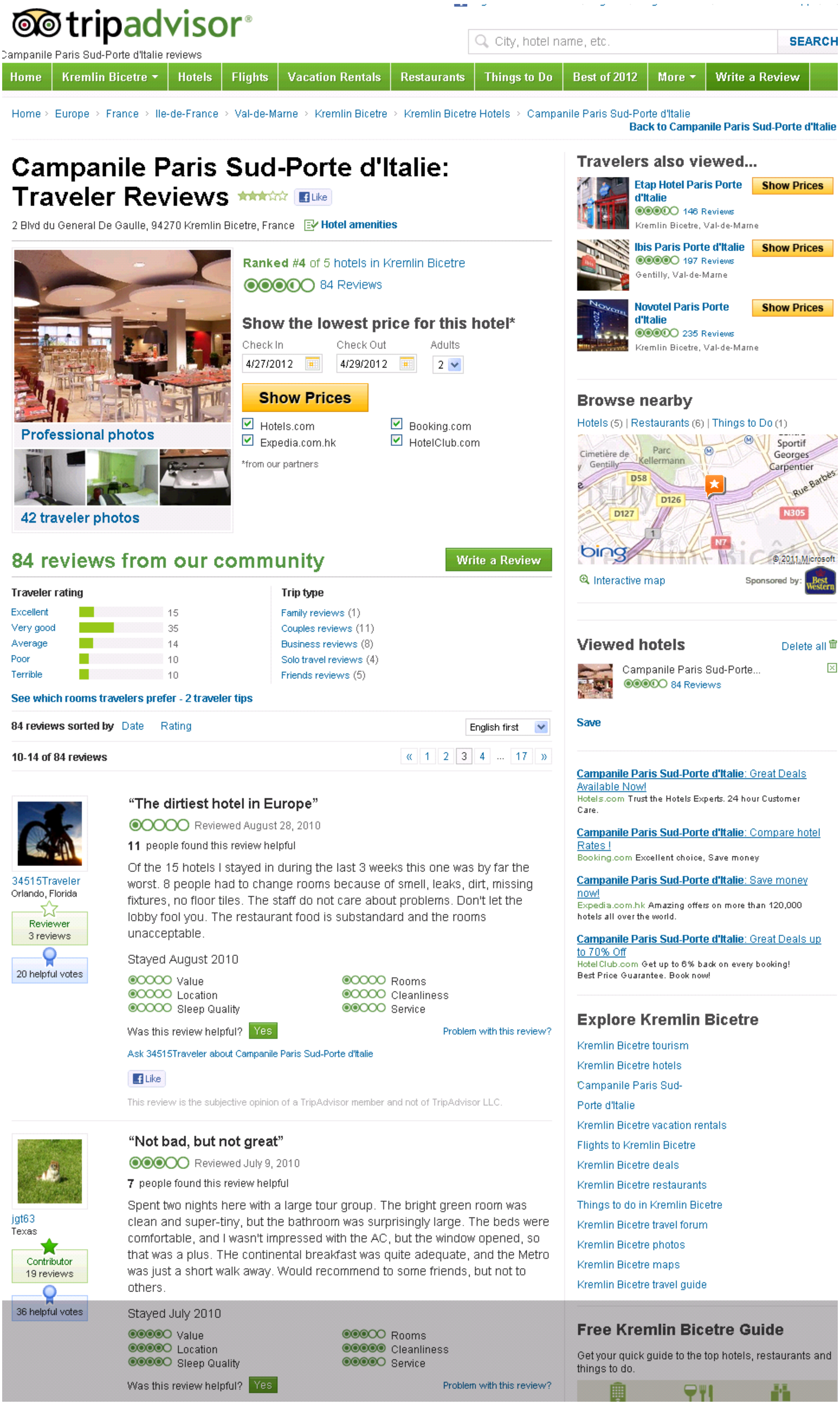

Get Help
School of HTM Hotel & Tourism Management
The Hong Kong Polytechnic University
香港理工大學
tripadvisor
get the truth. then go.
Survey Completion
0%
100%
<< Back
>> Next

Imagine you are preparing for a one-week leisure holiday (vacation) to a destination you are not familiar with. While browsing online, you come across this social media website (TripAdvisor.com).

Kindly review the content of TripAdvisor.com (i.e. travel reviews, comments, photos, etc.) which are authored by other travellers as you would normally do if you come across this information online.

*When you are done, please **return** to this page and click **next** to answer some questions regarding your personal opinion about the content posted by other travellers on TripAdvisor.com.*

Please click here to view the content of TripAdvisor.com (i.e. travel reviews, comments, photos, etc.) in another window.



tripadvisor®

Campanile Paris Sud-Porte d'Italie reviews

City, hotel name, etc. SEARCH

Home | Kremlin Bicetre ▾ | Hotels | Flights | Vacation Rentals | Restaurants | Things to Do | Best of 2012 | More ▾ | Write a Review

Home › Europe › France › Ile-de-France › Val-de-Marne › Kremlin Bicetre › Kremlin Bicetre Hotels › Campanile Paris Sud-Porte d'Italie

Back to Campanile Paris Sud-Porte d'Italie

Campanile Paris Sud-Porte d'Italie: Traveler Reviews

Like

2 Blvd du General De Gaulle, 94270 Kremlin Bicetre, France Hotel amenities

Professional photos

42 traveler photos

Ranked #4 of 5 hotels in Kremlin Bicetre

84 Reviews

Show the lowest price for this hotel*

Check In	Check Out	Adults
4/27/2012	4/29/2012	2

Show Prices

☑ Hotels.com ☑ Booking.com
☑ Expedia.com.hk ☑ HotelClub.com

*from our partners

84 reviews from our community

Write a Review

Traveler rating

Excellent	15
Very good	35
Average	14
Poor	10
Terrible	10

Trip type

Family reviews (1)
Couples reviews (11)
Business reviews (8)
Solo travel reviews (4)
Friends reviews (5)

See which rooms travelers prefer - 2 traveler tips

84 reviews sorted by Date Rating English first

10-14 of 84 reviews « 1 2 3 4 ... 17 »

34515Traveler
Orlando, Florida
Reviewer
3 reviews
20 helpful votes

"The dirtiest hotel in Europe"

Reviewed August 28, 2010

11 people found this review helpful

Of the 15 hotels I stayed in during the last 3 weeks this one was by far the worst. 8 people had to change rooms because of smell, leaks, dirt, missing fixtures, no floor tiles. The staff do not care about problems. Don't let the lobby fool you. The restaurant food is substandard and the rooms unacceptable.

Stayed August 2010

Value Rooms
Location Cleanliness
Sleep Quality Service

Was this review helpful? Yes Problem with this review?

Ask 34515Traveler about Campanile Paris Sud-Porte d'Italie

Like

This review is the subjective opinion of a TripAdvisor member and not of TripAdvisor LLC.

jgt63
Texas
Contributor
19 reviews
36 helpful votes

"Not bad, but not great"

Reviewed July 9, 2010

7 people found this review helpful

Spent two nights here with a large tour group. The bright green room was clean and super-tiny, but the bathroom was surprisingly large. The beds were comfortable, and I wasn't impressed with the AC, but the window opened, so that was a plus. THe continental breakfast was quite adequate, and the Metro was just a short walk away. Would recommend to some friends, but not to others.

Stayed July 2010

Value Rooms
Location Cleanliness
Sleep Quality Service

Was this review helpful? Yes Problem with this review?

Travelers also viewed...

Etap Hotel Paris Porte d'Italie Show Prices
146 Reviews
Kremlin Bicetre, Val-de-Marne

Ibis Paris Porte d'Italie Show Prices
197 Reviews
Gentilly, Val-de-Marne

Novotel Paris Porte d'Italie Show Prices
235 Reviews
Kremlin Bicetre, Val-de-Marne

Browse nearby

Hotels (5) | Restaurants (6) | Things to Do (1)

Interactive map Sponsored by: Best Western

Viewed hotels

Delete all

Campanile Paris Sud-Porte...
84 Reviews

Save

Campanile Paris Sud-Porte d'Italie: Great Deals Available Now!
Hotels.com Trust the Hotels Experts. 24 hour Customer Care.

Campanile Paris Sud-Porte d'Italie: Compare hotel Rates !
Booking.com Excellent choice, Save money

Campanile Paris Sud-Porte d'Italie: Save money now!
Expedia.com.hk Amazing offers on more than 120,000 hotels all over the world.

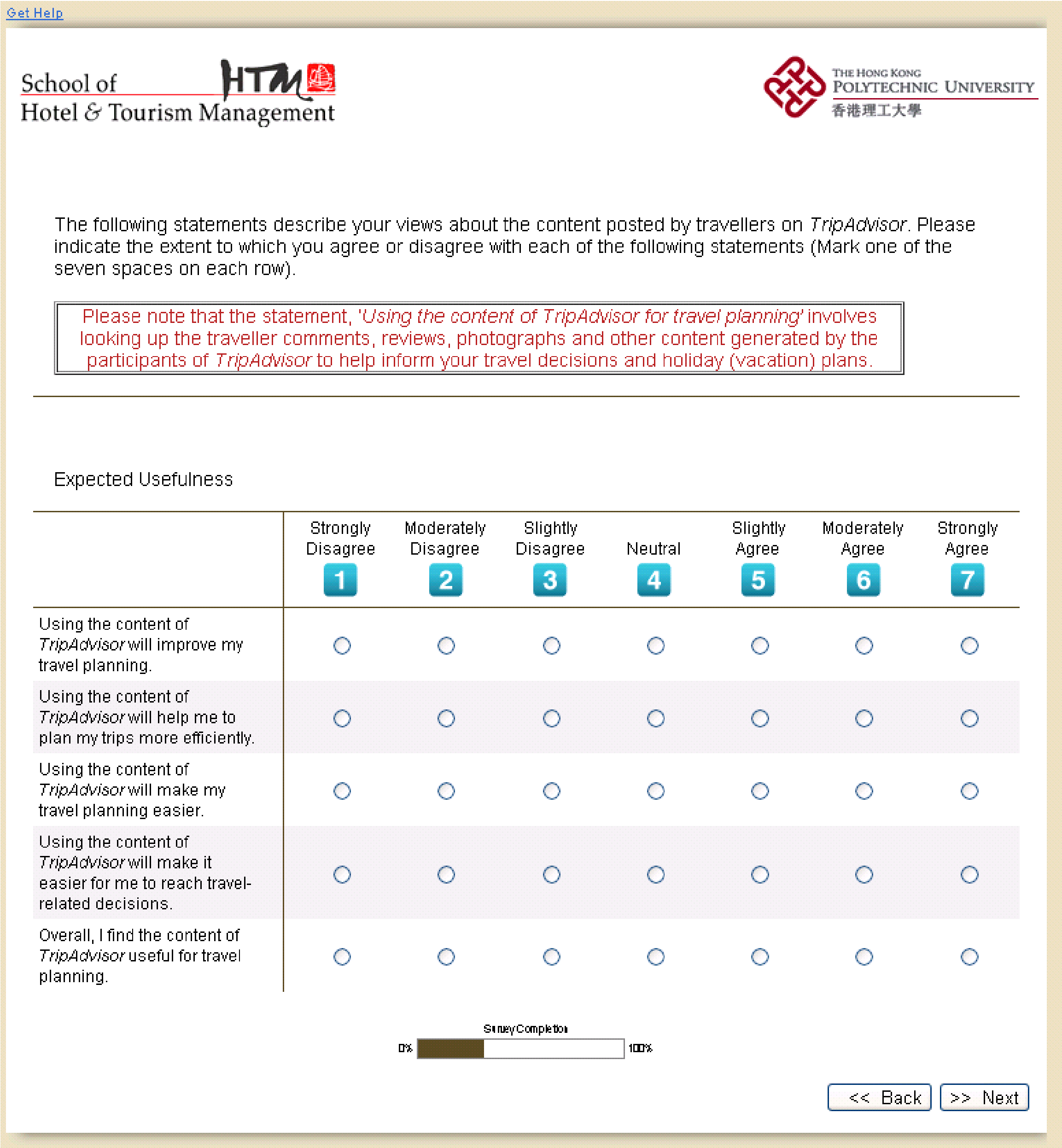
Campanile Paris Sud-Porte d'Italie: Great Deals up to 70% Off
HotelClub.com Get up to 6% back on every booking! Best Price Guarantee. Book now!

Explore Kremlin Bicetre

Kremlin Bicetre tourism
Kremlin Bicetre hotels
Campanile Paris Sud-Porte d'Italie
Kremlin Bicetre vacation rentals
Flights to Kremlin Bicetre
Kremlin Bicetre deals
Kremlin Bicetre restaurants
Things to do in Kremlin Bicetre
Kremlin Bicetre travel forum
Kremlin Bicetre photos
Kremlin Bicetre maps
Kremlin Bicetre travel guide

Free Kremlin Bicetre Guide

Get your quick guide to the top hotels, restaurants and things to do.

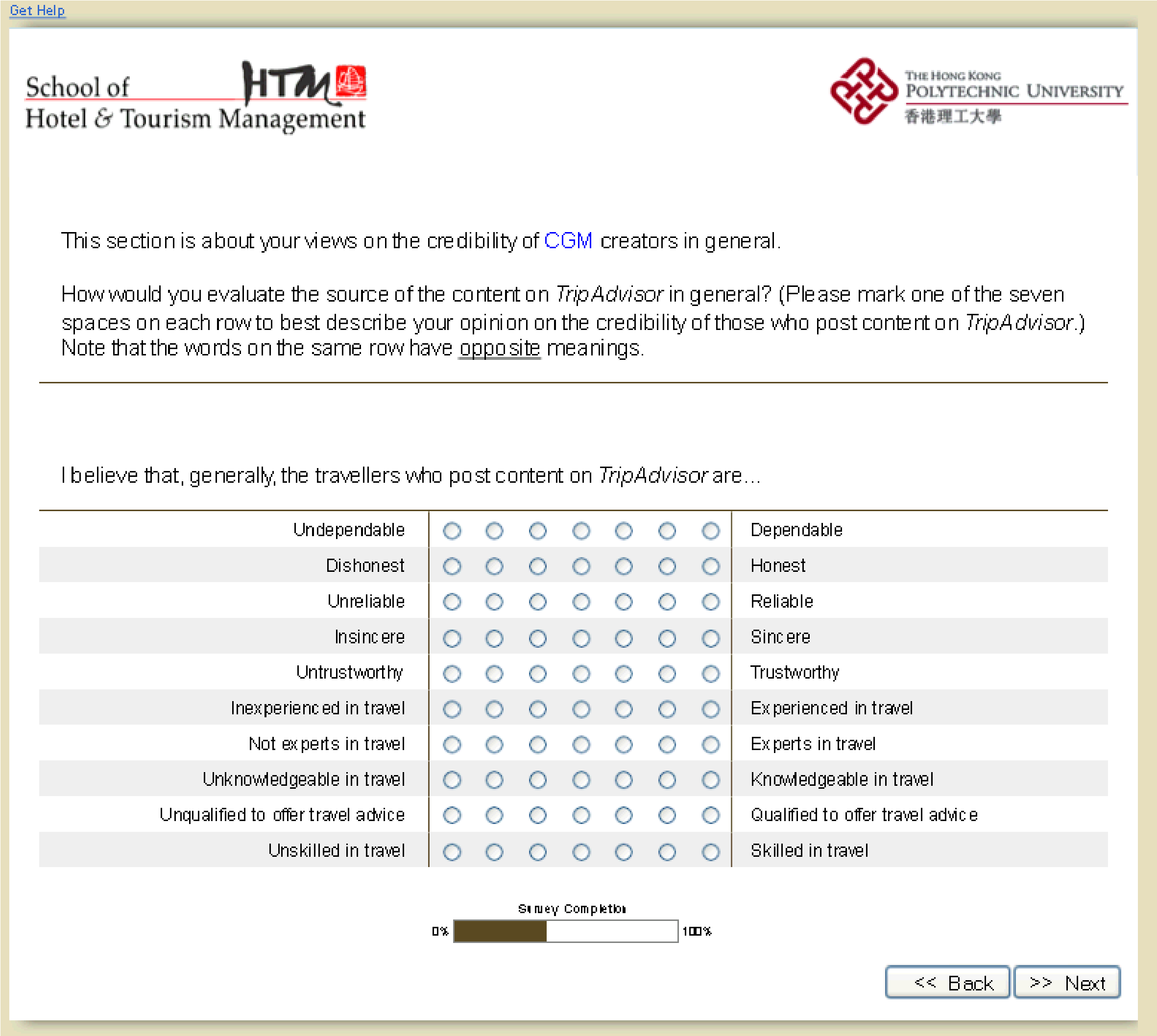

Get Help
School of HTM Hotel & Tourism Management
The Hong Kong Polytechnic University
香港理工大學
Survey Completion
0%
100%
<< Back
>> Next

The following statements describe your views about the content posted by travellers on *TripAdvisor*. Please indicate the extent to which you agree or disagree with each of the following statements (Mark one of the seven spaces on each row).

Please note that the statement, '*Using the content of TripAdvisor for travel planning*' involves looking up the traveller comments, reviews, photographs and other content generated by the participants of *TripAdvisor* to help inform your travel decisions and holiday (vacation) plans.

Expected Usefulness

	Strongly Disagree 1	Moderately Disagree 2	Slightly Disagree 3	Neutral 4	Slightly Agree 5	Moderately Agree 6	Strongly Agree 7
Using the content of *TripAdvisor* will improve my travel planning.	○	○	○	○	○	○	○
Using the content of *TripAdvisor* will help me to plan my trips more efficiently.	○	○	○	○	○	○	○
Using the content of *TripAdvisor* will make my travel planning easier.	○	○	○	○	○	○	○
Using the content of *TripAdvisor* will make it easier for me to reach travel-related decisions.	○	○	○	○	○	○	○
Overall, I find the content of *TripAdvisor* useful for travel planning.	○	○	○	○	○	○	○

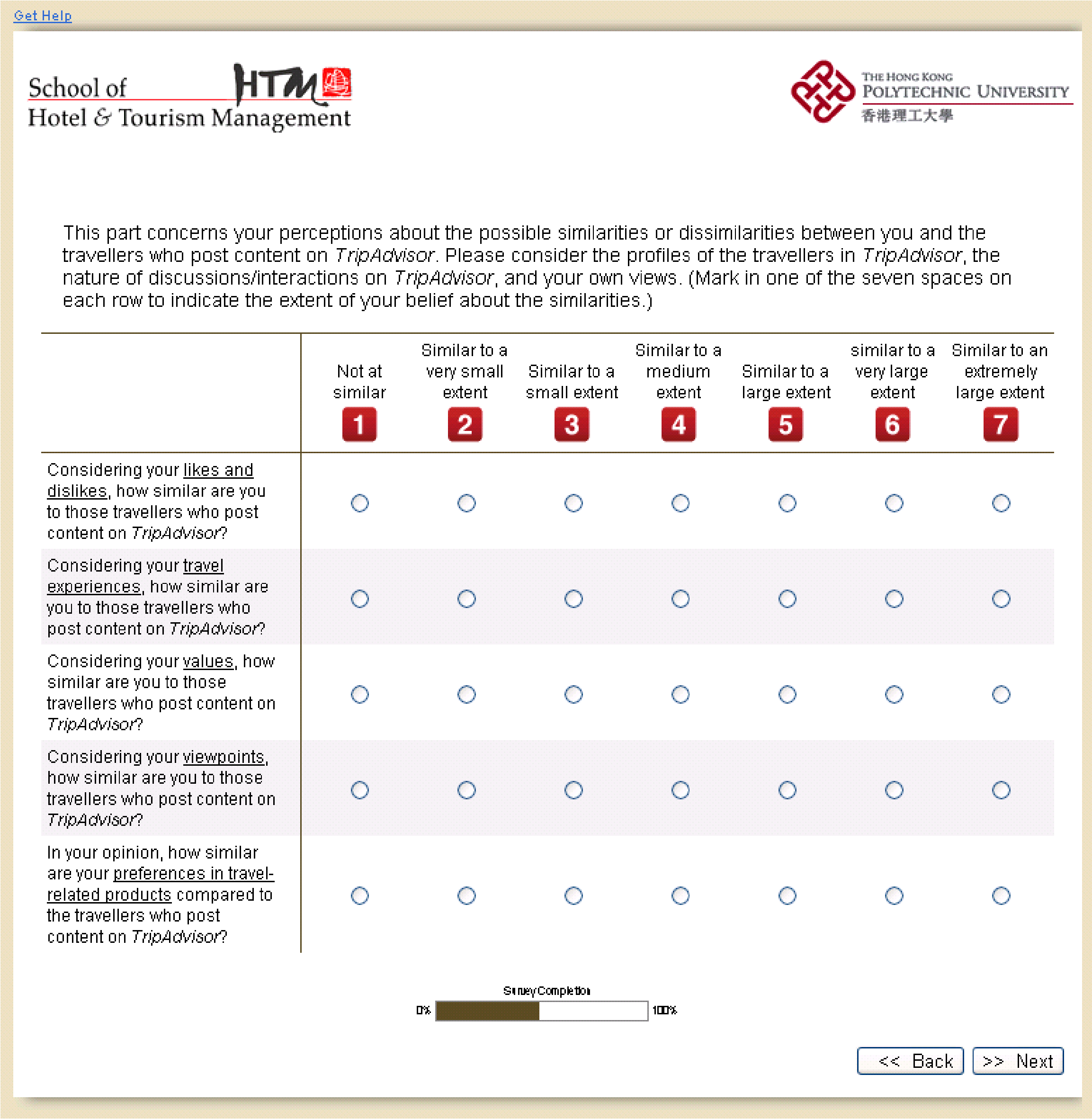

Get Help
School of Hotel & Tourism Management
HTM
The Hong Kong Polytechnic University
香港理工大學
Survey Completion
0%
100%
<< Back
>> Next

This section is about your views on the credibility of CGM creators in general.

How would you evaluate the source of the content on *TripAdvisor* in general? (Please mark one of the seven spaces on each row to best describe your opinion on the credibility of those who post content on *TripAdvisor*.) Note that the words on the same row have opposite meanings.

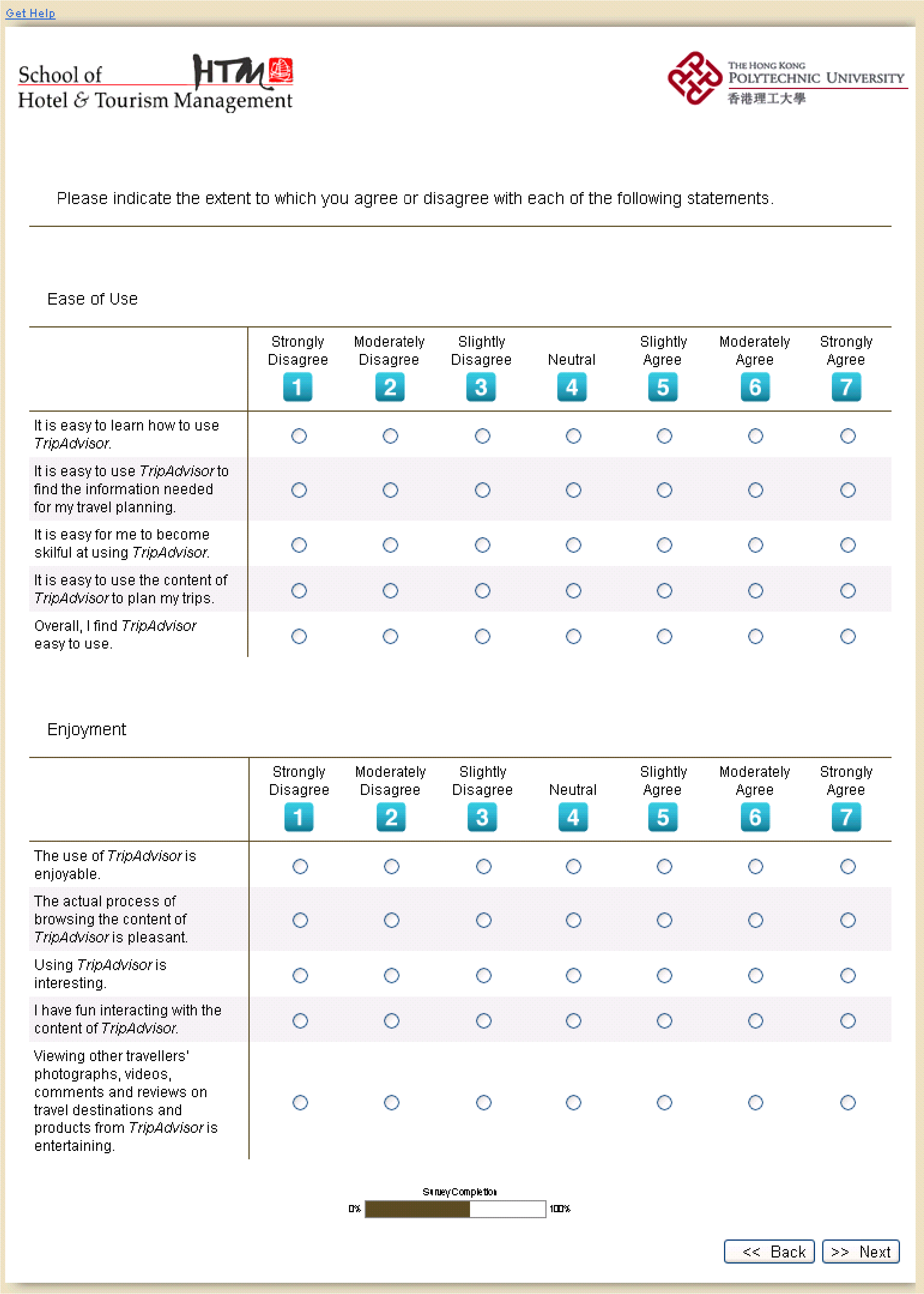
I believe that, generally, the travellers who post content on *TripAdvisor* are...

Undependable	○	○	○	○	○	○	○	Dependable
Dishonest	○	○	○	○	○	○	○	Honest
Unreliable	○	○	○	○	○	○	○	Reliable
Insincere	○	○	○	○	○	○	○	Sincere
Untrustworthy	○	○	○	○	○	○	○	Trustworthy
Inexperienced in travel	○	○	○	○	○	○	○	Experienced in travel
Not experts in travel	○	○	○	○	○	○	○	Experts in travel
Unknowledgeable in travel	○	○	○	○	○	○	○	Knowledgeable in travel
Unqualified to offer travel advice	○	○	○	○	○	○	○	Qualified to offer travel advice
Unskilled in travel	○	○	○	○	○	○	○	Skilled in travel


Get Help
School of HTM Hotel & Tourism Management
The Hong Kong Polytechnic University
香港理工大學
Survey Completion
0%
100%
<< Back
>> Next

This part concerns your perceptions about the possible similarities or dissimilarities between you and the travellers who post content on *TripAdvisor*. Please consider the profiles of the travellers in *TripAdvisor*, the nature of discussions/interactions on *TripAdvisor*, and your own views. (Mark in one of the seven spaces on each row to indicate the extent of your belief about the similarities.)

	Not at similar 1	Similar to a very small extent 2	Similar to a small extent 3	Similar to a medium extent 4	Similar to a large extent 5	similar to a very large extent 6	Similar to an extremely large extent 7
Considering your likes and dislikes, how similar are you to those travellers who post content on *TripAdvisor*?	○	○	○	○	○	○	○
Considering your travel experiences, how similar are you to those travellers who post content on *TripAdvisor*?	○	○	○	○	○	○	○
Considering your values, how similar are you to those travellers who post content on *TripAdvisor*?	○	○	○	○	○	○	○
Considering your viewpoints, how similar are you to those travellers who post content on *TripAdvisor*?	○	○	○	○	○	○	○
In your opinion, how similar are your preferences in travel-related products compared to the travellers who post content on *TripAdvisor*?	○	○	○	○	○	○	○


Get Help
School of Hotel & Tourism Management
HTM
The Hong Kong Polytechnic University
香港理工大學
Survey Completion
0%
100%
<< Back
>> Next

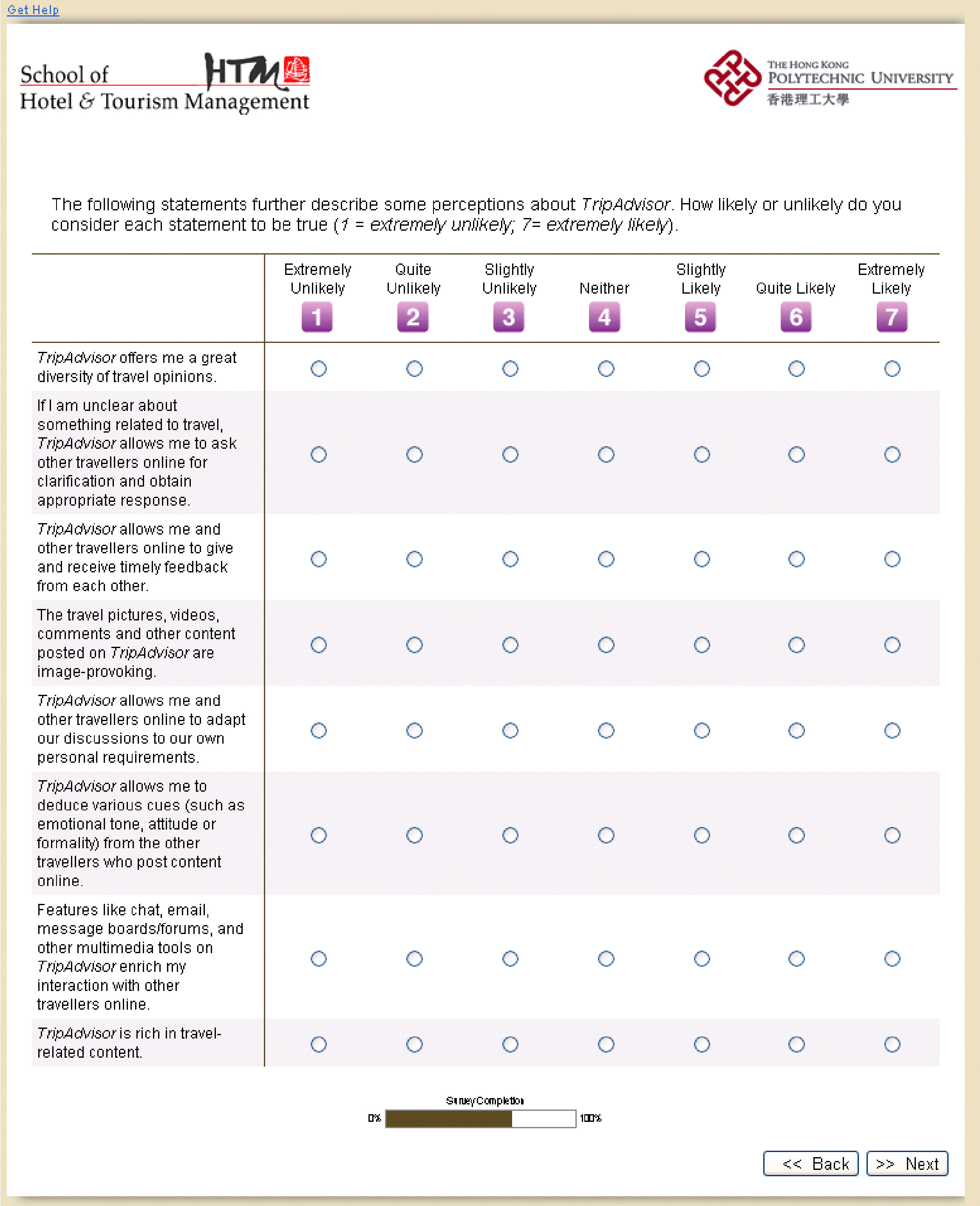
Please indicate the extent to which you agree or disagree with each of the following statements.

Ease of Use

	Strongly Disagree 1	Moderately Disagree 2	Slightly Disagree 3	Neutral 4	Slightly Agree 5	Moderately Agree 6	Strongly Agree 7
It is easy to learn how to use *TripAdvisor*.	○	○	○	○	○	○	○
It is easy to use *TripAdvisor* to find the information needed for my travel planning.	○	○	○	○	○	○	○
It is easy for me to become skilful at using *TripAdvisor*.	○	○	○	○	○	○	○
It is easy to use the content of *TripAdvisor* to plan my trips.	○	○	○	○	○	○	○
Overall, I find *TripAdvisor* easy to use.	○	○	○	○	○	○	○

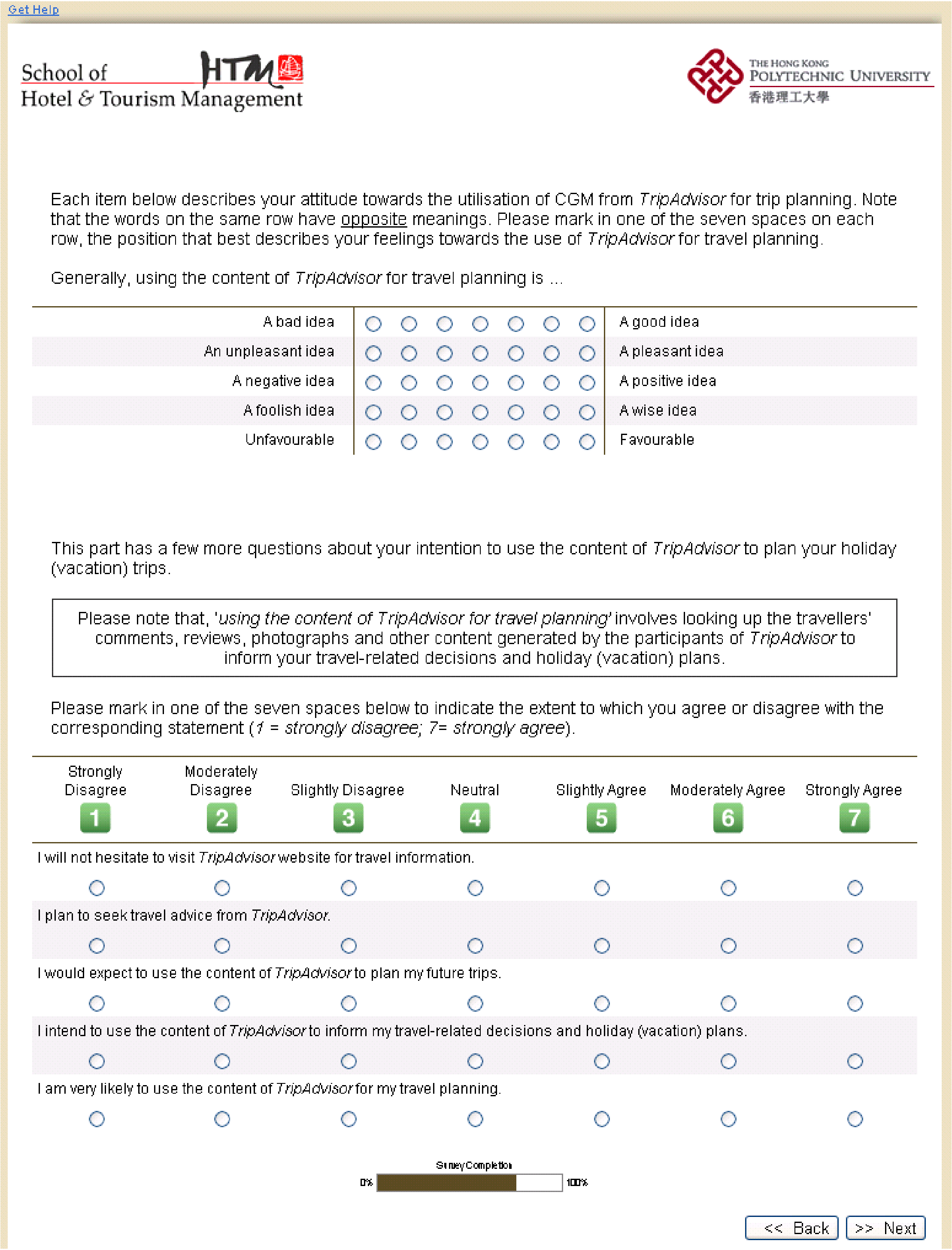
Enjoyment

	Strongly Disagree 1	Moderately Disagree 2	Slightly Disagree 3	Neutral 4	Slightly Agree 5	Moderately Agree 6	Strongly Agree 7
The use of *TripAdvisor* is enjoyable.	○	○	○	○	○	○	○
The actual process of browsing the content of *TripAdvisor* is pleasant.	○	○	○	○	○	○	○
Using *TripAdvisor* is interesting.	○	○	○	○	○	○	○
I have fun interacting with the content of *TripAdvisor*.	○	○	○	○	○	○	○
Viewing other travellers' photographs, videos, comments and reviews on travel destinations and products from *TripAdvisor* is entertaining.	○	○	○	○	○	○	○



The following statements further describe some perceptions about *TripAdvisor*. How likely or unlikely do you consider each statement to be true (*1 = extremely unlikely; 7= extremely likely*).

	Extremely Unlikely 1	Quite Unlikely 2	Slightly Unlikely 3	Neither 4	Slightly Likely 5	Quite Likely 6	Extremely Likely 7
TripAdvisor offers me a great diversity of travel opinions.	○	○	○	○	○	○	○
If I am unclear about something related to travel, *TripAdvisor* allows me to ask other travellers online for clarification and obtain appropriate response.	○	○	○	○	○	○	○
TripAdvisor allows me and other travellers online to give and receive timely feedback from each other.	○	○	○	○	○	○	○
The travel pictures, videos, comments and other content posted on *TripAdvisor* are image-provoking.	○	○	○	○	○	○	○
TripAdvisor allows me and other travellers online to adapt our discussions to our own personal requirements.	○	○	○	○	○	○	○
TripAdvisor allows me to deduce various cues (such as emotional tone, attitude or formality) from the other travellers who post content online.	○	○	○	○	○	○	○
Features like chat, email, message boards/forums, and other multimedia tools on *TripAdvisor* enrich my interaction with other travellers online.	○	○	○	○	○	○	○
TripAdvisor is rich in travel-related content.	○	○	○	○	○	○	○



School of HTM
Hotel & Tourism Management

THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

Each item below describes your attitude towards the utilisation of CGM from *TripAdvisor* for trip planning. Note that the words on the same row have opposite meanings. Please mark in one of the seven spaces on each row, the position that best describes your feelings towards the use of *TripAdvisor* for travel planning.

Generally, using the content of *TripAdvisor* for travel planning is ...

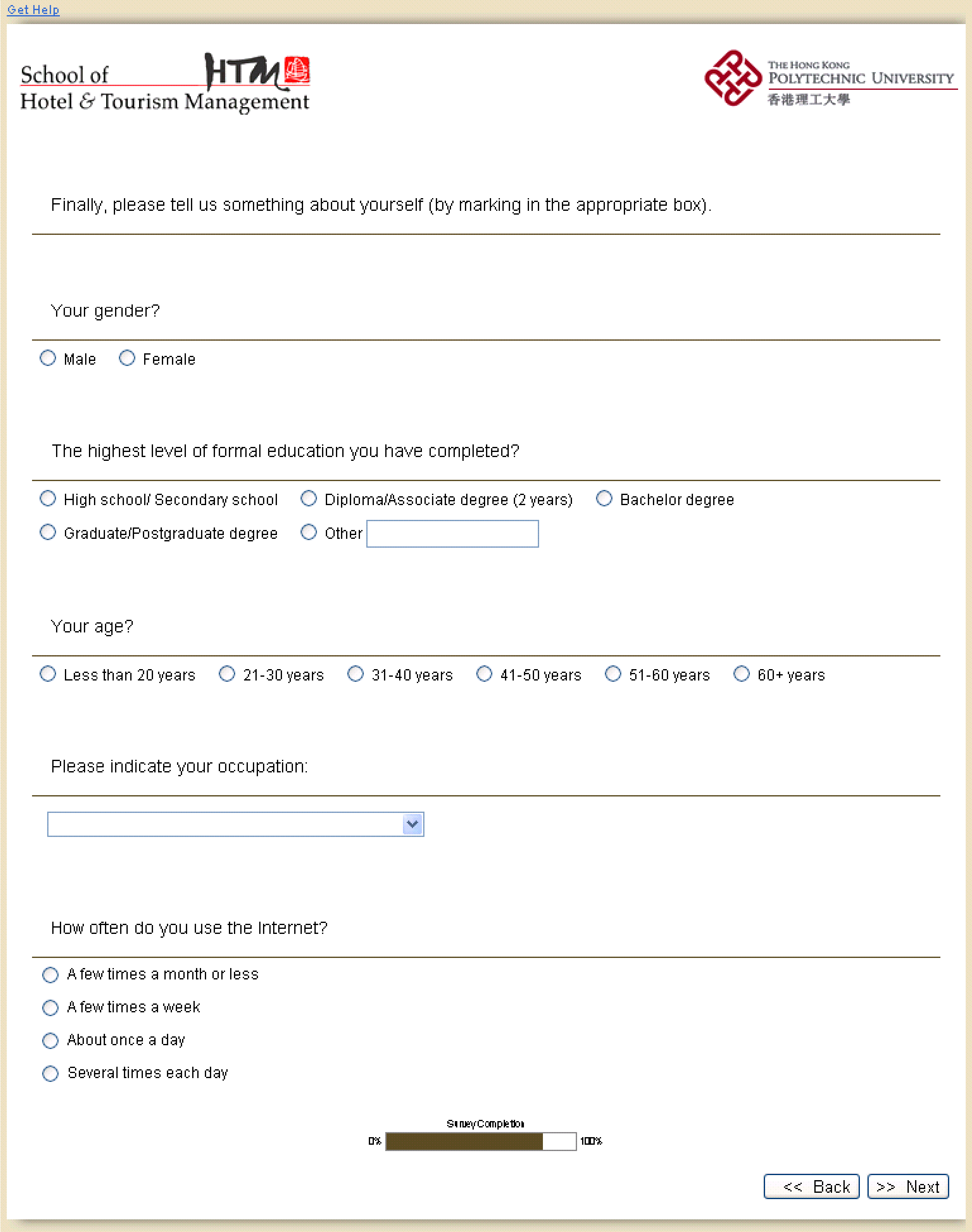
A bad idea	○	○	○	○	○	○	○	A good idea
An unpleasant idea	○	○	○	○	○	○	○	A pleasant idea
A negative idea	○	○	○	○	○	○	○	A positive idea
A foolish idea	○	○	○	○	○	○	○	A wise idea
Unfavourable	○	○	○	○	○	○	○	Favourable

This part has a few more questions about your intention to use the content of *TripAdvisor* to plan your holiday (vacation) trips.

Please note that, '*using the content of TripAdvisor for travel planning*' involves looking up the travellers' comments, reviews, photographs and other content generated by the participants of *TripAdvisor* to inform your travel-related decisions and holiday (vacation) plans.

Please mark in one of the seven spaces below to indicate the extent to which you agree or disagree with the corresponding statement (*1 = strongly disagree; 7= strongly agree*).

	Strongly Disagree 1	Moderately Disagree 2	Slightly Disagree 3	Neutral 4	Slightly Agree 5	Moderately Agree 6	Strongly Agree 7
I will not hesitate to visit *TripAdvisor* website for travel information.	○	○	○	○	○	○	○
I plan to seek travel advice from *TripAdvisor*.	○	○	○	○	○	○	○
I would expect to use the content of *TripAdvisor* to plan my future trips.	○	○	○	○	○	○	○
I intend to use the content of *TripAdvisor* to inform my travel-related decisions and holiday (vacation) plans.	○	○	○	○	○	○	○
I am very likely to use the content of *TripAdvisor* for my travel planning.	○	○	○	○	○	○	○


Get Help
School of Hotel & Tourism Management
HTM
The Hong Kong Polytechnic University
香港理工大學
Survey Completion
0%
100%
<< Back
>> Next

Finally, please tell us something about yourself (by marking in the appropriate box).

Your gender?

○ Male ○ Female

The highest level of formal education you have completed?

○ High school/ Secondary school ○ Diploma/Associate degree (2 years) ○ Bachelor degree
○ Graduate/Postgraduate degree ○ Other

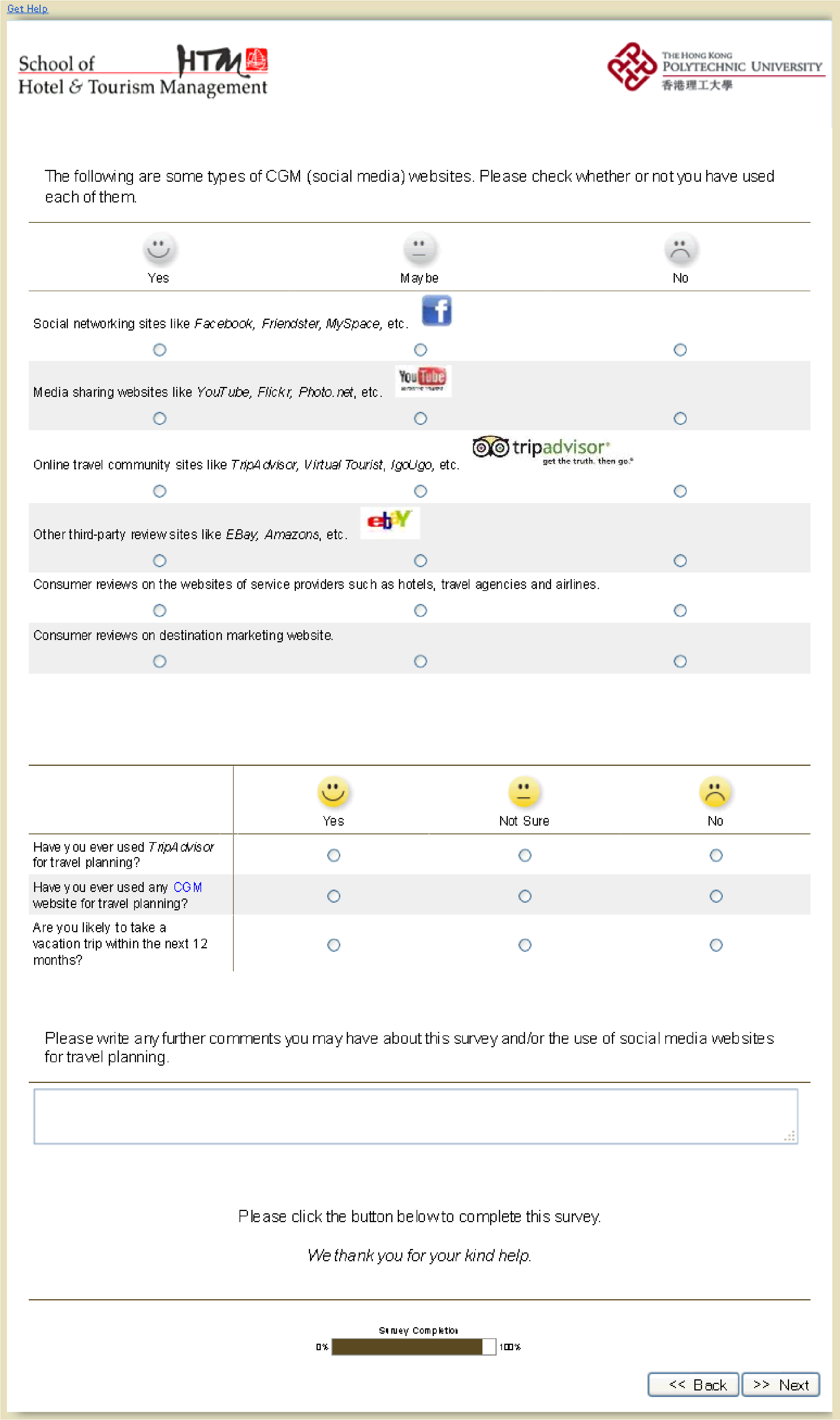
Your age?

○ Less than 20 years ○ 21-30 years ○ 31-40 years ○ 41-50 years ○ 51-60 years ○ 60+ years

Please indicate your occupation:

How often do you use the Internet?

○ A few times a month or less
○ A few times a week
○ About once a day
○ Several times each day



School of Hotel & Tourism Management HTM

The Hong Kong Polytechnic University
香港理工大學

The following are some types of CGM (social media) websites. Please check whether or not you have used each of them.

	Yes	Maybe	No
Social networking sites like *Facebook, Friendster, MySpace*, etc.	○	○	○
Media sharing websites like *YouTube, Flickr, Photo.net*, etc.	○	○	○
Online travel community sites like *TripAdvisor, Virtual Tourist, IgoUgo*, etc.	○	○	○
Other third-party review sites like *EBay, Amazons*, etc.	○	○	○
Consumer reviews on the websites of service providers such as hotels, travel agencies and airlines.	○	○	○
Consumer reviews on destination marketing website.	○	○	○

	Yes	Not Sure	No
Have you ever used *TripAdvisor* for travel planning?	○	○	○
Have you ever used any CGM website for travel planning?	○	○	○
Are you likely to take a vacation trip within the next 12 months?	○	○	○

Please write any further comments you may have about this survey and/or the use of social media websites for travel planning.

Please click the button below to complete this survey.

We thank you for your kind help.

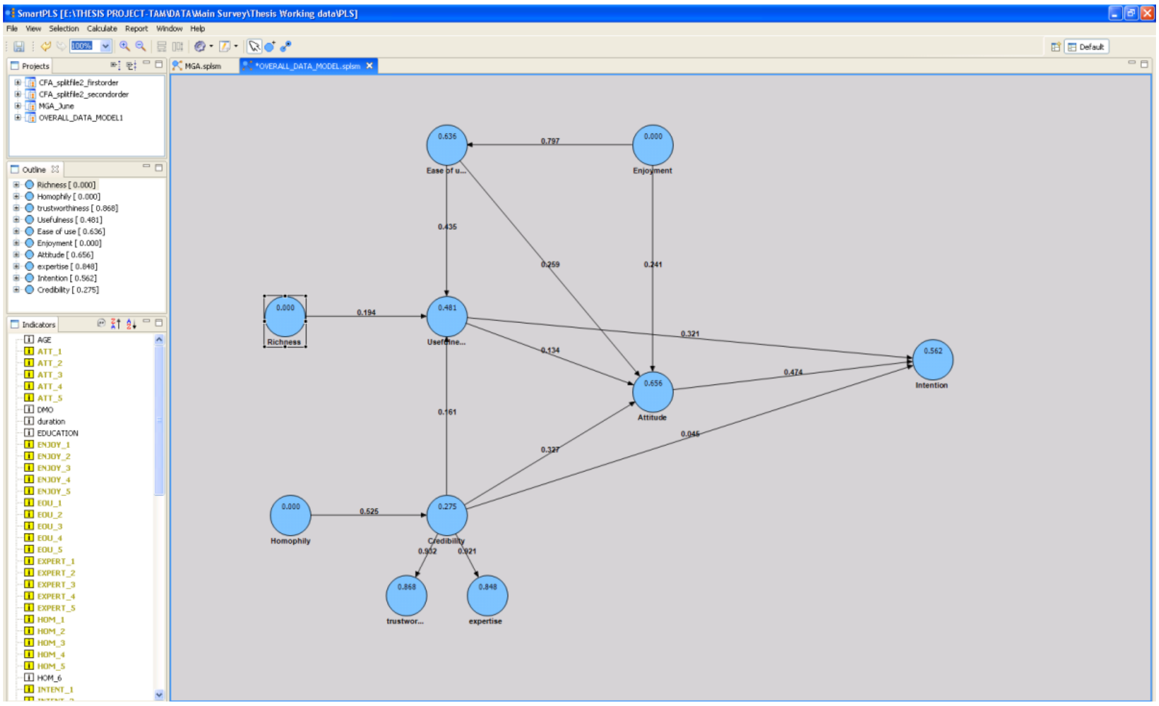
Appendix D. CROSS-LOADINGS FOR THE MEASUREMENT MODELS USING THE CROSS-VALIDATION SAMPLE (*n*=601)

Indicator	*Attitude*	*Enjoyment*	*Ease of use*	*Expertise*	*Homophily*	*Intention*	*Trustworthiness*	*Usefulness*
ATT_1	**0.918**	0.689	0.660	0.501	0.422	0.670	0.610	0.633
ATT_2	**0.925**	0.713	0.664	0.519	0.409	0.657	0.628	0.615
ATT_3	**0.934**	0.689	0.671	0.506	0.415	0.624	0.631	0.614
ATT_4	**0.919**	0.674	0.645	0.525	0.41	0.648	0.602	0.607
ATT_5	**0.911**	0.667	0.664	0.502	0.412	0.643	0.594	0.583
ENJOY_1	0.715	**0.932**	0.783	0.453	0.517	0.713	0.547	0.675
ENJOY_2	0.667	**0.913**	0.748	0.429	0.461	0.669	0.526	0.597
ENJOY_3	0.700	**0.918**	0.751	0.424	0.442	0.644	0.533	0.640
ENJOY_4	0.673	**0.918**	0.716	0.490	0.528	0.692	0.534	0.627
ENJOY_5	0.610	**0.840**	0.671	0.389	0.427	0.612	0.458	0.566
EOU_1	0.627	0.724	**0.914**	0.291	0.357	0.634	0.451	0.619
EOU_2	0.682	0.760	**0.935**	0.389	0.397	0.661	0.513	0.645
EOU_3	0.647	0.743	**0.919**	0.349	0.446	0.633	0.478	0.634
EOU_4	0.677	0.766	**0.923**	0.395	0.433	0.659	0.490	0.650
EOU_5	0.689	0.774	**0.946**	0.329	0.384	0.676	0.490	0.656
EXPERT_1	0.522	0.424	0.352	**0.852**	0.362	0.398	0.666	0.370
EXPERT_2	0.435	0.395	0.293	**0.887**	0.391	0.347	0.591	0.356
EXPERT_3	0.501	0.437	0.345	**0.927**	0.413	0.393	0.669	0.364
EXPERT_4	0.505	0.458	0.378	**0.885**	0.452	0.389	0.687	0.403
EXPERT_5	0.505	0.439	0.318	**0.913**	0.430	0.396	0.643	0.371
HOM_1	0.405	0.471	0.395	0.389	**0.880**	0.402	0.383	0.359
HOM_2	0.359	0.425	0.372	0.396	**0.869**	0.428	0.358	0.309
HOM_3	0.413	0.470	0.384	0.444	**0.921**	0.416	0.437	0.384
HOM_4	0.423	0.490	0.392	0.428	**0.927**	0.415	0.445	0.371
HOM_5	0.417	0.508	0.417	0.408	**0.904**	0.426	0.429	0.372
INTENT_1	0.655	0.689	0.681	0.321	0.386	**0.903**	0.468	0.639
INTENT_2	0.655	0.669	0.637	0.442	0.444	**0.929**	0.495	0.603
INTENT_3	0.658	0.699	0.667	0.416	0.440	**0.948**	0.479	0.625
INTENT_4	0.647	0.680	0.642	0.429	0.443	**0.936**	0.456	0.604
INTENT_5	0.672	0.704	0.659	0.409	0.448	**0.953**	0.483	0.609
TRUST_1	0.602	0.526	0.459	0.632	0.420	0.476	**0.876**	0.485
TRUST_2	0.608	0.509	0.482	0.613	0.388	0.439	**0.903**	0.458
TRUST_3	0.595	0.516	0.468	0.689	0.437	0.458	**0.914**	0.456
TRUST_4	0.606	0.525	0.484	0.665	0.404	0.471	**0.894**	0.460
TRUST_5	0.576	0.508	0.453	0.682	0.405	0.444	**0.906**	0.459
USEF_1	0.584	0.607	0.620	0.337	0.349	0.608	0.459	**0.915**
USEF_2	0.589	0.621	0.629	0.384	0.355	0.599	0.449	**0.928**
USEF_3	0.611	0.623	0.609	0.410	0.387	0.596	0.488	**0.914**
USEF_4	0.600	0.634	0.620	0.407	0.383	0.591	0.473	**0.909**
USEF_5	0.659	0.672	0.693	0.383	0.364	0.635	0.501	**0.931**

Appendix E. TABLE OF LOADINGS AND CROSS-LOADINGS FOR THE OVERALL MEASUREMENT MODEL (*N*=1202)

Indicator	*Attitude*	*Enjoyment*	*Ease of use*	*Homophily*	*Intention*	*Usefulness*	*Expertise*	*Trustworthiness*
ATT_1	**0.919**	0.674	0.665	0.435	0.674	0.593	0.511	0.604
ATT_2	**0.925**	0.694	0.652	0.431	0.655	0.575	0.522	0.614
ATT_3	**0.929**	0.657	0.655	0.437	0.625	0.567	0.52	0.624
ATT_4	**0.921**	0.653	0.63	0.424	0.645	0.575	0.522	0.601
ATT_5	**0.917**	0.646	0.639	0.429	0.644	0.56	0.503	0.599
ENJOY_1	0.685	**0.920**	0.768	0.513	0.702	0.637	0.45	0.544
ENJOY_2	0.655	**0.916**	0.734	0.477	0.65	0.573	0.437	0.518
ENJOY_3	0.664	**0.910**	0.729	0.448	0.632	0.592	0.422	0.504
ENJOY_4	0.642	**0.917**	0.698	0.503	0.675	0.589	0.458	0.515
ENJOY_5	0.604	**0.846**	0.662	0.422	0.607	0.549	0.401	0.469
EOU_1	0.623	0.709	**0.912**	0.364	0.605	0.577	0.316	0.444
EOU_2	0.657	0.744	**0.933**	0.415	0.644	0.618	0.408	0.512
EOU_3	0.637	0.727	**0.920**	0.424	0.627	0.59	0.367	0.472
EOU_4	0.670	0.751	**0.924**	0.437	0.668	0.629	0.402	0.497
EOU_5	0.669	0.762	**0.947**	0.401	0.664	0.618	0.361	0.485
HOM_1	0.405	0.457	0.402	**0.874**	0.422	0.403	0.395	0.418
HOM_2	0.377	0.425	0.371	**0.868**	0.419	0.338	0.415	0.402
HOM_3	0.443	0.472	0.39	**0.916**	0.435	0.4	0.467	0.467
HOM_4	0.448	0.501	0.405	**0.922**	0.437	0.402	0.447	0.467
HOM_5	0.418	0.491	0.407	**0.898**	0.422	0.391	0.421	0.442
INTENT_1	0.649	0.667	0.679	0.388	**0.889**	0.603	0.34	0.456
INTENT_2	0.653	0.666	0.626	0.46	**0.928**	0.582	0.448	0.493
INTENT_3	0.655	0.685	0.647	0.451	**0.948**	0.596	0.425	0.480
INTENT_4	0.642	0.671	0.625	0.459	**0.938**	0.593	0.428	0.461
INTENT_5	0.675	0.684	0.646	0.46	**0.952**	0.597	0.422	0.483
USEF_1	0.559	0.583	0.594	0.39	0.588	**0.924**	0.341	0.457
USEF_2	0.571	0.596	0.601	0.396	0.593	**0.932**	0.399	0.451
USEF_3	0.572	0.586	0.587	0.408	0.582	**0.918**	0.392	0.469
USEF_4	0.566	0.611	0.588	0.403	0.573	**0.913**	0.381	0.458
USEF_5	0.605	0.636	0.65	0.398	0.612	**0.932**	0.375	0.480
EXPERT_1	0.504	0.413	0.36	0.382	0.391	0.356	**0.871**	0.647
EXPERT_2	0.442	0.394	0.305	0.411	0.37	0.325	**0.881**	0.576
EXPERT_3	0.509	0.433	0.366	0.434	0.406	0.358	**0.920**	0.652
EXPERT_4	0.517	0.453	0.395	0.467	0.403	0.402	**0.865**	0.667
EXPERT_5	0.512	0.443	0.354	0.439	0.399	0.376	**0.910**	0.642
TRUST_1	0.596	0.525	0.478	0.458	0.479	0.469	0.612	**0.853**
TRUST_2	0.596	0.504	0.485	0.432	0.45	0.442	0.586	**0.898**
TRUST_3	0.590	0.512	0.464	0.453	0.469	0.455	0.676	**0.915**
TRUST_4	0.590	0.501	0.464	0.409	0.448	0.447	0.639	**0.896**
TRUST_5	0.580	0.491	0.438	0.444	0.436	0.428	0.685	**0.908**

Appendix F. ESTIMATION OF THE STRUCTURAL MODEL IN SMARTPLS 2.0 (BETA) M3 SOFTWARE PACKAGE (Ringle *et al.*, 2005)


SmartPLS [E:\THESIS PROJECT-TAM\DATA\Main Survey\Thesis Working data\PLS]
File
View
Selection
Calculate
Report
Window
Help
100%
Default
Projects
CFA_splitfile2_firstorder
CFA_splitfile2_secondorder
MGA_June
OVERALL_DATA_MODEL1
MGA.splsm
*OVERALL_DATA_MODEL.splsm
Outline
Richness [0.000]
Homophily [0.000]
trustworthiness [0.868]
Usefulness [0.481]
Ease of use [0.636]
Enjoyment [0.000]
Attitude [0.656]
expertise [0.848]
Intention [0.562]
Credibility [0.275]
Indicators
AGE
ATT_1
ATT_2
ATT_3
ATT_4
ATT_5
DMO
duration
EDUCATION
ENJOY_1
ENJOY_2
ENJOY_3
ENJOY_4
ENJOY_5
EOU_1
EOU_2
EOU_3
EOU_4
EOU_5
EXPERT_1
EXPERT_2
EXPERT_3
EXPERT_4
EXPERT_5
HOM_1
HOM_2
HOM_3
HOM_4
HOM_5
HOM_6
INTENT_1
0.636
Ease of u...
0.797
0.000
Enjoyment
0.435
0.259
0.241
0.000
Richness
0.194
0.481
Usefulne...
0.321
0.134
0.562
Intention
0.474
0.656
Attitude
0.161
0.327
0.045
0.000
Homophily
0.525
0.275
Credibility
0.932
0.921
0.868
trustwor...
0.848
expertise

Appendix G. TABLE OF LOADINGS AND CROSS-LOADINGS FOR THE SINGAPORE SUB-SAMPLE (*n*=661)

Indicator	*Attitude*	*Enjoyment*	*Ease of use*	*Homophily*	*Intention*	*Expertise*	*Trustworthiness*	*Usefulness*
ATT_1	**0.915**	0.664	0.640	0.411	0.720	0.528	0.581	0.538
ATT_2	**0.930**	0.690	0.656	0.393	0.692	0.543	0.602	0.522
ATT_3	**0.931**	0.676	0.657	0.385	0.678	0.546	0.602	0.524
ATT_4	**0.914**	0.641	0.607	0.407	0.680	0.557	0.595	0.525
ATT_5	**0.922**	0.640	0.617	0.403	0.695	0.540	0.581	0.522
ENJOY_1	0.687	**0.919**	0.759	0.459	0.739	0.483	0.538	0.596
ENJOY_2	0.622	**0.897**	0.712	0.420	0.648	0.457	0.514	0.514
ENJOY_3	0.656	**0.925**	0.713	0.426	0.687	0.450	0.515	0.541
ENJOY_4	0.639	**0.908**	0.685	0.455	0.687	0.463	0.498	0.515
ENJOY_5	0.636	**0.865**	0.699	0.368	0.631	0.441	0.484	0.515
EOU_1	0.611	0.700	**0.905**	0.310	0.647	0.335	0.398	0.514
EOU_2	0.638	0.713	**0.923**	0.361	0.689	0.446	0.472	0.578
EOU_3	0.616	0.709	**0.902**	0.391	0.630	0.413	0.434	0.517
EOU_4	0.635	0.743	**0.918**	0.424	0.710	0.430	0.469	0.579
EOU_5	0.661	0.763	**0.942**	0.356	0.709	0.415	0.474	0.566
HOM_1	0.379	0.404	0.343	**0.879**	0.354	0.410	0.405	0.357
HOM_2	0.365	0.389	0.355	**0.888**	0.372	0.413	0.381	0.313
HOM_3	0.397	0.416	0.357	**0.909**	0.403	0.438	0.412	0.362
HOM_4	0.419	0.450	0.373	**0.923**	0.414	0.448	0.431	0.376
HOM_5	0.381	0.454	0.373	**0.886**	0.405	0.411	0.403	0.365
INTENT_1	0.718	0.695	0.717	0.343	**0.882**	0.402	0.525	0.605
INTENT_2	0.674	0.677	0.668	0.405	**0.909**	0.485	0.535	0.555
INTENT_3	0.679	0.705	0.683	0.409	**0.937**	0.474	0.517	0.562
INTENT_4	0.669	0.676	0.656	0.416	**0.920**	0.495	0.503	0.564
INTENT_5	0.701	0.694	0.658	0.421	**0.937**	0.481	0.523	0.555
EXPERT_1	0.536	0.443	0.409	0.365	0.473	**0.867**	0.664	0.375
EXPERT_2	0.479	0.431	0.378	0.441	0.445	**0.882**	0.597	0.355
EXPERT_3	0.536	0.460	0.420	0.434	0.466	**0.904**	0.633	0.379
EXPERT_4	0.515	0.445	0.390	0.422	0.426	**0.859**	0.660	0.393
EXPERT_5	0.534	0.467	0.371	0.428	0.440	**0.908**	0.641	0.378
TRUST_1	0.555	0.532	0.445	0.433	0.501	0.566	**0.811**	0.455
TRUST_2	0.574	0.495	0.440	0.402	0.510	0.632	**0.909**	0.434
TRUST_3	0.586	0.517	0.460	0.420	0.536	0.678	**0.916**	0.462
TRUST_4	0.563	0.491	0.430	0.375	0.501	0.645	**0.903**	0.453
TRUST_5	0.581	0.485	0.410	0.394	0.481	0.690	**0.907**	0.436
USEF_1	0.512	0.532	0.535	0.354	0.553	0.364	0.469	**0.920**
USEF_2	0.515	0.546	0.559	0.356	0.569	0.386	0.444	**0.933**
USEF_3	0.521	0.540	0.546	0.369	0.572	0.393	0.470	**0.917**
USEF_4	0.515	0.556	0.544	0.378	0.560	0.409	0.450	**0.909**
USEF_5	0.566	0.567	0.585	0.368	0.606	0.408	0.485	**0.932**

Appendix H. TABLE OF LOADINGS AND CROSS-LOADINGS FOR THE USA SUB-SAMPLE (*n*=524)

Indicator	*Attitude*	*Enjoyment*	*Ease of use*	*Homophily*	*Intention*	*expertise*	*trustworthiness*	*Usefulness*
ATT_1	**0.916**	0.671	0.667	0.426	0.677	0.484	0.589	0.645
ATT_2	**0.919**	0.691	0.635	0.439	0.646	0.497	0.602	0.617
ATT_3	**0.922**	0.626	0.636	0.455	0.610	0.483	0.616	0.602
ATT_4	**0.921**	0.655	0.634	0.409	0.652	0.480	0.581	0.624
ATT_5	**0.904**	0.638	0.641	0.423	0.635	0.454	0.589	0.595
ENJOY_1	0.682	**0.920**	0.771	0.542	0.685	0.410	0.541	0.661
ENJOY_2	0.682	**0.929**	0.744	0.505	0.663	0.409	0.512	0.612
ENJOY_3	0.647	**0.897**	0.727	0.437	0.630	0.372	0.458	0.637
ENJOY_4	0.636	**0.923**	0.695	0.524	0.681	0.442	0.511	0.641
ENJOY_5	0.567	**0.826**	0.620	0.452	0.600	0.358	0.441	0.567
EOU_1	0.623	0.712	**0.919**	0.389	0.595	0.277	0.452	0.631
EOU_2	0.661	0.761	**0.939**	0.437	0.638	0.351	0.508	0.650
EOU_3	0.635	0.730	**0.933**	0.424	0.651	0.300	0.469	0.646
EOU_4	0.686	0.745	**0.924**	0.421	0.661	0.360	0.489	0.666
EOU_5	0.667	0.753	**0.952**	0.417	0.649	0.305	0.471	0.659
HOM_1	0.412	0.483	0.432	**0.869**	0.469	0.369	0.411	0.425
HOM_2	0.379	0.446	0.376	**0.857**	0.450	0.415	0.417	0.349
HOM_3	0.449	0.496	0.388	**0.918**	0.473	0.478	0.490	0.421
HOM_4	0.438	0.520	0.401	**0.919**	0.467	0.428	0.470	0.412
HOM_5	0.418	0.502	0.411	**0.904**	0.448	0.415	0.452	0.403
INTENT_1	0.641	0.674	0.685	0.440	**0.896**	0.311	0.435	0.610
INTENT_2	0.668	0.678	0.618	0.509	**0.939**	0.430	0.482	0.605
INTENT_3	0.674	0.695	0.648	0.492	**0.957**	0.405	0.477	0.627
INTENT_4	0.650	0.681	0.622	0.496	**0.950**	0.390	0.451	0.615
INTENT_5	0.676	0.684	0.650	0.489	**0.963**	0.378	0.461	0.624
EXPERT_1	0.459	0.373	0.295	0.381	0.340	**0.878**	0.620	0.334
EXPERT_2	0.424	0.369	0.251	0.387	0.326	**0.886**	0.577	0.300
EXPERT_3	0.476	0.397	0.297	0.422	0.374	**0.930**	0.661	0.328
EXPERT_4	0.499	0.437	0.371	0.491	0.395	**0.865**	0.662	0.395
EXPERT_5	0.482	0.405	0.312	0.433	0.382	**0.913**	0.645	0.361
TRUST_1	0.616	0.507	0.481	0.464	0.479	0.648	**0.880**	0.477
TRUST_2	0.585	0.497	0.489	0.440	0.433	0.547	**0.887**	0.451
TRUST_3	0.571	0.491	0.438	0.462	0.431	0.667	**0.909**	0.442
TRUST_4	0.583	0.486	0.456	0.412	0.426	0.618	**0.880**	0.432
TRUST_5	0.545	0.469	0.424	0.463	0.417	0.670	**0.903**	0.410
USEF_1	0.608	0.618	0.639	0.409	0.616	0.313	0.441	**0.927**
USEF_2	0.628	0.636	0.637	0.424	0.611	0.402	0.453	**0.931**
USEF_3	0.626	0.623	0.625	0.432	0.589	0.389	0.473	**0.920**
USEF_4	0.615	0.648	0.621	0.411	0.584	0.345	0.464	**0.915**
USEF_5	0.636	0.683	0.700	0.404	0.627	0.329	0.463	**0.933**

Appendix I. TABLE OF LOADINGS AND CROSS-LOADINGS FOR THE USERS' SUB-SAMPLE (*n*=578)

Indicator	*Attitude*	*Enjoyment*	*Ease of use*	*Homophily*	*Intention*	*Expertise*	*Trustworthiness*	*Usefulness*
ATT_1	**0.899**	0.593	0.624	0.347	0.623	0.438	0.534	0.474
ATT_2	**0.908**	0.620	0.606	0.333	0.608	0.460	0.545	0.454
ATT_3	**0.903**	0.557	0.604	0.347	0.580	0.442	0.576	0.455
ATT_4	**0.904**	0.556	0.567	0.317	0.610	0.437	0.537	0.465
ATT_5	**0.899**	0.539	0.577	0.314	0.614	0.415	0.529	0.456
ENJOY_1	0.615	**0.909**	0.713	0.427	0.638	0.362	0.501	0.524
ENJOY_2	0.578	**0.899**	0.678	0.376	0.566	0.335	0.455	0.460
ENJOY_3	0.556	**0.896**	0.663	0.369	0.553	0.334	0.414	0.447
ENJOY_4	0.553	**0.902**	0.611	0.413	0.560	0.386	0.439	0.448
ENJOY_5	0.520	**0.844**	0.629	0.347	0.534	0.349	0.380	0.435
EOU_1	0.562	0.637	**0.892**	0.245	0.591	0.232	0.373	0.495
EOU_2	0.598	0.672	**0.919**	0.315	0.619	0.344	0.432	0.542
EOU_3	0.594	0.667	**0.900**	0.359	0.597	0.335	0.435	0.506
EOU_4	0.624	0.695	**0.917**	0.353	0.626	0.345	0.440	0.551
EOU_5	0.633	0.711	**0.936**	0.301	0.641	0.303	0.445	0.547
HOM_1	0.317	0.369	0.308	**0.885**	0.284	0.444	0.442	0.320
HOM_2	0.312	0.361	0.302	**0.879**	0.259	0.431	0.430	0.285
HOM_3	0.362	0.400	0.308	**0.915**	0.313	0.511	0.456	0.340
HOM_4	0.360	0.411	0.313	**0.922**	0.314	0.464	0.454	0.349
HOM_5	0.299	0.414	0.325	**0.899**	0.270	0.444	0.426	0.324
INTENT_1	0.603	0.579	0.634	0.222	**0.885**	0.206	0.392	0.516
INTENT_2	0.597	0.565	0.609	0.302	**0.905**	0.316	0.422	0.479
INTENT_3	0.615	0.611	0.631	0.322	**0.923**	0.296	0.414	0.497
INTENT_4	0.613	0.587	0.602	0.312	**0.911**	0.322	0.404	0.503
INTENT_5	0.640	0.588	0.601	0.308	**0.940**	0.308	0.427	0.483
EXPERT_1	0.458	0.351	0.338	0.409	0.316	**0.865**	0.618	0.302
EXPERT_2	0.365	0.324	0.257	0.466	0.240	**0.892**	0.555	0.238
EXPERT_3	0.442	0.359	0.315	0.466	0.284	**0.917**	0.615	0.262
EXPERT_4	0.437	0.349	0.314	0.467	0.279	**0.864**	0.633	0.328
EXPERT_5	0.457	0.380	0.300	0.465	0.292	**0.912**	0.620	0.319
TRUST_1	0.517	0.474	0.445	0.454	0.392	0.524	**0.811**	0.417
TRUST_2	0.545	0.440	0.438	0.455	0.429	0.582	**0.910**	0.399
TRUST_3	0.536	0.442	0.416	0.459	0.399	0.659	**0.924**	0.368
TRUST_4	0.547	0.430	0.410	0.398	0.413	0.602	**0.895**	0.393
TRUST_5	0.536	0.418	0.372	0.422	0.375	0.665	**0.903**	0.371
USEF_1	0.445	0.458	0.526	0.312	0.497	0.244	0.414	**0.911**
USEF_2	0.456	0.459	0.525	0.329	0.499	0.322	0.374	**0.923**
USEF_3	0.474	0.474	0.517	0.338	0.482	0.315	0.406	**0.905**
USEF_4	0.469	0.489	0.508	0.351	0.472	0.320	0.403	**0.902**
USEF_5	0.489	0.501	0.568	0.317	0.530	0.290	0.397	**0.929**

Appendix J. TABLE OF LOADINGS AND CROSS-LOADINGS FOR THE NON-USERS' SUB-SAMPLE (*n*=482)

Indicator	*Attitude*	*Enjoyment*	*Ease of use*	*Homophily*	*Intention*	*expertise*	*trustworthiness*	*Usefulness*
ATT_1	**0.931**	0.707	0.663	0.495	0.674	0.536	0.631	0.617
ATT_2	**0.935**	0.719	0.646	0.486	0.643	0.545	0.646	0.602
ATT_3	**0.942**	0.706	0.672	0.501	0.619	0.544	0.645	0.602
ATT_4	**0.922**	0.687	0.637	0.485	0.628	0.553	0.644	0.601
ATT_5	**0.934**	0.693	0.663	0.491	0.631	0.560	0.669	0.591
ENJOY_1	0.705	**0.922**	0.788	0.557	0.700	0.488	0.589	0.671
ENJOY_2	0.688	**0.927**	0.756	0.536	0.692	0.489	0.576	0.615
ENJOY_3	0.708	**0.913**	0.749	0.493	0.649	0.458	0.572	0.645
ENJOY_4	0.668	**0.924**	0.733	0.544	0.719	0.493	0.575	0.644
ENJOY_5	0.628	**0.828**	0.639	0.447	0.608	0.409	0.515	0.564
EOU_1	0.624	0.724	**0.915**	0.429	0.568	0.343	0.472	0.584
EOU_2	0.672	0.766	**0.935**	0.474	0.622	0.440	0.557	0.626
EOU_3	0.639	0.750	**0.932**	0.459	0.623	0.351	0.475	0.610
EOU_4	0.676	0.764	**0.917**	0.487	0.662	0.419	0.528	0.645
EOU_5	0.660	0.778	**0.952**	0.470	0.650	0.362	0.495	0.629
HOM_1	0.450	0.498	0.455	**0.864**	0.459	0.329	0.395	0.444
HOM_2	0.406	0.433	0.407	**0.853**	0.468	0.379	0.382	0.338
HOM_3	0.509	0.517	0.452	**0.921**	0.496	0.408	0.482	0.439
HOM_4	0.491	0.559	0.460	**0.925**	0.492	0.405	0.472	0.429
HOM_5	0.490	0.538	0.454	**0.901**	0.504	0.378	0.453	0.424
INTENT_1	0.625	0.675	0.670	0.450	**0.870**	0.377	0.479	0.586
INTENT_2	0.644	0.701	0.605	0.537	**0.933**	0.510	0.534	0.604
INTENT_3	0.638	0.709	0.629	0.497	**0.957**	0.469	0.511	0.612
INTENT_4	0.625	0.689	0.602	0.517	**0.950**	0.466	0.487	0.600
INTENT_5	0.665	0.708	0.633	0.524	**0.955**	0.464	0.502	0.611
EXPERT_1	0.504	0.421	0.334	0.332	0.399	**0.879**	0.667	0.348
EXPERT_2	0.467	0.427	0.322	0.326	0.408	**0.876**	0.598	0.370
EXPERT_3	0.537	0.465	0.373	0.377	0.458	**0.928**	0.675	0.394
EXPERT_4	0.562	0.515	0.436	0.466	0.461	**0.862**	0.699	0.432
EXPERT_5	0.544	0.481	0.372	0.398	0.459	**0.914**	0.671	0.404
TRUST_1	0.655	0.576	0.493	0.462	0.529	0.692	**0.893**	0.494
TRUST_2	0.637	0.572	0.523	0.428	0.463	0.587	**0.896**	0.460
TRUST_3	0.616	0.565	0.490	0.429	0.509	0.686	**0.906**	0.516
TRUST_4	0.617	0.563	0.476	0.424	0.456	0.671	**0.899**	0.463
TRUST_5	0.606	0.550	0.472	0.474	0.472	0.708	**0.915**	0.439
USEF_1	0.584	0.622	0.600	0.414	0.592	0.376	0.460	**0.928**
USEF_2	0.590	0.644	0.614	0.426	0.602	0.423	0.473	**0.931**
USEF_3	0.585	0.619	0.592	0.430	0.587	0.414	0.488	**0.918**
USEF_4	0.587	0.646	0.594	0.421	0.578	0.398	0.481	**0.914**
USEF_5	0.635	0.683	0.670	0.454	0.623	0.407	0.526	**0.927**

Appendix K. TABLE OF LOADINGS AND CROSS-LOADINGS FOR THE FEMALES' SUB-SAMPLE (*n*=640)

Indicator	*Attitude*	*Enjoyment*	*Ease of use*	*Homophily*	*Intention*	*expertise*	*trustworthiness*	*Usefulness*
ATT_1	**0.936**	0.696	0.676	0.468	0.669	0.550	0.607	0.616
ATT_2	**0.939**	0.700	0.666	0.449	0.643	0.524	0.604	0.609
ATT_3	**0.940**	0.679	0.685	0.456	0.622	0.534	0.628	0.601
ATT_4	**0.929**	0.688	0.655	0.433	0.641	0.544	0.609	0.610
ATT_5	**0.936**	0.695	0.675	0.449	0.660	0.537	0.618	0.618
ENJOY_1	0.713	**0.927**	0.773	0.511	0.704	0.460	0.544	0.686
ENJOY_2	0.684	**0.919**	0.727	0.478	0.662	0.441	0.528	0.620
ENJOY_3	0.674	**0.922**	0.717	0.471	0.637	0.445	0.515	0.615
ENJOY_4	0.649	**0.927**	0.696	0.485	0.677	0.443	0.504	0.617
ENJOY_5	0.646	**0.864**	0.704	0.439	0.620	0.427	0.507	0.586
EOU_1	0.637	0.707	**0.913**	0.364	0.605	0.340	0.441	0.595
EOU_2	0.672	0.743	**0.934**	0.436	0.653	0.425	0.513	0.645
EOU_3	0.644	0.722	**0.928**	0.454	0.627	0.380	0.472	0.611
EOU_4	0.695	0.760	**0.932**	0.453	0.677	0.424	0.515	0.667
EOU_5	0.686	0.762	**0.948**	0.444	0.686	0.383	0.492	0.650
HOM_1	0.423	0.474	0.432	**0.871**	0.455	0.452	0.446	0.459
HOM_2	0.394	0.425	0.398	**0.858**	0.432	0.452	0.428	0.369
HOM_3	0.450	0.467	0.404	**0.914**	0.446	0.501	0.499	0.446
HOM_4	0.455	0.491	0.414	**0.925**	0.439	0.473	0.483	0.449
HOM_5	0.423	0.474	0.419	**0.888**	0.408	0.445	0.459	0.439
INTENT_1	0.663	0.688	0.685	0.426	**0.904**	0.368	0.467	0.617
INTENT_2	0.645	0.672	0.644	0.467	**0.936**	0.429	0.468	0.601
INTENT_3	0.642	0.683	0.654	0.463	**0.954**	0.406	0.468	0.602
INTENT_4	0.630	0.664	0.638	0.461	**0.945**	0.42	0.443	0.606
INTENT_5	0.668	0.693	0.660	0.478	**0.959**	0.428	0.473	0.620
EXPERT_1	0.511	0.403	0.350	0.415	0.371	**0.864**	0.645	0.352
EXPERT_2	0.463	0.403	0.329	0.444	0.374	**0.876**	0.564	0.356
EXPERT_3	0.528	0.428	0.383	0.473	0.397	**0.924**	0.659	0.394
EXPERT_4	0.523	0.461	0.422	0.508	0.397	**0.860**	0.644	0.435
EXPERT_5	0.528	0.466	0.382	0.478	0.400	**0.919**	0.618	0.420
TRUST_1	0.598	0.541	0.484	0.494	0.491	0.623	**0.884**	0.495
TRUST_2	0.578	0.508	0.494	0.466	0.435	0.588	**0.907**	0.469
TRUST_3	0.601	0.517	0.472	0.474	0.454	0.659	**0.922**	0.489
TRUST_4	0.608	0.517	0.472	0.463	0.441	0.652	**0.911**	0.486
TRUST_5	0.583	0.502	0.452	0.463	0.418	0.672	**0.908**	0.458
USEF_1	0.578	0.600	0.615	0.446	0.589	0.373	0.476	**0.923**
USEF_2	0.609	0.637	0.635	0.461	0.607	0.432	0.485	**0.938**
USEF_3	0.596	0.610	0.605	0.440	0.578	0.414	0.501	**0.916**
USEF_4	0.599	0.646	0.615	0.437	0.590	0.416	0.486	**0.919**
USEF_5	0.638	0.682	0.684	0.463	0.636	0.405	0.502	**0.936**

Appendix L. TABLE OF LOADINGS AND CROSS-LOADINGS FOR THE MALES' SUB-SAMPLE (*n*=561)

Indicator	*Attitude*	*Enjoyment*	*Ease of use*	*Homophily*	*Intention*	*Expertise*	*Trustworthiness*	*Usefulness*
ATT_1	**0.901**	0.649	0.650	0.403	0.681	0.474	0.600	0.565
ATT_2	**0.910**	0.685	0.631	0.418	0.669	0.528	0.627	0.532
ATT_3	**0.917**	0.633	0.620	0.42	0.627	0.510	0.620	0.528
ATT_4	**0.911**	0.611	0.599	0.419	0.649	0.503	0.591	0.531
ATT_5	**0.893**	0.588	0.594	0.412	0.625	0.472	0.578	0.493
ENJOY_1	0.649	**0.911**	0.762	0.52	0.699	0.444	0.546	0.577
ENJOY_2	0.619	**0.911**	0.744	0.478	0.633	0.436	0.508	0.516
ENJOY_3	0.652	**0.894**	0.744	0.424	0.625	0.399	0.493	0.563
ENJOY_4	0.633	**0.905**	0.698	0.528	0.673	0.479	0.528	0.556
ENJOY_5	0.553	**0.824**	0.611	0.407	0.591	0.377	0.426	0.503
EOU_1	0.602	0.712	**0.909**	0.368	0.602	0.293	0.446	0.553
EOU_2	0.635	0.746	**0.931**	0.397	0.63	0.396	0.509	0.584
EOU_3	0.627	0.734	**0.910**	0.392	0.626	0.356	0.472	0.562
EOU_4	0.640	0.742	**0.914**	0.422	0.657	0.381	0.475	0.584
EOU_5	0.646	0.764	**0.945**	**0.357**	0.636	0.341	0.475	0.578
HOM_1	0.389	0.440	0.371	**0.877**	0.385	0.335	0.388	0.342
HOM_2	0.365	0.430	0.346	**0.879**	0.409	0.375	0.378	0.309
HOM_3	0.438	0.481	0.378	**0.917**	0.425	0.432	0.435	0.352
HOM_4	0.445	0.519	0.399	**0.919**	0.44	0.419	0.452	0.355
HOM_5	0.415	0.513	0.394	**0.910**	0.442	0.395	0.424	0.337
INTENT_1	0.629	0.639	0.669	0.349	**0.869**	0.313	0.442	0.583
INTENT_2	0.661	0.657	0.602	0.455	**0.917**	0.473	0.522	0.559
INTENT_3	0.671	0.688	0.637	0.441	**0.942**	0.449	0.494	0.589
INTENT_4	0.657	0.680	0.610	0.461	**0.929**	0.439	0.482	0.578
INTENT_5	0.685	0.672	0.630	0.443	**0.943**	0.419	0.496	0.570
EXPERT_1	0.500	0.429	0.374	0.348	0.417	**0.878**	0.650	0.363
EXPERT_2	0.426	0.391	0.284	0.377	0.371	**0.887**	0.590	0.296
EXPERT_3	0.497	0.446	0.353	0.392	0.423	**0.916**	0.646	0.322
EXPERT_4	0.514	0.447	0.366	0.426	0.412	**0.872**	0.693	0.368
EXPERT_5	0.505	0.424	0.331	0.401	0.405	**0.901**	0.672	0.334
TRUST_1	0.593	0.508	0.471	0.423	0.464	0.603	**0.818**	0.438
TRUST_2	0.618	0.504	0.475	0.398	0.468	0.585	**0.888**	0.411
TRUST_3	0.577	0.508	0.454	0.435	0.486	0.697	**0.909**	0.415
TRUST_4	0.571	0.486	0.456	0.356	0.457	0.627	**0.879**	0.404
TRUST_5	0.581	0.482	0.424	0.426	0.459	0.700	**0.909**	0.397
USEF_1	0.534	0.562	0.569	0.333	0.585	0.310	0.433	**0.925**
USEF_2	0.523	0.543	0.559	0.328	0.575	0.366	0.410	**0.923**
USEF_3	0.542	0.557	0.564	0.375	0.585	0.371	0.430	**0.920**
USEF_4	0.525	0.569	0.555	0.370	0.551	0.347	0.424	**0.905**
USEF_5	0.564	0.579	0.608	0.329	0.582	0.347	0.452	**0.926**

*The high loadings per construct are emphasized in bold font.