Analysing Impact of Social Tagging in Usergenerated Images on Fashion Mobile Social Commerce

A thesis submitted to the University of Manchester for the degree of Master of Philosophy in the Faculty of Sciences and Engineering

2018

Shanshan Li

School of Materials

List of	Figures	7
List of	Tables	8
Abstrac	et	
Declard	ntion	11
Copyrig	ght Statement	
Acknow	vledgements	13
Chapte	r 1 Introduction	14
1.1	Background	14
1.2	Research Context	16
1.3	Research Questions	
1.4	Research Aim	19
1.5	Research Objectives	19
1.6	Research Outcomes and Contributions	19
1.7	Research Methodology	20
1.8	Summary	20
Chapte	r 2 Literature Review: Fashion E-commerce in China	
2.1	Introduction	22
2.2	Definitions of F-commerce and F-tailing	22
	Demittions of E-commerce and E-tailing	
2.3	China Fashion E-commerce Market	
2.3 2.4 2.4 2.4	China Fashion E-commerce Market Classification of E-commerce Business Model .1 B2C e-commerce model .2 C2C e-commerce model	23 23 23 23 25
2.3 2.4 2.4 2.4 2.5 2.5	China Fashion E-commerce Market Classification of E-commerce Business Model .1 B2C e-commerce model .2 C2C e-commerce model .1 Mobile Commerce .1 Mobile applications (apps)	23 23 23 25 25 26
2.3 2.4 2.4 2.4 2.5 2.5 2.6	China Fashion E-commerce Market Classification of E-commerce Business Model .1 B2C e-commerce model .2 C2C e-commerce model .1 Mobile Commerce .1 Mobile Commerce .1 Mobile Commerce	23 23 25 25 26 26
2.3 2.4 2.4 2.4 2.5 2.5 2.6 2.6	China Fashion E-commerce Market Classification of E-commerce Business Model .1 B2C e-commerce model .2 C2C e-commerce model .1 Mobile Commerce .1 Mobile applications (apps) .1 Challenges of multi-channel retailing	23 23 23 25 25 26 26 26 27
2.3 2.4 2.4 2.4 2.5 2.5 2.6 2.6 2.7 2.7	China Fashion E-commerce Market Classification of E-commerce Business Model .1 B2C e-commerce model .2 C2C e-commerce model .1 Mobile Commerce .1 Mobile applications (apps) .1 Challenges of multi-channel retailing .1 Challenges of multi-channel retailing .1 Challenges of multi-channel retailing	23 23 23 25 25 26 26 27 27 28
2.3 2.4 2.4 2.4 2.5 2.5 2.6 2.6 2.7 2.7 2.8	China Fashion E-commerce Market Classification of E-commerce Business Model .1 B2C e-commerce model .2 C2C e-commerce model .1 Mobile Commerce .1 Mobile applications (apps) .1 Challenges of multi-channel retailing .1 Challenges of multi-channel retailing .1 Area of omni-channel integration	23 23 23 23 25 25 26 26 27 27 27 28 28
2.3 2.4 2.4 2.4 2.5 2.5 2.6 2.6 2.7 2.7 2.8 2.9	China Fashion E-commerce Market Classification of E-commerce Business Model .1 B2C e-commerce model .2 C2C e-commerce model .1 Mobile Commerce .1 Mobile applications (apps) .1 Challenges of multi-channel retailing .1 Challenges of multi-channel retailing .1 Area of omni-channel integration .1 Area of Fashion E-commerce to S-commerce	23 23 23 25 25 25 26 26 27 27 27 27 28 28 28 29
2.3 2.4 2.4 2.4 2.5 2.5 2.6 2.6 2.7 2.7 2.8 2.9 Chapte	China Fashion E-commerce Market Classification of E-commerce Business Model .1 B2C e-commerce model .2 C2C e-commerce model .1 Mobile Commerce .1 Mobile applications (apps) .1 Challenges of multi-channel retailing .1 Challenges of multi-channel retailing .1 Area of omni-channel integration .1 Area of Fashion E-commerce to S-commerce .1 Summary .1 Literature Review: Mobile S-commerce.	23 23 23 25 25 25 26 26 27 27 27 28 28 29 30
2.3 2.4 2.4 2.4 2.5 2.5 2.6 2.6 2.7 2.7 2.8 2.9 Chapter 3.1	China Fashion E-commerce Market Classification of E-commerce Business Model .1 B2C e-commerce model .2 C2C e-commerce model .1 Mobile Commerce .1 Mobile applications (apps) .1 Mobile applications (apps) .1 Challenges of multi-channel retailing .1 Challenges of multi-channel retailing .1 Area of omni-channel integration .1 Area of Fashion E-commerce to S-commerce .1 Summary .1 Literature Review: Mobile S-commerce	23 23 23 25 25 25 26 26 27 27 27 28 28 29 30 30
2.3 2.4 2.4 2.4 2.5 2.6 2.6 2.7 2.7 2.8 2.9 Chapter 3.1 3.2 3.2 3.2 3.2 3.2 3.2	China Fashion E-commerce Market Classification of E-commerce Business Model .1 B2C e-commerce model .2 C2C e-commerce model .3 Chile applications (apps) Multi-channel Retailing	23 23 23 23 25 25 26 26 27 27 27 28 29 30 30 30 31 31 31

Contents

3.3	.3 Social media classification	33
3.4	Social Media Marketing	37
3.4.	.1 Social media advertising	38
3.5	Mobile S-commerce	38
3.6 3.6.	Co-creation	39 40
3.7	Research Context: Social Tagging in UGIs as a Communication Tool	in
Mobi	le S-commerce app	40
3.7.	.2 Instagram	41
3.7.	.3 Lookbook	42
3.7.	.4 Wear	42
3.8	Summary	45
Chapter	r 4 Chinese Online Consumer Behaviour	46
4.1	Introduction	46
4.2	Online Consumer Behaviour	46
4.2.	2 Factors influencing online consumer behaviour	46
43	Decision Making Science	51
4.5 Nee	ed identification	51
Info	ormation search	51
Eva	iluation of alternatives	51
Pos	t-purchase activity	52 52
4.3.	.1 The classification of decision making	52
4.3.	.2 Understanding online behavioural intention	53
4.4	E-Word-of-Mouth Communication	53
4.4. <i>A A</i>	.1 The concept of e-word of mouth	53 54
4.4.	eWOM in social media	54
4.5	Information Posters in Social Media	55
Opi	nion leaders	55
Blo	ggers	55
4.6	Chinese Consumer Behaviour in S-commerce	56
Ger Chi	neration Y awareness in social media	56
47	Focus on This Study: Social Tagging in UCFIs' Feature and Usage	50
amon	g Chinese Generation Y Females	57
4.8	Summary	58
Chapter	r 5 Literature Review: Theoretical Framework	59
5.1	Introduction	59
5.2	Technology Acceptance Model (TAM)	59
5.3	Information Adoption Model (IAM)	60
5.4	Stimulus-Organism-Response (S-O-R) Model	61
5.5	Use and Gratification (U&G) Theory	62
5.6	Discussion	62

5.7 Su	mmary	63
Chapter 6	Literature Review: Identification of Proposed Variables	65
6.1 Int	roduction	65
6.2 Us 6.2.1	e fulness Summary of usefulness	65 65
6.3 Ea 6.3.1	se of Use Summary of ease of use	66 67
6.4 Inf 6.4.1	ormativeness Summary of informativeness	67 68
6.5 Pos 6.5.1 6.5.2	sitive Emotion (Pleasure and Arousal) Pleasure and arousal Summary of pleasure and arousal	68 69 69
6.6 WC 6.6.1 6.6.2	DM Intention The relationship between WOM and eWOM Summary of WOM intention	70 70 70
6.7 Pu 6.7.1 6.7.2	r chase Intention Antecedents of purchase intention Summary of purchase intention	71 71 72
6.8 Su	nmary	72
Chapter 7	Framework Development and Hypotheses	73
7.1 Int	roduction	73
7.2 Fra	amework Development Resources	73
7.2.1	TAM	73
7.2.2		74
7.3 Su	nmary of S-O-R Model Application	76
7.4 Fra 7.4 1	Imework Development Usefulness Pleasure and Arousal	81 82
7.4.2	Ease of use. Pleasure and Arousal	83
7.4.3	Informativeness, Pleasure and Arousal	84
7.4.4	Pleasure, Arousal and Purchase Intention	84
7.4.5	Pleasure, Arousal and WOM Intention	85
7.4.6	Ease of Use and Usefulness	85
/.4./	Lase of Use and Informativeness	86
7.4.8		86
/ ,	Informativeness and WOM Intention	
7.4.10	Informativeness and WOM Intention Purchase Intention and WOM Intention	87
7.4.10 7.5 Su i	Informativeness and WOM Intention Purchase Intention and WOM Intention nmary of Framework Development	87 87
7.4.10 7.5 Sun Chapter 8	Informativeness and WOM Intention Purchase Intention and WOM Intention mmary of Framework Development Methodology	87 87 87 88
7.4.10 7.5 Sur Chapter 8 8.1 Int	Informativeness and WOM Intention Purchase Intention and WOM Intention mmary of Framework Development <i>Methodology</i> roduction.	87 87 88 88 88
7.4.10 7.5 Sun Chapter 8 8.1 Int 8.2 Res	Informativeness and WOM Intention Purchase Intention and WOM Intention mmary of Framework Development <i>Methodology</i> roduction	87 87 88 88 88 88
7.4.10 7.5 Sur Chapter 8 8.1 Int 8.2 Res 8.2.1	Informativeness and WOM Intention Purchase Intention and WOM Intention mmary of Framework Development <i>Methodology</i> roduction Search Philosophy Ontology	87 87 88 88 88 88 88 88
7.4.10 7.5 Sur Chapter 8 8.1 Int 8.2 Res 8.2.1 8.2.2	Informativeness and WOM Intention Purchase Intention and WOM Intention mmary of Framework Development <i>Methodology</i> roduction Search Philosophy Ontology Epistemology	87 87 88 88 88 88 88 88 88 89
7.4.10 7.5 Sun Chapter 8 8.1 Int 8.2 Res 8.2.1 8.2.2 8.2.3	Informativeness and WOM Intention Purchase Intention and WOM Intention mmary of Framework Development <i>Methodology</i> roduction search Philosophy Ontology Epistemology Axiology	87 87 88 88 88 88 88 88 89 89
7.4.10 7.5 Sur <i>Chapter 8</i> 8.1 Int 8.2 Res 8.2.1 8.2.2 8.2.3 8.2.4 8.2.5	Informativeness and WOM Intention Purchase Intention and WOM Intention mmary of Framework Development <i>Methodology</i> roduction search Philosophy Ontology Epistemology Axiology Positivism	87 87 88 88 88 88 88 89 89 90
7.4.10 7.5 Sun Chapter 8 8.1 Int 8.2 Res 8.2.1 8.2.2 8.2.3 8.2.4 8.2.5 8.2.6	Informativeness and WOM Intention Purchase Intention and WOM Intention mmary of Framework Development <i>Methodology</i> roduction search Philosophy Ontology Epistemology Axiology Positivism Realism	 87 87 88 88 88 89 90 90 90 90

8.3 Ap	proaches to Theory Development	91
8.3.1	Deduction	91
8.3.2	Induction	.91
8.3.3	Approach to theory development adopted in this study	92
8.4 Res	search Designs	92
8.4.1	The research design classification	.92
8.4.2	Exploratory research design	93
8.4.5 8.4.4	Research design adopted in this study	93
0.7.7		
8.5 Dat	Drimony Jota	.95
8.5.1 8.5.2	Secondary data	95
8.5.3	Primary versus secondary data	96
8.5.4	Data collection approach adopted in this study	96
8.6 Dat	ta Collection Annroaches	96
8.6.1	Qualitative research	96
8.6.2	Quantitative research	98
8.6.3	Mixed methods approach	99
8.6.4	Research collection approach adopted in this study	99
8.7 Col	llecting Primary Quantitative Data Using Questionnaire	00
8.7.1	The types of questionnaire 1	00
8.7.2	Questionnaire used in this study1	00
8.8 Qu	estionnaire Design1	00
8.8.1	Question content and format 1	01
8.8.2	Questionnaire layout	01
8.8.3	Ethic and incentives	01
8.8.4 8.8.5	Pilot testing	02
0.0.5	Questionnance design process in this study	02
8.9 Me	asurement	04
8.9.1	Questionnaire development in this study	04
0.9.2	Questionnance development in this study	
8.10 S	ampling Methods 1	
8.10.1	Decide the sample framework	09
8.10.3	Sampling techniques	10
8.10.4	Sampling techniques adopted in this study	11
8.10.5	Determining sample size 1	12
8.11 V	alidity and Reliability	12
8.11.1	Validity	12
8.11.2	Reliability 1	13
8.12 S	ummarv 1	13
Chapton 0	Data Analysis and Pasults	115
Chapter 9	Data Analysis and Kesulis 1	13
9.1 Int	roduction1	15
9.2 Des	scriptive Analysis 1	15
9.3 Sar	nple Validity 1	17
		17
7.4 Kel	naunity Analysis of Scale Items	
9.5 Fac	ctor Analysis 1	18
9.6 Exj	ploratory Factor Analysis (EFA) 1	18
9.6.1	Assessment for suitability of the data for factor analysis 1	18

9.6.2	Determining the number of factors	119
9.6.3	Factor rotation and interpretation	119
9.0.4		121
9.7 Co	onfirmatory Factor Analysis (CFA)	122
9.7.1	Using the AMOS program	122
9.7.2	I he conceptual measurement model in CFA	123
9.7.3	Model specification	125
9.7.4	Model actimation	127
9.7.5	Model fit assessment	120
9.7.0	Summary of initial model fit assessment	131
978	Model modification	132
9.7.9	Final modified measurement (CFA) model	132
	nstruct Volidity	127
	Convergent validity	137
9.8.1	Discriminant validity	138
9.0.2		150
9.9 St	ructural Equation Modeling and Hypothesis Testing	138
9.9.1	Specification	140
9.9.2	Estimation	140
9.9.3	Estimation	141
9.9.4	Hypothesis testing	142
9.9.5	Parameter summary for the structural model	144
997	Squared multiple correlations	145
998	Direct effects	146
9.9.9	Indirect effects	
9.9.10	Total effects	147
9.9.11	Effects on usefulness	148
9.9.12	Effects on arousal	148
9.9.13	Effects on informativeness	148
9.9.14	Effects on purchase intention	148
9.9.15	Effects on WOM intention	149
9.10	Fashion Mobile S-commerce Consumer Behaviour Model	149
9.11	Summary	150
Chanter 1	Discussion and Conclusion	151
10.1		151
10.1	Introduction	151
10.2	Chapter Summaries	152
10.3	Conceptual Framework and Hypotheses Results	153
10.4	Discussion	155
10.4.1	Direct relationship between social tagging within UGIs' technolog	ical
constr		156
10.4.2	156	ments
10.5	Analyses of Hypotheses not Being Supported	158
10.6	Individual Construct Conclusions	. 159
10.6.1	Ease of use	159
10.6.2	Usefulness	160
10.6.3	Arousal	160
10.6.4	Informativeness	161
10.6.5	Purchase intention	161
10.6.6	WOM intention	162

10.7	Impact on Theory	162
10.7.	1 Theoretical contribution to TAM	162
10.7.	2 Theoretical contribution for S-O-R model	163
10.8	Contribution for Ease of Use Construct	164
10.9	Contribution for Usefulness Construct	164
10.10	Academic Data Contribution	164
10.11	Contributions for Mobile S-commerce Research	165
10.12	Managerial Contribution	165
10.13	Research Limitations	168
10.13	B.1 Females sample	168
10.13	B.2 Age range	168
10.13	B.3 Limitation of category comparison	168
10.13	B.4 Limitation of posting informativeness content and policy	168
10.14	Suggestions for Future Work	169
10.15	Summary	169
Referenc	es	171
Appendic	es	209

List of Figures

Figure 5-1 Technology Acceptance Model (TAM)59
Figure 5-2 Information Adoption Model (IAM)60
Figure 5-3 S-O-R Model61
Figure 7-1 TAM Extension73
Figure 7-2 Consumers' Response to High-Technology Products74
Figure 7-3 An S-O-R Model of Consumer Response to Online Shopping74
Figure 7-4 The Impact of Internet Atmospherics75
Figure 7-5 Online Games on WOM Intention75
Figure 7-6 Brand-related UGC via Social Media76
Figure 7-7 Social Tagging within UGIs towards Mobile S-commerce Hypotheses82
Figure 8-1 The Classification of Research Design93
Figure 8-2 Questionnaire Design Process
Figure 9-1 Conceptual Measurement Model for CFA124
Figure 9-2 CFA Model Specification126
Figure 9-3 Initial CFA with Standardised Regression Weights128
Figure 9-4 Final CFA Specification134
Figure 9-5 Final CFA with Standardised Regression Weights135
Figure 9-6 Appropriate Data Set for SEM139
Figure 9-7 Structural Equation Model Path Diagram140
Figure 9-8 Structural Model Estimation141
Figure 9-9 Final Structural Model149

Figure	10-1 N	Mobile Social	Communication Consumer	r Behaviou	
Figure	10-2 7	Fechnological	Items Associated with Fir	nal SEM	155
Figure	10-3 A	Attachment Ite	ems Associated with the Fi	inal SEM	

List of Tables

Table 3-1 The Classification of Online Community	34
Table 6-1 The Measure Items of Usefulness	66
Table 6-2 The Measure Items for Ease of Use	67
Table 6-3 The Measure Items of Informativeness	68
Table 6-4 The Measure Items of Pleasure and Arousal	69
Table 6-5 The Measure Items of Word of Mouth Intention	71
Table 6-6 Examples of Antecedents for Purchase Intention	72
Table 6-7 The Measure Items of Purchase Intention	72
Table 7-1 Usefulness as a Stimulus in S-O-R Model	77
Table 7-2 Ease of Use as a Stimulus in S-O-R Model	78
Table 7-3 Informativeness as a Stimulus in S-O-R Model	79
Table 7-4 Relationship between Emotion and WOM Intention in S-O-R Model	80
Table 7-5 Relationship between Emotion and Purchase Intention in S-O-R Model	81
Table 8-1 A Comparison of Primary and Secondary data	96
Table 8-2 The Procedure of Mixed Methods	99
Table 8-3 Questionnaire Design Process of This Study	103
Table 8-4 Measure Constructs and Items Development in This Study	105
Table 8-5 Item Checklists about Social Demographic	107
Table 8-6 Construct Checklists for This Study	108
Table 8-7 Summary of Validity	113
Table 8-8 Summary of Key Approaches in This Chapter	114
Table 9-1 Social Demographics	116
Table 9-2 Reliability Results for Scale Items	117
Table 9-3 Initial KMO and Bartlett's Results	118
Table 9-4 Initial Total Variance Explained	119
Table 9-5 Initial Rotated Component Matrix	120
Table 9-6 Consideration of Item Elimination	120
Table 9-7 Final Rotated Component Matrix	121
Table 9-8 Final KMO and Bartlett's Results	121
Table 9-9 Final Total Variance Explained	122
Table 9-10 Summary of Fit Indices of Initial Measurement Model	132
Table 9-11 Initial CFA and Final Modified CFA Model Fit Statistics	136
Table 9-12 Convergent Validity Results	137

Table	9-13	Discriminant Validity Results
Table	9-14	Model Fit Statistics
Table	9-15	Estimate of Regression Weights143
Table	9-16	Estimates of Standardised Regression Weights143
Table	9-17	Summary of Final Remained Hypotheses for SEM144
Table	9-18	Regression Weights
Table	9-19	Standardised Regression Weights145
Table	9-20	Squared Multiple Correlations146
Table	9-21	Standardised Direct Effects146
Table	9-22	Standardised Indirect Effects147
Table	9-23	Standardised Total Effects147
Table	9-24	Effects on Usefulness148
Table	9-25	Effects on Arousal148
Table	9-26	Effects on Informativeness148
Table	9-27	Effects on Purchase Intention149
Table	9-28	Effects on WOM Intention149
Table	10-1	Hypotheses and Results154
Table	10-2	Direct Relationship Between Ease of Use and Usefulness156
Table	10-3	Direct Relationship between Technological Features and Attachments 156
Table	10-4	Academic Data Contribution Guide
Table	10-5	Managerial Contribution

Word Count: 49,893

The University of Manchester

Shanshan Li MPhil: Textile Design, Fashion & Management Analysing Impact of Social Tagging in User-generated Images on Fashion Mobile Social commerce August 2018

Abstract

Many social media platforms have multi social media systems; for instance, images and photographs are tagged and shared on the Pinterest platform (Nam and Kannan, 2014). Social tagging is a web 2.0 emerging technology, which allows users to generate and share content by "keywords" in an online social environment (Shiri, 2009). However, even though social tagging is a medium of online communication (Shiri, 2009; Monge, 2013), the effect of the social tagging within user-generated images' information technology on consumers' emotion and behaviour responses is not well known in the fashion mobile social commerce context.

Xiaohongshu is a Chinese fashion social commerce platform, which owns a mobile social commerce app to attract and maintain its consumers. The purpose of this thesis is to empirically identify how the tool of social tagging within user-generated fashion images simulates consumers' emotion (pleasure and arousal) and influences word of mouth intention and purchase intention through Xiaohongshu's mobile social commerce app among 18–34-year-old females. This study integrates the technology acceptance model with the stimulus-organism-response model to explore the relationship between the variables. The results were collected through online questionnaires with 387 samples corresponding to users of the Xiaohongshu mobile social commerce community. The result indicates that ease of use is strongly related to informativeness, and informativeness is significantly related to word of mouth intention. Furthermore, this thesis examines the relationship between usefulness and emotional arousal, and this emotional arousal causes word of mouth intention technology and web 2.0 social media information technology.

This study helps B2C fashion retailers provide effective marketing strategies in the mobile social commerce context. Mobile social commerce apps could implement social tagging within user-generated images' technology to attract and maintain consumer segments in the mobile social shopping environment. Meanwhile, social tagging within user-generated images needs to be designed and managed to meet consumer needs and expectations.

Declaration

This thesis is my own work and submitted for assessment and award at the University of Manchester. The work is a requirement of the degree MPhil Textile Design, Fashion and Management. No portion of the work referred to this thesis has been submitted in support of an application for another degree or qualification of this or any other University or other institute of learning.

Copyright Statement

- i. The author of this thesis (including any appendices and/or schedules to this thesis) owns certain copyright or related rights in it (the "Copyright") and s/he has given The University of Manchester certain rights to use such Copyright, including for administrative purposes.
- ii. Copies of this thesis, either in full or in extracts and whether in hard or electronic copy, may be made only in accordance with the Copyright, Designs and Patents Act 1988 (as amended) and regulations issued under it or, where appropriate, in accordance with licensing agreements which the University has from time to time. This page must form part of any such copies made.
- **iii.** The ownership of certain Copyright, patents, designs, trademarks and other intellectual property (the "Intellectual Property") and any reproductions of copyright works in the thesis, for example graphs and tables ("Reproductions"), which may be described in this thesis, may not be owned by the author and may be owned by third parties. Such Intellectual Property and Reproductions cannot and must not be made available for use without the prior written permission of the owner(s) of the relevant Intellectual Property and/or Reproductions.
- iv. Further information on the conditions under which disclosure, publication and commercialisation of this thesis, the Copyright and any Intellectual Property and/or Reproductions described in it may take place is available in the University IP Policy (see http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=2442 0), in any relevant Thesis restriction declarations deposited in the University Library, The University Library's regulations (see http://www.library.manchester.ac.uk/about/regulations/) and in The University's policy on Presentation of Theses.

Acknowledgements

I would like to express my sincere gratitude to several people who helped me complete this dissertation. Firstly, I would like to express my deepest appreciation to my supervisors, Dr. Helen McCormick, Dr. Delia Vazquez, Dr. Marta Blazquez Cano, and Dr. Richard Kennon who have patiently guided and encouraged and supported me throughout my master training and enable me to gain confidence in my ability.

I sincerely appreciate Dr. Yizhong Zhang to provide generous suggestions on my dissertation with patience and kindness and thank my dear friends and colleagues for their joy and carefulness during the studying.

Furthermore, I would like to give my special thanks to my parents and brother for their unconditional love and economic support during my MPhil studying.

Chapter 1 Introduction

1.1 Background

Fashion is as "the set of clothes, footwear, and accessories an individual may buy online, regardless of whether they are a current trend and whether they are fashionable at the moment of the purchase" (Escobar-Rodríguez and Bonsón-Fernández, 2017, p.600). China was the largest global fashion electronic commerce (e-commerce) market in 2017 with sales reaching over 164.2 billion dollars, and total e-commerce sales forecast to achieve 318 billion dollars in 2022 (Statista, 2017b). The development of information technology has changed many aspects of personal consumption for Chinese online fashion consumers. Mobile devices and social media have become important channels for information exchange (Zhang, Abound Omran and Cobanoglu, 2017). The development of mobile technology has resulted in lower prices of smartphones and tablets, which makes mobile devices more affordable (Kalinic and Zoran, 2017). The richness of mobile devices' functions helps to support mobile internet connection, digital cameras and mobile applications (apps) (Negahban and Chung, 2014). Smartphone users not only use voice communication, but also use mobile services and apps to participate in social media activity and shopping (Chang, Shen and Liu, 2016). The number of Chinese mobile internet users has increased to 656 million (CNNIC, 2016). In 2016-2017, the rate of online shopping through mobile devices was larger than online shopping conducted via a PC in China (Statista, 2015b). Thus, mobile devices are a competitive channel for online fashion sales.

Social commerce (s-commerce), which is defined by the business activities managed through social media, has become a new trend and an important component of ecommerce (Liang et al., 2011; Noori, Hashim and Yusof, 2016). Social media platforms like Facebook and YouTube are mediums for people participating in marketing, selling, buying and sharing information about products and services (Menon et al., 2016). It is common knowledge that social media is "a group of internet based applications that builds on the ideological and technological foundations of Web 2.0, and it allows the creation and exchange of user-generated content" (Kaplan and Haenlein, 2010, p. 60), thus, the purpose of social media is to share and communicate information through usergenerated content (UGC). UGC can enhance personal interaction and relationships between people who have common interests in creating communities (Winer, 2009). Online websites encourage social shopping communities to share, discover and connect with others and support buying products such as Meilishuo, Xiaohongshu and Polyvore (Zhang, Zhao and Gupta, 2018). Malthousea et al. (2016) have proved that communities' shared content increases potential consumer purchase behaviour by measuring actual sales data. Meanwhile, UGC is regarded as a method of e-word of mouth, and information for brand co-creation (Lu and Stepchenkova, 2015). For example, users can

connect with friends and share and adopt fashion information in the online community (Thomas, Peters and Tolson, 2007; Pihl, 2014).

However, the problem is how to communicate effectively for users as they face the challenge of information overload (Nurse *et al.*, 2015). Consumers need to make choices about what kind of information they are reading (Christodoulides and de Chernatony, 2004) and decide what information is particularly vital for their decisions (Nurse *et al.*, 2015). When facing information overload in s-commerce, the consumers prefer to have information screening cost reduced and improve their decision making quality (Zhang *et al.*, 2014). The issue of information overload also exists in mobile shopping (Shankar *et al.*, 2016). Chinese consumers engage on average 78 minutes on s-commerce every day (Liu *et al.*, 2016), and market sale through mobile e-commerce reached around 4472.6 billion yuan in 2016 (Statista, 2015b). More users turn to mobile devices to adopt product evaluation activities (Furner and Zinko, 2017). However, mobile devices are less effective at visuals and dexterity (Furner and Zinko, 2017). Like online reviews, it is impossible for users to read all the unstructured reviews and then make decisions (Singh *et al.*, 2017).

Unlike shopping in a physical store, online users make decisions relying on text and product images (Ho, 2014). Images are a vital medium to make the consumer form an attitude and expectations about a platform or buying a specific product (Adam, Astor and Krämer, 2016). Fashion images in social media could influence sales more than other product categories because runway pictures or street style images can communicate detailed product information and provide inspiration concerning completing the look (Statista, 2017d). Many social media platforms such as Pinterest and Facebook apply a social tagging system as the supplement for sharing images (Nam and Kannan, 2014). Social tagging has been seen as a useful feature that enables users to find, organise and understand online information (Lee *et al.*, 2009; Panke and Gaiser, 2009; Alhamid *et al.*, 2016; Zhang and Liu, 2017). In a social tagging system, users employ their "keywords" to describe and categorise web content, which also helps other users to search and organise content (Nam and Kannan, 2014). Photo-sharing platforms like Flickr offer a social tagging system to access the photo content, and social tagging helps users to navigate in social web systems (Pirolli and Kairam, 2013).

To solve information overload in the mobile s-commerce context, social tagging within sharing images could potentially be an effective tool. When social tagging is used to describe an item, it is regarded as a particular information resource to help users to make information selection (Lebib, Mellah and Drias, 2017). Identifying and analysing the impact of social tagging in mobile devices will have more practical value than ever before in s-commerce. It could be regarded as an effective information technology, which solves consumer product decision making and makes the mobile channel more effective.

1.2 Research Context

Apps are social programs which can be downloaded and operated on smartphones, tablet computers or other devices (Huang and Korfiatis, 2015). It is regarded as a new information technology, which combines web-based and information based features that enable users to share, search and communicate information, and make purchases (Grøtnes, 2009; Hur, Lee and Choo, 2017; Kim *et al.*, 2017). Increasingly retailers have offered mobile shopping apps to expand their shopping channels (Chen, Hsu and Lu, 2018). The development of mobile apps has applied its business value to companies through its mobile and social features (Taylor and Levin, 2014). UGC concerning images and videos is more common than text in mobile apps (Zhao and Balagué, 2015). In addition, images or photos shared by users are known as user-generated images (UGIs) and are rising in popularity for many social media technologies (Colliander and Marder, 2018). Sharing images with a high visual appeal and interaction with users could influence consumer buying behaviour (Xiang *et al.*, 2016). Fashion bloggers usually show products bought in the posted images, as well as the visual communication of one or multiple images for what they are wearing daily (Chittenden, 2010).

Posting UGIs is always accompanied with text (e.g. descriptions and the title of the image) (Yang *et al.*, 2014; Xiang *et al.*, 2016). One form is to add text in the product picture; through this method, it provides the product title, the name of sellers and other extra information and has an effect on consumer making decisions (Wu *et al.*, 2016). Zhao and Balagué (2015) suggest mobile apps should adopt social tagging technology to promote users' interaction among the contents. There are many common features offered by social media apps such as editing photographs and social tagging images (Oeldorf-Hirsch and Sundar, 2016). Thus, enabling consumers to identify the image's description using social tagging features in s-commerce apps is increasingly important.

Xiaohongshu is a cross-border e-commerce platform. It offers products around the world for Chinese users (CCEAA, 2015). This platform launched a mobile app to improve its competitive advantage (Wang, 2016), and its community provides purchasing experience based on UGIs and other forms of shopping experience (e.g. recommendations and reviews) for other users (CCEAA, 2015; Parklu, 2018). Also, the Xiaohongshu mobile s-commerce app provides social tagging within UGIs' technology service for online community users. Mobile users can create social tagging information for an object or person via sharing images. Readers can choose whether to tap on images or to browse tagging specific item information (keywords) on the images. Fashion and apparel are the most popular discussed topics among online community members (Kim and Jin, 2006; Thomas *et al.*, 2007; Pihl, 2014). However, there is still a lack of social tagging within user-generated fashion images (UGFIs) and its value concerning the product information in s-commerce apps. This social technology service could result in extra business value for mobile app managers. Thus, social tagging within UGFIs in the

Xiaohongshu mobile s-commerce app need to be examined in order to address a gap in the academic area.

Social tagging systems have been researched in various technology topics. For instance, Shiri (2009) identified social tagging interface features in social tagging platforms (e.g. user tagging features, tagging browsing and exploration features, interface layout). Meanwhile, social tagging is a useful tool for future navigation, filtering or searching on multiple devices (e.g. desktops and mobile phones) (Derntl *et al.*, 2011). Managers need to examine which type of feature is important and build a prototype to test it. Usefulness and ease of use are predictors of technology acceptance for mobile design features (Liu and Yu, 2016; Kalinic and Zoran, 2017) and social media's usage (Hsu and Lin, 2008). This thesis argues the specific features of social tagging within UGFIs, which drives users to fulfil their technology demands on the mobile s-commerce aspect. Thus, usefulness and ease of use for social tagging within UGFIs are considered as predictors for the mobile s-commerce context in this thesis.

Previous studies have also used social tags to present the relationship between tags and items, such as tags and contents (Nam and Kannan, 2014), tags and photos (Rui and Stefanone, 2013) and tags and people (Nov and Ye, 2010; Chen and Shin, 2013). Within the context of social tagging, some research has paid attention to areas such as word of mouth (Hoffman and Fodor, 2010), social connection (Chen and Kong, 2013), self-disclosure (Huang, 2016), social image (Raban *et al.*, 2017), motivation (Nov and Ye, 2010) and interpersonal relationship (Bapna *et al.*, 2017). There also exists a gap of tagged items' informativeness about UGFIs for s-commerce context.

Informativeness is "the extent to which an e-word of mouth message is able to offer necessary information which helps readers understand the product" (Cheung and Thadani, 2012, p.465). In social shopping communities, social tags mainly concern products (Olbrich and Holsing, 2011). For blog readers, they would want the blogs to mention the brand, retailers and where the blogger bought the product (Kulmala, Mesiranta and Tuominen, 2013). Therefore, social tagging content could be more informative about sharing items in UGFIs. The design of Xiaohongshu app's social tagging within UGFIs includes posters to share product information in terms of brand information, product price and purchase location (CCEAA, 2015). Thus, this study attempts to examine social tagging within UGFIs' technology and acceptable tagging informative features for the mobile s-commerce environment.

Furthermore, as Yeh *et al.* (2017) pointed out, information technology presentation modes can generate internal pleasure and arousal. Moreover, UGC can evoke consumers' emotional pleasure and arousal in s-commerce context (Kim and Johnson, 2016). Therefore, exploring users' emotional pleasure and arousal concerning social tagging within UGFIs is meaningful in the mobile s-commerce environment.

Additionally, consumer behavioural intention is a trending topic, which has been studied in various aspects of the s-commerce environment, such as purchase intention (Purnawirawan *et al.*, 2015; Godey *et al.*, 2016; Matute, Polo-Redondo and Utrillas, 2016; Shang, Wu and Sie, 2017; Fang *et al.*, 2018) and word of mouth intention (Allsop, Bassett and Hoskins, 2007; Filieri and McLeay, 2014; Lin, Li and Wang, 2017; Fang *et al.*, 2018). Previous research has examined the positive emotional statement (pleasure and arousal) on consumer purchase intention (Kim, Kim and Lennon, 2009; Kim and Johnson, 2016; Demangeot and Broderick, 2017), and word of mouth intention (Ha and Im, 2012; Loureiro and Ribeiro, 2014; Huang, Ali and Liao, 2017). This thesis will examine the power of social tagging within UGFIs through mobile community users' purchase intention and word of mouth intention based on their positive emotion (pleasure and arousal).

Most marketers and technology experts believe that Generation Y plays a critical role in regard to sharing information in social media and adopting mobile technology (Nusair *et al.*, 2013; Zhang *et al.*, 2017). Generation Y users are between 18 and 34 years old and are more likely to use social media regularly than older age groups. However, previous research has identified that females prefer discussion and e-word of mouth on social networking sites (Dennis *et al.*, 2010). Male consumers tend to make quicker buying decisions and need less information than female consumers before making purchasing decisions (Kim, Lehto and Morrison, 2007). For the Xiaohongshu mobile scommerce app, its target group is 18-35 Chinese females (The Wall Street Journal, 2015). This study will conduct generation Y 18-34 females using social media characteristics in the Xiaohongshu mobile s-commerce app.

1.3 Research Questions

Based on the above, there are three questions that require discussion:

RQ1. Is social tagging within user-generated fashion images accepted as a tool to provide useful information by 18-34-year-old Chinese female users of mobile social commerce apps?

RQ2. Does social tagging within user-generated fashion images affect users' emotional state concerning pleasure and arousal on mobile social commerce apps by 18-34-year-old Chinese female users?

RQ3. Does social tagging within user-generated fashion images affect users' purchase intention and word of mouth intention on mobile social commerce apps by 18-34-year-old Chinese female users?

1.4 Research Aim

This thesis aims to examine information technology's acceptance and the influence of social tagging within user-generated fashion images. This study investigates how community's users use social tags when shopping on the Xiaohongshu mobile social commerce app and understand the value of social tagging for Chinese female users between 18 and 34 years old.

1.5 Research Objectives

In order to achieve the aims of this study, the objectives are:

- To review the literature of the fashion e-tailing market and mobile s-commerce trends in China.
- To identify the function and value of tagging from current studies.
- To review the literature on the technology acceptance model, information adoption model, the stimulus-organism-response model as well as use and gratification theory in current studies.
- To review the literature on usefulness, ease of use, informativeness, emotion (pleasure and arousal), word of mouth as well as purchase intention variables.
- To develop a framework based on previous literature reviews and identify the variables contributing to social tags within UGFIs in mobile s-commerce context.
- To analyse and evaluate the impact of social tagging within UGFIs' value and consumer behaviour.
- To provide practical and academic recommendations in mobile s-commerce aspect.

1.6 Research Outcomes and Contributions

The research outcomes and contributions for this study are:

- An understanding of e-tailing development and mobile s-commerce trends in the fashion industry.
- An understanding of social tagging feature and communication in the fashion industry.
- A literature review concerning social tagging within UGFIs' technological acceptance (usefulness, ease of use, informativeness) and attachment (emotion, word of mouth intention and purchase intention).
- The identification of social tagging within UGIs variables and attachment variables in fashion mobile s-commerce environment.
- The development of a set of hypotheses relying on the literature reviews.

- The development of a model for social tagging within UGFIs' in mobile social commerce environment for users.
- The development of a model relying on exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and structural equation modeling (SEM).
- Identify how mobile app managers use the social tagging within UGIs' communication tool in the s-commerce context.
- Conclusions of analysis for the mobile social tagging communication model.

1.7 Research Methodology

Research methodology is a general method as an academic discipline to use specific rules and requirements for the evidence in a special study (Supino and Borer, 2012). This study applies market research design to conduct quantitative research to obtain primary data. More specifically, fifteen hypotheses are identified and proposed according to the previous the stimulus-organism-response model and the technology acceptance model.

The questionnaire is collected via online survey methods. The questionnaire's structure consists of usefulness, ease of use, informativeness, emotional pleasure and arousal, purchase intention and word of mouth intention for social tagging within UGFIs. The online survey is designed through sojump.com, which is popular in Chinese academic research (Hu *et al.*, 2016; Yan *et al.*, 2016; Zhang *et al.*, 2017). The data was collected through QQ and WeChat social network platforms. The sample for this study comprised of Xiaohongshu mobile fashion community young female users between 18 and 34 years old. Data was processed through SPSS 22.0 and AMOS 23.0 to explore the relationship of each construct and examine the proposed model. AMOS software with SEM has a useful feature which transfers graphics to programming interfaces (Blunch, 2013).

1.8 Summary

Limited research in mobile s-commerce shows a gap that connects the application of social tagging with UGIs technology. The aim of this study is to examine the effects of social tagging within UGFIs' usefulness, ease of use and informativeness with users' emotional (pleasure and arousal), word of mouth intention and purchase intention in the Xiaohongshu mobile s-commerce app.

This study performed the quantitative method, self-administered online questionnaire and applies literature and market reports such as iResearch and Statista. The results of this thesis show that usefulness and ease of use are predictors for 18-34 female users to use social tagging within UGIs. Usefulness can evoke users' positive emotional arousal. The quantitative research in this thesis proves that traditional information technology is not similar to web 2.0 information technology. Meanwhile, informativeness is more important than consumer emotional arousal when consumers make the purchase decision and word of mouth intention. Consequently, consumers more rely on information communication in mobile s-commerce context. This study helps mobile s-commerce app managers to recognise and adopt social tagging within UGIs, then optimise s-commerce technology's service to mobile community users.

Chapter 2 Literature Review: Fashion E-commerce in China

2.1 Introduction

With the emergence of the internet and mobile devices, e-commerce activity has changed the consumer's shopping patterns from single channel (e.g. offline retailing stores) to multi-channel (e.g. personal computers, mobile devices and offline retailing stores) (Ko, Ko and Chun, 2017), or to omni-channel (Hübner, Wollenburg and Holzapfel, 2016). Therefore, consumers are no longer restricted to a single location or time owing to the multichannel distribution environment. Gathering information and buying products on the online platform is more convenient (Ko *et al.*, 2017), which changes the business platform's trading, distributing and sale methods among retailers and consumers (Corbitt, Thanasankit and Yi, 2003). In particular, the increase of searching and purchasing functions via smartphones leads to the rise of shoppers using mobile commerce to buy products (Ko *et al.*, 2017).

This chapter provides the background information about the e-commerce market in China. The first section will outline the concepts of e-commerce and Chinese e-commerce development based the online retailing. The consumer-based e-commerce business model will then be illuminated. The subsequent sections will introduce multi-channels, omni-channel and the trend of mobile commerce and s-commerce in current academic research.

2.2 Definitions of E-commerce and E-tailing

E-commerce is a shortened version of the term "Electronic Commerce", which is related to online purchasing and selling of products or services. Its transactions are through the internet or other electronic systems (Mohapatra, 2012). Primary e-commerce mainly consists of e-trading, e-services and e-business collaboration, and currently also contains s-commerce (Solomon *et al.*, 2014).

Retailers are sale mediums between manufacturers and consumers, they mainly focus on the sales between wholesalers and consumers, even though many manufacturers could directly sell products to consumers (Turban *et al.*, 2015). In traditional selling, retailers operating a physical store to make consumers visit and purchase is called retailing (Turban *et al.*, 2015). Retailing activities which occur online is called e-tailing, and the managers of e-tailing are called e-tailers (Turban *et al.*, 2015). The various benefits of e-tailing for retailers have been proved, such as a large audience, cost savings, direct communication, increased personalisation with consumers (Siddiqui *et al.*, 2003). Consumers can access the online retail store for 24 hours a day (Siddiqui *et al.*, 2003), and there is a larger range of fashion products than traditional shopping stores (Rath *et al.*, 2015). Through the online channels, retailers have an ability to convey rich information to the consumer with very low cost (Alba *et al.*, 1997). Consumers generally use personal computers to access the Internet via the retailer's electronic store (Magrath and McCormick, 2013) and make online purchases through browsing, selecting and then buying (Ho, 2014). On the negative aspect, consumers cannot touch, feel or examine the products like apparel before the buying decision (Rath *et al.*, 2015). Meanwhile, there are no face to face communication and shopping in stores' service (Rath *et al.*, 2015).

2.3 China Fashion E-commerce Market

In China, the B2C online shopping market reached 2.6 trillion Yuan in 2016. Compared to 2015, it rose 23.9% (iResearch, 2017b). China's online retail will be over 50% of global online retailing in 2019 (KPMG, 2017). The competition in retailing is extremely high in the fashion industry (Newman and Patel, 2004). In online shopping channels, apparel was a popular product category of shopping lists in 2015 (KPMG, 2016). Statista (2017) shows that China's online fashion market reached 125.8 billion dollars in 2016 and forecasts this to be 285.31 billion dollars in 2021. Thus, China is a strong potential in the online fashion market.

2.4 Classification of E-commerce Business Model

Turban *et al.* (2015) state the e-tailing business model can be divided into business-tobusiness (B2B), business-to-consumer (B2C), and consumer-to-consumer (C2C). This study only focuses on consumer value in e-commerce, thus, the following section analyses different e-retailing business models based on consumer value.

2.4.1 B2C e-commerce model

B2C model is from the sellers' (retailers') and manufacturers' perspective because sellers need to buy materials, products or services from others, then sell to consumers (Turban *et al.*, 2015). In the Chinese market, almost all fashion retailers have their own online stores in Tmall and JD e-commerce platforms (Choi, Chen and Chung, 2016). In the B2C model, online commerce is usually classified into two types: pure player and click-and-brick (or brick-and-click) (Campo and Breugelmans, 2015; Lian and Yen, 2017), which is based on the distribution channel (Turban et al, 2015). Both pure player e-tailers and click-and-brick (or brick-and-click) e-tailers need to improve their competitiveness through consumer service (Xing and Grant, 2006). Pure-play e-tailers rely on the ability to maintain accurate and timely delivery, while click-and-brick (or brick-and-click) retailers need to have the ability to handle logistic problems (Xing and Grant, 2006). Each concept and performance will be discussed in further detail.

Pure Player (Pure-play E-tailers)

Pure players or pure-play e-tailers are organisations that sell products or services through the online channel and have no physical stores (Toufaily and Pons, 2017). It solely exists as an online marketspace (Ashman and Vazquez, 2012). There is no opportunity for consumers to physically examine products before making purchases. This results in a higher rate of product returns (De Leeuw *et al.*, 2016).

In a traditional e-commerce setting, pure-play e-tailers provide delivery options to customers (Ishfaq, Defee and Gibson, 2015), for instance, Amazon and ASOS (Sit and Birch, 2014). Pure players have no choice to expand their product category to meet their consumer needs. For instance, online fashion retailer ASOS stated they want to be the largest fashion "wardrobe" by increasing their fashion category (Ashman and Vazquez, 2012).

Click-and-Brick or Brick-and-Click

Click-and-brick retailers are firms utilising the combination of both the brick-andmortar (traditional physical store) and online retailer's websites (Lian and Yen, 2017). (Lian and Yen, 2017). It launches new physical stores from existing e-commerce business (Steinfield, Bouwman and Adelaar, 2002). Click-and-brick retailers are also named as multi-channel retailers (Xing and Grant, 2006). This sale channel is seen as an additional marketing channel (Turban *et al.*, 2015). E-tailers could adopt multiple selling channels (click-and-brick) to enhance the physical store experience and online shopping opportunity (Park and Stoel, 2005). Integration of online and physical stores enables firms to improve competitive advantages (Steinfield, 2002; Choi *et al.*, 2016).

The trend of bricks-and-mortar retailing continues to expand into e-commerce; increasingly bricks-and-mortar retailers are investing in online channels (Hübner *et al.*, 2016) and it is named as brick-and-click (Campo and Breugelmans, 2015). It takes advantages of the brick-and-mortar reputation, the trust established by traditional retailers and multi-channel benefits (Min and Wolfinbarger, 2005). Most famous fashion retailers own online stores such as Mango, Zara and H&M (Escobar-Rodríguez and Bonsón-Fernández, 2017). For instance, in terms of Chinese retailers, Chinese causal fashion brand Meters/bonwe launched its online shopping platform www.banggo.com (Choi *et al.*, 2016). This is because they intend to increase market sales and meet online market segments; therefore, bricks-and-mortar retailers have to adopt new strategies to change traditional operation and logistic models (Toufaily and Pons, 2017). Meanwhile, retailers are facing new challenges to maintain consumer experience and enhance service function (Hübner *et al.*, 2016).,

Even though the B2C market is a typical business model, there are still existing problems, first, fashion online selling for retailers is facing a large number of returned

products due to providing flexible return policies for consumer satisfaction (De Leeuw *et al.*, 2016). Secondly, the limitation of apparel online retailing is that consumers cannot touch and feel the garments, thus, online managers need to improve the web browsing' utilitarian and hedonic value to attract consumers and increase consumers' impulsive buying (Park *et al.*, 2012). Furthermore, more price comparison information is available online and fashion e-retailing also results in price competition for brand retailers (Heuer, Brettel and Kemper, 2015).

2.4.2 C2C e-commerce model

Examples of the online consumer to consumer (C2C) e-tailing are eBay, Amazon, Yahoo Auctions, Taobao websites (You *et al.*, 2011) and Facebook "sell and buy" groups (Chen, Su and Widjaja, 2016). In China, Taobao occupied 96.5% C2C transaction and is the largest C2C e-commerce platform, the next one is paipai.com (Statista, 2015b). C2C took 67.7% of online clothing sales in the first half of the year of 2015 in China, because this online channel has many characteristics such as a low price and a large range of clothes (iResearch, 2015b).

Online reputation system is a fundamental feature of C2C retailing. These reputation systems arise owing to the risk among strangers with separate payments, deliveries and long distances (You *et al.*, 2011). Reputation features report users' past transactions, and it is a useful tool to predict the further performance of users (You *et al.*, 2011).

Online auctions are other features for C2C e-commerce platforms, in which consumers can negotiate the price with others (Li, Chung and Fiore, 2017). Unlike other business models, online auctions allow buyers to decide the final product price (Li *et al.*, 2017). Hou and Elliott (2014) compared online auctions to non-auctions by considering consumers' attitudes and motivation for using these platforms. Online bidders have a higher need for uniqueness and propensity to trust than non-bidders. The likelihood of online bidders to engage in impulsive buying is higher than non-bidders (Hou and Elliott, 2014).

2.5 Mobile Commerce

Mobile commerce (m-commerce) is growing and takes account for over one-third of global e-commerce transactions (Chopdar *et al.*, 2018). Chan *et al.* (2002, p.187) define that m-commerce as "the use of wireless technology, particularly handheld mobile devices, and mobile Internet, to facilitate transaction, information search and user task performance in consume, business-to-business, and intra-enterprise communications". Mobile shopping is increasing in the Chinese market as a main player in the digital area (KPMG, 2016). Between April to June of 2017, mobile shopping took account for 81%

of Chinese online shopping channels. Mobile shopping is popular as a shopping channel (iResearch, 2017a). According to KPMG (2016)'s forecasting, m-commerce sales will achieve nearly 1.5 trillion dollars by 2019.

2.5.1 Mobile applications (apps)

Mobile applications (apps) provide new opportunities to attract consumers by absorbing their attention (Cao *et al.*, 2017). A unique feature of mobile apps enables consumers to search for information at any place and at any time (Okazaki and Hirose, 2009). The increasing use of mobile apps is especially significant, and a large number of mobile apps are downloaded for free or at a low cost for users (Fong, Lam and Law, 2017).

The design of mobile apps satisfies consumers' various needs such as entertainment, commerce, communication and information sharing (Huang and Korfiatis, 2015). Mobile shopping apps are designed to run on the mobile devices for shopping tasks through interface functions on the main operating system. The two major app stores are iTunes (for iOS) and Google play (for Android) (Chopdar *et al.*, 2018). There are various kinds of apps which encourage mobile shopping such as discount apps, price comparison price apps, and brand apps from retailers (Chopdar *et al.*, 2018).

Mobile apps are a new opportunity for retailers to bring the technology-driven consumers into an omni-channel retail experience (Taylor and Levin, 2014). Several mobile apps are widely known in China's market such as Tmall, JD, Alibaba etc. Recently, Tmall, JD and Vipshop have developed their mobile apps to enhance targeting to certain groups of customers (iResearch, 2017c). Alibaba recorded the total sale of 99 billion on its mobile app on Single's Day festival 2016 (KPMG, 2016), and 82 percent of purchase generated from mobile devices (Cheung and To, 2017). Magrath and McCormick (2013b) investigated information content in fashion mobile app design, namely, product and services, partial products information, partial services information, trend information and style advice to engage the opportunity for consumers to browse and purchase via mobile devices. It indicates that the usage of B2C mobile apps tends to be shopping channels for mobile users.

2.6 Multi-channel Retailing

Multi-channel retailing is a distribution system with many shopping channels (Kotzab, Kotzab and Management, 2017). Thus, multi-channel retailers enable the use of various channels to interact with different consumer segments; its forms could be physical stores, mobile phones and websites (Wallace, Giese and Johnson, 2004; Kotzab *et al.*, 2017). Retailers through multi-channel strategy can serve current consumers and absorb new consumers by providing information, products, services across different channels

(Cho and Workman, 2011), and enhance consumer loyalty and meet the consumer's high expectation (Wallace *et al.*, 2004).

In China, many retailers have adopted online to offline channels to drive consumers into physical stores (Choi *et al.*, 2016; PWCNK, 2017). Fashion brands (e.g. Only and Jack & Jones) provide WeChat public accounts as the service platform for consumers. Customers can obtain useful advice and recommendation to induce them to purchase in physical stores or online platforms (Choi *et al.*, 2016). The well-known Japan fashion brand Uniqlo offers online promotion services to encourage consumers to increase physical stores' traffic through app coupons and mobile social networks such as WeChat (Choi *et al.*, 2016; PWCNK, 2017).

2.6.1 Challenges of multi-channel retailing

Delivering products and services through multi-channel retailing has become more complex for retailers because consumers have a number of alternatives for online or offline buying, thus, e-tailers need to master consumer characteristics and behaviour, then provide specific and effective market strategies to improve market performance (Cho and Workman, 2011). Retailers face a dynamic product demand in multi-channel environment and need to provide products to their consumers timely and sufficiently. In this situation, managers need to offer an appropriate inventory replenishment strategy to meet the demand at minimal costs (Xu *et al.*, 2017). Online retailers can analyse market sales and visitor data to predict the future demands and consequently improve business effectiveness (Xu *et al.*, 2017).

Nevertheless, the integration of online and offline channels can result in substantial costs and potential risks (Kollmann, Kuckertz and Kayser, 2012); retailers who invest in innovative information systems have a high failure rate (Davis and Venkatesh, 2004; Kollmann *et al.*, 2012). Meanwhile, previous literature argued that retailers who add online channels to traditional channels could face channel conflicts, which would lead to one sale transferring to another one (Montoya-Weiss, Voss and Grewal, 2003; Kollmann *et al.*, 2012). Thus, retailers need to focus on the drivers of actual purchasing channels in different decision making stages to prevent the channel switch phenomenon (Kollmann *et al.*, 2012).

2.7 Omni-channel Retailing

Omni-channel retailing connects traditional stores with online commerce by the integration of business processes. The purpose is to meet consumer need without considering place or time and creating an attractive shopping experience (Kotzab *et al.*, 2017). The omni-channel concept is applied as an evolution of multi-channel

(Piotrowicz and Cuthbertson, 2014). Multi-channel focuses on the online and offline stores, while omni-channel focuses on the online store, mobile devices, and offline store where the consumer purchases with a single transaction process (Piotrowicz and Cuthbertson, 2014). For instance, consumers can order a product in one channel (e.g. online), collect through other channels (e.g. brick-and-mortar), and can also return via a third channel (e.g. a drop-off-point) (Kotzab *et al.*, 2017). Thus, the borders between multi-channel start to disappear in omni-channel strategies (Verhoef, Kannan and Inman, 2015).

2.7.1 Area of omni-channel integration

Omni-channel covers the entire operational processes concerning marketing, merchandising, consumer service and fulfilment, and is helpful to improve operational effectiveness, consumer experience and overall profitability (PWCNK, 2017). Alibaba invested into omni-channel strategy innovation, named as the "New Retail" model, to integrate big data and logistics. It has blurred the lines between online and offline channels. For instance, Alibaba applied offline loyalty programmes with Tmall and 30 beauty retailers (e.g. La Mer, SK-II and Lancôme). Through this consumer service, brand retailers not only make consumers use loyalty programmes directly from the online store, but also capture consumer data (PWCNK, 2017).

However, omni-channel has an issue to manage different channel consumers and integrate the retail mix across channels, for example, managers have to deal with mobile channels, tablets, and social media integrating into online and offline retailing (Verhoef *et al.*, 2015).

2.8 Future Trend of Fashion E-commerce to S-commerce

As shown in the review earlier, the first generation of e-commerce focused on trading, e-service and collaboration between companies, and the web 2.0 tools (e.g. social media, social networks) helps e-commerce into the second generation (Turban *et al.*, 2015). The growing popularity of social media has changed traditional e-commerce from oneclick buying and one-way browsing to s-commerce (Wang and Yu, 2015). S-commerce has become a new trend and an important platform in e-commerce (Liang *et al.*, 2011; Noori *et al.*, 2016). In this situation, consumers can obtain social knowledge and experience to better understand their purpose of online purchasing, and generate more informed purchasing decisions (Huang and Benyoucef, 2013).

The difference between e-commerce and s-commerce is that the former is centred on individuals and one to one interactions to create value, while the latter addresses communities and conversations among members (Liang *et al.*, 2011; Berthon *et al.*, 2012; Huang and Benyoucef, 2013).

Marketing managers can access the consumer shopping experience and expectations, and help them to develop successful business strategies (Huang and Benyoucef, 2013). For example, information sources among community members have strong e-word of mouth effects which promotes retail sales, brand image and brand awareness (Flavián and Miguel Guinalíu, 2005; Park and Cho, 2012). For the retailing channel managers, how to adopt social media to explore the business value is more meaningful. The following chapter will review s-commerce in detail.

2.9 Summary

The online fashion retailing market is increasingly growing in China. Consumer shopping channel has shifted from single channel to multi-channel and omni-channel. Marketers need to apply different channel strategies to provide products and services to current and future fashion consumers.

B2C fashion retailers implemented e-commerce strategies in the mobile environment to meet consumer segments. They launched mobile apps to reach their mobile consumers. It also shows that s-commerce has changed the e-commerce generation. Despite this, how to combine social media tools in m-commerce to promote B2C e-commerce performance in the mobile environment is not yet clear, especially in mobile apps. The next chapter will review s-commerce management in current literature and how to use mobile apps and social characteristics together for B2C online fashion retailers.

Chapter 3 Literature Review: Mobile S-commerce

3.1 Introduction

E-tailers have launched mobile shopping apps to mobile users in order to create more shopping opportunities for current and potential consumers (Musa *et al.*, 2016; Kim *et al.*, 2017; Natarajan, Balasubramanian and Kasilingam, 2017). With the growth and evolution of web 2.0, s-commerce has become an important phenomenon, it is popular for businesses to conduct e-commerce, marketing and management through social media (e.g. social networks, communities and tagging) (Kuo and Feng, 2013; Lu, Chang and Chang, 2014; Munar and Jacobsen, 2014; Hew *et al.*, 2016; Carlson *et al.*, 2018). Fashion is regarded as a high-involvement product (Wolny and Mueller, 2013). The high-involvement product causes a large amount of online discussion and conversation (Gu, Park and Konana, 2012). The use of social media forces online shopping platforms to provide social shopping communities (Zhang *et al.*, 2018). Social features need to be implemented in the mobile environment to meet mobile users' needs (Hew *et al.*, 2016; Ooi, Hew and Lin, 2018). Therefore, social media tools are vital for B2C m-commerce in the fashion context.

This chapter will review the literature associated with social features, s-commerce marketing, s-commerce management and mobile s-commerce. It will then identify the design of social tagging within UGIs in the mobile s-commerce app context. Moreover, it will describe the current mobile s-commerce apps, and compare s-commerce platforms' social tagging within UGIs in the fashion sector.

3.2 S-commerce

3.2.1 Definitions of s-commerce

S-commerce is the degree of "the delivery of e-commerce activities and transactions via the social media environment, mostly in social networks and by using Web 2.0 software" (Hajli et al., 2017, p.128). From this term, s-commerce is a subset of e-commerce, which applies social media tools and focuses on user value (Ju and Ahn, 2016). Yadav et al. (2013, p.312) explained s-commerce as "an individual's social network in computer-mediated social environments, where the activities correspond to the need recognition, pre-purchase, purchase, and post-purchase stages of a focal exchange". S-commerce creates a link between social networking activity and online shopping in order to achieve the purchasing and selling of products and services through social integration (Wang and Ping, 2012).

3.2.2 Evolution of s-commerce

Previous s-commerce research focused on its process of e-commerce activities and transactions via the social media environment (Hajli *et al.*, 2017). Currently, a number of researchers study the e-commerce platform identifying social features to promote s-commerce development (Qu *et al.*, 2013; Bai, Yao and Dou, 2015; Hajli *et al.*, 2015; Wang and Yu, 2015; Hu *et al.*, 2016; Xiang *et al.*, 2016). For instance, Hazari, Bergiel and Sethna (2016) stated that consumers share reviews and opinions on online shopping websites that could impact potential consumers' product attitude and purchase intention. The application of social feature in e-commerce is attractive.

3.2.3 The benefits of s-commerce for retailers

Some benefits of social media are: firstly, it can strengthen business relationships with consumers, increase traffic to the e-commerce platform, discover new business opportunity and support product and brand development (Huang and Benyoucef, 2013). Secondly, marketers also generate content in order to advertise and provide products to consumers (Hassan and Ariño, 2016); for instance, marketers update content via product-related images and content posts to attract consumers using social networking networks (Choi and Lee, 2017). Thirdly, companies can use s-commerce by providing firm-generated content for customers at low cost (Choi and Lee, 2017).

Both pure-play e-tailers and click-and-brick retailers have involved social media as a strategic implementation. This strategy makes consumers engage into social media platforms (Bhattacharjya, Ellison and Tripathi, 2016). Because a positive online shopping experience (e.g. effective shipping and delivery service) is the basis for e-tailers' success, social media strategy thus needs to be supported by their consumer service group (Bhattacharjya *et al.*, 2016). Applying social media improves the sale units, gains consumer feedback, and increases consumer loyalty and trust (Turban, Strauss and Lai, 2015).

3.2.4 The difference between s-commerce and social shopping

The concept of social shopping is slightly different from s-commerce. Social shopping is related to shopping behaviour through social media; while s-commerce includes the design of social feature of platforms; thus, social shopping is a part of s-commerce (Solomon *et al.*, 2014). Social consumers buy products and services through social shopping because they trust and enjoy social shopping (Turban *et al.*, 2015), which enables online shoppers to obtain shopping experience in the online store (Solomon *et al.*, 2014). Product rating, reviews, design competitions, style suggestions, outfit

reviews and crowded source are used to describe social shopping mechanisms (Solomon *et al.*, 2014). Currently, there are various models and strategies for social shopping, which includes group buying, shopping communities, recommendation, and others (Turban *et al.*, 2015).

3.3 The Role of Social Media in S-commerce

In recent few years, the evolution of social media has changed consumers' online behaviour. Consumers treat social media as a communication tool about products and services, perceiving it as more trustworthy than traditional company marketing communication channels (Kim *et al.*, 2016). Consequently, social media has helped shape people's connection with others via different social media platforms (Colliander and Dahlén, 2011). Mobile social media is as "*a group of mobile marketing applications that allow the creation and exchange of user-generated content*" (Kaplan, 2012, p.131). The convenience of mobile technology causes consumers to accept mobile social media (Lu and Lin, 2015), which is accessed by smartphones and other mobile devices (Hew *et al.*, 2016; Chen and Li, 2017; Giunchiglia *et al.*, 2018). Furthermore, social media applies web sites and mobile devices to create various interactive platforms for individuals and communities for sharing and co-creating UGC (Kietzmann *et al.*, 2011). Companies can use mobile social media for marketing research, communication, sales and promotion and consumer relationship management (Kaplan, 2012).

3.3.1 Definitions of social media

Kaplan and Haenlein (2010, p.61) defined social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0 and allow the creation and exchange of user generated content". Web 2.0 is regarded as the technical infrastructure which provides a chance to connect the social phenomenon of collective media and UGC between consumers (Berthon *et al.*, 2012). From this function, web 2.0 offers technology support to make the consumer generate and share online content in a series of social media applications. This user-generated content contains online text, image, audio, and video content and other different forms (Turban *et al.*, 2015). Conversely, Web 1.0 is an earlier stage of the internet where consumers can only access and view information generated by companies (Rath *et al.*, 2015).

3.3.2 User-generated content (UGC)

According to the application of meanings of social media, users communicate through UGC. UGC has various forms in social media and the online environment, such as usergenerated photography/pictures, online consumer reviews, user-generated brand recommendations, and others (Chari *et al.*, 2016; Elwalda, Lü and Ali, 2016; Filieri, 2016; Geurin-Eagleman and Burch, 2016; Lee and Ro, 2016; Pittman and Reich, 2016). Muntinga, Moorman and Smit (2011) found that consumer-generated content can be classified in the form of creating, contributing and consuming, which results in higher involvement with products, services and brands (Muntinga *et al.*, 2011). Marketers generate content in order to advertise and provide product information to consumers (Hassan and Ariño, 2016).

3.3.3 Social media classification

The classification of social media has various forms. The following section presents the different social media tools in the s-commerce context.

Online Community

Online communities are "social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyber-space" (Rheingold, 1994, p.6). Online communities belong to social networks, among which users share specific information and interests through interactive tools such as e-mails, chatrooms and discussion boards (Ngai et al., 2013).

Online communities have become a trend in the digital social world such as e-mailing lists, discussion forums and weblogs (Kozinets, 2010, 2015). Information can be found in those communities about products, brands, retailers and consumer shopping behaviour (Kulmala *et al.*, 2013). Apart from that, consumers can receive entertainment and engage in social relationships. Lu, Zhao and Wang (2010) summarised five main popular virtual communities in China as shown in Table 3-1. According to Lu, Zhao and Wang (2010)'s suggestion, Xiaohongshu online community is classified as a mixed community since Xiaohongshu includes multiple media features such as blogging UGIs, groups and tagging. Xiaohongshu community focuses on the consumer information exchange and also allow consumers to purchase products, which is also called social shopping community (Zhang *et al.*, 2018). Nevertheless, Chen and Shen (2015) highlighted the usage of s-commerce community to define social shopping community because social shopping and social sharing focus on the commercial activity. As mentioned by Chen and Shen (2015), thus Xiaohongshu online community is a s-commerce community.

	-		
Transaction communities	Focus on transaction requirements and obtain trading		
	information, for example, Alibaba, Taobao and Paipai.		
Interest communities	Refer to share a specific topic to communicate with each		
	other, for example, Sohu blog.		
Relationship communities	Provide a platform for individuals to share the similar		
-	experience and form a meaningful relationship.		
Entertainment communities	Offer Individuals get together to get interesting		
	experiences, for example, Youkan.		
Mixed communities	Provide various functions including blogging, groups, and		
	forums.		

Table 3-1 The Classification of Online Community

Fashion and apparel are one of the most popular discussion topics among online community members (Thomas *et al.*, 2007). In the study of the online community MySpace.com, Thomas, Peters and Tolson (2007) stated there are various discussion topic categories about fashion: fashion personal style, brand and designers, fashion tips and suggestions, trends, and others. These topics cannot be ignored for marketers, fashion designers and retailers (Thomas *et al.*, 2007). These consumer consumption and brand-related communication topics make firms provide consumer-based marketing strategies in the fashion industry (Pihl, 2014).

Blogs

Blogs are online owned diaries of individuals through text, videos, graphics and links to other blogs and website (Berthon et al., 2012). Moreover, blogs enable business and individuals to share their opinion and reviews by text, images, audio and video presenting information, and can connect readers with bloggers through these text and visual communications (Halvorsen et al., 2013). For example, video blogs (vlogs) use the video form recording individuals' buying and using products and services (Choi and Lee, 2019). Vlogs are used as a common way to obtain consumers' opinions and reviews of new fashion and cosmetic products (Choi and Lee, 2019). Compared with text-based social media, visual elements of videos show realistic visual cues, dynamic movements and vividness of the experiences of vloggers (video bloggers) (Xu, Chen and Santhanam, 2015; Liu, Liu and Zhang, 2019). By this way, visual presentation improves product performance comparing to verbal descriptions and dynamic movements attracts personal attention to enhance cognition regarding the vividly presenting (Xu et al., 2015). Researchers have begun to study vlogs' benefits on e-commerce. De Jans, Cauberghe and Hudders (2019) examined the effect of sponsored vlogs (video blogs that embed advertising) for young adolescents on marketing activities. YouTube as a popular online video sharing platform (Hill, Troshani and Chandrasekar, 2017), researchers also studied its vlogging value towards business in different areas, such as, brand perceptions (Dehghani et al., 2016), parasocial interaction (Lee and Watkins, 2016), endorsement effectiveness (Munnukka et al., 2019).

Fashion blogs can change the sender and receiver's fashion communication, and its popularity can generate endless discussion of fashion (Halvorsen *et al.*, 2013). Bloggers

can obtain ideas and create trends according to fashion movements and street fashion in famous cities, and social influence would positively affect a potential consumer's passion for fashion products (Maria *et al.*, 2017). The fashion blog is a social communication tool between consumers, and creates a strong relationship between bloggers and readers (Halvorsen *et al.*, 2013). Kulmala, Mesiranta and Tuominen (2013) performed a netnography method to investigate and expand fashion blog topics' context, such as new products received, shopping tips and competitions. It indicates that fashion blog marketing is effective and credible for marketing strategies. In Chapter 4, more information related to consumer behaviour about blogs will be discussed.

Microblogs

A microblog is a useful tool to avoid information overload, and allows users to create and share a small amount of text (Van Looy, 2016). Twitter, a microblog platform, allows users to send (and receive) 140 character limit posts to communicate (known as tweets) (Wood and Burkhalter, 2014). It is a social networking service designed to make users send short messages (Berthon *et al.*, 2012).

Microblog can target current and potential customers by utilising tweets for advertising purposes and other brand-reinforcing messages, especially for the quick action of company promotion, e.g. sale promotions (Kaplan and Haenlein, 2011). In companies' microblogs, managers have opportunities to post useful product information in a timely service for their followers. Consequently, information followers can adopt, comment, or forward valuable information (Zhang *et al.*, 2015).

Social Networking

Social networking sites are web-based services where users create a personal profile and contact with others (Kang, Johnson and Wu, 2014). The number of Chinese social networks users is 596 million (Statista, 2017e). WeChat is a popular social network application in China and had more than 700 million active users in April 2016 (Zhang *et al.*, 2017). Now WeChat has become a platform to integrate instant messages, voice chatting, marketing, shopping and banking services (Zhang *et al.*, 2017). It combines the business activity and social network activity together. In 2016, WeChat was valued over 328 billion yuan and become a new model for online commerce and brands (iResesach, 2017). Fashion retailers continue to explore social networking sites to promote their own market sales in China. For instance, in 2016, Burberry used the WeChat platform to promote their sales and subsequently achieved 4% up (Mintel, 2017).

Photo-Sharing

Visual culture has a significant impact on our daily life (Eftekhar, Fullwood and Morris, 2014). Photography has become an effective tool for visual information communication. With the application of cameras, personal photography has become more common in social applications in the online environment and personal life (Eftekhar *et al.*, 2014). Comparing with text, pictures have a stronger influence on impressions regarding expressing users' personality and social orientation (Heide, D'Angelo and Schumaker, 2012). For fashion blogs, using photos is the primary way of communication between brands and individuals (Pihl, 2014). Furthermore, consumers can post visual information (e.g. pictures) to release product-related information and their consumption-related experience (Lin, Lu and Wu, 2012).

Social Tagging

Social tagging environment includes social networking, bookmarking, video blogging photo sharing and others (Shiri, 2009). Social tagging includes various forms of objects such as URLs, podcasts, music and videos (Sinclair *et al.*, 2008). It has a degree of public labelling or category information when sharing in the online environment (Cheng *et al.*, 2016). Social bookmarking sites (e.g. Pinterest) allow users to edit and use tags to classify content (Ngai *et al.*, 2013). The database of all the participants' tags and resources is called the 'folksonomy'(Sinclair *et al.*, 2008). It can provide benefits for online communities such as information retrieval, self-representation, playfulness and sharing opinions and interests (Sigala, 2011; Shafiq, Alhajj and Rokne, 2015).

Social tagging is a type of consumer-based equity (Nam and Kannan, 2014). Nam and Kannan (2014) proposed a method to measure brand familiarity, association favourability and brand associations to evaluate the informational value through social tags. Besides, marketers can capture this valuable information to establish a better social recommender system for users in terms of accuracy and ranking (Kim *et al.*, 2011).

Hashtag

Hashtag allows users to follow a given topic easily (Oeldorf-Hirsch and Sundar, 2015). For example, Twitter users can click the hashtag topic, and it is easy to find the related information on the same topic and also makes their own content more findable (Suh *et al.*, 2010). Consumers can explore what content and brand people are talking about through a "hashtag" (Dessart, Veloutsou and Morgan-Thomas, 2015). The use of a "#" ("hashtag") commits the user to an intentional public display by deliberate choice such as #fitspo in Instagram (Santarossa *et al.*, 2016).
Furthermore, users can search related photography from other users in photography and video platforms (Sheldon and Bryant, 2016). Instagram is a popular social networking platform for the consumer to create and share photographs and videos through the mobile devices (Gibbs *et al.*, 2015). When individual participants share photos, some selfies are tagged (Eagar and Dann, 2016). In Instagram, especially, consumers use hashtags as a special motive to express "coolness" to their peers (Sheldon and Bryant, 2016).

Links

Sharing links helps users to share and find information. For example, in Facebook, users can post content on users' profile with others generally in the form of hyperlinks (Baek *et al.*, 2011). Users can share relevant information by hyperlinks about interesting websites, videos and files (Ahmed and Abulaish, 2013). The motivation of sharing links contributes to the use and gratification of the Internet and news, entertainment, companies, and organisations (Baek *et al.*, 2011).

Likes

The number of "likes" is a form of the online product review. The high amount of "like" could create a feeling of e-word of mouth (Bi, Liu and Usman, 2017). Jiménez and Mendoza (2013) state that online product reviews are usually accompanied by indicators of signals of consensus such as the number of "likes". A high number of "likes" and online reviews can positively affect the readers' decision making due to this good e-word of mouth (Bi *et al.*, 2017).

On the brand page of a social network site (SNS), users click "like" to engage in brand interactions and enhance users' a sense of belonging to the brand community (Tsai and Men, 2013). Marketers utilise the positive consumer engagement with products by effective e-word-of-mouth communication strategies (Kucukemiroglu and Kara, 2015). Nevertheless, although users "like" or "follow" a brand, a low level of consumer engagement would lead to the SNS communication usefulness (Tsai and Men, 2013).

3.4 Social Media Marketing

Marketing is a process which aims to communicate information that sellers want to share with consumers; it begins from the product concept to product buying, using, evaluation and disposal by the consumers (Rath *et al.*, 2015). Social media is also a marketing tool for marketers and companies (Rath *et al.*, 2015). The aim of social media marketing is to absorb the consumer's attention and sales from social media through traditional marketing strategies like video, images, sharing information and creating relationships with consumers to increase brand awareness and sales (Rath *et al.*, 2015).

3.4.1 Social media advertising

Advertising is a form of outward-facing communication of companies, and its media tools contain television, cinema, magazine, internet and others (Lea-Greenwood, 2013). It is applied in the retail environment, web communications and social media (Lea-Greenwood, 2013). The way for a company to choose which media to use depends on the number of people who will use the medium and costs involved with the advertising (Lea-Greenwood, 2013). Social media is a better medium to promote advertising (Dao *et al.*, 2014), because companies would incorporate user's interaction and display their shared images and names in the advertising content (Dao *et al.*, 2014). 11% of the digital advertising revenue in China comes from social media (Statista, 2017a). Social media is also an international marketing strategy as a component of global marketing communications (Berthon *et al.*, 2012; Okazaki and Taylor, 2013). Similar to traditional promotions, social media has an ability to reward consumers for engaging in certain behaviours, for example, consumers can convey advertising messages as well as the ability to seek to interact with the brand (Malthousea *et al.*, 2016).

Marketing and advertising researchers tend to pay attention to virtual communication effects of different areas, such as viral marketing and e-word of mouth marketing (Cheong and Morrison, 2008). Consumers with a high level of satisfaction about the product or company would positively diffuse word of mouth advertising (Carpenter and Fairhurst, 2005; Royo-Vela and Casamassima, 2014). The next chapter will review e-word of mouth communication in detail.

3.5 Mobile S-commerce

Due to the use of mobile devices and mobile apps, Kucukcay and Benyoucef (2014, p.2) defined mobile s-commerce as "the set of e-commerce activities performed in a mobile environment and enhanced by user-generated content". Therefore, mobile s-commerce depends on mobile technology to facilitate e-commerce and s-commerce (Ooi et al., 2018). Companies adopting s-commerce have launched mobile apps to meet mobile users' need, such as Amazon, Facebook and eBay (Ooi et al., 2018). Consumers could use mobile devices to access these platforms anytime and anywhere to read and share product reviews, in turn make purchase decisions (Ooi et al., 2018).

Existing research recognises the critical role played by mobile s-commerce. Chang, Shen and Liu (2016) revealed the relationship among perceived value, enjoyment, privacy concerns and perceived risk and explained the reasons why mobile consumers trust the travel service in social networking sites. In the tourism industry, Hew *et al.* (2018) investigated environment stimuli (e.g. social presence) on tourists' inner cognitive and affective responses (e.g. perceived usefulness and perceived enjoyment) to accelerate purchase decisions for tourists in mobile s-commerce. Hew *et al.* (2016) confirmed that mobile social continuous usage helps develop consumer loyalty towards a brand. Ooi *et al.* (2018) investigated the relationship between social media information privacy and usage intention among mobile s-commerce users. Furthermore, Mobile users have paid close attention to the payment system in s-commerce from which they could pay in a secure, enjoyable, ease of use environment (Williams, 2018)

Even though several researchers have ongoing concerns on this topic, there is still a lack of s-commerce knowledge in the mobile environment (Hew *et al.*, 2016; Chang *et al.*, 2016). Previous research has explained the mobile applications and mobile devices' value in e-commerce (Zhang, Zhu and Liu, 2012; Cheung and To, 2017; Kotzab *et al.*, 2017; Chopdar *et al.*, 2018). For the B2C m-commerce app, China has launched many different female service apps (e.g. maternal and child, and cosmetic). Female community apps as new tools provide professional information and experience for female's demands (iResearch, 2017d). These apps use social features which enable consumers to communicate and collaborate with their friends, family, and others (Zhao and Balagué, 2015). Mobile social consumer relationship facilities involve social consumer relationship strategies in mobile technologies (Efraim Turban *et al.*, 2015). The apps of mobile s-commerce will be a trend in further academic research, and it requires careful and successful in providing technology service to establish a s-commerce functionality and contextual aspects for mobile users.

3.6 Co-creation

Regarding service-dominant (S-D) logic, value is the consumer evaluation when they are satisfied by the products or services (Grönroos and Voima, 2013). The origin of cocreation is from co-production or joint production (Zhang, Lu, et al., 2015; Ranjan and Read, 2016). Co-creation refers to a process, in which companies and consumers jointly create the value (Delpechitre, Beeler-Connelly and Chaker, 2018; Kamboj et al., 2018). It is positive in social media (See-To and Ho, 2014). First, when a company sets a brand page to disseminate marketing information, it is a beginning of co-creation, because a company expects consumers to view and comment on products, services and advertising to obtain information, and in turn producing new product ideas. If not, the fan page has no value for the company, therefore, the fan page is co-created by consumers and the company (See-To and Ho, 2014). Second, e-word of mouth is a kind of value co-creation, because consumer obtaining product and service information can be seen as a learning process, which will engage consumers to purchase (Payne, Storbacka and Frow, 2008; See-To and Ho, 2014). Previous research has shown the benefits of social media in cocreation, for example, Luo, Zhang and Liu (2015) demonstrated the effect of value cocreation (e.g. social networking, community engagement and impression management) on enhancing brand loyalty, communication and integration among consumers.

3.6.1 The importance of co-creation technological environment

Several studies has proved that consumers enjoy and are satisfied with the co-creation activities in the technological environment (Füller et al., 2010; Grissemann and Stokburger-Sauer, 2012; Zhang, Lu, et al., 2015). Zhang et al. (2015) summarised two main reasons that social media need to be utilised as the co-creation technological environment. First, new technologies of social media make consumers interact and collaborate with companies through real-time communication and rich media. In this process, consumers could involve in product development, product design and marketing activities. Second, social media allows companies and consumers to generate and share new content, namely marketer-generated content (MGC) and user-generated content (UGC). The trend of consumers using UGC (e.g. product reviews and recommendation) is expected to continue growing to make purchase decisions (Yu et al., 2018). Grissemann and Stokburger-Sauer (2012) pointed out that companies should support consumer co-creation, because services and new services providing will make consumers involve in co-creation activities. Therefore, s-commerce platforms should provide an environment to engage consumers jointly participate in value creation with companies (Yu et al., 2018). Yu et al. (2018) demonstrated the circle of co-creation in s-commerce and provided the strategies for being successful regarding creating network, service innovation and value co-creation circle as a revenue generator. Consequently, managers need to implement new social features to meet the consumer's technology service needs and provide an opportunity for consumer value co-creation by UGC.

3.7 Research Context: Social Tagging in UGIs as a Communication Tool in Mobile S-commerce app

Social features for mobile apps enable consumers to interact with others through online chatting, following/unfollowing others, inviting others from external social networks to interact with the UGC, content tagging, reviews as well as sharing (Zhao and Balagué, 2015). Mobile shopping managers can decide which feature is suitable for the operation aim, for example, whether the feature only allows consumers to make a purchase or engage in information sharing, or both (Taylor and Levin, 2014). One of the factors used to enhance consumer participation is a specific feature design for s-commerce (Wang and Yu, 2015).

In the online community and social networks, images and video are shared multimedia resources and tagging is an effective tool to manage the content and help users to search and retrieve the shared content (Lee and Cho, 2013). Many social networks services (e.g. Flickr, YouTube, Delicious and Facebook) utilise social tagging systems for their multimedia content management strategies (Lee and Cho, 2013), especially social tagging for UGIs (Lee and Cho, 2013; Dhir and Torsheim, 2016; Nie *et al.*, 2016; Dhir,

Chen and Chen, 2017; Dhir, Kaur and Rajala, 2018). Furthermore, social tagging is a communication medium in social media (Huang and Chuang, 2009), which can describe the UGIs, provide meta information (i.e. data and location), or express personal emotion (Gao *et al.*, 2013). The information technology needs to promote user engagement and positive attitudes towards continuous tagging service usage (Lonka, 2016).

Relying on previous image-tagging features, mobile s-commerce apps such as Xiaohongshu, Instagram, Lookbook and Wear design their social tagging of items/people with different ways of posting. Image 3-1 is an example of how to set social tagging within a UGI on Instagram.

Image 3-1 Social Tagging in the User-generated Image

How to Tag People or a Business in a Photo

When adding a photo to Instagram, you will have the option to tag different people, business, or brands.

To tag someone or a business in an Instagram photo, follow these steps:

As you're uploading a photo, tap the "Tag People" button.
Tap on the person or object in the photo you want to tag.
Type in the username and it should appear from a dropdown menu-click it.
Tap "Done".





Source: https://thrivehive.com/how-to-tag-people-on-instagram

However, image-tagging features are rarely observed in mobile s-commerce apps for information communication and interaction with UGC. Therefore, there is a gap of social tagging within UGIs' consumer behaviour research in the mobile s-commerce context. The application of social tagging within UGIs for mobile s-commerce community users should be designed and managed for B2C mobile shopping applications. Thus, the application of social tagging with UGIs in m-commerce apps needs to be investigated in the fashion industry. The following section introduces and discusses relevant social tagging within UGI features in four mobile s-commerce apps, namely Xiaohongshu, Instagram, Lookbook and Wear.

3.7.1 Xiaohongshu

Xiaohongshu launched a s-commerce app with over 17 million registered users in China (Linkedin, 2017). Fashion retailers have begun to explore s-commerce value in Xiaohongshu, for example, Xiaohongshu (an e-commerce fashion retailer) (PWCNK, 2017), This third-party platform provides shopping experience in the virtual community with fashion inspiration (PWCNK, 2017). This APP enables Chinese users to seek information through pictures with text sharing (Linkedin, 2017). Meanwhile, Xiaohongshu supports purchasing products through its Xiao Hong Shu Store (Linkedin,

2017). Its communities and stores also own other categories, such as skin care, food, small appliances, electronics (Linkedin, 2017).

3.7.2 Instagram

Instagram is a social photo mobile app, and it contains social network connections, searchable hashtag functions and sharing images, which are devoted to public consumption for the purpose of public discourse (Eagar and Dann, 2016). Postings originate exclusively from smartphones and tablets, and can be images or a short video (Coelho, Oliveira and Almeida, 2016). Instagram launched a new function that enables users to browse and evaluate products, which makes users gain new shopping experience (Instagram, 2018).

3.7.3 Lookbook

Lookbook is a sharing and communicating online and mobile user-generated fashion photography and fashion information social community. Currently, Lookbook has become the premier online personal style community and has reached a large market. The female group is around 80%, and main age group is between 18 and 34 (Lookbook, 2017).

3.7.4 Wear

Wear is a fashion s-commerce platform where users can upload or search styling ideas for specific trends and items. Its app also works to connect users to obscure fashion labels and involve them in global style and shopping communities (Marinelli, 2016).

The Calvin Klein fashion product as shown in Image 3-2 will be used to observe the design difference of posting tags in the UGI on the Xiaohongshu, Instagram, Wear, Lookbook mobile s-commerce apps. Figures 3-1 lists the design of social tagging in the UGI on different four B2C mobile s-commerce apps for tagging posters. In Figure 3-2, four UGFIs are randomly selected and show the visual informative content of the social tagging in a UGFI for social tagging browsers in different four B2C mobile s-commerce apps.

Image 3-2 Calvin Klein Product Picture



Source: <u>http://www.calvinklein.co.uk/high-rise-straight-cropped-jeans-j20j204916</u>



Platform Tagging Feature	Xiaohongshu	Instagram	Wear	Lookbook
Images	く 編領原片(1/1) 総合 レーレーレーレーレーレーレーレーレーレーレーレーレーレーレーレーレーレーレー	Tag People Do Calvinksein Tap the photo to tag people. Tap the again to remove it. Press and drag to move.		••••••••••••••••••••••••••••••••••••
	Choose from orders		Caregory & Select category Category & Select category Manda & Enter brand name Cater • Select category Select and Kingdom	× Edit Item × Name Brand URL Category 我你在这好是一 QWertyuio asdfghjkl 公ZXCVbnm< 123 @ Q 空格 换行
Tagging Items' Position in Images	Supported	Supported	Supported	Supported
Brand	Supported	Supported	Supported	Supported
Product Title/catego ry	Supported	Unsupported	Supported	Supported
Purchase Price	Supported	Unsupported	Unsupported	Unsupported
Purchase Location	Supported	Unsupported	Supported	Unsupported
Purchased Hyperlink	Supported	Unsupported	Supported	Supported

Platform Tagging Feature	Xiaohongshu	Instagram	Wear	Lookbook
Images	Windtake Windtake Windt	Image: space of the space		Contraction TIRED OF THE H Image: Contraction Image: Contraction Image: Contraction
Tagging Item s' Position in Images	Supported	Supported	Supported	Supported
Brand	Supported	Supported	Supported	Unsupported
Product Title /Category	Supported	Unsupported	Unsupported	Unsupported
Purchase Price	Supported	Unsupported	Unsupported	Unsupported
Purchase Location	Supported	Supported	Supported	Unsupported
Product Hyperlink	Supported	Unsupported	Supported	Unsupported

Figure 3-2 Comparing	Tagging Design	in UGIs on	Different	Mobile S-commerce	Apps
	for Ta	gging Brow	sers		

The design of social tagging within UGIs is from broad (any contents) to narrow (contents for s-commerce). In these four mobile s-commerce apps, the ways of social tagging within UGIs can be distinguished. Xiaohongshu mobile s-commence app presents ideally maximum information in the UGIs. Firstly, it displays brand name, product title, purchase price, purchase location as well as shopping links for its social tagging posters. Chen, Jermias and Panggabean (2016) stated that informativeness stimuli can attract visual attention. Furthermore, the position of the fashion item is shown in the shared image, as well as information about this item. Visual saliency provides information about the area of the image and attracts the user's attention when they are browsing the image (Boato *et al.*, 2016). Thus, social tagging browsers can identify the specific sharing items in UGIs by visual attention.

Wear and Lookbook's editing and tagging in their UGIs' design are similar but not identical. Lookbook presents social tagging information about sharing fashion product amount and specific fashion items' positions in UGIs for social tagging browsers. Wear presents social tagging information about fashion brand name, URL links and featured item position in UGIs for social tagging browsers, which not includes product price and product title. On Instagram, users just tag other users or companies and the tagging information in the UGIs only contains the username or brand/company name and specific sharing items' position in UGIs.

In brief, Xiaohongshu's social tagging in UGIs' design contains more guidance and information about sharing items in UGFIs for both tagging posters and browsers. Olbrich and Holsing (2011) stated that s-commerce communities' users can click a social tag to do information search about products and shops or users could use the links to make decision making (click-out). Thus, social tagging in UGFIs could create sale value for s-commerce apps.

3.8 Summary

Social media provides an opportunity for consumers' communication and interaction. Consumers can adopt various types of social media tools in s-commerce such as social networking, blogs and social tagging to engage in and participate. As a result, marketers have invested in social media marketing strategies to improve consumer communication, products and services, brand information and interaction between the consumers and the company (Rath *et al.*, 2015).

With mobile technology developments, social features are increasingly involved in mcommerce apps. The application of social tagging in UGIs is designed by various mcommerce apps such as Instagram, Wear, Xiaohongshu and Lookbook. This chapter illustrated the social tagging in UGFIs of the mobile s-commerce apps and presented the Xiaohongshu app as the research context in China. The next chapter will review online consumer behaviour and identify the research group for this study.

Chapter 4 Chinese Online Consumer Behaviour

4.1 Introduction

The purpose of this chapter outlines a literature review about consumer behaviour in China and understands online and s-commerce consumer behaviour. It provides the research context from the consumer perspective for social tagging within UGIs' technological and informative features and identifies the research group for the Chinese market.

4.2 Online Consumer Behaviour

4.2.1 The concept of online consumer behaviour

Consumer behaviour is to understand the processes of individuals or groups selecting, buying, using or dealing with products and services. It also describes the experience to meet the inner needs and desires in the consumer purchase decision making process (Solomon *et al.*, 2014).

The emergence of the Internet and the development of technology in terms of consumer profile is called "online consumer" (Paina and Luca, 2010). The main difference between online and offline consumers is that online consumers have Internet access and are willing to spend time on the Internet (Paina and Luca, 2010). Thus, online consumer behaviour focuses on consumers' needs, selections and purchases through online and mobile technology. Consumers make online purchases through browsing, selecting and making product choices (Ho, 2014).

4.2.2 Factors influencing online consumer behaviour

Online consumer behaviour is complex. Akar and Nasir (2015) stated that the various factors can influence online consumer behaviour. These factors are classified as consumer characteristics, website characteristics, product variables and social media.

Individuals Characteristics

Individual characteristics include demographic factors, personal preferences and behaviour characteristics (Turban *et al.*, 2018). In demographic factors, age and gender are regarded as the key factors (Burke, 2002; Monsuwé, Dellaert and De Ruyter, 2004).

Gender: Female/ Male

Gender can be divided into male and female based on biological sex (Das, 2014). It has been seen as a research topic in psychology, marketing and consumer behaviour research (Bakewell and Mitchell, 2006; Das, 2014; Kim and Jang, 2014; Shaouf, Lü and Li, 2016).

Female consumers experience more enjoyment in the shopping process compared to male consumers because female consumers spend more time and effort on browsing and researching information and options from various sources in order to make an appropriate decision, in particular, clothing (Hansen and Jensen, 2009). For instance, they like to walk around shopping areas as a leisure activity and are likely to be influenced by salespeople to purchase items (Prendergast and Ching Lam, 2013). Furthermore, females can achieve multiple shopping tasks and are likely to shop for multiple items in a shopping activity (Soars, 2003). Conversely, males seek speed during the shopping process, therefore, they choose familiar brands and stores and buy quickly in order to avoid extending the time cost of shopping (Bakewell and Mitchell, 2004; Hansen and Jensen, 2009). Male consumers have a higher level of brand loyalty than female consumers (Hart *et al.*, 2007). When buying apparel for daily use, most males are more like to buy functional and practical products (Frith and Gleeson, 2004).

Age: Generation Y and Generation X

The term 'generation' means a group of people born in the same period of time who have experienced the same social events (Gursoy, Maier and Chi, 2008). A cohort is a group sharing similar life experiences, which leads to similar attitudes and beliefs, even though they are in different cultures (Knittel, Beurer and Berndt, 2016). Generation cohort theory is applicated by marketers and researchers to market segments and consumer behaviour research (Brosdahl and Carpenter, 2011).

Brosdahl and Carpenter (2011) and Bolton *et al.* (2013) stated the categories of the generational cohort are the Silent Generation (1925-1945), Baby Boomers (1946-1960), Generation X (1961-1981) and Generation Y (born after 1981). But some researchers disagree with this age range (Zhang *et al.*, 2017). For instance, Lim *et al.* (2016) stated that the age group between 18-34 years should be Generation Y. After Baby Boomers, Generation Y is in the workplace, whether Generation Y and Generation X have different consumer behaviour.

Generation Y is a unique cohort for marketing research to understand consumer behaviour, and it plays a vital role in the current market size and future buying power (Giovannini, Xu and Thomas, 2015; Knittel *et al.*, 2016). Generation Y tends to spend more time buying compared to other generations (Howe *et al.*, 2013). Chinese generation Y spends a great deal of time buying brands and fashionable items (O'Cass and Choy, 2008). O'Cass and Choy (2008) found that Chinese young consumers are willing to pay a premium price for a brand when they are in the level of consumer involvement.

Generation X is interested in wearing fashionable styles, thus, display and express high fashion conscious (Pentecost and Andrews, 2010). Generation X is willing to seek other's opinion, but they ignore the adverting information and reject any form of segmentation and marking activity (Lissitsa and Kol, 2016). Compared to Generation Y, Generation X prefers to maintain traditional in-store purchase methods rather than using the Internet to make purchases (Lissitsa and Kol, 2016).

PRODUCTS

Products and services have a potential effect on consumer online buying (Monsuwé *et al.*, 2004). The benefits of online shopping are convenient, easy to shop and making the product range selection (Sarkar, 2011). Through online channels, consumers can access a wider range of fashion products compared to traditional offline shopping (Rath *et al.*, 2015). Fashion product categories can generally be regarded to have high product involvement due to the apparel's symbolic value, image's meaning, or psychological satisfaction for consumers (Hong, 2015). Burke (2002) found that consumers seeking apparel products prefer a fun and entertaining shopping experience, oppositely, consumers seeking electric products prefer detailed product descriptions and a website interface.

Individuals with a high apparel product involvement tend to express personal needs, interests and value of the products (Ha and Lennon, 2010a). Fashion clothing buyers rely more on their senses. When fashion consumers purchase online, they prefer to analyse how the item looks and what it can be matched with (Cho and Workman, 2011). Nevertheless, other less physical contacts or less assistance of products and services are considered more frequently in online shopping. Products without the need for touching, smelling and trying such as books, CDs and groceries have more opportunities to sell online (Monsuwé *et al.*, 2004).

Technological influences on consumer behaviour

The application of new technologies enhances the consumer experience and improves the effectiveness of e-commerce. The consumer decision making process, information technology controlled and reshaping consumer behaviour through the Internet, website and mobile technology, mobile devices and social media (Pikkarainen *et al.*, 2004; Wallace *et al.*, 2004; Dennis *et al.*, 2010; Zhu and Zhang, 2010). Previous research have identified several techniques, which enhance online behaviour, website design (Shergill and Chen, 2005; Ganguly *et al.*, 2010; Wu *et al.*, 2013; Dedeke, 2016), technological usefulness (Chang, Cheung and Lai, 2005; Sohn, 2017; Hansen, Saridakis and Benson, 2018), ease of use (Chang *et al.*, 2005; Aljukhadar and Senecal, 2015; Hansen *et al.*, 2018) and informativeness (Kim and Fesenmaier, 2008; Mpinganjira, 2015).

Website Design

Motivation refers to the process that results in consumers doing what they want to do (Solomon and Rabolt, 2004). Online shopping is more convenient than traditional shopping (Jayawardhena and Wright, 2009). Consumer motivation in online shopping relies on both utilitarian and hedonic dimensions (Monsuwé *et al.*, 2004). The convenience of online shopping and utilitarian orientation of online shopping users makes them seek more effective website features to save search costs (Escobar-Rodríguez and Bonsón-Fernández, 2017).

The website design is a basic component of efficiency (Xiao, 2016). The significance of website design is important in the online consumer decision making process. E-commerce researchers have investigated various website design factors' effectiveness on consumer's emotions and cognitions (e.g. attitudes and perceptions) (Ha and Im, 2012). Website cues, such as colour, images and interactive features, have an effect on the consumer's emotional response (Eroglu, Machleit and Davis, 2003; Ha and Im, 2012).

Ease of Use and Usefulness

Ease of use refers to the process of using new technology to obtain a final outcome in online shopping (Childers *et al.*, 2001). Usefulness is the degree of the shopping experience in the online environment (Childers *et al.*, 2001). The result of usefulness in online recommendations has a great impact on both consumers' attitude and purchase intention (Elwalda *et al.*, 2016). Some research has investigated ease of use and usefulness as the effects of social and online shopping (Oh, Lehto and Park, 2009; Dennis *et al.*, 2010). This study is related to new technology usage of social tagging within UGIs for mobile s-commerce users, thus, usefulness and ease of use should be considered. The detail will be described in Chapter 6.

<u>Informativeness</u>

Sufficient information plays a vital role in consumer shopping decisions (Alba *et al.*, 1997). Website informativeness is the ability of a website to provide information to users (Hoffman and Novak, 1996; Mazaheri *et al.*, 2014). Meanwhile, if consumers can obtain information quickly and the web layout is well-designed, the online shopping experience becomes easy and efficient (Xiao, 2016). Kim and Lennon (2008) evaluated

the effects of visual and verbal information on consumer attitudes and purchase intentions in online retailing. In this study, the relationship between information (e.g. price, product title, purchase location and brand) in social tagging content and sharing items is investigated, and the concept of informativeness will be discussed in Chapter 6.

Cultural Characteristics

A generally accepted definition of culture is "the collective programming of the mind that distinguishes the members of one group or category of people from another" (Hofstede, 2001, p.9). Culture plays a fundamental role in regulating a series of shared attitudes, values, goals, and practices in all aspects of a society's and an individual's daily life (Gaygisiz, 2013). Cultural difference is an important factor in effective website design (Richard and Habibi, 2016) and is used to evaluate website attractiveness (Jin, 2010). Several researchers have also explored the cross-cultural influence on website atmospherics, which found that different cultural backgrounds affect the consumer's performance of online techniques (Seidenspinner and Theuner, 2007).

Individualism and Collectivism

Individualism and collectivism are vital cultural dimensions of Hofdtede (1980) and widely accepted and proved by other researchers (Fong and Burton, 2008). It reflects the extent of social group value norms or individual freedom (Fong and Burton, 2008).

In an individualism society, individuals with an "I" conscious address personal value and focus on independence, freedom, and self-reliance. They are encouraged to express their opinions. Whereas in collectivism society, individuals are likely to be controlled by a "we" conscious to maintain group value (Fong and Burton, 2008). In general, collectivism embodies the group goal more important than individual needs (Lee and Garrison, 2013).

China is a typical collectivist society; Chinese people sacrifice self-importance to meet social expectations. Chinese people emphasise interpersonal "guanxi", which means they focus on personal networks and social relationships (Fong and Burton, 2008; Zhou and Li, 2014). In this collectivistic cultural environment, individuals are more likely to have interpersonal communication with others about products and brands. In China, most buying decisions are due to word of mouth (Goodric and de Mooij, 2014). Chinese people frequently use social media for opinion seeking to make a purchase decision (Goodric and de Mooij, 2014).

4.3 Decision Making Science

Consumer decision making is a multi-stage process (De Bruyn and Lilien, 2008; Pescher, Reichhart and Spann, 2014). The steps of the consumer purchasing decision process are: need identification, information search, evaluation of alternatives, purchasing and postpurchase evolution (Rath *et al.*, 2015). These steps provide basic guidance to understand the consumer purchase decision making process. In fact, consumers could expertise a specific decision point and then reverse back to prior steps, or skip a step together (Turban *et al.*, 2015).

Need identification

Different consumers have different needs (Piotrowicz and Cuthbertson, 2014). Need identification occurs when consumers have a need for a product and service (Liang and Lai, 2002). The factors which influence need identification include environmental stimulation, personal experience and motivation (Liang and Lai, 2002). These factors were introduced in the last section. Customisation is a special way to integrate individual requirements into a product (Rath *et al.*, 2015).

Information search

Consumer information searching can be achieved in different ways like talking with friends, reading magazines and visiting shops (Lea-Greenwood, 2013). The internet provides an opportunity for consumers to search for and share information about products and services before and after making the purchase decision (Matute *et al.*, 2016). Therefore, functions that support information are useful for information seekers: first, good product arrangement and good search engine; second, providing useful information about fashion and trends in the online store; third, providing customised information through the information system (Liang and Lai, 2002).

Evaluation of alternatives

After searching for information, consumers have flexible options. In this process, consumers have to negotiate, generate, and rank criteria for the final choice. For online consumers, the criteria could be product quality, delivery time and product price (Turban *et al.*, 2015). Consumers could also face making the choice of buying from online or offline stores (Lea-Greenwood, 2013). In this process, online stores provide functions to support evaluation of products, and help to build trust; firstly, by providing

price comparison and social interaction; secondly, by checking the security of transactions and considering suggestions and customised service (Liang and Lai, 2002).

Purchase

When consumers finish their evaluation of alternatives, consumers would make purchase decisions towards online or offline stores (Efraim Turban *et al.*, 2015). The main steps which online store functions should support are (1) easy to sign up, (2) ability to place orders online, (3) delivery of items, and (4) paying for the product (Liang and Lai, 2002).

Post-purchase activity

Consumers evaluate products or services after buying or using. In this process, when consumers are satisfied with products or services, it leads to positive word of mouth or reviews (Efraim Turban *et al.*, 2015). In online stores, the functions which support consumers' activity are: firstly, ability to inquire and check the order status; secondly, product return services; thirdly, the online community to increase consumer loyalty (Liang and Lai, 2002).

4.3.1 The classification of decision making

Consumer decision making contains cognitive and affective processes (Solomon *et al.*, 2014). Previous environmental psychology research has explained that 'cognitive reaction' is the mental process of an individual's mind reacting to a stimulus. It generally arises from goal-oriented or utilitarian activity (Xiang *et al.*, 2016). Different cognitive processes can be used to understand different consumers' preferences and judgment, but it cannot measure consumers' accurate normative preferences (Chen, Shang and Kao, 2009).

Affective decision making refers to emotional reactions while determining the response of products (Solomon *et al.*, 2014). Emotion has an effect on the consumer information process (Adam *et al.*, 2016). Valence and arousal are important dimensions during emotional processing (Adam *et al.*, 2016), in which, valence and affective emotions are positive or negative. Consumers tend to make decisions, which relies on emotion (Di Muro and Murray, 2012). When consumes suffer from unpleasant emotions, they are likely to lose self-control in their negative emotional state (Fedorikhin and Patrick, 2010). Therefore, the value of emotion should be explored in affective decision making. Mehrabian and Russell (1974) illustrated emotional pleasure and arousal's effect on consumer behaviour; it is applied widely in existing research (Fong and Burton, 2006; Penz and Hogg, 2011; Wu *et al.*, 2013; Mazaheri *et al.*, 2014; Demangeot and Broderick, 2017; Vazquez, Dennis and Zhang, 2017). This study aims to examine consumer emotion (pleasure and arousal) regarding social tagging within UGIs under the mobile s-commerce context. The concept of pleasure and arousal will be mentioned in Chapter 6.

4.3.2 Understanding online behavioural intention

Behavioural intention has generally been regarded as individuals' subjective probability to perform a behaviour (Ajzen and Fishbein, 1977). Consumer behavioural intentions include purchase intentions and word of mouth intentions (Wang and Lin, 2011; Ayeh, 2015).

Word of mouth (WOM) is interpersonal positive and negative communication about companies and is a type of information communication for consumers in the purchase decision making process (Hutter *et al.*, 2013). In the decision making process, consumer purchase intention is the willingness to buy a product or a brand in mind (Hutter *et al.*, 2013). This study pays attention to WOM intention and purchase intention with respect to social tagging within UGIs. The concept and application of these two variables will discuss in Chapter 6.

4.4 E-Word-of-Mouth Communication

Prior chapters have mentioned s-commerce using e-word of mouth in consumer behaviour and this section will provide a basic understanding of e-word of mouth.

4.4.1 The concept of e-word of mouth

Hennig-Thurau *et al.* (2004, p.39) defines e-word of mouth (eWOM) as "positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet", which can be positive, neutral or negative (Richins, 1983). eWOM occurs via different online platforms such as online websites, online forums, blogs, emails, social communities (See-To and Ho, 2014) as well as online feedback mechanisms (Dellarocas, 2003; Filieri and McLeay, 2014; Yan *et al.*, 2016). Despite this, eWOM is a new challenge to companies because they have limited ability to control its creation and dissemination. In particular, negative eWOM sharing is powerful after experiencing dissatisfaction with a product or service (Kim *et al.*, 2016). On the other hand, the existing literature of eWOM has different views about eWOM information resources.

commercial motives (Kim and Gupta, 2012; Berger, 2014; Chen *et al.*, 2015). Other studies argue that perceived eWOM may be less credible and trustworthy based on its anonymity (Kim, 2016).

4.4.2 The relationship between eWOM and UGC

There are the three different aspects which differentiate eWOM and UGC, firstly, UGC includes all online content that can be published by any individuals and organisations (Abdel-Hafez and Xu, 2013; Owusu *et al.*, 2016), while eWOM relates to any consumers (e.g. potential, actual and former) about products, services or companies on Internet (Rodgers and Wang, 2011). Secondly, eWOM could be positive or negative opinions, ratings or discussions (Rodgers and Wang, 2011), and it could be regarded as marketing strategies like viral marketing and viral advertising (Rodgers and Wang, 2011). Thirdly, UGC is dynamical and valuable because it could make technological interactions like social tagging and have disseminating media contexts (Owusu *et al.*, 2016; Stepaniuk, 2017), while eWOM information exists in online feedback systems, review sites, and other social media tools (Rodgers and Wang, 2011). Therefore, the concept of UGC is broader than eWOM's.

In fact, both UGC and eWOM could influence consumers' attitudes and decision making processes (Hennig-thurau, Walsh and Walsh, 2003; Lin, Lu and Wu, 2012; Chari *et al.*, 2016; Chen, Su and Widjaja, 2016; Schivinski and Dabrowski, 2016; Wang *et al.*, 2017; Zhang *et al.*, 2017). When UGC expresses independent and non-commercial opinions about products and services by consumers, writers and experts, UGC is a type of eWOM (Owusu *et al.*, 2016).

4.4.3 eWOM in social media

Due to the development of social media, WOM communication has gained significantly (Thompson, Loveland and Fombelle, 2014). Strong and weak social ties in social network sites are associated with eWOM engagement and spreading (Chu and Kim, 2011). Wolny and Mueller (2013) analysed fashion consumer motivations to diffuse eWOM on social media platforms through high brand commitment and fashion involvement. Information sources among community members have strong eWOM which affects retail sales, brand image and brand awareness (Flavián and Miguel Guinalíu, 2005; Park and Cho, 2012).

4.5 Information Posters in Social Media

Most studies analysed the normative and informational effect of positive reference groups (e.g. peer, family, and experts) (Hammerl *et al.*, 2016). Thus, even though consumers seek information from interpersonal commutation, it does not mean that they accept anyone's suggestions about buying (Solomon *et al.*, 2014). Some people's recommendations are more powerful than others. The following section will introduce the role of opinion leaders and bloggers in social media.

Opinion leaders

People who have an influence on the attitude or behaviour of others (the opinion seekers) are called opinion leaders (Sun *et al.*, 2006). Opinion leaders own more valuable information sources owing to their social power (Solomon *et al.*, 2014). Key opinion leaders include celebrities (KPMG, 2016). Bloggers and vloggers in digital channels may become the new group of celebrities (Djafarova and Rushworth, 2017). Fashion opinion leaders are people who buy fashion products early in fashion season (Solomon and Rabolt, 2004; Workman and Studak, 2006). The internet channel enables opinion leaders to disseminate and share information, and opinion seekers to search for information (Sun *et al.*, 2006). Social networks can connect opinion leaders with followers, and allow them to be more confident due to the lack of social pressure with face to face communication (Kucukemiroglu and Kara, 2015).

Bloggers

In social media, users who create, own, manage as well as consume content are named bloggers (Huang *et al.*, 2007). Blogging activities evolve around content created and used by bloggers (Huang *et al.*, 2007). Therefore, the co-created value of blogging communication relies on both bloggers and readers (Halvorsen *et al.*, 2013; Hsu *et al.*, 2014). Relying on the internet, fashion bloggers can access a wider audience (Halvorsen *et al.*, 2013). Fashion bloggers can also release blogs at any time and blog readers can read up-to-date information (Halvorsen *et al.*, 2013). At the same time, fashion bloggers can create fashion trends and direct ideas to their global audience (Maria *et al.*, 2017). When blog readers consider whether the blogger is paid to introduce some products, the blog reader could lose trust in the blogger (Halvorsen *et al.*, 2013).

Both opinion leaders and bloggers can affect a reader's decision making on social media. This study focuses on social tagging in UGI features for all online communities' users, and the users of social tagging to publish information includes opinion leaders and other general bloggers. Therefore, exploration of technology feature's values will not consider their social value on communities' influence.

4.6 Chinese Consumer Behaviour in S-commerce

Lee and Garrison (2013) found that collectivism culture has a positive effect on perceived usefulness in s-commerce context, and this collective psychology creates positive attitudes towards s-commerce and actual s-commerce usage. China has a culture that emphasises collectivism. S-commerce could be more affected by it than other cultures (Zhou and Li, 2014). Most Chinese people's buying decisions are concerning WOM (Goodric and de Mooij, 2014). Consequently, Chinese fashion consumers focus on WOM, and pay more attention to opinion leaders and bloggers. In social media, Chinese people frequently use social media for opinion seeking to make purchase decisions (Goodric and de Mooij, 2014). Bloggers use mobile social commence platforms like Xiaohongshu to share product information and shopping experiences. Chapter 3 described different social media features and the following section will mention the current demographic, age and gender on social media usage, social tagging motivation and behaviour.

Generation Y awareness in social media

As mentioned in online consumer behaviour, Generation Y uses the Internet and online shopping more frequently. Generation Y is famously called the "Next Generation" (Nusair *et al.*, 2013). They are more involved in online social networks, text messaging, postcasts and blogs (Nusair *et al.*, 2013). It is likely that social media users between 18 to 34 years old will use social media for interactions with acquaintances, friends and family than older age groups (Bolton *et al.*, 2013). When Generation Y uses technology, internet, social media and mobile technology, that causes mixed effects in their cognitive, emotional and social outcomes (Bolton *et al.*, 2013; Howe *et al.*, 2013; Nusair *et al.*, 2017). Younger adults under 25 especially pay more attention to using technology such as using the internet to look for products and information, compare, and evaluate alternatives (Monsuwé *et al.*, 2004). Thus, this study will set Generation Y as the research group since they will probably use social media and mobile technology.

Chinese female role in social media

Gender differences lead to different social media behaviours, and it has been examined in many studies (Mcandrew and Jeong, 2012; Muscanell and Guadagno, 2012; Khan, 2017). Females use social media communication and recommendations more than males (Statista, 2016). They probably seek other's opinion, as they are less confident of own choice, and trust others (Djafarova and Rushworth, 2017). Female fashion websites still are the main channel to obtain beauty related information. Female users have formed a habit to use mobile devices and apps to search for information (iResearch, 2015a).

Chinese female mobile internet usage was 44.1% in 2014. Chinese female mobile app usage was 43.1% in 2013 (Statista, 2015a). 60% of Chinese females use fashion and makeup apps through mobiles and tablets to access information (iResearch, 2015a). Chinese female fashion consumers adopt s-commerce websites due to its information quality, source credibility and information usefulness (Peng *et al.*, 2016). For instance, Mogujie.com, a fashion-focused s-commerce platform, can promote sales through livestream, recommendations, reviews and fashion celebrity suggestions (PWCNK, 2017). This shopping experience has social and hedonic benefits through these social features as they can enhance their social values into the shopping experience (Parsons, 2002). Females in social-shopping can increase shopping enjoyment and positive attitudes towards the website (Dennis *et al.*, 2010).

To summarise, it is important to understand female information searching, sharing and consumption behaviour through mobile devices, thus, mobile s-commerce app managers have opportunities to offer and meet female demands instead of cross-gender design. It indicates that B2C online retailers should pay more attention to female consumers' attitudes and behaviour towards social features on mobile shopping.

4.7 Focus on This Study: Social Tagging in UGFIs' Feature and Usage among Chinese Generation Y Females

Consumers share visual information (e.g. pictures) to release product-related information and consumption-related experiences (Lin *et al.*, 2012). In the bookmarking of forums, users' tags refer to their brand awareness, and it is a form of consumers' WOM (Hoffman and Fodor, 2010). The motivation of creating social tagging is in two aspects, namely content organisation (category and description of content), and social communication (sharing information and opinion) (Nam and Kannan, 2014). Hence, based on Hoffman and Fodor (2010) and Owusu *et al.* (2016)'s perspective, posting social tagging content is related to product information and opinion by non-commercial users, and is regarded as an eWOM (Hoffman and Fodor, 2010; Owusu *et al.*, 2016).

Generation Y females in China are as a special market segment for mobile s-commerce, which involves in both age and gender. By reviewing previous sections, it helps to obtain the knowledge of how Chinese Generation Y females tend to use digital technology tools while making a purchase and behavioural intentions. It also supports to investigate how social tagging within UGIS features affect their emotional reactions and behavioural intentions in mobile s-commerce context.

4.8 Summary

Mobile apps provide a convenient way to browse and make purchases (Grøtnes, 2009). This chapter reviewed Chinese female online buying behaviour. It also reached a research objective by identifying the context of Generation Y female consumers. Prior sections have mentioned information technology, information factors influencing consumer behaviour and affective decision making and consumer behavioural intentions. The effects of social tagging's ease of use and usefulness, and informative features in mobile s-commerce apps were considered. The next chapter will recognise and discuss appropriate academic theory to apply in this study.

Chapter 5 Literature Review: Theoretical Framework

5.1 Introduction

This chapter will review relevant academic theories and identify an efficient theoretical framework for this study. This chapter outlines the technology acceptance model, information adoption model, stimulus-organism-response model, as well as use and gratification theory. Finally, this chapter will discuss and select relevant theories to develop a new model.

5.2 Technology Acceptance Model (TAM)

The technology acceptance model is assumed by Davis (1989) based on the theory of reasoned action (Ajzen and Fishbein, 1977). In the theory of reasoned action, consumer behavioural intention is affected by consumer attitudes and subjective norms. Consumer attitudes contain beliefs and evaluations about the consequence of behaviour. Subjective norms reflect consumers' concerns about social influence on some behaviour participation (e.g. family, friends and peers). Figure 5-1 shows the TAM. The purpose of the TAM is to provide an explanation of the determination of information technology usage (Davis 1989) and present the likelihood of a new technology being adopted by users (Wamba *et al.*, 2017). It consists of perceived ease of use and perceived usefulness of new technologies in relation to people's attitudes toward technology adoption (Davis, 1989).

Figure 5-1 Technology Acceptance Model (TAM)



Source: Davis, Bagozzi and Paul (1989)

For ongoing various information technology acceptance research, TAM attempts to explain online consumer behaviour and has been applied to diverse fields in recent years (Bonn *et al.*, 2016). For instance, online website shopping (Kim and Forsythe, 2008) and m-commerce (Wang, Shen and Sun, 2013; June, 2014; Hubert *et al.*, 2017).

Even though TAM is a powerful model, it has been criticised for its limited explanatory power in consumer behavioural intention (Bhattacherjee and Premkumar, 2004; Bagozzi, 2007). In addition, TAM is limited to the workplace research due to the fact that the model cannot represent different environmental characteristics (Kleijnen et al., 2007). Especially, for hedonic information technology, it cannot evaluate consumers' perceived enjoyment (Van derHeijden, 2004). There is no support that usefulness is a strong motivation for using goal-directed mobile services in TAM theory (Nysveen, Pedersen and Thorbjernsen, 2005).

5.3 Information Adoption Model (IAM)

In existing literature regarding information systems, dual process theories are applied to explain how individuals are affected by ideas, information and knowledge (Sussman and Siegal, 2003; Bhattacherjee and Sanford, 2006). Information Adoption Model (IAM) is a combination of Technology Acceptance Model (TAM) (Davis (1989) and Elaborated Likelihood Model (Petty, Cacioppo and Goldman, 1981) with a dual-process model of information influence (Gunawan and Huarng, 2015). Sussman and Siegal (2003) indicated that TAM and TRA model are not appropriate for information adoption. In the context of computer-mediated communication (CMC), Sussman and Siegal (2003) used the elaboration likelihood model (ELM) and proposed a theoretical model of information adoption to show how individuals adopt information content as shown in Figure 5-2.

Figure 5-2 Information Adoption Model (IAM)



Source: Sussman and Siegal (2003)

Information quality and source credibility affect consumers' attitudes towards information usefulness. Argument quality refers to the argument's persuasive strength (Bhattacherjee and Sanford, 2006). Source credibility is the extent to which an information source is believable and trustworthy (Petty *et al.*, 1981; Petty and Cacioppo, 1986).

The origin of IAM is to study CMC platforms. The application of IAM is to examine how information or ideas affect information adoption. It has been performed to investigate eWOM in s-commerce (Shu and Scott, 2014; Erkan and Evans, 2016, 2018). The limitations of IAM are: firstly, it only focuses on information characteristics without examining consumer behaviour (Erkan and Evans, 2016). Secondly, the Internet has information freedom, so it is difficult to argue whether it is trustworthy (Gunawan and Huarng, 2015).

5.4 Stimulus-Organism-Response (S-O-R) Model

Applied to consumer behaviour research, Mehrabian and Russell (1974) proposed the stimulus-organism-response (S-O-R) model that physical or social environment stimuli directly affects the emotional state of individuals. In general, this model is implemented in the retail and service area (Machleit and Mantel, 2001). It contains environmental stimuli (S), the internal processes responding to that influence (O), and the resulting behaviours (R) (Kim et al., 2016). Figure 5-3 presents an example of S-O-R model.

In the S-O-R model, external environmental factors including information can be transferred to various categories: advertising, product price and product design, or noncontrolled-environmental factors like competition, social pressure and economic conditions (Bagozzi, 1983). Situational factors vary among the environmental, personal and social conditions surrounding the particular consumption, such as store environment and personal characteristics (Huang, 2016). Variables of internal responses to information process contain emotional responses like pleasure, arousal and cognitive responses like perceived risks and expectations (Bagozzi, 1983). Thus, behavioural responses will result in intentions to act, activities choice, actual choices, outcomes, reactions as well as the choice (Bagozzi, 1983). Zhu, Sun and Ping (2016) used S-O-R model to explore the psychological mechanism between social support and consumer citizenship in the online community.



Figure 5-3 S-O-R Model

Source: Mehrabian and Russell (1974) and Vieira (2013)

There are still limitations of S-O-R model research. Zhang and Benyoucef (2016) summarised the S-O-R model content in s-commerce according to the systematic review, but prior research only focuses on social networking sites, which cannot refer to other platform characteristics of s-commerce platform, such as blogs or online community. In addition, Xiang *et al.* (2016) combined parasocial interaction theory and the S-O-R model, but it didn't include s-commerce characteristics and individual factors. Therefore, consumers can be stimulated by various factors and responses, which could lead to different psychological activities and behavioural intentions.

5.5 Use and Gratification (U&G) Theory

Use and gratification (U&G) theory was established by Katz, Blumler and Gurevitch (1973) and improved social and psychological motivation research. Katz and Gurevitch (1973) classified five motivations for using media by U&G theory:

- 1. Cognitive needs (information, knowledge, understanding);
- 2. Affective needs (emotion, pleasure, feeling);
- 3. Personal needs (credibility, status, stability);
- 4. Social needs (interacting with family and friends);
- 5. Tension release needs (escape and diversion).

U&G theory has been employed to understand consumer motives in social media platform technology (Wang, Tchernev and Solloway, 2012; Sheldon and Bryant, 2016; Khan, 2017). This theory was performed to investigate digital photo sharing behaviour on Facebook (Malik, Dhir and Nieminen, 2016) and user participation and consumption on YouTube (Khan, 2017). Therefore, U&G theory shows that consumers choose different media to satisfy their own inner demands (Shang *et al.*, 2017).

Apart from technology function value research, this theory also reflects the affective psychological needs of consumer consumption behaviour. Shang, Wu and Sie (2017) use consumer resonance by U&G theory to provide insights into social participants' future purchase intentions. Pittman and Reich (2016) adopt U&G theory to observe social media users' psychological loneliness according to image-based versus text-based social media. Several studies have applied this theory in the UGC. Shao (2009) found that the consumers' UGC motivation is for information, entertainment and mood management needs in user-generated sites. Knoll and Proksch (2015) enlarged the use of UGC value based on personal identity and social interaction.

5.6 Discussion

The U&G theory is not appropriate for this study. First, it is used to explain why and how users consume the content, and it cannot explore how and why they create content in the web 2.0 environment (Morrison, Cheong and McMillan, 2013). Secondly, it is used to examine consumers' inter motivation and needs (Eftekhar *et al.*, 2014; Huang, Hsieh and Wu, 2014; Lien and Cao, 2014). This study needs to provide insights into consumer behaviour and emotions concerning social tagging in UGIs. The U&G theory is limited to exploring consumer behaviour research. IAM focuses only on information characteristics such as quality, credibility and usefulness (Shu and Scott, 2014; Gunawan and Huarng, 2015). Nevertheless, information value should be judged by consumers themselves, it cannot be limited in social media (Erkan and Evans, 2016). Social tagging content in UGIs is posted and read by s-commerce users, moreover, this study explores the emotional state on consumer behavioural intention. This model will consequently pay attention to information adoption and not cover consumer emotion and behavioural intention.

TAM has two main perspectives of technology: usefulness and ease of use (Elwalda *et al.*, 2016; Wu *et al.*, 2016; Hillman and Neustaedter, 2017). It is useful to examine social tagging within UGI feature in mobile s-commerce app. However, TAM is not useful to examine the consumer attitudes and intentions (Bhattacherjee and Premkumar, 2004; Bagozzi, 2007; Erkan and Evans, 2016). This study is concerned with mobile s-commerce users' emotion, behavioural intentions and consuming social tagging content. This model does not consider social tagging informative feature in s-commerce; therefore, TAM needs to be extended to research consumer behaviour.

The origin of the S-O-R model is to examine retailing environment cues (e.g. colour, lighting, music, crowding and layout) on consumer emotion and behavioural intention (Wu et al., 2013; Vieira, 2013; Peng and Kim, 2014). This model also sets environmental cues (Eroglu, Machleit and Davis, 2001; Vieira, 2013), web or app designs (Parboteeah, Valacich and Wells, 2009; Fang et al., 2017), atmosphere cues (Kim and Lennon, 2010; Gao and Bai, 2014; Koo and Park, 2017), information cues (Vieira, 2013; Fang, 2014) and web aesthetics (Chang et al., 2014) as the stimuli for external influence in online research. Compared to traditional retailing environments, online environmental stimuli also could be consumer inner experience such as social presence (Kim, 2015), hedonic and utilitarian values (Peng and Kim, 2014), involvement (Loureiro, Almeida and Rita, 2013) or functional qualities (Abarbanel et al., 2015). Furthermore, Hu et al. (2016) performed the S-O-R model to study technological features on social shopping behaviour. Wu et al. (2016) used technological usefulness and ease of use as stimuli in the S-O-R model. There are considerable technological characteristics: usefulness, ease of use and informativeness as stimuli on social tagging with UGIs' design, this study integrates the two basic components, usefulness and ease of use, in the TAM to S-O-R model.

5.7 Summary

According to the analysis of the four theoretical frameworks, the S-O-R model and TAM are the appropriate and effective framework to explore the social tagging in UGIs' technological and informative feature in the mobile s-commerce environment. Because this study involves the usefulness and ease of use of the TAM, a new model will be

established based on the S-O-R model to study consumer behaviour regarding social tagging within UGIs under mobile s-commerce context.

Chapter 6 Literature Review: Identification of Proposed Variables

6.1 Introduction

This chapter outlines seven constructs based on previous research, namely, usefulness, ease of use, informativeness, pleasure, arousal, WOM intention as well as purchase intention. Identifying each construct will be discussed in previous research and adopt a realisable variable in the following research.

6.2 Usefulness

Utilitarian or convenience motivators are rational and task-related motives to obtain something which is needed. On the contrary, hedonic motivators seek emotional motives to realise personal tasks (Escobar-Rodríguez and Bonsón-Fernández, 2017). Taking technology features as an example, usefulness refers to the degree to which technology and its systems could help individuals perform tasks and utilise products (Lee, Ha and Widdows, 2011). In traditional technology research, perceived usefulness is the degree to which people believe whether technology can be used to help them perform their work (Davis *et al.*, 1989). Venkatesh *et al.* (2003) embraced five performance expectancy sub-components for technological usage, namely, usefulness, extrinsic motivation, job fit, relative advantage and outcome expiration in the working area.

In e-commerce, when consumers pursuit utilitarian aims, they would search for information whilst buying a product since consumers realise that websites provide information which can be used for purchasing planning (Liu and Shrum, 2002). Pappas *et al.* (2014) examined online stores' usefulness performance for improving consumer satisfaction of online sites, in turn, enhances consumers repurchase intentions. Dorotic, Bijmolt and Verhoef (2012) emphasised that in order to develop loyalty, retailers need to integrate a reward system into a utilitarian programme which is attractive and effective to support the consumer's needs. Lee and Garrison (2013) also stated that an individual's usefulness can be used to predict their intention to participate in s-commerce. Bilgihan *et al.* (2016) performed usefulness of online social networks to investigate users' intention to share information.

6.2.1 Summary of usefulness

Usefulness embodies the value of a system based on its functional, instrumental and social support to meet task demand in s-commerce websites (Hu *et al.*, 2016). Social tagging has various benefits such as easy to remember words, helpful meanings, grasping attention, opinion expression, entertainment and presentation (Sigala, 2011).

Throughout this study, usefulness refers to the extent to which an individual believes that using a technology will provide benefits to the individual's performance in certain activities (Sheng and Zolfagharian, 2014) within social tagging in UGIs for the s-commerce context. Usefulness within Xiaohongshu app's social tags in UGFIs is measured using four items selected from Kleijnen, de Ruyter and Wetzels (2007). The seven-point semantic scale from 1 to 7 is used to measure the perceived usefulness of Xiaohongshu' social tagging in UGFIs according to Kleijnen, de Ruyter and Wetzels (2007). Table 6-1 shows the measure items of usefulness.

Construct	Measure Items
Usefulness	Ineffective/effective
	Not functional/functional
	Impractical/practical
	Useless/useful
	Not sensible/sensible
	Inefficient/efficient
	Unproductive/productive

Table 6-1 The Measure Items of Usefulness

6.3 Ease of Use

Ease of use is a major factor in the model of technology acceptance. If users consider that the technology is easy to use, they might change their personal attitude and continue to use (Negahban and Chung, 2014). Ease of use is regarded as one dimension of website design quality in several studies. Ease of use in website quality includes usability (easy to use and navigation), system use (control and ease of use), ease of use (convenient to use and easy to search information) and ease of use (easy to read/understand/operation) (Liu and Arnett, 2000; Barnes and Vidgen, 2001; Yoo and Donthu, 2001; Kim and Niehm, 2009). Therefore, in this situation, the definition of ease of use in a website environment refers to the degree of which a website is easy to understand, read and manage. For an online website manager, ease of use of an online website will determine the level of the users' experiences and behavioural intentions. ease of use can generate consumers to share information behaviour (Bilgihan *et al.*, 2016). If consumers find that online reviews feature are easy to use, they will increase trust in e-tailers (Elwalda *et al.*, 2016).

Lee and Garrison (2013) stated that ease of use can be used to predict their intention to participate in s-commerce. It also proved the relationship between consumer engagement and specific design features in social commence. Bilgihan *et al.* (2016) used ease of use towards online social networks to test users' beliefs for information sharing. The result highlights ease of use's forces in users' sharing knowledge. Therefore, ease of use could be performed for social technology's design features in the social shopping environment.

6.3.1 Summary of ease of use

Overall, Ease of use can also be seen as a technology component. Throughout this study, Ease of use refers to the degree of effort that consumers associate with using a mobile service (Nysveen 2005) within social tagging in UGFIs concerning the s-commerce context. Ease of use of the Xiaohongshu app's social tagging in UGIs is measured with four items selected from Nysveen (2005). The 7-point Likert-type scale, which ranges from strongly disagree to strongly agree, measures perceived ease of use according to Nysveen (2005). Table 6-2 shows the measure items for ease of use.

Construct	Measure Items
Ease of Use	Learning to useis easy to me.
	It is easy to makedo what I want it to do.
	It is easy to use
	My interaction withis clear and
	understandable

Table 6-2 The Measure Items for Ease of Use

6.4 Informativeness

Several studies illustrate that informativeness is a vital dimension of information quality (DeLone and McLean, 1992; Hopkins *et al.*, 2009; Zhang *et al.*, 2014). Informativeness can be regarded as the information quality of content a website provides (Hopkins *et al.*, 2009). The types of information content include all digital forms, (e.g. text, video, audio and graphics), messages within products/services and other information offerings (Hopkins *et al.*, 2009). Virtual tours on websites present text-based information and others include informative images (Choi, Ok and Choi, 2016). Both informativeness and entertainment decide telepresence, i.e. utilitarian and hedonic connections with the online website experience (Choi *et al.*, 2016).

If perceived information is informative in social media, the length of a post will have a significant positive effect on the number of re-tweeting times which leads to a negative impact on the number of comments (Zhang *et al.*, 2014). Thus, informativeness could affect information popularity on social media (Zhang *et al.*, 2014). Meanwhile, informativeness is the degree of perceived useful information, thus, it is affected by an individual's rational judgemental ability to accept information and enable them to make informativeness is important to communicate consumer attitudes (Logan, Bright and Gangadharbatla, 2012; Lee and Hong, 2016). Consumers expect useful information from advertising, and their personal experience of the relevant product would impact consumer attitudes towards the product, brand and purchase intentions in social network marketing (Ott *et al.*, 2016). Further, consumers' review quality (informativeness and persuasiveness) has a significant effect on consumer purchase intention (Zhang *et al.*, 2014). Informative reviews help consumers reduce uncertainty and persuasive reviews make consumers follow recommendations for decision making (Zhang *et al.*, 2014).

6.4.1 Summary of informativeness

In this study, tagging content within UGIs helps users to recognise specific items and possess knowledge or information of the shared items in UGIs. Therefore, informativeness is defined as the extent that the information content is able to offer the necessary information and help readers understand the product (Cheung and Thadani, 2012) in fashion mobile s-commerce context. Informativeness of Xiaohongshu's tagging fashion item in UGIs is measured with three items adopted from Logan, Bright and Gangadharbatla (2012) and another three items from Edwards, Li and Lee (2002). Table 6-3 presents the measure items of informativeness.

Construct	Measure Items
Informativeness	is a good source of product information.
	supplies relevant product information.
	is a convenient source of product information.

Information obtained from....would be useful. I think the information obtained from.....would be

Table 6-3 The Measure Items of Informativeness

		I would learn	a lot from	using
6.5	Positive Emotion (P	leasure and	Arousal)

helpful

Emotion has been researched in the academic area for a long time (White, 2010; Liu and Park, 2015; Saran, Roy and Sethuraman, 2016). Emotion has been found to be a significant antecedent of company or website loyalty, customer satisfaction, positive WOM intention and service quality (White, 2010). Consumer perceived enjoyment is expected to investigate performance consequences, such as when a consumer reads and understands reviews (Liu and Park, 2015). Bagozzi, Gopinath and Nyer (1999) and defines emotion as an individual's mental state for events or their own thoughts. When a consumer uses products, they experience a set of emotional responses (Westbrook and Oliver, 1991). Excellent information quality increases emotional attachment to the online community (Zhang, Zhang, *et al.*, 2015). Fashion brand marketers need to learn that a consumer's positive emotion towards fashion products could result in negative personal feelings, if they are addicted to the product (Maria *et al.*, 2017). The study of consumption-related emotion, affective reaction (emotion) to consumption stimuli is essential in the cognitive process to understand consumer behaviour (Mattila and Wirtz, 2000).

6.5.1 Pleasure and arousal

The role of emotion in marketing research is the discipline of psychology (Saran *et al.*, 2016). Pleasure versus displeasure is the degree of a self-feeling state, such as semantic differential measures, or behavioural indicators (e.g. smiles, laughing and positive versus negative expressions) (Yuksel, 2007; Yani-de-soriano, Foxall and Newman, 2013). Arousal versus non-arousal is a feeling state varying from sleep to frantic excitement and this behaviour is evaluated by verbal expressions or behavioural indicators like vocal activity, facial activity, speech rate and volume (Yuksel, 2007; Yani-de-soriano *et al.*, 2013).

The reaction of organism variables includes two dimensions: firstly, pleasure refers to the degree of happiness and relaxation; Secondly, arousal refers to the feeling of being excited, aroused and stimulated (De Nisco and Warnaby, 2014). In store atmosphere literature, De Nisco and Warnaby (2014) found design factors' influence on consumer's pleasure and arousal emotional response. Bellizzi and Hite (1992) stated that colour properties in retail stores can stimulate consumer feeling and promote product sales. The impact of cross-category can result in distinguished arousal and pleasure of internet shopping experience (Menon and Kahn, 2002).

6.5.2 Summary of pleasure and arousal

Pleasure and arousal can evoke consumer future intentions. In this study, pleasure and arousal are the consumer emotional responses to explore social tagging in UGIs in the fashion mobile s-commerce environment. Throughout this study, pleasure is the degree of feeling that ranges from satisfied, happy or joyful in a situation; arousal refers to the degree to which an individual feels active, stimulated or awake in the situation (Mehrabian and Russell,1974). Pleasure and arousal (emotions) of social tags in UGFIs on the Xiaohongshu mobile s-commerce app are measured with a total of 9 items from Mehrabian and Russell (1974). A seven-point semantic scale from 1 to 7 is applied to measure emotion (pleasure and arousal) in this study according to Kim and Johnson (2016). Table 6-4 lists the measure items of pleasure and arousal.

Cons	Construct	
Emotion	Pleasure	Happy/unhappy
		Pleased/annoyed
		Satisfied/unsatisfied
		Relaxed/bored
		Joyful/not joyful
	Arousal	Stimulated/relaxed
		Excited/calm
		Wide-awake/sleepy
		Aroused/unaroused

Table 6-4 The Measure Items of Pleasure and Arousal

6.6 WOM Intention

WOM as a powerful driver determines consumer decision making and affects product sales (Kasabov, 2016). Berger (2014) stated WOM is an interpersonal information communication about ownership, usage, products, services and sellers. Existing research focuses on the relationship between satisfaction and WOM (Lingshu, Zhang and Zhu, 2016). The classification of WOM is positive or negative (Lingshu *et al.*, 2016). If consumers are unsatisfied, they will probably spread negative WOM (Lingshu *et al.*, 2016).

6.6.1 The relationship between WOM and eWOM

The rapid growth of internet usage promotes the use of eWOM (Fong and Burton, 2006; Kasabov, 2016). eWOM is similar to traditional WOM. Some researchers consider eWOM as an extension to traditional WOM (Yeap, Ignatius and Ramayah, 2014; Matute *et al.*, 2016). On the other hand, Matute, Polo-Redondo and Utrillas (2016) summarised four aspects' the difference between WOM and eWOM based on other researchers' opinions. Firstly, online WOM information can be utilised for a long time and accessed by lots of users (Hennig-Thurau *et al.*, 2004); secondly, eWOM information is in a virtual context, as consumers are likely to participate, the information diffuse speed is more quickly (King, Racherla and Bush, 2014); thirdly, eWOM is easy to check and track through viewing data (i.e. the number of words and styles of information) (Cheung and Thadani, 2012). Eventually, eWOM is exchanged among unfamiliar or unknown receivers or senders, which could cause low information credibility (Luo *et al.*, 2013).

6.6.2 Summary of WOM intention

The online consumer behaviour in Chapter 4 summarised consumer eWOM behaviour. Throughout this study, the term of WOM intention refers to the extent to which consumers are willing to perform certain behaviours or processes to exchange positive or negative experiences about a specific service or product with others (Kim and Park 2013). This study examines WOM intention to spread Xiaohongshu mobile s-commerce app. WOM intention of Xiaohongshu mobile s-commerce app is measured with four items adopted from Kim and Park (2013). The 7-point Likert-type scale which ranges from strongly disagree to strongly agree is used to measure WOM intention according to Kim and Park (2013). Table 6-5 highlights the measure items for WOM intention.

Construct	Measure Items
WOM Intention	I would tell others positive things about
	I would provide others with information on
	I am likely to recommendto my friends or
	acquaintances.
	I am likely to encourage others to consider

Table 6-5 The Measure Items of Word of Mouth Intention

6.7 Purchase Intention

Intention is a popular measurement to forecast individuals' possible actions (Liang *et al.*, 2011). Grewal, Monroe and Krishnan (1998) defined consumer purchase intention as the extent to which a customer intends to purchase a specific product. Kim, Kim and Johnson (2010) evaluated a luxury store salesperson's effect on consumers' purchase decisions and customer satisfaction with their purchase decision. In other words, a salesperson's behaviour determines the consumer's purchase intention and satisfaction when the consumer's personal relationship perspective is strong with a salesperson. Lu, Chang and Chang (2014) focus on readers' evaluations of blog posts (recommendations) and attitudes towards products before purchasing. However, the limitation of purchase intention is that the assumption ignores empirical studies on consumer behaviour and social psychology evaluation into actual buying behaviour (Ajzen *et al.*, 2004; Carrington, Neville and Whitwell, 2014).

6.7.1 Antecedents of purchase intention

In the online environment, consumers probably are influenced by information to make purchasing decisions (Mangold and Faulds, 2009). Table 6-6 illustrates eWOM's effects on antecedents of purchase intention and each antecedent which leads to different degrees of influence on s-commerce purchase intention. Online consumer sharing information is a special information resource, which affects potential consumer purchase intention. These information stimuli affects the readers' response degree of expected value, perceived brand image, eWOM, UGC feature, information usage, satisfaction and attitudes (Jalilvand and Samiei, 2012; Yu, Carlsson and Zou, 2014; Lee and Lee, 2015; Baber *et al.*, 2016; Hsu and Lin, 2016).

Researchers	Title	Antecedents	Purchase Intention
Hsu and Lin (2016)	Effect of perceived value and social influences on mobile	Affective response Attitude	No significant influence
	app stickiness and in-app purchase intention	Satisfaction	Significant and negative effect
Baber <i>et al</i> . (2016)	Online word-of-mouth antecedents, attitude and	Attitude towards as mediator	Positive relation
	intention-to-purchase electronic products in Pakistan	WOM usage	Indirect relationship
Yu, Carlsson and Zou (2014)	Exploring the influence of UGC Factors on the	UGC credibility	Positively influence
	behavioural intentions of travel consumers	Interesting	
Jalilvand and Samiei (2012)	The effect of electronic word of mouth on brand image and purchase intention: An empirical study in the automobile industry in Iran	eWOM communication	Strong positive impact
Lee and Lee (2015)	How purchase intention consummates purchase behaviour: The stochastic nature of product valuation in electronic commerce	The probability to attain the expected value (i.e. variance of PVD)	Partially supported
Jalilvand and Samiei (2012)	The effect of electronic word of mouth on brand image and purchase intention: An empirical study in the automobile industry in Iran	Perceived brand image	Strong positive impact

Table 6-6 Examples of Antecedents for Purchase Intention

6.7.2 Summary of purchase intention

Consequently, consumer purchase intention of tagging items in UGIs is similar to blogger's recommendation and experience. Therefore, this study will explore whether consumers will buy tagging fashion items within UGIs in the Xiaohongshu mobile scommerce environment. Throughout this study, the term of purchase intention follows Grewal, Monroe and Krishnan (1998). Purchase intention of tagging fashion items in UGFIs is measured with four items from Kim and Johnson (2016). A 7-point Likerttype scale that ranges from strongly disagree to strongly agree is used to measure purchase intention based on Kim and Johnson (2016). Table 6-7 lists the measure items of purchase intention.

Table 6-7 The Measure Items of Purchase Intention

Construct	Measure Items
Purchase	The likelihood of purchasing this product is(High/Low).
Intention	The probability that I would consider buying the product isHigh/Low).
	My willing to buying the product is(High/Low).
	I would purchase

6.8 Summary

Overall, this chapter summarised the seven constructs of social tagging in UGIs. The next step is to reveal the relationship between each construct by performing the S-O-R model and TAM. Thus, next chapter will develop a framework and a series of hypotheses based on the seven constructs.
Chapter 7 Framework Development and Hypotheses

7.1 Introduction

Technology and information environment has been widely applied in e-commerce and s-commerce markets, however, there is no sufficient evidence of a specific tagging in UGIs feature and content informativeness design framework in the fashion mobile scommerce community. Thus, this study will develop and offer a framework to analyse construct variable's effects of tagging in UGIs. Moreover, the developed framework will contribute to the current academic framework and can be applied in empirical examinations. Especially, the mobile s-commerce community can rely on this framework to examine the new social feature design value.

7.2 Framework Development Resources

7.2.1 TAM

Huang *et al.* (2013) developed a research framework, which identifies the factors that affect tourists' experience and behavioural intentions within a 3D tourism destination by combining the TAM and hedonic theory. The research captures perceived usefulness and ease of use's effects on hedonic values (e.g. enjoyment, involvement, positive emotions and flow) for consumer behavioural intentions in Figure 7-1. Thus, technology features could affect consumers' positive emotions. Therefore, usefulness and ease of use about the social tagging in UGIs feature on the Xiaohongshu mobile s-commerce app could affect users' positive emotional value and behavioural intentions.



Source: Huang et al. (2013)

7.2.2 S-O-R model



Figure 7-2 Consumers' Response to High-Technology Products

Source: Lee, Ha and Widdows (2011)

Lee, Ha and Widdows (2011) found that the high-technology attributes can influence consumer behaviour. Based on Mehrabian and Russell (1974)'s Stimulus–Organism–Response (S–O–R) framework, this study proposed high-technology product attributes as technological performance, appearance and communication to influence consumers' cognitive (attitude) and affective states (pleasure and arousal), contributing to their approach–avoidance behaviour. Accordingly, technology system values can evoke positive emotions (pleasure and arousal), and help this study to provide basic components (usefulness and ease of use) for Xiaohongshu mobile s-commerce app about social tagging in UGIs' technology's effect on consumer emotional pleasure and arousal.

Figure 7-3 An S-O-R Model of Consumer Response to Online Shopping



Source: Eroglu, Machleit and Davis (2001)



Figure 7-4 The Impact of Internet Atmospherics

Source: Richard (2005)

Eroglu, Machleit and Davisb (2001) revealed that online website atmospheric cues (high-low task relevant information) influence the consumer's emotional state (cognition state including attitudes, attention, and behaviour outcomes). Site informativeness is about product attributes and details to help consumers to complete shopping outcomes as shown in Figure 7-3. Based on Eroglu, Machleit and Davisb (2001)'s model, Richard (2005) identified the details of online environmental cues as stimuli on consumers and distinguished cognitive and affective response and behaviour outcomes. High task relevant cues are website navigational characteristics, informativeness and information content structure effectiveness in Figure 7-4. In contrast, low task relevant cues are entertainment cues. Therefore, Xiaohongshu' social tagging within UGI images content (e.g. brand name, product title, price and purchase location) could be informative to tagging users, the high informativeness value of the information could stimuli consumer response and help content consumption users to make purchase decisions.





Source: Huang, Ali and Liao (2017)

Huang, Ali and Liao (2017) rely on the S-O-R model developing a comprehensive research model that expresses online game user experience (i.e. functional, hedonic, and social) as the stimuli to evaluate the relationship between consumer affective

emotion (pleasure, arousal, dominance) and consumer WOM behaviour in Figure 7-5. This study examines technology experiences that can evoke emotional pleasure, arousal and dominance. The consumer's final response is WOM behaviour, thus, if Xiaohongshu' social tagging within UGIs can influence tagging users' positive emotion; tagging users will deliver positive WOM about the Xiaohongshu app.



Figure 7-6 Brand-related UGC via Social Media

Kim and Johnson (2016) used the S-O-R model to examine consumer social media behaviour, brand-related UGC (regarded as the informational stimulus), emotional responses (pleasure and arousal) and perceived information quality (cognitive response). Information pass-along, impulse buying, future-purchase intention, and brand engagement were treated as behavioural responses as shown in Figure 7-6. According to the research framework, users sharing information about products can evoke potential consumer emotional pleasure and arousal, which contributes to potential consumers' purchase intention in s-commerce platforms. Therefore, the information content of social tagging in UGIs could positively affect pleasure and arousal, consequently generates potential consumer purchase intention.

7.3 Summary of S-O-R Model Application

According to usefulness as the stimulus in the S-O-R model selected in Table 7-1, Kourouthanassis *et al.* (2015) regarded usefulness and ease of use as the expectancy of performance to examine a mobile augmented reality (MAR) travel guide value. The created value can evoke emotion (pleasure and arousal), which contributes to the use of the mobile apps. Peng and Kim (2014) proposed the conceptual framework to regard hedonic value and utilitarian value (usefulness) to examine the online shopping website function values between attitudes, emotions towards online shopping, and repurchase

Source: Kim and Johnson (2016)

intentions. Lee, Ha and Widdows (2011) illustrated usefulness, ease of use, innovativeness of technology of the consumer's attitude, pleasure and arousal. Kim, Shim and Ahn (2011) investigated the social networking service's usefulness of networking and collecting information and how it affects the consumer's pleasure and intention to use. Thus, usefulness can be viewed as a stimulus in the following proposed model.

Author	Research Title	Research Framework	Research Method	Data Analysis
Kourouthanassis et al. (2015)	Tourists responses to mobile augmented reality travel guides: The role of emotions on adoption behaviour	Stimuli: performance expectancy (usefulness)/ effort expectancy (ease of use) Organisms: pleasure, arousal, dominance Response: behaviour intention	Experiment	Structural equation modeling (SEM)
Peng and Kim (2014)	Application of the stimuli- organism- response (S-O- R) framework to Online Shopping Behaviour	Stimuli: utilitarian value/ hedonic value/ environment stimuli Organisms: attitude toward online shopping, emotion Response: repurchase intention	Survey	Structural equation modeling (SEM)
Lee, Ha and Widdows (2011)	Consumer responses to high- technology products: Product attributes, cognition, and emotions	Stimuli: performance (usefulness, ease of use, innovativeness of technology)/appearance (visual appeal, prototypicality)/communicati on (self-expression) Organisms: attitude/pleasure/ arousal Responses: approach/avoidance behaviour	Survey	Confirmatory factor analysis (CFA) Structural equation modeling (SEM)
Kim, Shim and Ahn (2011)	Social networking service: motivation, Pleasure, and behavioural intention to use	Stimuli: extrinsic motivation (perceived usefulness of networking, collecting information), instinct motivation: (relieving stress, recording online history) Organisms: pleasure Response: behaviour intention to use	Survey	Confirmatory factor analysis (CFA) Structural equation modeling (SEM)

Table 7-1 Usefulness as a Stimulus in S-O-R Model

Author	Research Title	Research Framework	Research Method	Data Analysis	
Lin and Lo (2016)	Evoking online consumer	Stimuli: ease of use (navigation)	Survey	Partial least squares (PLS)	
	impulse buying through virtual	Responses: pleasantness/ Arousal			
	layout schemes	Responses : urge to buy impulsively			
Kourouthanassis et al. (2015)	Tourists responses to mobile augmented reality travel guides: The role of emotions on adoption behaviour	Stimuli: performance expectancy (usefulness), effort expectancy (ease of use), Organisms: pleasure, arousal, dominance Responses: behaviour intention	Experiment	Structural equation modeling (SEM)	
Loureiro (2015)	The role of website quality on PAD, attitude, and intentions to visit and recommend Island destination	Stimuli: website quality (design visual appeal, information content, ease of use, interactive features) Organisms: pleasure, arousal, dominance Responses: attitude, intent to visit and recommendation	Survey	Partial least squares (PLS)	
Liu, Li and Hu 2013)	Website attributes in urging online impulse purchase: An empirical investigation on consumer perceptions	Stimuli: product available, visual appeal, website ease of use Organisms: impulsiveness/ normative evaluation/ instant gratification Responses: instant gratification	Survey	Confirmatory factor analysis (CFA) Structural equation modeling (SEM)	
Kaabi <i>et al.</i> (2011)	Virtual store layout effects on consumer behaviour: Applying an environmental psychology approach in the online travel industry	Stimuli: ease of use (layout) Organisms: pleasure/attitude Responses: satisfaction/trust	Experiment	Average variance extracted (AVE) Structural equation modeling (SEM)	
Lee, Ha and Widdows (2011)	Consumer responses to high- technology products: Product attributes, cognition, and emotions	Stimuli: performance (usefulness, ease of use, innovativeness of technology)/ appearance (visual appeal, pothotypicality, communication (self- expression) Organisms: attitude/pleasure/ arousal Responses: approach/avoidance behaviour	Survey	Confirmatory factor analysis (CFA) Exploratory factor analysis (EFA) Structural equation modeling (SEM)	

Table 7-2 Ease of Use as a Stimulus in S-O-R Model

Table 7-2 presents ease of use as a stimulus in the selected S-O-R model, it illuminates ease of use value in online shopping website and mobile apps. Affected organism responses are attitude (Lee *et al.*, 2011; Manganari *et al.*, 2011), pleasure (Lee *et al.*, 2011; Manganari *et al.*, 2015; Loureiro, 2015; Lin and Lo, 2016), arousal (Lee *et al.*, 2011; Kourouthanassis *et al.*, 2015; Loureiro, 2015; Lin and Lo, 2016) and dominance (Kourouthanassis *et al.*, 2015; Loureiro, 2015). Behaviour responses are approach/avoidance behaviour (Lee, Ha and Widdows, 2011), satisfaction/trust (Manganari *et al.*, 2011) urge to buy impulsively (Lin and Lo, 2016),

instant gratification, attitudes, intent to visit and recommendation (Loureiro 2015). Thus, ease of use can be regarded as a stimulus from the S-O-R model, which will be used in the following proposed model.

Author	Research Title	Research Framework	Research Method	Data Analysis
Mpinganjira (2015)	Using online service-scape to appeal to customers: A focus on hedonic shoppers	Stimuli: informativeness, web usability, mass customisation website aesthetic Organisms: online shopping hedonic experience (emotional pleasure) Response: commitment to online site	Survey	Structural equation modeling (SEM)
Hsieh <i>et al.</i> (2014)	Customer response to web site atmospherics: task-relevant cues, situational involvement, and PAD	Stimuli: high task relevant cues (informativeness, navigational cue, perceived organisation) Organisms: perceived dominances, leisure Response: purchase intention	Online survey	Partial least squares (PLS)
Gao and Bai (2014)	Online consumer behaviour and its relationship to website atmospheric induced flow: Insights into online travel agencies in China	Stimuli: website atmospheric cues (informativeness effectiveness, entertainment) Organism: flow Responses: purchase intention/ satisfaction	Survey	Confirmatory factor analyses (CFA) Structural equation modeling (SEM)
Ha and Lennon (2010)	Online visual merchandising (VMD) cues and consumer pleasure and arousal: purchasing versus browsing situation.	Stimuli: high-low task relevant information cue (site informativeness) Organisms: pleasure and arousal Responses: satisfaction, purchase intention, approach behaviour	Experiment Content Analysis	PRELIS program The maximum likelihood (ML)
Richard, (2005)	Modeling the impact of internet atmospherics on surfer behaviour	Stimuli: high task relevant cue (navigational characterises, informativeness., information content effectiveness, structure, organization), low task relevant (entertainment) Organisms: affect (site attitude), cognition(exploratory behaviour, site involvement) Response: purchase intention	Survey	Exploratory factor analysis (EFA) Confirmatory factor analysis (CFA) Structural equation modeling (SEM)

Table 7-3 Informativeness as a Stimulus in S-O-R Model

Table 7-3 lists that informativeness as a stimulus affects consumer behaviour in the online shopping environment; organisms consists of attitude, exploratory behaviour, site involvement, pleasure, arousal, flow and dominance hedonic experience (Richard, 2005; Ha and Lennon, 2010b; Gao and Bai, 2014; Hsieh *et al.*, 2014; Mpinganjira, 2015). Website informativeness can evoke consumers' purchase intentions, satisfaction, approach behaviour and commitment (Richard, 2005; Ha and Lennon, 2010b; Gao and

Bai, 2014; Hsieh *et al.*, 2014; Mpinganjira, 2015). Thus, informativeness construct can be seen as a stimulus from the S-O-R model, which will be used in the following proposed model.

Author	Research Title	Research Framework	Research	Data Analysis
Huang, Ali and	The effect of	Stimuli: functional	Survey	Structural
L1ao (2017)	user	experience, hedonic		equation
	online games	experience, social		(SEM)
	on word of	experience		
	mouth:	Organisms: pleasure/	-	Confirmato
	pleasure-	arousal		ry factor
	arousal-			analysis
	(PAD) model	Response: WOM intention		(CFA)
	nerspective	_		
Kim and Johnson	Power of	Stimuli: brand-related	Online	Structural
(2016)	consumers	UGC	questionnaire	equation
	using social	Organisms:		model
	media:	pleasure/arousal/ perceived		(SEM)
	examining the	information quality	-	
	influences of	Responses: WOM		
	brand-related	(information pass-along),		
	content on	impulsive buying, future		
	Facebook	engagement		
Loureiro and	Virtual	Stimuli : online atmosphere	Online	Structural
Ribeiro (2014)	atmosphere:	cue	questionnaire	equation
	the effect of	Organisms: pleasure,		model
	pleasure,	arousal, delight		(SEM)
	arousal, and delight on	Response: WOM intention	-	PLS model
Loureiro	The effect of	Stimuli: atmosphere	Questionnaire	PLS model
Almeida and	atmospheric	involvement	Questionnaire	1 L5 model
Rita (2013)	cues and		_	
	involvement	Organisms: relaxation,		
	on pleasure	pleasure	-	
	and relaxation:	Responses: satisfaction		
	The spa hotel	and WOM intention		
Ha and Im	Role of web	Stimuli: website design	Survey	Structural
(2012)	site design	Organisms: rlassure		equation
	quality in	perceived information		modeling
	satisfaction	quality, arousal		(SEM)
	and word of	Responses: satisfaction,	-	
	generation	WOM intention		
Jayawardhena	An empirical	Stimuli: convenience,	Survey	Confirmato
and Wright	investigation	attitude of		ry factor
(2009)	into e-	website/merchandising/		analysis
	shopping	involvement	-	(CFA)
	excitement:	Organisms : excitement		Structurel
	and effects	(pleasure/ arousal)	-	equation
		Responses: positive WOM		modeling
		intention, intent return		(SEM)

Table 7-4 Relationship between Emotion and WOM Intention in S-O-R Model

The relationship between positive emotion (pleasure and arousal) and WOM intention is shown in Table 7-4. The emotion variation is according to different environments such as online shopping's convenience, merchandising, involvement (Jayawardhena and Wright, 2009), website design (Ha and Im, 2012), atmosphere (Loureiro *et al.*, 2013; Loureiro and Ribeiro, 2014), user-generated information (Kim and Johnson, 2016) and online gaming experience (Huang, Ali and Liao, 2017). Affective states of pleasure and arousal are consumers' inner responses in the S-O-R model, WOM intention is the outcome in different research contexts. Thus, WOM intention will be used in the following proposed model.

Author	Research Title	Research Framework	Research Method	Data Analysis
Demangeot and Broderick (2017)	How mobile in- store advertising influences purchase	Stimuli : mobile in-store price promotion, location, messages personalize/mobile in-store messages	Experiment	SUR regressions
	drivers and mediating	Organisms: pleasure/arousal/dominance	-	
	effects from a consumer perspective	Response: purchase intention	-	
Kim and Johnson	Power of consumers using	Stimuli: brand-related UGC	Online questionnaire	Confirmatory factor
(2016)	social media: Examining the influences of	Organisms : pleasure, arousal perceived information quality		analysis (CFA)
	brand-related user-generated content on Facebook	Responses: information pass- along (WOM), impulse buying, purchase intention, brand engagement		
Ha and Lennon (2010)	Online visual merchandising (VMD) cues and consumer pleasure and arousal: purchasing versus browsing situation.	Stimuli : high-low task relevant information cue (site Informativeness)	Experiment Content analysis	PRELIS program The maximum likelihood (ML) procedure
		Organisms : pleasure and arousal		
		Responses : satisfaction, purchase intention, approach behaviour		
Demoulin (2011)	E-atmosphere, emotional,	Stimuli: model, colour, enlargement, mood	Online survey	Post hoc test
	cognitive, and behavioural responses	Organisms: pleasure, arousal Mediations: perceived information, risk (transaction risk, consequential, social psychological Response: purchase intention	-	
Kim, Kim and	Effects of web site	Stimuli: product presentation/ music	Experiment	MANOVA
Lennon (2009)	atmospherics on consumer responses: music	Organisms : emotional state (pleasure, arousal, dominance)		
	and product presentation	Response : purchase intention		

Table 7-5 Relationship between Emotion and Purchase Intention in S-O-R Model

Table 7-5 illustrates the relationship between positive emotion (pleasure and arousal) and purchase intention. The constructs of stimulus are shopping site atmosphere (Kim *et al.*, 2009; Ha and Lennon, 2010b; Kim and Lennon, 2010), brand-related UGC (Kim and Johnson, 2016) and mobile advertising content (Demangeot and Broderick, 2017). Thus, purchase intention could be used in the following proposed model as an outcome.

7.4 Framework Development

By applying the findings of the literature review to the applied S-O-R framework and TAM, S-O-R model and TAM are selected as the theoretical foundation to explore scommerce community's users use social tagging within UGIs and informative content on consumer emotion and behavioural intention. This theory was used to investigate the consumer emotional reaction in the technological and informative environment, in turn consumer behaviour emotion and behavioural intention. In addition, it could examine consumer emotion value in the mobile s-commerce app environment. Therefore, TAM and S-O-R model will serve as the foundation of this study with usefulness, ease of use, informativeness of social tagging UGIs, and s-commerce communities' users could cocreate tagging in UGIs' emotions. The behaviour responses are WOM intention and purchase intention in the mobile s-commerce environment as shown in Figure 7-7.



Figure 7-7 Social Tagging within UGIs towards Mobile S-commerce Hypotheses

7.4.1 Usefulness, Pleasure and Arousal

Traditional information system research is used to investigate user behaviour in the context of productivity or utilitarian oriented technology, for example, word processing. Currently, most information technologies integrate substantial pleasure-oriented qualities, for instance, social networking systems and virtual worlds (Wu and Holsapple, 2014). In traditional information systems, Atterns *et al.* (2015) examined that IT usage in work could generate mixed emotion information responses like pleased, annoyed, anger and affective responses (uniform or mixed) depending on the nature and content (positive/negative) of the technology cues and their interactions. On the contrary, usefulness of pleasure-related technology contributes to a positive emotional response. Cognitive reactions from the stimulus, such as perceived shopping website usefulness, promote perceived enjoyment and buying impulsively (Parboteeah *et al.*, 2009). Moreover, usefulness of high technology product can influence consumer emotional pleasure and arousal (Lee *et al.*, 2011).

In the virtual community and shopping environment, usefulness of consumer participation in online recommendation positively relates to consumer shopping enjoyment (Sheng and Zolfagharian, 2014) and usefulness of mobile networking. Collecting information service is also associated with emotional response (Kim *et al.*, 2011). In turn, emotional response improves utilitarian shopping value (Yuksel, 2007). Social tagging owns both utilitarian and pleasure-oriented values because it creates various benefits such as easy to remember words, helpful meaning, attracting attention and opinion expression, entertainment and presentation (Sigala, 2011). Tagging items in UGIs help fashion bloggers to show off their sharing task and promote browsers to search the specific fashion item in UGIs. Usefulness of tagging fashion items in UGIs feature would seem to influence community users' emotional pleasure and arousal. Therefore, the following hypotheses are proposed:

H1: High usefulness of social tags in UGFIs will be positively related to users' emotional pleasure.

H2: High usefulness of social tags in UGFIs will be positively related to users' emotional arousal.

7.4.2 Ease of use, Pleasure and Arousal

Social tagging functional services are easy to use (Derntl *et al.*, 2011). Previous research investigated ease of use value on emotional responses in technical aspects, for example, ease of use in evaluating website quality results in high website performance that promotes consumer emotional arousal (Loureiro, 2015). Ease of use of high technology product can influence consumer emotional pleasure (Lee *et al.*, 2011). Ease of use of use of computer technology positively influences consumer enjoyment (Igbaria, Iivari and Maragahh, 1995; Van derHeijden, 2004). Ease of use affects the positive emotion in experiencing (Huang *et al.*, 2013). Ease of use about tagging fashion items in UGIs is co-created by posters and tagging information users. In this study, consumers who see social tagging think that tagging content in UGIs feature is easy to use. Emotion (pleasure and arousal) response social tags in UGIs will be high, otherwise, emotional pleasure and arousal about social tags within UGIs will be low. Consequently, this study can hypothesise:

H3: High ease of use of social tags in UGFIs will be positively related to users' emotional pleasure.

H4: High ease of use of social tags in UGFIs will be positively related to users' emotional arousal.

7.4.3 Informativeness, Pleasure and Arousal

S-commerce information seeking can raise consumer's knowledge and evaluations about products (Hennig-thurau *et al.*, 2003; Hajli *et al.*, 2017). Consumers are willing to concentrate on the focal information (perceived useful and helpful informativeness) of reviews to make purchase intention when searching for high involvement products (Park, Lee and Han, 2007). In fashion s-commerce, price-conscious, fashion-conscious, and brand-conscious consumers all need information to achieve their goals (Kang *et al.*, 2014). Tagging communication functions involve communication between tag posters and viewers in the image content (Nov and Ye, 2010). Social tags could contain brand information, product attributes (e.g. reliability and compatibility) or non-product attributes (e.g. price and promotion). Social tags also relate to information about product ranges, sub-brands, and competitors (Nam and Kannan, 2014). Furthermore, location representation of images could summarise all the informative descriptions of a location to capture its location-representative knowledge (Pang *et al.*, 2011).

In social media, UGC could generate consumer positive pleasure and arousal (Kim and Johnson, 2016). Information uniqueness could generate positive emotions (Wang *et al.*, 2017). Online reviews make consumers feel informative, hence consumers with high pleasure and arousal will give rise to visiting stores more often (Ruiz-Mafe, Chatzipanagiotou and Curras-Perez, 2018). Tagging informativeness about fashion items in UGIs has not been researched in previous studies; if tagging users think tagging fashion items information (e.g. brand name, product title, purchase price and location) is convenient, useful, helpful, relevant, community users' co-created emotions (pleasure and arousal) for tagging in UGIs will be high, therefore, the following hypotheses are proposed:

H5: High informativeness of tagging content about fashion items in UGIs will be positively related to users' emotional pleasure.

H6: High informativeness of tagging content about fashion items in UGIs will be positively related users' emotional arousal.

7.4.4 Pleasure, Arousal and Purchase Intention

Emotion has an influence towards consumer purchase intentions (Malthouse *et al.*, 2014). The influence consumption emotion (pleasure and arousal) on purchase intention has been investigated in several studies according to different shopping environments. Ha and Lennon (2010) argued that emotion will influence consumer buying decision on a particular product or service in the online fashion virtual merchandising cues. Wu *et al.* (2013) evaluated online website emotion (pleasure and arousal) on consumer

purchase intention. Perceived apparel brand quality on emotional value will positively influence consumer purchase intention (Lee *et al.*, 2008). In the virtual community, Kim and Johnson (2016) investigated brands related to UGC's pleasure and arousal could recall and purchase in the future. High pleasure and arousal of social tags UGIs could stimuli users to make purchase intention of tagging fashion items in UGIs, hence, the following hypotheses are proposed:

H7: High pleasure will have a positive relationship with purchase intention.

H8: High arousal will have a positive relationship with purchase intention.

7.4.5 Pleasure, Arousal and WOM Intention

The influence of emotion (pleasure and arousal) on WOM has been investigated in a few studies. Pleasure may result in consumers sharing their experiences to others (Huang *et al.*, 2017). Online shopping environment arousal could lead to consumers to recommend sites. Kim and Johnson (2016) proved the impact of emotion (pleasure and arousal) could stimulate consumers to click "like" or "share". These behaviours could be information passing along (WOM) about brand-related UGC in the virtual community. Huang, Ali and Liao (2017) examined the impact of (pleasure and arousal) on WOM to diffuse online information. High pleasure and arousal of social tags in images could evoke users to share and recommend s-commerce platform to others, hence, the following hypotheses are proposed:

H9: High pleasure will be related positively to WOM intention.

H10: High arousal will be related positively to WOM intention.

7.4.6 Ease of Use and Usefulness

Previous research found that ease of use directly influences usefulness in online consumer behaviour, such as social media (Lim *et al.*, 2013; Wirtz and Göttel, 2016) and mobile shopping (June, 2014; Natarajan *et al.*, 2017). Huang, Lin and Chan (2012) investigated the positive influence of social tagging's ease of use on usefulness for information sharing. If social tagging within UGFIs is easy to use, then usefulness of social tagging within UGFIs is high. Thus, the following hypothesis is formulated:

H11: High ease of use of tagging content about fashion items in UGIs will be positively related to usefulness.

7.4.7 Ease of Use and Informativeness

When a website provides the consumers with information to satisfy their needs, it is called information-task-fit, which is related to informativeness (Dedeke, 2016). The consumer's perspective of perceived information-task fit could be improved by website design, for example, interactivity and navigation (Dedeke, 2016). Previous research also found that website designs with ease of use influence the information quality (Kim and Niehm, 2009). Perceived information quality includes information accuracy and informativeness (Kim and Niehm, 2009). The website manager could improve the website design of ease of use to help consumers directly access product information to make a purchase (Kim and Niehm, 2009). For Xiaohongshu mobile community users, if social tagging within UGFIs is easy to use, the online community's users will directly assess informative content about sharing items in UGIs. Therefore, the following hypothesis is proposed:

H12: High ease of use of social tags in UGFIs will be positively related to tagged items' informativeness.

7.4.8 Informativeness and Purchase Intention

Arli (2017) concluded that informativeness of social media features could influence consumer attitudes and purchase intentions. Helpful information makes consumers understand products and evaluate the product performance (Filieri *et al.*, 2018). Alalwan (2018) found that informativeness has a direct positive influence towards purchase intention. The social tagging's informativeness feature could be designed by the mobile s-commerce manager and guide tagging posters to provide price, product title, brand and purchase location and links. Managers make the feature service more suitable for s-commerce consumers. If users within the community think social tagging within UGFIs' keywords is informative to evaluate the shared product, they would make a purchasing decision. Hence, it is hypothesised that:

H13: High informativeness of tagging content about fashion items in UGIs will be positively related to purchase intention.

7.4.9 Informativeness and WOM Intention

Perceived information quality of website design has a positive influence on WOM communication about platforms (Kim and Niehm, 2009; Ha and Im, 2012). Social tagging within UGIs posted by tagging posters. Information provided (e.g. price and brand) in social tagging is observed to examine whether social tagging is informative

as an information communication tool. if social tagging within UGFIs is informative, mobile s-commerce community users would like to talk with others about Xiaohongshu s-commerce app. Therefore, it is hypothesised that:

H14: High informativeness of tagging content about fashion items in UGIs will be positively related to WOM intention.

7.4.10 Purchase Intention and WOM Intention

Olaru, Purchase and Peterson (2008) examined that repurchase intention directly influences word of mouth intention (recommendation), in addition, other research also proved that purchase intention could affect word of mouth communication (Sichtmann, 2007; Tsiotsou and Alexandris, 2009). When consumers would like to use the social tagging within UGIs service to make a purchase decision, they will probably use WOM communication about the Xiaohongshu mobile s-commerce app. This expectation is hypothesised as follows:

H15: High purchase intention about fashion items in UGIs will be positively related to WOM intention.

7.5 Summary of Framework Development

This section has identified the variables that significantly affect mobile s-commerce behaviour: usefulness, ease of use, informativeness, pleasure and arousal, WOM intention, purchase intention about social tagging fashion items in UGIs. The foundation of the S-O-R model and TAM development relies on seven variables and 15 general hypothetical relationships. However, these hypothetical relationships come from different researches, the actual relationships, and the degree of contribution between variables will be investigated and examined in Chapter 9. The next chapter will discuss the methodology involved in this study.

Chapter 8 Methodology

8.1 Introduction

Research is a process to find information and knowledge to solve a problem (Maylor and Blackmon, 2005). Methodology plays an important role in the research process due to the needs to match methodology and subsequent methods with the ontological, epistemological, and theoretical assumptions. The aim of methodology is to investigate the topic with an underlying strategy or plan of action (Crotty, 1998). All of these questions are related to "why research?" (Holden and Lynch, 2004). Research methodology also consists of different research designs and plans to apply in the study and transfers a research methodology to a specific method like surveys, questionnaires or interviews (Maylor and Blackmon, 2005). This chapter reviews a series of philosophies and methodologies and decides the appropriate research process for this study.

8.2 Research Philosophy

Before understanding the market research philosophies, researchers need to learn the acknowledgement of research paradigms (Sobh and Perry, 2006). A paradigm is related to a belief or worldview guiding a researcher to understand whether a conceptual model may work (Sobh and Perry, 2006). It contains three aspects: ontology, epistemology and axiology (Saunders, Lewis and Thornhill, 2013, 2015).

8.2.1 Ontology

Ontology describes the briefs of the real natural world and what we know (Ritchie and Lewis, 2013). Individuals exist in their personal own reality that is called relativist ontology (Hanson and Grimmer, 2007). Ontology includes objectivism and subjectivism, and are generally accepted as producing valid knowledge by researchers (Saunders *et al.*, 2013, 2015). The benefit of ontology is to help researchers identify what is real and decide whether a study should be based on subjectivism or objectivism (Maylor and Blackmon, 2005).

Objectivism

Objectivism is appropriate for studying physical objects. It focuses on physical reality (Maylor and Blackmon, 2005). For objectivists, social phenomena and their meanings are independent and separate for social actors (Bryman and Bell, 2015). Experiences

and interpretations have no impact on social actors (Saunders *et al.*, 2013). The purpose of objectivists is to observe the truth about social reality (Saunders *et al.*, 2013). On the contrary, realism is another psychological position that is related to scientific enquiry, and it is the feeling of objects being in the human mind (Saunders *et al.*, 2013).

Subjectivism

Subjectivism mainly relates to the arts and humanities. The origin is from the perception of human actions (Saunders, Lewis and Thornhill, 2016). Subjectivism is more suitable to study business and management phenomena than natural objects because the ideas are socially constructed without physical evidence (Maylor and Blackmon, 2005).

8.2.2 Epistemology

Another idea in research philosophy is epistemology (Maylor and Blackmon, 2005). Epistemology is a part of philosophy regarding the theory of knowledge, and the aim is to provide answers of the question. It involves in the nature and scope of knowledge and whether it is accurate and reliable (Willig, 2013). The acceptable epistemologies provide a volume of methods (Saunders *et al.*, 2013, 2015). However, the choice of each method has different advantages and limitations (Saunders *et al.*, 2013, 2015).

8.2.3 Axiology

Axiology reflects values and ethics in the research process (Saunders *et al.*, 2013, 2015). From axiological skills, researchers could grasp research values and make the judgment about how to conduct research process. The choice of philosophy shows how you evaluate your research value and choose data collection techniques (Saunders *et al.*, 2013, 2015).

The philosophy is related to the fundamental nature of reality and the "world" in the researcher's mind (Saunders *et al.*, 2013, 2015). Research philosophy relates to a system of briefs and the developments of knowledge (Saunders *et al.*, 2013, 2015). Its purpose is to answer particular questions in a specific field (Saunders *et al.*, 2013, 2015). Philosophical assumptions support paradigms of research science concerning (e.g. positivism and interpretivism) (Saunders *et al.*, 2013, 2015) and realism (Sobh and Perry, 2006). The following section will present the concepts of positivism, realism and interpretivism.

8.2.4 Positivism

Positivism is an epistemological position and helps to recognise and understand the relationship between the world and an individual perception (Willig, 2013). It requires to collect data to observe the reality and search for regularities and causal relationships in the data collecting process (Saunders *et al.*, 2013, 2015). It seems likely that researchers use existing theories to develop hypotheses and produce credible data (Saunders *et al.*, 2013, 2015). Therefore, understanding this process should be the impartial and unbiased view of the object without personal interests. Generally, the concept (e.g. reliability, validity and statistics) is to do a good positivist research due to the certain descriptions (Hanson and Grimmer, 2007). The difference between epistemology and positivism is that the former focuses on suggestion techniques, which uncover the world to produce probabilistic and ultimately uncertain understandings, and later focus on the existing reality (Hanson and Grimmer, 2007).

8.2.5 Realism

Realism is related to the aims and limitations of science because the physical world is objective and transited into the individual's subjective experience (Pruzan, 2016). For objectivists, social phenomena and their meanings are independent and separate for social actors (Bryman and Bell, 2015). Realism has two common features with positivism (Bryman and Bell, 2015): (1) a worldview that nature and social science could use and uses the same approach for data collection. (2) acknowledges that the external reality is true. Critical realism is related to explanations of what events have been seen and experienced (Saunders *et al.*, 2013, 2015). In the process of critical realism, reality is above all philosophical consideration and is seen through observing social structures in phenomena (Saunders *et al.*, 2013, 2015). In-depth historical analysis of social structures is helpful to learn how social structures have changed (Saunders *et al.*, 2013, 2015).

8.2.6 Interpretivism

Interpretivism is related to understanding differences between humans in social science and focuses on conducting research among people rather than reality (Saunders *et al.*, 2013, 2015). The aim of interpretivism is to generate rich and meaningful insights through subjectivism (Saunders *et al.*, 2013, 2015). It has been seen as the qualitative research tradition (Ritchie and Lewis, 2013). For example, interpretivism supposes that multiple realities exist in the society which needs to be understood rather than predicted (Creswell, 2008).

8.2.7 Research philosophy adopted in this study

The principle of philosophy in this study relies on realism. Realism is cautious in behaviour research and contributes to the successful methodology (Haig, 2018). In this process, reality is "real" and independently exists in human minds (Sobh and Perry, 2006). The successive theory is to obtain the approximate truth (Haig, 2018). Thus, this study needs to balance the objective and subjective views. Additionally, social phenomena and causal impacts are not fixed based on time, place and environment (Sobh and Perry, 2006). It is not acceptable that the result of this study is an unchanging reality through positivism philosophy, because the repetition of positivism research requires to obtain the same results as previous research (Sobh and Perry, 2006). The value of realism helps a researcher recognise the conception of the methodology and guide research (Haig, 2018). The nature of realism is consistent with this study.

8.3 Approaches to Theory Development

At the beginning of research projects, researchers use theory in research designs and questions (Saunders *et al.*, 2013, 2015). Even though researchers could not make an explicit useable theory in research designs, the findings and conclusions will make the theory clear, or make theory developments (Saunders *et al.*, 2013, 2015). There are two approaches to do marketing research in general, namely, inductive and deductive approaches (Hyde, 2000).

8.3.1 Deduction

Deduction is the method to test a process with an established theory or generalisation to identify whether the application of the theory is suited to the research questions (Hyde, 2000). The origin of the hypotheses is logical and reasonable (Curwin, Slater and Eadson, 2013). The essential concept of a hypothesis is to propose and conduct the formulated manner. This can be tested and can provide statistics for the development theory (Pruzan, 2016). Through deduction, researchers recognise how to collect data concerning the concepts (Bryman and Bell, 2015). Quantitative approach generally adopts a deductive process (Hyde, 2000), and the deductive approach could help the researcher to develop a new theory (Hyde, 2000).

8.3.2 Induction

The difference between induction and deduction is the method of dealing with the conclusion based on data/observation and previous logical methods (Pruzan, 2016).

Induction is to observe the specific phenomenon, then make general conclusions (Sekaran and Bougie, 2016). Researchers adopt induction approaches if it is possible to concern the research in the context, therefore, small samples which are observed are more appropriate (Saunders *et al.*, 2013, 2015). Practically, qualitative approach commonly uses an inductive process (Hyde, 2000), inductive approaches help the researcher to adopt useful theories and explore a phenomenon (Hyde, 2000). Furthermore, the theory or framework of inductive approach is the outcome (Saunders *et al.*, 2013, 2015).

8.3.3 Approach to theory development adopted in this study

According to the concepts and applications of inductive and deductive approaches, this study will choose the deductive research approach to develop a theory. Through the general ideas of the literature review, specific measurable variables, hypotheses and theories (e.g. S-O-R model and TAM) are adopted regarding the research questions to test a theory in practice. Inductive approach is not suitable for this study because this approach considers previous theories which are limited to explaining a phenomenon, or is applied without theoretical frameworks (Saunders *et al.*, 2013, 2015).

8.4 Research Designs

Research designs are the strategies, structures and plans to answer the research questions and problems (Kumar, 2010). A research design offers a data collection and analysis framework (Bryman and Bell, 2015). The aim of research design is to improve the research's effectiveness and efficiency (Blessing and Chakrabarti, 2009). The data collection, analysis and reporting are guided by research plans, namely, research designs and its characteristics vary according to qualitative and qualitative methods. The choice of research designs is in accordance with qualitative and quantitative methods (Kumar, 2010).

8.4.1 The research design classification

The purpose of the research design can be classified into two main types: exploratory research and conclusive research (Malhotra, 2003; Wilson, 2011). The types of research design reflected in the following Figure 8-1.





Source: Wilson (2011)

8.4.2 Exploratory research design

The objective of exploratory research design is to develop initial ideas or insights to provide guidelines for further studies (Wilson, 2011). An exploratory design is used to discover what is happening and deeply observe insights by asking valuable open questions (Saunders *et al.*, 2013, 2015). At the beginning of an exploratory study, researchers could ask "what" and "how" in the questions at first to explore an issue, problem and phenomenon (Saunders *et al.*, 2015). It could be used in different situations such as collecting background information, defining terms and clarifying problems and hypotheses and to build research priorities (Burns and Bush, 2013a).

8.4.3 Conclusive research design

Conclusive research is studying a marketing phenomenon and making a summary of its characteristics (Malhotra, 2003). The types of conclusive research include descriptive research and causal research (Malhotra, Nunan and Birks, 2017). It is used to measure the specific hypotheses and show the relationship between variables (Malhotra *et al.*, 2017). Surveys, data, structural observations and experiments are the series of methods in this study design process (Malhotra, 2003).

Descriptive Research Design

Descriptive research is guided by the prior specific research questions and hypotheses (Malhotra et al., 2017). It reflects what is happening in a market, which does not conclude the reason of happening (Wilson, 2011). Descriptive research begins with the questions "who", "what", "where" or "how". The core of these questions is to gain a description of events or situations (Saunders et al., 2015). Descriptive research includes cross-sectional research and longitudinal research (Burns and Bush, 2013a). The crosssectional design is always called a social survey design, and it connects individual questionnaire and structured interviewing with additional research methods such as structured observation, official statistics and diaries (Bryman and Bell, 2015). This design only collects information once from the given population sample (Malhotra et al., 2017). The longitudinal designs are used to map changes in business and management research in particular (Bryman and Bell, 2015). In this research design, researchers need multiple observation of the same variables in a short or long period (Bryman and Bell, 2015). The process of longitudinal design is to do research repeatedly through the same population sample (Malhotra et al., 2017). It is a typical observational study, even though it is also applied in experiments (Bryman and Bell, 2015).

Causal Research Design

Causal research is to examine whether one variable value decides or results in another variable value (Wilson, 2011). The aim is to express cause-and-effect relationships in marketing (Malhotra, 2003). It is a type of conclusive research and the purpose is to obtain evidence concerning cause-and-effect relationships and is applied to recognise the cause and effect with the different variables to decide the relationship between dependent and independent variables, and testing hypotheses (Malhotra and Birks, 2007).

8.4.4 Research design adopted in this study

According to the research design process, the descriptive research design is chosen because the descriptive research design identifies the sample characteristics and makes the results relate to the research context. Through descriptive research design, this study could obtain respondents' ideas and attitudes towards social tagging within UGIs, namely usefulness, ease of use, informativeness, pleasure, arousal, WOM intention as well as purchase intention. Additionally, cross-sectional design is selected as data collection of this study is one time rather than long-term observation. This study does not consider exploratory research design because this study is not designed to answer the question "what" or explore an issue.

8.5 Data Sources

The application of research methods can be divided into two forms of data sources, namely primary data and secondary data. The data sources are related to answering research questions, completing research aims and objectives and increase the validly and reliability of research outcomes (Saunders *et al.*, 2013, 2015).

8.5.1 Primary data

Primary data is collected by the researchers themselves (Maylor and Blackmon, 2005). It is collected by a researcher for the specific problem (Saunders *et al.*, 2015). Primary data can be collected through observation, qualitative research quantitative research or mixed method (Wilson, 2011). For qualitative research, primary data collection adopts non-numerical form such as images, texts/words, symbols. For quantitative research, the data is collected by numerical form (Hanson and Grimmer, 2007). Researchers can control the situation in the collecting the experiments' data (Wilson, 2011), and the data is highly specific (Mooi, Sarstedt and Mooi-Reci, 2018). The researcher can decide when and where to carry out and stop competitors to assess it (Mooi *et al.*, 2018). However, collecting primary data takes more time and effort, and is more expensive than secondary data (Mooi *et al.*, 2018).

8.5.2 Secondary data

Secondary data is collected by other people for their own research topics or business purpose (Maylor and Blackmon, 2005). The types of secondary data consist of quantitative (numeric) and qualitative (non-numeric) data (Schumacker and Lomax, 2016). The benefit of secondary data is that it is always faster and less expensive than obtaining primary data (Wilson, 2011). Through digital stored data search, researchers can find relevant information about market size, trends, competitor analysis and others. If researchers collect those information through primary market research, it would be expensive and time consuming (Wilson, 2011). Secondary data contains surveys, market reports and company publications. Thus, researchers can collect secondary data from government reports, market research organisations, academic research units and others to answer the specific questions (Maylor and Blackmon, 2005). Through secondary data, researchers (1) recognise the research problem, (2) develop an approach to the solve the problems, (3) identify a suitable research design and (4) answer the specific research questions and test hypotheses (Malhotra, 2010). Collecting and analysing secondary data is a primary step in the research problem recognising process (Malhotra et al., 2017).

8.5.3 Primary versus secondary data

The difference between primary and secondary data makes distinct the advantages and drawbacks of primary and secondary data (Malhotra, 2010) as shown in Table 8-1.

Table 8-1 A Comparison of Primary and Secondary data

	Primary Data	Secondary Data
Collection Purpose	For the existing problems	For other problems
Collection Process	Involvement	Easy and quick
Collection Cost	High	Low
Collection Time	Long	Short

Source: Malhotra (2009, p.100)

8.5.4 Data collection approach adopted in this study

This study applies both primary data and secondary data for understanding the research topic and answer questions. Secondary data is adopted from market reports (e.g. iResearch and Statista), academic journals and retail websites to conduct the literature reviews and support the design of research questions. Most secondary data presents in the literature review. It enables to understand the basic knowledge, consumer behaviour and the design of research questions. Primary data is used for analysis of the specific research questions (Saunders *et al.*, 2015). Therefore, this study will obtain primary data resources to answer consumer behaviour about the social tagging within UGIs in the Xiaohongshu mobile s-commerce app.

8.6 Data Collection Approaches

Research approaches are planned, and the process involves philosophical assumptions about data collection, analysis and interpretation (Creswell and Creswell, 2018). In general, research approaches can be divided into qualitative, quantitative and mixed approaches (Creswell, 2002, 2008; Creswell and Creswell, 2018). The data is divided into quantitative and qualitative (Mooi *et al.*, 2018). The qualitative and quantitative research approaches have their own methods and categories. Each research method has its own advantages and drawbacks (Hanson and Grimmer, 2007).

8.6.1 Qualitative research

Qualitative research seeks to use a number of methods to holistically understand the participants' perspectives and actions (Ritchie and Lewis, 2013). The methods of collecting empirical information can be classified into direct observation and

experiments (Lapan, Quartaroli and Riemer, 2012). Qualitative researchers need to face a series of questions on proposing, conducting, and getting research republished. Its data has various forms such as words, pictures, audio and observations (Mooi *et al.*, 2018). Most common qualitative methods are presented in the following.

In-depth Interviewing

Interview methods enable researchers to understand individuals' motivation, perception, and experiences, and know what happened in the "real life setting a highlight on the lived experience" (Miles and Huberman, 1994). The trend of qualitative interviewing is more unstructured, and the interviewee may be interviewed more than one time (Bryman and Bell, 2015). Interviewers are eager to obtain rich information. The method of qualitative interviewing is more flexible (Bryman and Bell, 2015). For an unstructured interview, the interviewer should ask single questions, and interviewee responds freely.

Focus Group

Focus groups can be conducted by the discussions between group members to explore the specific issues of individuals' opinions and experiences, and this group has collective behaviour which is distinguished broadly from group interviewing by "specific group" as research data (Kitzinger, 1994). The benefit of online focus groups is that they can interact synchronously and asynchronously with immediate digital content to analyse (Evans *et al.*, 2001). On the other hand, the drawbacks of focus group research exist in various aspects, firstly, it is hard for researchers to control over proceedings rather than individual interviews; secondly, the data is difficult to analyse, organise and record; Thirdly, potential problems exist in group like reticent speakers, and some participants might feel discomfort (Bryman and Bell, 2015).

Case Studies

Case study is a method that the researcher uses to deeply analyse a program, event, activity or process (Creswell and Creswell, 2018). Researchers are interested in a specific instance that reflects a theory or an issue (Alasuutari, Bickman and Brannen, 2008). In general, it analyses various resources of data and methods (Maylor and Blackmon, 2005). At the beginning of a case study, coherent narrative is developed, which tells a story of the case study (Maylor and Blackmon, 2005). When the researcher faces a single case study, they need to write up the details, which probably use quantitative information such as graphs and tables to reflect the case (Maylor and Blackmon, 2005).

8.6.2 Quantitative research

Aliaga and Gunderson (2000) stated that quantitative research explains phenomena and questions by collecting numerical data and analysing the statistics. In this situation, the researcher intends to generate a meaningful phenomenon from the participants' views (Creswell and Creswell, 2018). Quantitative survey involves structured questioning of participants and the recording (Wilson, 2011). In this process, samples produce quantifiable insights into individuals' motivation and attitudes (Wilson, 2011). The survey methods involved structured research approaches, which rely on verbally, written, or online technology to guide. There are various survey methods such as structured interviewing, self-administrated surveys and experiments (Bryman and Bell, 2015).

Structured Interviewing

Structured interviewing is also known as a standardised interview; the purpose is to provide the same contexts for all respondents. This research method enables the respondents' replies to be aggregated converged (Bryman and Bell, 2015). Questions of topics are clearly specific, which always offer fixed forms. This type of questionnaire generally uses face-to-face contact in the home, street or place of work and also uses paper-based questionnaires or laptops and notepads (Wilson, 2011). The disadvantage of this method is that participants cannot provide other ideas (Malhotra *et al.*, 2017). Further, it could cause low validity of some types of data such as briefs and attitudes (Malhotra *et al.*, 2017).

Self-administered Surveys

Compared to structured interviewing, self-administered surveys are without interviewers or recordings, this survey form or questionnaire should be able to communicate with clear questions through posting or providing other ways to respond (Wilson, 2011). Participants can accomplish the survey via the mail (postal surveys), by hand delivery, fax, online surveys or using SMS (Wilson, 2011). The advantages of self-administered surveys are low cost, good control from respondents and no interviewer-evaluation apprehension (Burns and Bush, 2013a).

Experiments

Experiments refer to one or multiple independent variables to examine one or multiple dependent variables' relationships (Malhotra *et al.*, 2017). In experiments, research provides specific treatments for the target group and another group, then decide their outcome score. This research method includes true experiments with the researcher's

objective view on treatment conditions and qusi-experiments with nonrandomised assignment (Creswell and Creswell, 2018).

8.6.3 Mixed methods approach

The mixed methods are a degree to research design using multiple methods, namely more than one approaches (Venkatesh, Brown and Bala, 2013). Generally, mixed methods combine quantitative and qualitative methods collecting, analysing, and interpreting data in a single study or in a set of studies that investigate the same underlying phenomenon (Leech and Onwuegbuzie, 2009). The procedure of mixed methods considers four main aspects; timing, weighting, mixing and theorising to shape the design as shown in Table 8-2 (Creswell, 2007).

Main Aspects	Meaning		
Timing	Decide the data collection in a phrase		
	(sequentially) or at the same time (concurrently).		
Weighting	Decide and emphasise the priority of qualitative,		
	quantitative or both methods.		
Mixing	Decide the mixing strategy in data collection,		
-	analysis, and consequences or three parts.		
Theorising	Consider theories guidelines of design.		

Table 8-2 The Procedure of Mixed Methods

8.6.4 Research collection approach adopted in this study

This study will follow quantitative data collection methods to collect primary data according to the realism philosophy and deductive approach. Quantitative research obtains data for the research hypothesis to answer the research questions (Patten and Newhart, 2017). Besides, survey and observation are two basic research techniques for collecting quantitative research techniques in descriptive research (Malhotra *et al.*, 2017). Any survey for interviewing a large number of participants is through the questionnaire (Malhotra *et al.*, 2017). Previously, s-commerce research has adopted the questionnaire technique to conduct a survey (Dessart *et al.*, 2015; Rooderkerk and Pauwels, 2016; Jin *et al.*, 2017). S-O-R model and TAM research also adopt the questionnaire technique to do data collection (Demoulin, 2011; Hung, Yang and Hsieh, 2012; Loureiro *et al.*, 2013; Loureiro and Ribeiro, 2014; Kim and Johnson, 2016; Liu and Yu, 2016). In the self-administered questionnaire, coding is less expensive and time consuming (Malhotra *et al.*, 2017). Thus, this study also adopts the questionnaire method to collect primary quantitative data for the research questions and investigate the behaviours by numerical data with a logical process.

8.7 Collecting Primary Quantitative Data Using Questionnaire

A questionnaire shows the questions that research describes for participants to answer (Burns and Bush, 2013a). It is a convenient tool to collect data and record information about a specific issue of interest. Meanwhile, it also contains clear instructions and space for answers or administrative details (Oppenheim, 2000). There are two benefits of the questionnaire, first, it is helpful to access a lot of people at a lower cost like online research, second, it is easy to reach people as there are no geographical limitations (Oppenheim, 2000).

8.7.1 The types of questionnaire

The design of a questionnaire is different based on its delivering, returning, and collecting as well as the number of respondents (Saunders *et al.*, 2013; Schumacker and Lomax, 2016). The type of questionnaire is classified into self-administered questionnaires and interviewer-completed questionnaires. Self-administered questionnaires are completed by the respondents (Saunders *et al.*, 2013). It consists of internet-mediated questionnaires, intranet-mediated questionnaires, postal/mail questionnaires and hand in, hand delivery and collection questionnaires. Interviewer-completed questionnaires are recoded by the interviewer according to the respondents' answers (Saunders *et al.*, 2013). It uses face to face interviews (structured interviews) and telephone interviews to meet respondents to answer questions.

8.7.2 Questionnaire used in this study

The selection of questionnaire will be decided by available resources. It practically addresses time availability, financial support, interviewers and online support tools (Schumacker and Lomax, 2016). This study applies an online self-administered questionnaire to collect sample data and consequently achieve research aims. Schillwaert and Meulemeester (2005) stated the benefits of using online data collection, firstly, online data collation is faster and low cost compared to the offline method; secondly, online surveys do not face interviewer bias and are convenient for respondents to complete, which reduces the instruction of online medium compared to offline methods like interviews; thirdly, the high quality and accuracy of data leads to fewer errors in data entry and enlarges sample sizes.

8.8 Questionnaire Design

The design of a questionnaire has an effect on the quality of the data collected (Burns and Bush, 2013a). Many variable factors would result in inconsistent comparison matrix

for the research problem and produce invalid or bad results or wrong decision making, such as tedious response format and layout, redundant question content and long question length (Ergu and Kou, 2012).

8.8.1 Question content and format

Questionnaire questions should be constructed clear, simple, specific and relevant regarding the research question (Lietz, 2010). The specific words such as "frequently", "usually" and "regularly" should be avoided. When designing a questionnaire, the type of response format needs to be determined out of open-ended, closed and scaling questions (Wilson, 2011). For open-ended questions, participants can express their own thoughts, ideas, beliefs and uncovered research issues and it can be useful to place this as the first or final question (Malhotra *et al.*, 2017). The comments or ideas can enlarge the research's insights (Malhotra *et al.*, 2017). On the other hand, participants make choices in the alternative answers, the answer bias can be controlled in the closed and scaling questions (Malhotra *et al.*, 2017).

8.8.2 Questionnaire layout

The layout and appearance of the questionnaire should be attractive, uncluttered and easy to understand because there is a possibility that these factors affect the respondents' response rate (Wilson, 2011). The main elements of the questionnaire layout include spacing, variety, and coding/analysis demands. The most significant design issue in the online questionnaire includes heading and process information, forced completion, the first page, the last pages as well as multimedia (Wilson, 2011).

8.8.3 Ethic and incentives

The ethical area in business research relies on the values in the research process. The guideline of ethical problems concerns people and activities involved in conducting research (Bryman and Bell, 2015). Therefore, the research design should respect participants (Malhotra *et al.*, 2017). Researchers need to maintain participants' right to safety, right to privacy and right to make a choice (Malhotra *et al.*, 2017). Additionally, digital data collection and store are confidential and ethical. Data management is about who owns the data and under what terms it can be used (Bryman and Bell, 2015).

In order to improve the response rate in the online survey, researchers should adopt incentives schemes (Saunders *et al.*, 2015). Researchers could apply various inventive strategies like monetary incentives, a sample of products or a copy of study and privacy (Burns and Bush, 2013b).

8.8.4 Pilot testing

Pilot testing, also called pre-testing, is used to test a questionnaire with a number of potential respondents and correct questionnaire design (Wilson, 2011). The smaller sample size for pilot testing is from 10 to 100 (Patten and Newhart, 2017). In this pilot testing process, all elements of the questionnaire should be tested, such as wording, form, layout and questions (Malhotra *et al.*, 2017). Through the pilot testing, researchers identify problems related to definitions, data and analysis to obtain useful information related to the research (Malhotra *et al.*, 2017).

8.8.5 Questionnaire design process in this study

Malhotra (2003) stated that the questionnaire designing process can specify the major mistakes to become a skilled researcher; the guidelines and rules of the questionnaire stage are shown in Figure 8-2. According to guidelines of the questionnaire design process (Malhotra and Birks, 2007, p.375), the questionnaire design process of this study is demonstrated in Table 8-3.





Source: Malhotra and Birks (2007, p.375)

Table 8-3	Questionnaire	Design	Process	of This	Study
	•	0			~

Number	Stage	Action Taken in This Study
1	Specify the information needed	As stated in the Introduction, the purpose of this study is to investigate social tagging in UGIs' technological and informative feature as stimuli on consumer emotion and behavioural intentions concerning fashion mobile s-commerce community. The stimuli are usefulness, ease of use, informativeness. Emotional responses are pleasure and arousal. Behaviour intentions are WOM intention and purchase intention. In addition, it will use social-demographic to know respondents' attributes. The variables of questions are in the following sections.
2	Specify the type of interviewing method	This study will use the online and self-administered questionnaire. This method has been adopted by previous studies (Hsu, Lin and Chiang, 2013; Zolkepli and Kamarulzaman, 2015; Kim and Johnson, 2016; Huang, 2016).
3	Determine the content of individual questions	The question content is guided by previous marketing studies. Each construct consists of more than 3 questions to measure the variables (Lacobucci, 2010).
4	Overcome the respondent's inability or unwillingness to answer	In order to improve the respondent's willingness and ability to answer questions. This study will make a clear explanation about the research topic and remove sensitive personal information like beliefs, personal accidents and explain relevant ethical questions in the questionnaire sheet. In addition, in order to maximise the possible responses, 1 of 20 respondents will have the opportunity to get an award (a Redpocket with 10 RMB value). The total prize value is 600 RMB.
5	Choose question structure	Usefulness and emotion are measured by the seven-point semantic scale, ease of use and informativeness, WOM intention and purchase intention is measured by seven Likert scale. It also adopts socio-demographic and open-ended questions.
6	Choose question wording	In this questionnaire design, it follows the guidelines to avoid question bias (Malhotra, 2003): (1) define the research issue in the questionnaire. (2) use unambiguous words (3) use positive and negative to indicate the agreement and disagreement. This questionnaire offers a clear explanation of academic definitions and provides the image samples to help respondents to know the relevant social tagging in UGIs. This study will use clear and simple Chinese words for the targeted group (18-34 females) related to Xiaohongshu fashion mobile s-commerce community.
7	Arrange the questions in a proper order	The questionnaire includes single and multi-choice socio- demographic questions. Seven variables are listed according to the logical flow. There are two open-ended questions about email address and additional opinion comments.
8	Identify the form and layout	The formatting and order are carefully edited during the pilot test processing. It is to arrange equal spacing different bold/italics on the questionnaire.
9	Reproduce the questionnaire	The questionnaire will be designed on the online questionnaire website (<u>https://www.sojump.com/)</u> .
10	Eliminate problems by pilot testing	Pilot-testing has used 16 samples to test and check Chinese grammar, then edit the questionnaire to make sure it is easy to understand.

This online questionnaire is firstly designed in English and then translated into Chinese (Wang, Lee and Fetzer, 2006; O'Cass and Siahtiri, 2014), thus, this study's initial questionnaire is developed in English, and its grammar was checked by an English native speaker. Next, the author translated it into Chinese and a pilot testing was conducted with 16 ESL (English as a Second Language) speakers (Masters or Doctors) in order to check the internal validity of constructs, revise the questionnaire's language and logical consistencies, check its accessibility and find areas for improvement (Malhotra, 2003). At the same time, this study meets Fink (2003)'s pilot testing

requirements: 1. The pilot testing should have over 10 samples; 2. The pilot testing sample target should be similar to the final target population. Consequences of pilot testing are to prove that questionnaire instrument and questions are easy to understand (Lien and Cao, 2014). The actual survey lasts for the period of 2-3 weeks, and an additional week is given to induce the non-respondents to participate based on Lee and Hong (2016)'s research.

8.9 Measurement

Marketing researchers describe measures in different ways. This section will use three types of measure to identify questionnaire questions: nominal, ordinal and scale (Burns and Bush, 2013a).

Nominal measure uses the characteristic of description such as gender, buyer/ nonbuyer. The participants' answer is yes-no, agree-disagree or other examples in which the descriptors cannot be differentiated expect qualitatively (Burns and Bush, 2013a). Ordinal measure responses enable researchers to rank and order the respondents. It only indicates relative size differences among objects (Burns and Bush, 2013a).

Scale is to measure the distance between each level; the main types of scale measure are ratio scale and interval scale (Burns and Bush, 2013a). Ratio scale uses the number to evaluate each measurement (Burns and Bush, 2013b). Internal scale concerns subjective opinions and consists of Likert scale and semantic differential scale (Burns and Bush, 2013b). It uses a level of agreement to measure respondents' statements about products, concepts or attitudes (Wilson, 2011). A typical feature is that Likert 5 and 7 scales (strongly agree/strongly disagree) use the number 1 to 5 or 1 to 7 (Wilson, 2011). Researchers can set a series of adjectives or phrases to describe the product, company, brand and concept such as helpful or unhelpful and friendly or unfriendly (Wilson, 2011). The semantic differential scale is similar to the Likert scale, but it is more difficult and complex through metric estimates (Wilson, 2011).

8.9.1 Measure construct and item development in this study

The purpose of an online questionnaire is to test the conceptual model (Burns and Bush, 2013a). In this study, seven-point Likert scales will be used from strongly disagree (1) to strongly agree (7) to measure ease of use, informativeness, WOM intention and purchase intention. This method is a general way to measure indirectly quantifiable or observed variables (Ponte, Carvajal-Trujillo and Escobar-Rodríguez, 2015). Seven-point semantic scales from 1 to 7 are used to measure usefulness and emotion (pleasure and arousal). Item scales were adapted from previous studies on online and s-commerce environmental variables in Table 8-4.

UsefulnessPlease evaluate the halie of vacual age in the images taccording to the following dimension. 	Constructs	Variable Items	Adapted from
ContainessInteract or names in the state of both digs in the langes103. Signified of problemant according to the following dimension	Usafulnass	Please evaluate the value of social tags in the images'	Voss Snngenherg
according to the following dimension.12003)according to the following dimension.12003)	Userunness	function on Xiaohongshu's fashion mobile community	and Grohmann
Particle in and the intervence of the second sec		according to the following dimension.	(2003)
 not functional functional impractical-practical uscless-useful not finicial-practical uscless-useful not sensible-sensible inefficient-efficient umproductive-productive Eou Ease of Use EOU1: Learning to use social tags in images is casy on Xiaohongshu's fashion mobile community. EOU3: It is casy to use social tags in images on Xiaohongshu's fashion mobile community. EOU4: My interaction with social tags in images on Xiaohongshu's fashion mobile community. EOU4: My interaction with social tags in images on Xiaohongshu's fashion items information on Xiaohongshu's fashion mobile community. IN2: Social tags in images are a good source of fashion items formation on Xiaohongshu's mobile community. IN3: Social tags in images are a convenient source of fashion items information on Xiaohongshu's fashion mobile social community. IN3: Information which is tagged on fashion items mobile community. IN5: Information which is tagged on fashion items mobile community. IN6: Information which is tagged on fashion items mages are a lot from fashion items tagged in images and tags in images make me feel: unappy-happy vanoty-pleased vanoty-pleased vanoty-pleased valm/vecited valm/vecited valm/vecited valm/vecited valm/vecited wand Johnson (2010) Kim and Johnson (2010) WoM WOM1: I would provide others wininformation (cg. N		✓ ineffective-effective	Kleijnen, de Ruyter
 impractical-practical 		✓ not functional-functional	and Wetzels (2007)
Final State State State Methods and state State State Ease of Use EOU1: Learning to use social tags in images is easy on Xiaohongshu's fashion mobile community. Davis (1989) EOU3: It is easy to use social tags in images on Xiaohongshu's fashion mobile community. Davis (1989) EOU3: It is easy to use social tags in images is clear and understandable on Xiaohongshu's fashion mobile community. Davis (1989) FOU2: It is easy to use social tags in images is clear and understandable on Xiaohongshu's fashion mobile community. Logan, Bright and Gangadharbatla (2012) Informativeness IN 1: Social tags in images are a good source of fashion items information on Xiaohongshu's mobile community. Logan, Bright and Gangadharbatla (2012) IN4: Information which is tagged on fashion items would be useful on Xiaohongshu's fashion mobile community. Lee and Hong (2016) Emotion (pleasure) Social tags in images make me feel:		✓ impractical-practical	
Purchase 1. existiss/secure Purchase Inst sensible-sensible Purchase Inst sensible-sensible Purchase Inst sensible-sensible Purchase Bottl : Learning to use social tags in images is easy on Xiaohongshu's fashion mobile community. EOU2: It is easy to use social tags in images of what I want it to do on Xiaohongshu's fashion mobile community. Davis (1989) FOU2: It is easy to use social tags in images or a good source of information for fashion items on Xiaohongshu's fashion mobile community. Logan, Bright and Gangadharbatla (2012) Informativeness IN 1: Social tags in images are a good source of fashion items information on Xiaohongshu's mobile community. Logan, Bright and Gangadharbatla (2012) IN 1: Social tags in images are a convenient source of fashion items information on Xiaohongshu's fashion mobile community. Lee and Hong (2016) IN 1: Social tags in images are a convenient source of fashion items indeced and the bellpful on Xiaohongshu's fashion mobile community. Lee and Hong (2016) IN 1: Information which is tagged on fashion items tagged in images on Xiaohongshu's fashion mobile community. Lee and Hong (2016) IN 1: Nocial tags in images make me feel: Mehrabian and Russell (1974) Y calaxed/stimulated Y calaxed/stimulated Mehrabian and Russell (1974) Y calaxed/stimulated Y calaxed/stimulated K		v useless useful	
Finishing inefficient-efficient unproductive-productive unproductive-productive Davis (1989) Ease of Use EOUI: Learning to use social tags in images is easy on Xiaohongshu's fashion mobile community. Davis (1989) EOU3: It is easy to use social tags in images on Xiaohongshu's fashion mobile community. Davis (1989) EOU3: It is easy to use social tags in images on Xiaohongshu's fashion mobile community. Cogan. Bright and Gangadharbatla (2012) Informativeness IN 1: Social tags in images are a good source of Information for fashion items on Xiaohongshu's mobile community. Logan. Bright and Gangadharbatla (2012) IN1: Social tags in images are a convenient source of fashion items information on Xiaohongshu's mobile community. Lee and Hong (2016) Edit in formation which is tagged on fashion items images would be helpful on Xiaohongshu's fashion mobile community. Lee and Hong (2016) Emotion (pleasure) Social tags in images make me feel: * relaxed/stimulated * relaxed/stimulated * calm/cxcited * or layful-joyful * unaroyed-pleased * unaroyed-pleased * unaroyed-pleased * unaroyed/pleased * unaroyed/pleased * calm/cxcited Mehrabian and Russell (1974) Ha and Jennon (2010) WOM WOMI: I would tell others positive things about Xiaohongshu's mobile scommerce app. Kim and Johnson (2016) WOM WOMI: I would provide others with informatino (e.g. shopping experience blogs and reviews) on Xia		v not consible consible	
Ease of UseEOUI: Learning to use social tags in images is easy on Xiaohongshu's fashion mobile community. EOU2: It is easy to make social tags in images on Xiaohongshu's fashion mobile community. EOU2: It is easy to use social tags in images on Xiaohongshu's fashion mobile community. EOU4: My interaction with social tags in images on Xiaohongshu's fashion mobile community. IN 1: Social tags in images are a good source of fashion items information on Xiaohongshu's fashion mobile community. IN 2: Social tags in images are a convolation would be useful on Xiaohongshu's fashion items would be useful on Xiaohongshu's fashion items would be useful on Xiaohongshu's fashion mobile community. INS: Information which is tagged on fashion items would be useful on Xiaohongshu's fashion mobile community. INS: Information which is tagged on fashion items would be useful on Xiaohongshu's fashion mobile community. INS: Information which is tagged on fashion items fagged in images on Xiaohongshu's fashion mobile community. INS: Information which is tagged on fashion items tagged in images on Xiaohongshu's fashion mobile community.Metrabian and Russell (1974) Ha and Leanon (2010) Kim and Johnson (2010) Kim and Johnson (2016)Dodds, Monroe and Grewal (1997) Ha and Johnson (2016)WOMWOM1: I multely to recommerce app WOM2: I would provide others with information co. Saohongshu's mobile s-commerce app WOM2: I would provide others with informationes WOM3: I am likely to recommerce tapp WOM3: I am likely to recommerce tapp WOM3: I am likely to recommerce tapp WOM3: I am li		inofficient officient	
Ease of UseFOUL: Learning to use social tags in images is easy on Xiaohongshu's fashion mobile community. EOU2: It is easy to make social tags in images do what I want it to do on Xiaohongshu's fashion mobile community.Davis (1989) Nysveen (2005)EOU3: It is easy to use social tags in images on Xiaohongshu's fashion mobile community. EOU4: My interaction with social tags in images on Xiaohongshu's fashion mobile community.Davis (1989) Nysveen (2005)Informationeres information for fashion items on Xiaohongshu's fashion mobile community.Logan, Bright and Gangadharbatla (2012)Informationeres information on Xiaohongshu's mobile community.I. Social tags in images are a good source of information on Xiaohongshu's mobile community.Logan, Bright and Gangadharbatla (2012)IN2: Social tags in images are a convenient source of fashion items information on Xiaohongshu's mobile community.Lee and Hong (2016) Edwards, Li and Lee (2012)IN5: Information which is tagged on fashion items mobile community.Mehrabian Rusel (1974) Ha and Lennon (2010)Emotion (pleasure)Social tags in images make me feel: v unhapy-happy v anoyed-plased v anoyed-plasedMehrabian and Lennon (2010) Kim and Johnson (2016)WOMWOM1: I would tell others positive things about Xiaohongshu's mobile s-commerce app. WOM2: I would provide others with information (c.g. shopping experience blogs and reviews) on Xiaohongshu's mobile s-commerce app. WOM2: I would provide others with		 Interfective-productive 	
Ease of OseEDOI: 10 and ing to solval logs in images tasy of a Lookingshu's fashion mobile community. EOU2: It is easy to use social tags in images on Xiaohongshu's fashion mobile community. EOU4: My interaction with social tags in images on Xiaohongshu's fashion mobile community.Nysveen (2005)InformativenessIN 1: Social tags in images are a good source of fashion items information on Xiaohongshu's fashion mobile community. IN3: Social tags in images are a log of source of fashion items information on Xiaohongshu's mobile community. IN3: Social tags in images are a convenient source of fashion items information on Xiaohongshu's fashion items would be useful on Xiaohongshu's fashion items social community. INS: Information which is tagged on fashion items images molite community. INS: Information which is tagged on fashion items images molite community. INS: Information which is tagged on fashion items images molite community. INS: I would tear a lot from fashion items tagged in images on Xiaohongshu's fashion mobile community. INS: I would tear a lot from fashion items tagged in images make me feel: 	Face of Use	FOULT: Learning to use social tags in images is easy on	Davis (1989)
EOU2: It is casy to make social tags in images do what want it to do on Xiaohongshu's fashion mobile community.It is casy to use social tags in images on Xiaohongshu's fashion mobile community.EOU3: It is casy to use social tags in images on Xiaohongshu's fashion mobile community.Logan, Bright and Gangadharbatla (2012)Information for fashion items on Xiaohongshu's fashion mobile community.Logan, Bright and Gangadharbatla (2012)Information for fashion items on Xiaohongshu's mobile community.Logan, Bright and Gangadharbatla (2012)IN2: Social tags in images are a convenient source of fashion items information on Xiaohongshu's fashion mobile community.Lee and Hong (2016)IN3: Social tags in images make me feel: wunkapey-happy wanoyed-pleaxed winsatified-satisfied winsatified-satisfied winsatified-satisfied winsatisfied-satisfied	Lase of Use	Xiaohongshu's fashion mobile community	Nysyeen (2005)
wantittodoNachongshu'sfashionmobilecommunity,EOU3: Itis easy to use social tags in images on Xiaohongshu's fashion mobile community.EOU4: My interaction with social tags in images is clear and understandable on Xiaohongshu's fashion mobile community.Logan, Bright and Gagadharbatla (2012)Informatior for fashion items on Xiaohongshu's mobile community.IN 1: Social tags in images supply relevant fashion items information on Xiaohongshu's mobile community.Logan, Bright and Gagadharbatla (2012)IN3: Social tags in images are a convenient source of fashion items information on Xiaohongshu's mobile community.Lee and Hong (2016) Edwards, Li and Lee (2002)IN4: Information which is tagged on fashion items would be useful on Xiaohongshu's fashion mobile community.Lee and Hong (2016) Edwards, Li and Lee (2002)Emotion (pleasure)N6: I would learn a lot from fashion items tagged in images would be helpful on Xiaohongshu's fashion mobile community.Mehrabian mand Russell (1974) Ha and Lennon (2010) Kim and Johnson (2010)ArousalSocial tags in images make me feel: v unsatisfied-satisfied v laned/stimulated v laned/stimulated v laned/stimulated v laned/stimulated v laned/stimulated v laned/stimulated v laned/stimulated v laned/stimulated vom Xiaohongshu's mobile scommerce app. WOM2: I would provide others with information (e.g. shopping experience blogs and reviews) on Xiaohongshu's mobile scommerce app. WOM3: I an likely to ecommerce app. WOM3: I an likely to ecommerce app.Medrabian mand Johnson (2016)WOMP11: The likelihood of purchasing fashion items		EOU2: It is easy to make social tags in images do what I	1()5,0001 (2005)
community. EOU3: It is casy to use social tags in images on Xiaohongshu's fashion mobile community. EOU4: My interaction with social tags in images is clear and understandable on Xiaohongshu's fashion mobile community.Logan, Bright and Gangdharbatla (2012)InformativenessIN 1: Social tags in images are a good source of information for fashion items on Xiaohongshu's mobile community. IN3: Social tags in images are a convenient source of fashion items information on Xiaohongshu's mobile community. IN3: Social tags in images are a convenient source of fashion items information on Xiaohongshu's fashion mobile social community. IN5: Information which is tagged on fashion items images on Xiaohongshu's fashion mobile community. IN5: Information which is tagged on fashion items images on Xiaohongshu's fashion mobile community.Lee and Hong (2016) Edwards, Li and Lee (2002)Emotion (pleasure)Social tags in images make me feel: v unhapy-hapy v annoyed-pleased v ont joyful-joyful v on to joyful-joyful v unaroused/arousedMehrabian and Russell (1974) Ha and Lennon (2016)MOMSocial tags in images make me feel v unaroused/arousedMehrabian and Russell (1974) Ha and Johnson (2016)WOMWOM1: I would tell others positive things about Xiaohongshu's mobile s-commered app WOM2: I am likely to ecoummend Xinohongshu's mobile s-commered app.Kim and Johnson (2016)WOM1: I am likely to ecoummend Xinohongshu's mobile s-commere app to my friends or acquaintances WOM2: I am likely to ecoummend Xinohongshu's mobile s-commered app to my friends or acquaintances WOM3: I am likely to ecoummend Xinohongshu's mobile s-commered app.Dodds. Monroe and Grewal (1991)Purchase Inte		want it to do on Xiaohongshu's fashion mobile	
EOU3: It is easy to use social tags in images on Xiaohongshu's fashion mobile community.EOU4: My interaction with social tags in images is clear and understandable on Xiaohongshu's mobile community.Information for fashion items on Xiaohongshu's mobile community.IN 1: Social tags in images supply relevant fashion items information on Xiaohongshu's mobile community.IN3: Social tags in images are a convenient source of fashion items information on Xiaohongshu's mobile community.IN4: Information which is tagged on fashion items images would be helpful on Xiaohongshu's mobile sourmunity.IN5: Information which is tagged on fashion items images would be helpful on Xiaohongshu's fashion mobile community.Emotion (pleasure)Motor (pleasure)WOMWOMWOMWOM1: I would tell others positive things about Xiaohongshu's mobile s-commerce app WOM3: I am likely to recommend Xiaohongshu's mobile s-commerce app to my friends or acquaintances WOM4: I am likely to recommera to consider using Xiaohongshu's mobile s-commerce app.Purchase IntentionP1: The likelihood of purchasing fashion items tagged in images is high.P1: The likelihood of purchasing fashion items tagged items tagged in images is high.P1: The likelihood of purchasing fashion items tagged items tagged in images is high.P1: The probability that I would consider buying fashion items tagged in images is high.P1: The likelihood of purchasing fashion items tagged items tagged in images is high.P1: The likelihood of purchasing fashion items tagged items tagged in images is high.P1: The likelihood of purchasing fash		community.	
Kiaohongshu's fashion mobile community. EOUd: My interaction with social tags in images is clear and understandable on Xiaohongshu's fashion mobile community.Logan, Bright and Gangadharbatla (2012)Information for fashion items on Xiaohongshu's mobile community.IN 1: Social tags in images are a good source of information on Xiaohongshu's mobile community.Logan, Bright and Gangadharbatla (2012)IN2: Social tags in images supply relevant fashion items information on Xiaohongshu's mobile community.Logan, Bright and Gangadharbatla (2012)IN4: Information on Xiaohongshu's mobile community.IN4: Information on Xiaohongshu's fashion mobile community.Lee and Hong (2016) Edwards, Li and Lee (2002)IN5: Information which is tagged on fashion items images won Xiaohongshu's fashion mobile social community.Lee and Hong (2016) Edwards, Li and Lee (2002)Emotion (pleasure)Social tags in images make me feel: · unatoyet-pleased · not joyful-joyful · slachongshu's mobile commend Xiaohongshu's mobile · slachy/site · and Johnson (2016)Mehrabian and Russell (1974) Ha and Lennon (2016)WOMWOM1: 1 would tell others positive things about Xiaohongshu's mobile s-commerce app WOM2: 1 an likely to recommend Xiaohongshu's mobile s-commerce app. to yfield social viaohongshu's mobile s-commerce app.Mehrabian Rus and Johnson (2016)WOMP11: The likelihood of purchasing fashion items tagged in inages is high. P12: The probability that I would consider buying fashion items tagged in images is high. P12: The probability that I would consider buying fashion items tagged in images is high. P12: The probability that I would consider buying fashion		EOU3: It is easy to use social tags in images on	
EOU4: My interaction with social tags in images is clear and understandable on Xiaohongshu's fashion mobile community.Logan, Bright and Gangadharbatla (2012)InformativenessIN 1: Social tags in images are a good source of information for fashion items on Xiaohongshu's mobile community. IN 2: Social tags in images are a convenient source of fashion items information on Xiaohongshu's mobile community. IN 3: Social tags in images are a convenient social community. IN 3: Social tags in images are a convenient social community. IN 5: Information which is tagged on fashion items would be useful on Xiaohongshu's fashion mobile social community. IN 6: I would learn a lot from fashion items tagged in images on Xiaohongshu's fashion mobile community. Social tags in images make me feel: 		Xiaohongshu's fashion mobile community.	
and understandable on Aldonogshu's itashon mobile community.Logan, Bright and Gangadharbatla (2012)Information for fashion items on Xiaohongshu's mobile community.Logan, Bright and Gangadharbatla (2012)IN2: Social tags in images supply relevant fashion items information on Xiaohongshu's mobile community.Logan, Bright and Gangadharbatla (2012)IN3: Social tags in images are a convenient source of fashion items information on Xiaohongshu's mobile community.Lee and Hong (2016)IN4: Information which is tagged on fashion items images would be helpful on Xiaohongshu's fashion mobile community.Lee and Hong (2016)Emotion (pleasure)Social tags in images make me feel: * unanyed-pleased * unsatisfied-satisfied * ontoyful-joyful * annoyed-pleased * outpful-joyful * calm/excited * sleepy/wide-awake * usell (1974) Ha and Lennon (2010)Mehrabian and Russell (1974) Ha and Lennon (2016)WOMWOM1: 1 would tell others positive things about Xiaohongshu's mobile s-commerce app WOM2: 1 would provide others with information (e.g. shopping experience blogs and reviews) on Xiaohongshu's mobile s-commerce app. WOM3: I an likely to recourse others to consider using Xiaohongshu's mobile s-commerce app.Modds, Monroe and Grewal (1991) Kim and Johnson (2016)Purchase IntentionP11: The likelihood of purchasing fashion items tagged in images is high. P13: My willingness to buy fashion items tagged in images is high.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)		EOU4: My interaction with social tags in images is clear	
InformativenessIt I: Social tags in images are a good source of information for fashion items on Xiaohongshu's mobile community. IN2: Social tags in images supply relevant fashion items information on Xiaohongshu's mobile community. IN3: Social tags in images are a convenient source of fashion items information on Xiaohongshu's mobile community. IN4: Information which is tagged on fashion items would be useful on Xiaohongshu's fashion items images would be helpful on Xiaohongshu's fashion mobile community. IN6: I would learn a lot from fashion items tagged in images on Xiaohongshu's fashion mobile community. IN6: I would learn a lot from fashion items tagged in images on Xiaohongshu's fashion mobile community. IN6: I would learn a lot from fashion items tagged in images on Xiaohongshu's fashion mobile community. IN6: I would learn a lot from fashion items tagged in images on Xiaohongshu's fashion mobile community. IN6: I would learn a lot from fashion items tagged in images on Xiaohongshu's fashion mobile community. IN6: I would learn a lot from fashion items tagged in images on Xiaohongshu's fashion mobile community. IN6: I would learn all from fashion items tagged in images on Xiaohongshu's fashion mobile community. IN6: I would learn all from fashion items tagged in images in images make me feel: V anayed-pleased V unaroused/arousedMehrabian and Russell (1974) Ha and Lennon (2016)WOMWOM1: I would tell others positive things about Xiaohongshu's mobile s-commerce app WOM3: I am likely to recommerd Xiaohongshu's mobile s-commerce app. WOM3: I am likely to recommere tap. WOM3: I am likely to recourse others to consider using Xiaohongshu's mobile s-commerce app.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)Purchase IntentionP11: The likelihood of pu		and understandable on Alaonongsnu's fashion mobile	
InternativenessInternation for fashion items on Xiaohongshu's mobile community.Digit and Gangadharballa (2012)IN2: Social tags in images supply relevant fashion items information on Xiaohongshu's mobile community.Comgadharballa (2012)IN3: Social tags in images are a convenient source of fashion items information on Xiaohongshu's mobile community.Lee and Hong (2016)IN4: Information which is tagged on fashion items images would be helpful on Xiaohongshu's fashion mobile community.Lee and Hong (2016)Emotion (pleasure)Social tags in images make me feel: v unhappy-happy v anoyed-pleased v unsatisfied-satisfied v unsatisfied-satisfied v calmedy-pleased v out anypy-happyMehrabian and Russell (1974) Ha and Lennon (2010)ArousalSocial tags in images make me feel v social tags in images make me feel v unsatisfied-satisfied v calmedy-tileaxedMehrabian and Russell (1974) Ha and Lennon (2010)WOMWoM1: I would tell others positive things about Xiaohongshu's mobile s-commerce app. WOM3: I an likely to recommerce app.Mehrabian and Wight (2009)WOM3: I an likely to recommerce app. WOM3: I an likely to recommerce app.Dodds, Monroe and Greval (1991) Kim and Johnson (2010)Purchase IntentionP11: The likelihood of purchasing fashion items tagged in images is high. P13: My willingness to buy fashion items tagged in images is high.Dodds, Monroe and Greval (1991) Kim and Johnson (2016)Purchase IntentionP11: The likelihood of purchasing fashion items tagged in images is high. P13: My willingness to buy fashion items tagged in images is high.Dodds, Mon	Informativoness	IN 1. Social tags in images are a good source of	Logan Bright and
community.(2012)IN2: Social tags in images supply relevant fashion items information on Xiaohongshu's mobile community.(2012)IN3: Social tags in images are a convenient source of fashion items information on Xiaohongshu's mobile community.Lee and Hong (2016)IN4: Information which is tagged on fashion items would be useful on Xiaohongshu's fashion mobile social community.Lee and Hong (2016)IN5: Information which is tagged on fashion items images would be helpful on Xiaohongshu's fashion mobile community.Lee and Hong (2016)Emotion (pleasure)Social tags in images make me feel: · unhappy-happy · anoyed-pleased · unsatisfied-satisfied · ot joyful-joyful · anoyed-pleased · stord-relaxedMehrabian and Russell (1974) Ha and Lennon (2010)ArousalSocial tags in images make me feel · relaxed/stimulated · relaxed/stimulated · land exploided others with information (e.g. shopping experience blogs and reviews) on Xiaohongshu's mobile s-commerce app.Kim and Park (2013) Jayawardhena and Wright (2009)WOM3: I am likely to ecourage others to consider using Xiaohongshu's mobile s-commerce app.Wods, Monroe and Greval (1991) Kim and Johnson (2016)Purchase IntentionP11: The likelihood of purchasing fashion items tagged in images is high. P13: My willingness to buy fashion items tagged in images.Dodds, Monroe and Greval (1991) Kim and Johnson (2016)	Informativeness	information for fashion items on Xiaohongshu's mobile	Gangadharbatla
IN2: Social tags in images supply relevant fashion items information on Xiaohongshu's mobile community. IN3: Social tags in images are a convenient source of fashion items information on Xiaohongshu's mobile community.Lee and Hong (2016) Edwards, Li and Lee (2002)IN4: Information which is tagged on fashion items would be useful on Xiaohongshu's fashion mobile community. IN6: I would learn a lot from fashion items tagged in images would be helpful on Xiaohongshu's fashion mobile community.Lee and Hong (2016) (2002)Emotion (pleasure)Social tags in images make me feel: · unhappy-happy · annoyed-pleased · unhappy-happy · bored-relaxedMehrabian and Russell (1974) Ha and Lennon (2010) Kim and Johnson (2010)ArousalSocial tags in images make me feel · relaxed/stimulated · seepy/wide-awake · unaroused/arousedMehrabian and Russell (1974) Ha and Lennon (2010) Kim and Johnson (2010) Kim and Johnson (2016)WOMWOM1: I would tell others positive things about Xiaohongshu's mobile s-commerce app. WOM3: 1 am likely to recommerce app. WOM3: 1 am likely to recommerce app.Medrabian and Russell (1991) Kim and Johnson (2016)Purchase IntentionP11: The likelihood of purchasing fashion items tagged in images is high. P13: My willingness to buy fashion items tagged in images is high. P13: My willingness to buy fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)		community.	(2012)
Information on Xiaohongshu's mobile community.IN3: Social tags in images are a convenient source of fashion items information on Xiaohongshu's mobile community.IN4: Information which is tagged on fashion items would be useful on Xiaohongshu's fashion mobile social community.Lee and Hong (2016) Edwards, Li and Lee (2002)IN5: Information which is tagged on fashion items images would be helpful on Xiaohongshu's fashion mobile community.Lee and Hong (2016) Edwards, Li and Lee (2002)Emotion (pleasure)Social tags in images make me feel: ✓ unhappy-happy ✓ annoycd-pleased ✓ unsatisfied-satisfied ✓ unsatisfied-satisfied ✓ unot joyful-joyful ✓ bored-relaxedMehrabian and Russell (1974) Ha and Lennon (2010) Kim and Johnson (2010)ArousalSocial tags in images make me feel ✓ relaxed/stimulated ✓ unaroused/aroused ✓ unaroused/aroused ✓ unaroused/arousedMehrabian and Russell (1974) Ha and Lennon (2010) Kim and Johnson (2010) Kim and Johnson (2010)WOMWOM1: I would tell others positive things about Xiaohongshu's mobile s-commerce app WOM2: I would provide others with information (e.g. shopping experience blogs and reviews) on Xiaohongshu's mobile s-commerce app. WOM3: I am likely to recommend Xiaohongshu's mobile s-commerce app.Monde, Amore and Grewal (1991) Kim and Johnson (2016)Purchase IntentionP11: The likelihood of purchasing fashion items tagged in images is high. P13: My willingness to buy fashion items tagged in images is high. P13: My willingness to buy fashion items tagged in images is high.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)Purchase Intention		IN2: Social tags in images supply relevant fashion items	
IN3: Social tags in images are a convenient source of fashion items information which is tagged on fashion items mobile community.Lee and Hong (2016) Edwards, Li and Lee (2002)IN4: Information which is tagged on fashion items images would be helpful on Xiaohongshu's fashion mobile community.Lee and Hong (2016) Edwards, Li and Lee (2002)IN5: Information which is tagged on fashion items images would be helpful on Xiaohongshu's fashion mobile community.Lee and Hong (2016) Edwards, Li and Lee (2002)IN6: I would learn a lot from fashion items tagged in images on Xiaohongshu's fashion mobile community.Mehrabian and Russell (1974) Ha and Lennon (2010) Kim and Johnson (2016)ArousalSocial tags in images make me feel \checkmark unaroused/arousedMehrabian and Russell (1974) Ha and Lennon (2016)ArousalSocial tags in images make me feel \checkmark relaxed/stimulated \checkmark unaroused/arousedMehrabian and Russell (1974) Ha and Lennon (2010) Kim and Johnson (2010)WOMWOM1: I would rel others positive things about Xiaohongshu's mobile s-commerce app WOM2: I would provide others with information (e.g. shopping experience blogs and review) on Xiaohongshu's mobile s-commerce app. WOM3: I am likely to recommend Xiaohongshu's mobile s-commerce app.Modds, Monroe and Grewal (1991) Kim and Johnson (2016)Purchase IntentionP11: The likelihood of purchasing fashion items tagged in images is high. P13: My willingness to buy fashion items tagged in images is high. P13: My willingness to buy fashion items tagged in images is high. P14: I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim		information on Xiaohongshu's mobile community.	
IndexInformation on Xiaohongshu's mobile community.IN4: Information which is tagged on fashion items would be useful on Xiaohongshu's fashion mobile social community.Lee and Hong (2016) Edwards, Li and Lee (2002)IN5: Information which is tagged on fashion items images would be helpful on Xiaohongshu's fashion mobile community.Lee and Hong (2016) Edwards, Li and Lee (2002)Emotion (pleasure)N6: I would learn a lot from fashion items tagged in images on Xiaohongshu's fashion mobile community.Mehrabian and Russell (1974) Ha and Lennon (2010) K im and Johnson (2016)ArousalSocial tags in images make me feel \checkmark unsatisfied-satisfied \checkmark unstayisfied-satisfied \checkmark isordythylia \checkmark bored-relaxedMehrabian and Russell (1974) Ha and Lennon (2010) K im and Johnson (2016)MOMSocial tags in images make me feel \checkmark relaxed/stimulated \checkmark sleepy/wide-awake \checkmark unaroused/arousedMehrabian and Russell (1974) Ha and Lennon (2010) K im and Johnson (2010) K im and Park (2013) Jayawardhena and Wright (2009)WOMWOM1: I would provide others with information (e.g. shopping experience blogs and reviews) on Xiaohongshu's mobile s-commerce app. WOM3: I am likely to recommerce app. WOM3: I am likely to recommerce app. WOM4: I am likely to recommerce app. WOM3: I am likely to encourage others to consider using Xiaohongshu's mobile s-commerce app.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)Purchase IntentionP11: The likelihood of purchasing fashion		IN3: Social tags in images are a convenient source of	
IN4: Information which is tagged on fashion items would be useful on Xiaohongshu's fashion mobile social community.Lee and Hong (2016) Edwards, Li and Lee (2002)IN5: Information which is tagged on fashion items images would be helpful on Xiaohongshu's fashion mobile community.Lee and Hong (2016) Edwards, Li and Lee (2002)Emotion (pleasure)Social tags in images make me feel: · unhappy-happy · annoyed-pleased · unsatisfied-satisfied · unsatisfied-satisfied · bored-relaxedMehrabian and Russell (1974) Ha and Lennon (2016)ArousalSocial tags in images make me feel · relaxed/stimulated · calm/cxited · sleepy/wide-awake · unaroused/arousedMehrabian and Russell (1974) Ha and Lennon (2016)WOMWOM1: I would tell others positive things about Xiaohongshu's mobile s-commerce app WOM3: I am likely to encourage others with information (e.g. shopping experience blogs and reviews) on Xiaohongshu's mobile s-commerce app. WOM3: I am likely to encourage others to consider using Xiaohongshu's mobile s-commerce app.Modds, Monroe and Grewal (1991) Kim and Johnson (2016)Purchase IntentionP11: The likelihood of purchasing fashion items tagged in images is high. P13: My willingness to buy fashion items tagged in images is high. P14: I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)		fashion items information on Xiaohongshu's mobile	
IN4: information which is tagged on fashion items would be useful on Xiaohongshu's fashion mobile social community.Ee and Hong (2016) Edwards, Li and Lee (2002)IN5: Information which is tagged on fashion items images would be helpful on Xiaohongshu's fashion mobile community.Edwards, Li and Lee (2002)Emotion (pleasure)Social tags in images make me feel: 		community.	1 111 (201()
Dec uschi ()Arabinogsind's fashion mobile social community.Dedwards, El and Ecc (2002)INS: Information which is tagged on fashion items images would be helpful on Xiaohongshu's fashion mobile community.Idwards, El and Ecc (2002)Emotion (pleasure)Social tags in images make me feel: ✓ unhappy-happy ✓ annoycd-pleased ✓ unsatisfied-satisfied ✓ unsatisfied-satisfied ✓ not joyful-joyful ✓ social tags in images make me feel ✓ relaxed/stimulated ✓ relaxed/stimulated ✓ unaroused/arousedMehrabian and Russell (1974) Ha and Lennon (2010) Kim and Johnson (2010)WOMWOM1: I would tell others positive things about Xiaohongshu's mobile s-commered app. WOM3: I am likely to recommered Xiaohongshu's mobile s-commered app.Mehrabian and Russell (1974) Ha and Lennon (2010) Kim and Johnson (2010) Kim and Johnson (2010)Purchase IntentionP11: The likelihood of purchasing fashion items tagged in images is high. P12: The probability that I would consider buying fashion items tagged in images to buy fashion items tagged in images is high.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)Purchase IntentionP11: The likelihood of purchasing fashion items tagged in images is high. P14: I would purchase fashion items tagged in images is high.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)		IN4: Information which is tagged on fashion items would be useful on Vischengshu's fashion mobile social	Edwards Li and Lee
Inst:Informationwhich is tagged on fashion items images would be helpful on Xiaohongshu's fashion mobile community.INst:Information which is tagged on fashion items images on Xiaohongshu's fashion mobile community.Emotion (pleasure)Social tags in images make me feel: 		community	(2002)
images would be helpful on Xiaohongshu's fashion mobile community.IN6: I would learn a lot from fashion items tagged in images on Xiaohongshu's fashion mobile community.Emotion (pleasure)Social tags in images make me feel: 		IN5: Information which is tagged on fashion items	(2002)
mobile community. IN6: 1 would learn a lot from fashion items tagged in images on Xiaohongshu's fashion mobile community.Emotion (pleasure)Social tags in images make me feel: 		images would be helpful on Xiaohongshu's fashion	
IN6: I would learn a lot from fashion items tagged in images on Xiaohongshu's fashion mobile community.Emotion (pleasure)Social tags in images make me feel: 		mobile community.	
Emotion (pleasure)Social tags in images make me feel: 		IN6: I would learn a lot from fashion items tagged in	
Emotion (pleasure)Social tags in images make me feel: 		images on Xiaohongshu's fashion mobile community.	
(pleasure)✓unhappy-happy annoyed-pleased unsatisfied-satisfied ✓Russell (1974) HaRussell (1974) HaArousal✓not joyful-joyful ✓Kim and Lennon (2010)ArousalSocial tags in images make me feel ✓Mehrabian (2016)ArousalSocial tags in images make me feel ✓Mehrabian (2016)ArousalSocial tags in images make me feel ✓Mehrabian (2016)WOMSocial tags in images make me feel ✓Mehrabian (2016)WOMWoM1: I would tell others positive things about Xiaohongshu's mobile s-commerce app WOM2: I would provide others with information (e.g. shopping experience blogs and reviews) on Xiaohongshu's mobile s-commerce app. WOM3: 1 am likely to recourage others to consider using Xiaohongshu's mobile s-commerce app.Kim and Park (2013) Jayawardhena and Wright (2009)Purchase IntentionP11: The likelihood of purchasing fashion items tagged in images is high. P12: The probability that I would consider buying fashion items tagged in images is high. P13: My willingness to buy fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)	Emotion	Social tags in images make me feel:	Mehrabian and
Vannoyed-pleasedHaandLennonVunsatisfied-satisfied(2010)Vnot joyful-joyfulKimandVbored-relaxed(2010)ArousalSocial tags in images make me feelMehrabianVrelaxed/stimulatedHaandVcalm/excitedHaandVsleepy/wide-awake(2010)Vunaroused/arousedKimWOMWOM1:I would tell others positive things about Xiaohongshu's mobile s-commerce appKim and Johnson (2016)WOM2:I would provide others with information (e.g. shoppingexperience blogs and reviews) on Xiaohongshu's mobile s-commerce app.Kim and Park (2013) Jayawardhena and Wright (2009)Purchase IntentionP11:The likely to encourage others to consider using Xiaohongshu's mobile s-commerce app.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)Purchase IntentionP11:The likelihood of purchasing fashion items tagged in images is high. P13:Dodds, Idohnson (2016)P14:I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991)	(pleasure)	unhappy-happy	Russell (1974)
ArousalSocial tags in images make me feel ✓ relaxed/stimulated ✓ calm/excited ✓ unaroused/arousedMehrabian Russell (1974) Ha and Lennon (2010) Kim and Johnson (2010) Kim and Johnson (2010) Kim and Park (2013) Jayawardhena Jayawardhena and WOMWOMWOM1: I would tell others positive things about Xiaohongshu's mobile s-commerce app WOM2: I would provide others with information (e.g. shopping experience blogs and reviews) on Xiaohongshu's mobile s-commerce app. WOM3: I am likely to recommend Xiaohongshu's mobile s-commerce app to my friends or acquaintances WOM4: I am likely to recommerce app.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)Purchase IntentionPI1: The likelihood of purchasing fashion items tagged in images is high. P14: I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)		v annoyed-pleased	Ha and Lennon
ArousalSocial tags in images make me feel 		\checkmark not joyful-joyful	(2010) Kim and Johnson
ArousalSocial tags in images make me feel 		✓ bored-relaxed	(2016)
ArousalSocial tags in images make me feel ✓ relaxed/stimulated ✓ calm/excited ✓ calm/excited ✓ sleepy/wide-awake ✓ unaroused/arousedMehrabian and Russell (1974) Ha and Lennon (2010) Kim and Johnson (2016)WOMWOM1: I would tell others positive things about Xiaohongshu's mobile s-commerce app WOM2: I would provide others with information (e.g. shopping experience blogs and reviews) on Xiaohongshu's mobile s-commerce app. WOM3: I am likely to recommend Xiaohongshu's mobile s-commerce app to my friends or acquaintances WOM4: I am likely to encourage others to consider using Xiaohongshu's mobile s-commerce app.Dodds, Monroe and Grewal (1991) Kim and Johnson (2009)Purchase IntentionP11: The likelihood of purchasing fashion items tagged in images is high. P13: My willingness to buy fashion items tagged in images is high. P14: I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991)			
✓ relaxed/stimulated ✓ calm/excited ✓ sleepy/wide-awake ✓ unaroused/arousedRussell (1974) Ha and Lennon (2010) Kim and Johnson (2016)WOMWOM1: I would tell others positive things about Xiaohongshu's mobile s-commerce app WOM2: I would provide others with information (e.g. shopping experience blogs and reviews) on Xiaohongshu's mobile s-commerce app. WOM3: 1 am likely to recommend Xiaohongshu's mobile s-commerce app to my friends or acquaintances WOM4: I am likely to encourage others to consider using Xiaohongshu's mobile s-commerce app.Dodds, Monroe and Grewal (1991) Kim and Johnson (2009)Purchase IntentionP11: The likelihood of purchasing fashion items tagged in images is high. P13: My willingness to buy fashion items tagged in images is high. P14: I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)	Arousal	Social tags in images make me feel	Mehrabian and
Vcalm/excited ✓ sleepy/wide-awake ✓ unaroused/arousedHaandLennon (2010) KimWOMWOM1: I would tell others positive things about Xiaohongshu's mobile s-commerce app WOM2: I would provide others with information (e.g. shopping experience blogs and reviews) on Xiaohongshu's mobile s-commerce app. WOM3: I am likely to recommend Xiaohongshu's mobile s-commerce app to my friends or acquaintances WOM4: I am likely to encourage others to consider using Xiaohongshu's mobile s-commerce app.Dodds, Monroe and Grewal (1991)Purchase IntentionP11: The likelihood of purchasing fashion items tagged in images is high. P13: My willingness to buy fashion items tagged in images is high. P14: I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991)		✓ relaxed/stimulated	Russell (1974)
Vsleepy/wide-awake(2010)Vunaroused/arousedKim and Johnson (2016)WOMWOM1: I would tell others positive things about Xiaohongshu's mobile s-commerce app WOM2: I would provide others with information (e.g. shopping experience blogs and reviews) on Xiaohongshu's mobile s-commerce app. WOM3: I am likely to recommend Xiaohongshu's mobile s-commerce app to my friends or acquaintances WOM4: I am likely to encourage others to consider using Xiaohongshu's mobile s-commerce app.Dodds, Monroe and Grewal (1991)Purchase IntentionPI1: The likelihood of purchasing fashion items tagged in images is high. PI2: The probability that I would consider buying fashion items tagged in images is high. PI3: My willingness to buy fashion items tagged in images is high. PI4: I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)		✓ calm/excited	Ha and Lennon
WOMWOM1: I would tell others positive things about Xiaohongshu's mobile s-commerce app WOM2: I would provide others with information (e.g. shopping experience blogs and reviews) on Xiaohongshu's mobile s-commerce app. WOM3: I am likely to recommend Xiaohongshu's mobile s-commerce app to my friends or acquaintances WOM4: I am likely to encourage others to consider using Xiaohongshu's mobile s-commerce app.Nodds, Monroe and Grewal (1991) Kim and Johnson (2016)Purchase IntentionP11: The likelihood of purchasing fashion items tagged in images is high. P12: The probability that I would consider buying fashion items tagged in images is high. P13: My willingness to buy fashion items tagged in images is high. P14: I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)		✓ sleepy/wide-awake	(2010) Kim and Johnson
WOMWOM1: I would tell others positive things about Xiaohongshu's mobile s-commerce app WOM2: I would provide others with information (e.g. shopping experience blogs and reviews) on 		• unaroused/aroused	(2016)
Xiaohongshu's mobile s-commerce app WOM2: I would provide others with information (e.g. shopping experience blogs and reviews) on Xiaohongshu's mobile s-commerce app. WOM3: I am likely to recommend Xiaohongshu's mobile s-commerce app to my friends or acquaintances WOM4: I am likely to encourage others to consider using Xiaohongshu's mobile s-commerce app.Jayawardhena and Wright (2009)Purchase IntentionPI1: The likelihood of purchasing fashion items tagged in images is high. PI2: The probability that I would consider buying fashion items tagged in images is high. PI3: My willingness to buy fashion items tagged in images is high. PI4: I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)	WOM	WOM1: I would tell others positive things about	Kim and Park (2013)
WOM2: I would provide others with information (e.g. shopping experience blogs and reviews) on Xiaohongshu's mobile s-commerce app. WOM3: I am likely to recommend Xiaohongshu's mobile s-commerce app to my friends or acquaintances WOM4: I am likely to encourage others to consider using Xiaohongshu's mobile s-commerce app.Wright (2009)Purchase IntentionPI1: The likelihood of purchasing fashion items tagged in images is high. PI2: The probability that I would consider buying fashion items tagged in images is high. PI3: My willingness to buy fashion items tagged in images is high. PI4: I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)		Xiaohongshu's mobile s-commerce app	Jayawardhena and
shoppingexperienceblogsandreviews)onXiaohongshu's mobiles-commerce app.WOM3: I am likely to recommend Xiaohongshu's mobile s-commerce app to my friends or acquaintances WOM4: I am likely to encourage others to consider using Xiaohongshu's mobile s-commerce app.Dodds, Monroe and Grewal (1991)Purchase IntentionPI1: The likelihood of purchasing fashion items tagged in images is high. PI2: The probability that I would consider buying fashion items tagged in images is high. PI3: My willingness to buy fashion items tagged in images is high. PI4: I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)		WOM2: I would provide others with information (e.g.	Wright (2009)
Xiaohongshu's mobile s-commerce app. WOM3: I am likely to recommend Xiaohongshu's mobile s-commerce app to my friends or acquaintances WOM4: I am likely to encourage others to consider using Xiaohongshu's mobile s-commerce app.Dodds, Monroe and Grewal (1991)Purchase IntentionPI1: The likelihood of purchasing fashion items tagged in images is high. PI2: The probability that I would consider buying fashion items tagged in images is high. PI3: My willingness to buy fashion items tagged in images is high. PI4: I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)		shopping experience blogs and reviews) on	
WOM3: I am likely to recommend Xiaohongshu's mobile s-commerce app to my friends or acquaintances WOM4: I am likely to encourage others to consider using Xiaohongshu's mobile s-commerce app.Dodds, Monroe and Grewal (1991)Purchase IntentionPI1: The likelihood of purchasing fashion items tagged in images is high. PI2: The probability that I would consider buying fashion items tagged in images is high. PI3: My willingness to buy fashion items tagged in images is high. PI4: I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)		Xiaohongshu's mobile s-commerce app.	
S-commerce app to my friends or acquaintances WOM4: I am likely to encourage others to consider using Xiaohongshu's mobile s-commerce app.Dodds, Monroe and Grewal (1991)Purchase IntentionPI1: The likelihood of purchasing fashion items tagged in images is high. PI2: The probability that I would consider buying fashion items tagged in images is high. PI3: My willingness to buy fashion items tagged in images is high. PI4: I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)		WOM3: I am likely to recommend Xiaohongshu's mobile	
Purchase IntentionPI1: The likelihood of purchasing fashion items tagged in images is high. PI2: The probability that I would consider buying fashion items tagged in images is high. PI3: My willingness to buy fashion items tagged in images is high. PI4: I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)		s-commerce app to my triends or acquaintances WOM4: I am likely to encourage others to consider using	
Purchase IntentionPI1: The likelihood of purchasing fashion items tagged in images is high. PI2: The probability that I would consider buying fashion 		Xiaohongshu's mobile s-commerce app	
Purchase IntentionPI1: The likelihood of purchasing fashion items tagged in images is high. PI2: The probability that I would consider buying fashion items tagged in images is high. PI3: My willingness to buy fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)PI3: My willingness to buy fashion items tagged in images is high. PI4: I would purchase fashion items tagged in images.Dodds, Monroe and Grewal (1991) Kim and Johnson (2016)		The second secon	
IntentionIn images is high.Grewal (1991)PI2: The probability that I would consider buying fashion items tagged in images is high.Kim and Johnson (2016)PI3: My willingness to buy fashion items tagged in images is high.PI4: I would purchase fashion items tagged in images.	Purchase	P11: The likelihood of purchasing fashion items tagged	Dodds, Monroe and
items tagged in images is high. PI3: My willingness to buy fashion items tagged in images is high. PI4: I would purchase fashion items tagged in images.	Intention	In images is high. PI2: The probability that I would consider buying fachion	Grewal (1991) Kim and Johnson
PI3: My willingness to buy fashion items tagged in images is high. PI4: I would purchase fashion items tagged in images.		items tagged in images is high	(2016)
images is high. PI4: I would purchase fashion items tagged in images.		PI3: My willingness to buy fashion items tagged in	(2010)
PI4: I would purchase fashion items tagged in images.		images is high.	
		PI4: I would purchase fashion items tagged in images.	

Table 8-4 Measure	Constructs and	Items Develor	nment in This Study
	Constructs and	Items Develo	pinent in This Study

8.9.2 Questionnaire development in this study

The consumer behaviour factors which should be considered are demographic and psychological characteristics (Malhotra, 2003). Therefore, this questionnaire is classified into four parts. The first part includes questions related to demographic information, such as age, gender, personal expenditures, s-commerce usage, the usage frequency of Xiaohongshu mobile s-commerce app; these questions are based on previous research as shown in Table 8-5. The following parts are about usefulness, ease of use, informativeness, emotion, WOM intention and purchase intention. The questionnaire item development is presented in Table 8-6.

In the traditional self-administrated survey, researchers generally adopt words on the questionnaire no matter writing on paper or recording voice by an interviewer due to the limitation of visual effects (Couper, 2008). With the development of Internet, visual elements and words can enhance each other in the online survey, because most platforms support nonverbal content like videos, images and music (Couper, 2008). There are several properties of visual images: easy to focus, more concrete than abstract, and interpretations with rich and complex visual sources (Couper, 2008). Couper, Conrad and Tourangeau (2007) illustrated the functions of using visual images in the online survey. First, images are used as questions in the survey. Second, images are supplemental to explain the survey questions (e.g. describing the steps, clarifying research questions and supplementing verbal descriptions) (Couper, 2008), by using images, participants are easy to understand questions (Žmuk, 2018). Third, images are utilised to motivate or entertain participants to increase responses (Couper, 2008). One of the effects of visual images on responses is through changing the context or producing contrast or assimilation effects (Couper, 2008). In this process, images as cues may stimulate personal memory to remember people, events or situations (Couper, 2008).

In this study, three UGFIs with the social tagging were randomly selected from Xiaohongshu's fashion mobile social community, and one image about the design of Xiaohongshu's social tagging within UGIs was selected as shown in Appendix A. Making samples of photos without any favourited assignments is needed as the set of positive examples which helps to recall Xiaohongshu users' experience (tagging or tagging content browsing). Consequently, the images chosen for the questionnaire design do not only supplement the explanation of social tagging within UGFIs' term, but also recall Xiaohongshu fashion mobile s-commerce users' previous experience to increase survey responses.

Social Demographics	Items Development	Variables	Adapted From
Gender	Male	Male/Female	Kim and Park
	Female		(2013)
Age	Below18	Under 18 years old	Chen, Su and
	18-24	18-24 years old	Widjaja (2016)
	25-34	25-34 years old	
	35-44	35-44 years old	
	45-54	45-54 years old	
	55-64	55-64 years old	
How long have you been	<6 months	<6 months	Kim and Park
using Xiaohongshu's	≥6, <1 year	≥6, <1 year	(2013)
mobile app?	≥1, <2 years	≥1 <2 years	Lee and Hong
	≥2 years	≥2 years	(2016)
How often do you use	Daily	Less often	Lee and Hong
Xiaohongshu's fashion	Weekly	Daily	(2016)
mobile s-commerce	Less often	Weekly	
community?			
On average, how much	Less than 30 minutes	Less than 30 mins	Lee and Hong
time do vou use	30 minutes to one hour	30 mins to one hour	(2016)
Xiaohongshu's fashion	More than one hour	More than one hour	()
mobile s-commerce			
community each time?			
What is your education	High school or below	High school or below	Liu et al. (2016)
level?	Junior college	Junior college	
	University	University	
	Master or above	Master or above	
What is individual	<rmb 1000="" <="" td=""><td><rmb 1000<="" td=""><td>Lien and Cao</td></rmb></td></rmb>	<rmb 1000<="" td=""><td>Lien and Cao</td></rmb>	Lien and Cao
monthly expenditures in	RMB 1000–2000 /	RMB 1000-2000	(2014)
RMB?	RMB 2001–3000 /	RMB 2001-3000	
	RMB 3001-4000/	RMB 3001-4000	
	RMB 4001-5000 /	RMB 4001-5000	
	>RMB 5000	>RMB 2000	
What items are	Ticket	Ticket	Kim and Park
purchased from mobile	Beauty	Beauty	(2013)
s-commerce platform	Fashion	Fashion	
(multiple-responses)?	Electronic Application	Electronic Application	
	Others	Others	

Table 8-5 Item Checklists about Social Demographic

Constructs	Variable Itoms	Original Itams	Adapted From
Usefulness	Please evaluate the value of social tags in the	Ineffective-	Voss.
e ser anness	images' function on Xiaohongshu's fashion mobile	effective	Spngenberg and
	community according to the following dimension.	Not functional-	Grohmann
	ineffective-effective	functional	(2003)
	not functional-functional	Impractical-	Kleijnen, de Ruysten and
	> impractical-practical	Iseless-useful	Wetzels (2007)
	> useless-useful	Not sensible-	Wetzels (2007)
	inefficient-efficient	sensible	
	> unproductive-productive	Inefficient-	
		efficient	
		productive	
Ease of Use	EOU1: Learning to use social tags in images is	Learning to	Davis (1989)
Luse of ese	easy on Xiaohongshu's fashion mobile community.	useis easy to	Nysveen (2005)
	EPOU2: It is easy to make social tags in images do	me.	• • • •
	what I want it to do on Xiaohongshu's fashion	It is easy to	
	FOUS: It is easy to use social tags in images on	want it to do	
	Xiaohongshu's fashion mobile community.	It is easy to use	
	EOU4: My interaction with social tags in images	My interaction	
	is clear and understandable on Xiaohongshu's	with is clear and	
.	fashion mobile community.	understandable.	I D I I
Informativ	INI: Social tags in images are a good source of	1s a good	Logan, Bright
eness	mobile community	information	Gangadharbatla
	IN2: Social tags in images supply relevant fashion	supplies	(2012)
	items information on Xiaohongshu's mobile	relevant product	
	community.	information	
	of fashion items information on Xiaohongshu's	source of product	
	mobile community.	information	
	IN4: Information which is tagged on fashion items	Information	Lee and Hong
	would be useful on Xiaohongshu's fashion mobile	obtained from	(2016)
	social community.	would be useful	Edwards, Li and
	images would be helpful on Xiaohongshu's fashion	I think the	Lee (2002)
	mobile community.	obtained from	
	IN6: I would learn a lot from fashion items tagged	would be helpful	
	in images on Xiaohongshu's fashion mobile	I would learn a lot	
	community.	from	
Emotion (pleasure)	Social tags in images make me feel:	Happy/unhappy Pleased/annoved	Mehrabian and Russell (1974)
(preasure)	 annoyed-pleased 	Satisfied/unsatisfie	Ha and Lennon
	unsatisfied-satisfied	d	(2010)
	not joyful-joyful	Relaxed/bored	Kim and
Emotion	bored-relaxed Social tags in images make me feel	Joyful/not joyful	Johnson (2016)
(arousal)	> relaxed-stimulated	Stimulated/relaxed	Russell (1974)
()	> calm-excited	Wide-awake/sleepv	Ha and Lennon
	sleepy/wide-awake	Aroused/unaroused	(2010)
	unaroused-aroused		Kim and
WOM	WOM1: I would tell others positive things about	I would tell others	Kim and Park
	Xiaohongshu's mobile s-commerce app	positive things	2013)
	WOM2: I would provide others with information	about	Jayawardhena
	(e.g. shopping experience blogs and reviews) on	I would provide	and Wright
	Alaonongshu's mobile s-commerce app. WOM3: I am likely to recommend Xiaohongshu's	others with	(2009)
	mobile s-commerce app to my friends or	I am likely to	
	acquaintances	recommend to	
	WOM4: I am likely to encourage others to consider	my friends or	
	using Xiaohongshu's mobile s-commerce app.	acquaintances	
		am likely to	
		consider	
Purchase	PI1: The likelihood of purchasing fashion items	The likelihood of	Dodds, Monroe
Intention	tagged in images is high.	purchasing this	and Grewal
	PI2: The probability that I would consider buying	product is	(1991) Kim 1
	PI3: My willingness to huy fashion items tagged in	The probability that	Lohnson (2016)
	images is high.	I would consider	2011301 (2010)
	PI4: I would purchase fashion items tagged in	buying the product	
	images.	is (<i>Higħ/Low</i>).	
		My willing to	
		is (<i>High/Low</i>)	
		I would	
		purchase	

Table 8-6	Construct	Checklists	for	This	Study
-----------	-----------	------------	-----	------	-------
8.10 Sampling Methods

It is not practical to survey the entire population (Clow and James, 2013). Sampling refers to the process of the group of individuals to survey without examining the entire population (Bryman and Bell, 2015). The group of people chosen is the sample (Clow and James, 2013). The strategies of sampling will overcome traditional sample issues to access potential participants and optimise cost and time (Saunders *et al.*, 2013).

8.10.1 Define the target population

The first step of sampling is to define the target population, and target population includes elements, sampling units, extent and time (Malhotra and Birks, 2007). An element is related to seek from which information is needed (Malhotra and Birks, 2007). The participants are generally selected by sample units with borders such as nations, cities, regions or firms (Birkinshaw, Brannen and Tung, 2011). The target population is the people that the research focuses on obtaining information and wishes to examine (Wilson, 2011). This study will seek to Generation Y cohort (18-34) fashion consumers as the target elements. This is because, firstly, 18-34 individuals are more willing to use social media than older individuals (Bolton et al., 2013). Next, Generation Y can actively be affected by the digital environment and information technology in daily life (Bennett, Maton and Kervin, 2008), and Chinese Generation Y spends a lot of money on fashion and brands (O'Cass and Choy, 2008). Thirdly, female consumers prefer discussion and eWOM on social networking sites (Dennis et al., 2010). Male consumers tend to make quick purchase decisions and need less information than female consumers before making purchase decisions (Kim et al., 2007). Generally, the target population element in this study is all young female users of Xiaohongshu fashion mobile scommerce community. The sample unit is Xiaohongshu mobile s-commerce community's female users. The time of sampling is 2-3 weeks in October, 2017.

8.10.2 Decide the sample framework

A sample framework involves an identified and selected population in research and a representation of the elements of the target population (Davis, Gallardo and Lachlan, 2009; Bryman and Bell, 2015). It shows a realistic version of the target population that can identify and access (Davis *et al.*, 2009). By considering Xiaohongshu fashion mobile s-commerce community as a discussion and eWOM channel, young females are more likely to evaluate the social tagging in UGIs' feature. Thus, this study's target population sampling framework is Xiaohongshu app's 18-34 female users who have used its fashion s-commerce community chosen to provide relevant insights. The self-administered online questionnaire will serve to select the sampling frame.

8.10.3 Sampling techniques

Collecting information about the total target people is very complicated and expensive (Wilson, 2011). This study will adopt sampling strategies to access appropriated samples to gather information. Selecting a sampling technique contains a series of decisions such as whether to use probability sampling or non-probability sampling (Sandlin, 2007; Wilson, 2011). The following section will present the common sampling techniques in the market research.

Probability sampling

Probability sampling occurs with the equal chance to be selected by randomly selecting each unit in the population, and its purpose is to maintain a minimum sampling error (Bryman and Bell, 2015). In other words, each unit has the same chance to be chosen from the entire population (Saunders *et al.*, 2015). This sample technique is generally applied in the survey and experimental research (Saunders *et al.*, 2015). The key aspects of probability sample are the simple random sample, the systematic sample, the stratified random sample and the multi-stage cluster sample (Wilson, 2011; Bryman and Bell, 2015). The disadvantage of probability sampling is that the rules of participant selection and sample design results in more costs, time and effort on the research (Wilson 2011).

Non-probability sampling

Non-probability sampling has become popular in online surveys (Baker *et al.*, 2013). That is because the sample size is smaller and targets the most vital participants (Wilson, 2011). In particular, the cost is less than probability sampling and the research is conducted more quickly (Wilson, 2011). It mainly consists of convenience sampling, judgement sampling, quota sampling and snowball sampling (Wilson, 2011). Convenience sampling is a collecting data technique from potential participants that is convenient to access (Baker *et al.*, 2013). Quota sampling is generally used in marketing research and its aim to produce a sample showing a population characteristic in gender, age, education, and annual household income categories (Bonn *et al.*, 2016). Online snowball sampling surveys could recommend someone who meets the sample criteria to participate in the survey (Huang and Sarigöllü, 2014; Khan and Rahman, 2016). This strategy is cost effective and increases the response rate with similar respondents' characteristics (Gunawan and Huarng, 2015). Judgmental sampling is a kind of convenience sampling, and the group of individuals to survey is purposely selected by the researcher (Malhotra and Birks, 2007).

8.10.4 Sampling techniques adopted in this study

Because the actual sample size of Xiaohongshu fashion mobile s-commerce community's users in Xiaohongshu mobile s-commerce app is unknown, this study will not adopt probability sampling technique. The sample will be selected using nonprobability sampling techniques to access the potential respondent. Quota sampling chooses the sample characteristics in the total population. It is not easy to achieve obtaining the Xiaohongshu fashion mobile s-commerce community's actual users. Specifically, this study will adopt online convenience and snowballing techniques, because convenience sampling could access the potential research group and snowball sampling has an opportunity to increase the response rate.

The questionnaire is designed through the Sojump website (<u>https://www.sojump.com/</u>), which is a popular and professional online survey platform in China and has been used in academic research (Zhou *et al.*, 2013; Lien and Cao, 2014; Zhu and Chang, 2014; Hu *et al.*, 2016; Zhang *et al.*, 2017). In order to access the questionnaire, a free UCL to visit the questionnaire is shared (Hu *et al.*, 2016). Xiaohongshu has online communities in QQ and WeChat platforms. This study will use WeChat and QQ social networking platforms to access 18-34 female users of Xiaohongshu's fashion mobile s-commerce community to answer the questionnaire. In China, WeChat supports users to communicate and interact with friends through various message functions like text, hold-to-talk voice messages and one-to-many messages; WeChat is widely known about social networking site in China and has over 848 million users (Lee and Phang, 2015). It also connects with other multimedia tools like blogs into the virtual community and allows users to conveniently interact with other users in groups (Jiang *et al.*, 2014).

Through online convenience technique, this study will obtain questionnaire data through WeChat and QQ social networking platforms by distributing the online survey links to Xiaohongshu online community users with a request to fill it out. This study also adopts the online snowballing technique, where questionnaire data is obtained through WeChat and QQ platforms by distributing the online survey links to the author's friends or Xiaohongshu community users' friends with a request to fill the questionnaire out and then forward to their networks. Respondents need to meet the two sample criteria: (1) understand the questionnaire information sheet and consent form and (2) have used Xiaohongshu's fashion mobile s-commerce community.

8.10.5 Determining sample size

The size of the sample plays a vital role in the generalisation of results, the reliability of the parameters' estimation and analysis of model testing (Martínez-López, Gázquez-Abad and Sousa, 2013). The basic considerations of sampling size relate to the research time and cost, participants' non-response, characteristics of the population and kinds of analyses (Bryman and Bell, 2015).

Iacobucci (2010) suggests a sample size of at least 50. However, Hair *et al.* (1998) and Barrett (2007) propose the critical 200 sample size for conducting structural equation modeling due to its effectiveness to reduce eventual bias in the model estimation (Kline, 2015). Specifically, sample size less than 200 will be rejected for publication (Barrett, 2007). However, Chin (1998) suggests that the sample size should meet at least the following criteria: (1) ten times for the formative indicators, or (2) ten times the largest number of structural paths directed in the structural model. Based on the previous rules of sample size, total observed variables (formative indicators) in the questionnaire are 34. Therefore, total minimum sample size at 340 is required to meet all previous sample size strategies.

8.11 Validity and Reliability

In order to provide the correct information for decision makers, the researcher has to deal with whether the information is correct and accurate in the data collection (Clow and James, 2013). The error of information occurs in the measurement process. Validity and reliability pay attention to the problem of the measurement and error (Clow and James, 2013).

8.11.1 Validity

Validity is the degree of accuracy when conducting the research (Maylor and Blackmon, 2005). Validity reflects the research quality (Burns and Burns, 2008). The level of validity includes "empirical evidence", "reliable theory" and "action based on the test scores" (Burns and Burns, 2008). The evaluation of validity contains face validity, content, predictive and construct validity (Clow and James, 2013). Burns and Burns (2008) state that validity consists of internal validity and external validity. Table 8-7 makes a summary of validity based on Clow and James (2013) and Burns and Burns (2008).

	Definition and Application
Face validity	Face validity is personal subjective opinions about what is to measure. It is weak because it reflects the subjective opinions (Clow and James, 2013).
Content validity	Content validity is a process to achieve the adequacy of items used to measure a theory or construct. The steps of developing content validity include literature review, panel of experts, pilot test and data analysis for scale reduction (Clow and James, 2013).
Predictive validity	Predictive validity is to predict future actions or behaviours (Clow and James, 2013).
Construct validity	Content validity is to test the construct or the concept based on the underlying theories. The achievement of content validity is through convergent validity and discriminant validity (Clow and James, 2013).
External validity	External validity is the degree of a sample which accounts for a population, including population validity and ecological validity (Burns and Burns, 2008).
Internal validity	Internal validity indicates the degree of ability to control the experiment with conditions, which can be affected by various factors like selection and instrumentation (Burns and Burns, 2008).

Table 8-7 Summary of Validity

8.11.2 Reliability

Reliability is used to examine whether researchers could provide the consistent findings when researchers repeat the research (Maylor and Blackmon, 2005). It is reflected in the data collection and data analysis process (Bryman and Bell, 2015). The methods can be divided into three kinds: test-retest, equivalent forms and internal consistency (Clow and James, 2013). Test-retest is to repeat the research process concerning the same instruments and subjects (Clow and James, 2013). Researchers not only have limited time and cost to do the research, but also have to face the change of the environment (Clow and James, 2013). Equivalent form consistency is to do a second measurement with the same subjects in different time periods (Clow and James, 2013). Researchers demand to face the same problems with test-retest method, in addition, the new challenge of second measurement is that the different questions could lead to the same results (Clow and James, 2013). Internal consistency is to evaluate the consistency through using the different samples in one measurement instrument and is a common way used than test-retest and equivalent form consistency (Clow and James, 2013). Next chapter will mention the reliability in data analysis.

8.12 Summary

Table 8-8 displays a summary concerning the research methodology in this chapter. This study adopts realism research philosophy and uses a deductive research approach to guide online quantitative research and satisfy the research objectives. The online questionnaire method is selected to collect primary data with strategic editing and convenience and snowballing sampling techniques. The research samples will be over 340 female users (18-34) of Xiaohongshu's fashion mobile s-commerce community. The questionnaires are shared and collected through the WeChat and QQ platforms. Next chapter will discuss and apply a series of statistical methods to response the hypotheses and the theoretical model proposed.

Orientation	Decision
Research Philosophy	Realism
Ontology	Objectivism
Research Approach	Deductive Approach
Research Designs	Descriptive and Cross-sectional Research Design
Data Sources	Primary and Secondary Data
Data Collection Approach	Quantitative Method
Research Technique	Online Self-administered Questionnaire
Sampling Techniques	Non Probability: Convenience and Snowball Sampling

Table 8-8 Summary of Key Approaches in This Chapter

Chapter 9 Data Analysis and Results

9.1 Introduction

After data collection through the questionnaire, data is ready for data analysis (Sekaran and Bougie, 2016). The value of quantitative data analysis aims to process and transfer data into meaningful information. Quantitative analysis techniques (e.g. tables, figures and statistics) enable users to show, describe and examine data relationships and trends (Saunders *et al.*, 2013, 2015). Quantitative data for calculations and chart drawing needs to use various software packages such as IBM SPSS statistics to express the relationships between variables and statistical modeling (Saunders *et al.*, 2013, 2015). This chapter will review the results of online questionnaire data and examine the hypotheses and the variables' relationship according to the prior relevant data analysis techniques applied in the research (e.g. descriptive analysis, factor analysis and structural equation modeling) (Jayawardhena and Wright, 2009; Ha and Im, 2012; Kim and Johnson, 2016; Huang *et al.*, 2017).

9.2 Descriptive Analysis

Descriptive statistics are to organise demographic characteristics, behaviours and results of the study, which helps researchers understand information obtained (Beins and McCarthy, 2011). Therefore, the application of descriptive statistics mentions individuals who participated in the study, sample characteristics (e.g. gender and age) and demographic information (Beins and McCarthy, 2011).

Frequency distribution is to describe the values of a single variable in percentage terms concerning the set of data (Malhotra *et al.*, 2017). Online surveys have no geographical limits (Akram *et al.*, 2018). During the period from October 15th, 2017 to October 28th, 2017, this study used sojum.com to collect questionnaire data through WeChat and QQ social networking platforms. Online convenience and snowball sampling techniques are used to access the data from Xiaohongshu fashion mobile s-commerce community's 18-34-year-old female users. 723 respondents participants did not specify the answer requirements in the corresponding fields:16 cases did not understand the questionnaire information; 58 cases were male; 20 cases were under 18 years old; 5 cases were 35-44 years old; and 85 cases did not use the Xiaohongshu fashion mobile s-commerce community. Besides, 229 cases were abandoned. Therefore, 387 sets of data are valid and used for the further analysis.

Variables	Categories	Frequency	Valid Percent
Gender	Female	387	100.0
Age	18-24	270	69.8
	25-34	117	30.2
How long have you been	< 6 months	146	37.7
using Xiaohongshu's	≥ 6, <1 year	143	37.0
mobile app?	≥ 1, < 2 Year	75	19.4
	≥ 2 Year	23	5.9
How often do you use	Everyday	88	22.7
Xiaohongshu's fashion	Weekly	232	59.9
community?	Less often	67	17.3
On average, how much time	Less 30m	119	30.7
do you use Xiaohongshu's fashion mobile s-commerce	30m-1 hour	245	63.3
community each time?	Over 1 hour	23	5.9
What is your education	High school or	18	4.7
level?	Below		
	Junior college	99	25.6
	University	205	53.0
	Master or above	65	16.8
What is individual monthly	<1000	57	14.7
expenditures in RMB?	1000-2000	143	37.0
	2001-3000	83	21.4
	3001-4000	49	12.7
	4001-5000	23	5.9
	> 5000	32	8.3
What items are purchased	Tickets	133	34.4
from mobile s-commerce	Beauty	245	63.3
platform (multiple-	Fashion	316	81.7
responses)?	Electricity application	109	28.2
	Others	78	20.2

Table 9-1 Social Demographics

The sample of this study is all of the 18-34 females of the fashion s-commerce community users in the Xiaohongshu app as shown in Table 9-1. The main age groups are 18-24 (69.8%) and 25-34 (30.2%), and almost 74.7% of the sample used the Xiaohongshu mobile s-commerce app less than 1 year. It indicates that m-commerce apps have become more frequently used for Chinese females (iResearch, 2015a).

More than 60% of females spent thirty minutes to an hour each time in the Xiaohongshu fashion mobile s-commerce community. 59.9 % of respondents used the Xiaohongshu fashion mobile s-commerce community once a week. The results support that Chinese female fashion consumers adopt social shopping eWOM information (Peng *et al.*, 2016) and Generation Y is involved in the online community for social shopping information seeking or sharing (Nusair *et al.*, 2013).

The education levels of the respondents are: high school or below (4.7%), junior college (25.6%), university (53%) and master or above (16.8%). The expenditure every month of young females is different, for instance, the largest group (37%) is 1000-2000 (RMB), and the smallest group (5.9%) is 4001-5000 (RMB). Additionally, fashion products have the highest buying frequency (81.7%) in the mobile s-commerce platform and the second favourite buying products are the beauty (63.3%). The result is similar to

previous research that Chinese online female consumers prefer to buy fashion products than other product categories like groceries (Statista, 2013).

9.3 Sample Validity

Xiaohongshu is an e-commerce website with a s-commerce community (Zhang *et al.*, 2018), and the main users are aged 18-34 females (Linkedin, 2017). Sharing images, products and life styles is common in s-commerce community (Xiang *et al.*, 2016). Young adults are more likely to use mobile services (Cheung and To, 2017). Using the sample of young adults could enhance research validity since they are the in the similar age group who have the similar life background (O'Cass and Siahtiri, 2014; Peterson and Merunka, 2014). Especially, young adults are likely to buy fashion and brand products (Carpenter, Moore and Fairhurst, 2005; Lee *et al.*, 2008; Workman, 2010; O'Cass and Siahtiri, 2013; Nadeem, Juntunen and Juntunen, 2017). Thus, this study uses Xiaohongshu fashion mobile s-commerce community's 18-34-year-old female users as the sample.

9.4 Reliability Analysis of Scale Items

Reliability relates to the extent to which a scale produces consistent or stable results over time (Wilson, 2011). It is used to examine free of the random error (Malhotra *et al.*, 2017). Internal consistency reliability concerns a concept's the consistency of measurement within a set of scale items (Bryman and Bell, 2015). The general method to measure internal consistency is through Cronbach's alpha coefficient (Wilson, 2011; Malhotra *et al.*, 2017; Patten and Newhart, 2017). Its coefficient ranges from 0 and 1 (Wilson, 2011). When a value is .7 or above, it indicates that the scales within the designed questionnaire are measuring the same thing (Wilson, 2011).

Constructs	Number of Items	Cronbach's Alpha
Usefulness	7	.913
Ease of Use	4	.808
Informativeness	6	.804
Pleasure	5	.918
Arousal	4	.827
WOM Intention	4	.786
Purchase Intention	4	.854

Table 9-2 Reliability Results for Scale Items

Table 9-2 above indicates the good internal consistency of the seven constructs in the questionnaire: usefulness, ease of use, informativeness, pleasure, arousal, WOM intention as well as purchase intention. Each construct's Cronbach's alpha coefficient is over .7. The data sets are suitable for further research analysis.

9.5 Factor Analysis

Factor analysis (FA) was introduced in 1904 and uses the Pearson correlation coefficient (Schumacker and Lomax, 2016). It is a technique to make data reduction and summarisation (Malhotra *et al.*, 2017). The purpose of factor analysis is to use a set of observed variables through variance-covariance characteristics deciding the theoretical constructs or factor (Schumacker and Lomax, 2016). The basic components of factor analysis are exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) (Burns and Burns, 2008). In the exploratory factor process, researchers would like to find a theoretical support for the data, while in the confirmatory factor approach, researchers attempt to find whether the sample data confirm the model (Schumacker and Lomax, 2016). The concepts and techniques of EFA and CFA will be explained in the following sections.

9.6 Exploratory Factor Analysis (EFA)

Exploratory factor analysis (EFA) is one way of the multivariate analysis techniques, the aim of this method is to decrease the size of a dataset, get a potential underlying dimensionality (Janssens, De Pelsmacker and Kenhove, 2008) and explore the correlations among the observed variables (Gaur and Gaur., 2006; Schumacker and Lomax, 2016). Thus, a few variables in the research will be deleted to get an actual unknown dimension as a factor (Janssens *et al.*, 2008). In other words, the researcher could explore how many factors, express the correlation relationship between factors and attempt to find the observed variables to measure each factor in EFA (Schumacker and Lomax, 2016).

9.6.1 Assessment for suitability of the data for factor analysis

Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) is a way to measure the appropriateness of factor analysis (Field, 2013; Malhotra *et al.*, 2017). Bartlett's test of sphericity is to measure the hypothesis that the variables have no relationship in the population (Malhotra *et al.*, 2017). Burns and Burns (2008) recommended that KMO values should be greater than .5 and Bartlett's test should be lower than .05 for variables to be correlated, data sets are satisfactory for factor analysis.

Kaiser-Meyer-Olkin Measur	.944	
Bartlett's Test of	Approx. Chi-Square	7719.140
Sphericity	df	561
	Sig.	.000

Table 9-3 Initial KMO and Bartlett's Results

From the table above, KMO of the data sets is .944, which is higher than the minimum value of .5, and Bartlett's test (.000) is significant. That means the data is appropriate for the following exploratory factor analysis.

9.6.2 Determining the number of factors

Determining the number of factors is called factor extraction in the factor analysis (Field, 2013, 2018). The number of factors can be chosen with the eigenvalues (Burns and Burns, 2008). In the research, only factors with eigenvalues over 1.0 could be retained (Malhotra, 2003; Malhotra *et al.*, 2017). Total variance explained makes a summary of the total variables explained by the factor analysis, and presents the total number of useful factors (Gaur and Gaur., 2006). Cumulative % expresses the total variance explained (Gaur and Gaur., 2006). Six factors explained 64.014 % of the variance, which has six eigenvalues greater than 1.0 in Table 9-4.

Total Variance Explained								
Component		Initial Eigenv	values	Extr	action Sums of	of Squared	Rotation Sums of	
_					Loading	S	Squa	red Loadings
	Total	% of	Cumulative	Total	% of	Cumulative	Total	% of Variance
		Variance	%		Variance %			
1	12.114	35.630	35.630	12.114	35.630	35.630	6.464	19.013
2	4.162	12.241	47.871	4.162	12.241	47.871	3.931	11.563
3	2.121	6.238	54.108	2.121	6.238	54.108	3.306	9.723
4	1.169	3.437	57.545	1.169	3.437	57.545	2.943	8.656
5	1.155	3.398	60.944	1.155	3.398	60.944	2.889	8.498
6	1.044	3.070	64.014	1.044	3.070	64.014	2.231	6.561

Table 9-4 Initial Total Variance Explained

9.6.3 Factor rotation and interpretation

Research adopts different rotations which could obtain different the factor loading results and different interpretations of factors (Wilson, 2011). Factor analysis can generate factor loading for each combination of extracted factors and observed variables (Gaur and Gaur., 2006). The benefit of factor loading is to identify which variables are associated with particular factors. However, factor loading cannot be observed in a clearer structure, therefore, rotation can be helpful to obtain a simple pattern with the highest factor loading and lowest factor loading on each factor (Gaur and Gaur., 2006). This technique is through factor rotation which is produced through a factor rotation scheme like Virimax rotation (Gaur and Gaur., 2006; Wilson, 2011). In this study, the factor cut-off point is .5, which is the same as Jehu-Appiah *et al.* (2011)'s. Table 9-5 demonstrates the results of the initial rotated component matrix.

	Component							
	1	2	3	4	5	6		
U5	.804							
U4	.797							
U6	.782							
U7	.776							
U2	.770							
U3	.754							
U1	.645							
P3	.619	.520						
P4	.595	.526						
A1		.726						
A2		.681						
A3		.645						
A4		.640						
P2	.585	.610						
P5	.535	.578						
P1	.507	.537						
EOU3			.768					
EOU1			.732					
EOU2			.715					
I1			.633					
EOU4			.628					
PI2				.794				
PI3				.741				
PI4				.719				
PI1				.716				
15					.672			
I6					.635			
I2					.604			
I4					.582			
I3					.546			
WOM3						.725		
WOM4						.707		
WOM1						.609		
WOM2						.510		

Table 9-5	Initial	Rotated	Component	Matrix
-----------	---------	---------	-----------	--------

Table 9-6 Consideration of Item Elimination

Item	Pattern Matrix	Decision
P3	Loaded onto two factors	Higher Loading Retained
	Loading .619 and .520	
P4	Loaded onto two factors	Higher Loading Retained
	Loading .595 and 526	
P2	Loaded onto two factors	Item Eliminated
	Loading .585 and.610	
P5	Loaded onto two factors	Item Eliminated
-	Loading .535 and .578	
P1	Loaded onto two factors	Higher Loading Retained
	Loading .507 and .537	

For a good situation of factor loading, a particular factor should present one high loading on one factor and lower loading on other factors in the rotated factor matrix (Gaur and Gaur., 2006). Consequently, P3, P4, P2, P5 and P1 may have potential problems for high cross loading in two factors, which means they may need to be eliminated. The results are shown in Table 9-6. Two items (P2 and P5) are removed because they may cause potential problems in further factor analysis. P3, P4, P1 with the higher loading are retained because they make a clear final rotated pattern matrix and have no cross loadings in Table 9-7.

	Component						
	1	2	3	4	5	6	
U5	.816						
U4	.808						
U6	.793						
U7	.790						
U2	.777						
U3	.763						
P3	.671						
P4	.649						
U1	.647						
P1	.555						
EOU3		.770					
EOU1		.731					
EOU2		.718					
11		.627					
EOU4		.625	500				
PI2			.793				
PI3			.743				
PI4			./20				
PII			./16	(01			
15				.081			
10				.072			
15 14				.309			
14				.383			
A 1				.565	763		
Δ2					717		
A3					601		
A4					590		
WOM3						.746	
WOM4						.716	
WOM1						.617	
WOM2						.519	

Table 9-7 Final Rotated Component Matrix

9.6.4 Summary of exploratory factor analysis

To summarise, 32 variables are remaining compared with 34 variables in the beginning. After removing P2 and P5 in the rotated component matrix, the result of the final exploratory variables is close to an ideal situation. Table 9-7 presents no cross loadings of each items in the final CFA. Final KMO of the data sets is .940 and the Bartlett's test (.000) is significant in Table 9-8. There are six rotated factors, which account for 63.754 % of the covariance among the variables in Table 9-9.

Table 9-8 Final KMO and Bartlett's Results

Kaiser-Meyer-Olkin Measure of	.940	
Bartlett's Test of Sphericity	Approx. Chi-Square	6798.163
	df	496
	.000	

In other words, two pleasure items (P2 and P5) were removed, and three pleasure items (P1, P3, P4) were integrated with the usefulness factor. Informativeness' scale item (I1) involves into ease of use factor. Finally, the six factors (i.e. usefulness, ease of use, purchase intention, informativeness, arousal as well as WOM intention) are used for the further confirmatory factor analysis.

Initial Eigenvalues		Extracti	Extraction Sums of Squared Loadings			Rotation Sums of	
							d Loadings
Total	% of	Cumulat	Total	% of	Cumulative	Total	% of
	Varian	ive %		Variance	%		Variance
	ce						
11.110	34.718	34.718	11.11	34.718	34.718	6.302	19.695
			0				
3.889	12.153	46.871	3.889	12.153	46.871	3.254	10.168
2.111	6.598	53.469	2.111	6.598	53.469	2.921	9.129
1.165	3.642	57.111	1.165	3.642	57.111	2.866	8.958
1.125	3.517	60.628	1.125	3.517	60.628	2.834	8.857
1.000	3.126	63.754	1.000	3.126	63.754	2.223	6.946

Table 9-9 Final Total Variance Explained

9.7 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) is used to test the hypothesised correlations among observed variables in the factor structure (Gaur and Gaur., 2006). It belongs to the structural equation modeling in order to deal with measurement models (Gaur and Gaur., 2006). Observed variables are the items (e.g. the answer of a question), which are directly observed (Brown, 2006). It reflects the expectation that observed variables refer to the latent variables (Harrington, 2009). Latent variables are the underlying and unobserved constructs (Harrington, 2009). Latent variable includes independent variables or/and dependent variables (Schumacker and Lomax, 2016).

In CFA, researchers attempt to decide a number of factors, identify the correlation between factors and find observed factors to measure the factor (Schumacker and Lomax, 2016). It uses maximum likelihood estimation (Schumacker and Lomax, 2016). The purpose of CFA includes the development and evaluation of existing and new measurements as well as examination of method effects (Harrington, 2009). The application of CFA is to examine the construct validity and identify the changing or unchanging measure across groups, times or population (Harrington, 2009). The results of CFA can be used to support the convergent and discriminant validity (Brown, 2006). The following section will focus on the specification of the CFA measurement model and the evaluation for identification to describe the relationship between observed variables and latent variables.

9.7.1 Using the AMOS program

Analysis of moment structures (AMOS) belongs to the SPSS statistical package's service (Schumacker and Lomax, 2016). It is through the graphical approach to analysing CFA and SEM (Byrne, 2010) and used to draw structural equation modeling (SEM) models relying on the SPSS data set (Schumacker and Lomax, 2016). AMOS also helps to show SEM diagrams and analysis models to identify a better model for users (Schumacker and Lomax, 2016). This study will use SEM to investigate the relationship among constructs because it generally applied to assess new theoretical

proposals in market and business research (Martínez-López, Gázquez-Abad and Sousa, 2013).

9.7.2 The conceptual measurement model in CFA

The measurement model allows "the researcher to use several variables (indicators) for a single independent or dependent variable" (Hair et al., 2013, p.20). The CFA measurement model is to identify whether indicators have good ability to determine the latent variables (Schumacker and Lomax, 2016). Based on the literature review of a series of constructs and the observed variables reduced in EFA, Figure 9-1 shows the initial conceptual model development for CFA, in which the 32 observed variables are placed in the middle, the remaining scale items are placed on the left, and the latent variables are placed on the right.

	<u>Scale Items</u>	Observed	Variable	es La	atent Variables
Please evaluate the value of se according to not s	ocial tags in images' sensible/sensible.	function	U5	\	
Please evaluate the value of se according to u	ocial tags in images' seless /useful.	function	U4		
Please evaluate the value of se according to inef	ocial tags in images' ficient/efficient.	function	U6		
Please evaluate the value of se	ocial tags in images'	function	U7		
Please evaluate the value of se according to not fur	ocial tags in images' actional/functional.	function	U2	Ň	
Please evaluate the value of se according to impr	ocial tags in images' ratical/ practical.	function	U3	Ń	Usefulness
Social tags in images make n	ne feel dissatisfied/sa	atisfied.	P3		
Social tags in images make	e me feel not joyful/j	oyful.	P4		
Please evaluate the value of searcording to ineffect	ocial tags in images' ctive and effective.	function	U1	//	
Social tags in images make	e me feel unhappy/ha	appy.	P1	/	
It is easy to use soc	vial tags in images.		EOU3		
Learning to use social	tags in images is eas	y	EOU1	$\langle \rangle$	
It is easy to make social tags in	images do what I wa	int it to do.	EOU2	\rightarrow	Ease of Use
Social tags in images are a good s iter	source of information	for fashion	I1	$\langle $	
My interaction with social understa	tags in images is clea indable.	ar and	EOU4		
The probability that I would cons in images	ider buying fashion i s is high.	tems tagged	PI2		
My willingness to buy fashion	items tagged in imag	es is high.	PI3		Puchase
I would purchase fashion	items tagged in ima	ges.	PI4		Intention
The likelihood of purchasing failed high the second	shion items tagged ir h.	n images is	PI1		
Information which is tagged on failed help	ashion items in imag ful.	es would be	I5		
I learn a lot from fashion	items tagged in image	ges.	<u>I6</u>		
Social tags in images are a conv inform	venient source of fasl	hion items	I3		Informativeness
Information which is tagged on fause	ashion items in imag ful.	es would be	I4	/	
Social tags in images supply rele	evant fashion items in	nformation.	I2	/	
Social tags in images make	me feel relaxed/stim	ulated.	Al		
Social tags in images ma	ke me feel calm/exci	ted.	A2	\rightarrow	Arousal
Social tags in images make	me feel sleepy/wide-	awake.	A3	$\langle $	
Social tags in images make	me feel unaroused/ar	roused.	A4		
I am likely to recommend Xiaoho to my friends or	ongshu's mobile s-co acquaintances.	mmerce app	WOM3		
I am likely to encourage others t mobile s-con	o consider using Xia nmerce app.	ohongshu's	WOM4		
I would tell others positive things commer	s about Xiaohongshu ce app.	's mobile s-	WOM1	\nearrow	WOM Intention
I would provide others with inform blogs reviews) on Xiaohongs	mation (e.g. shopping	g experience	WOM2		

Figure 9-1 Conceptual Measurement Model for CFA

9.7.3 Model specification

Model specification is the first step to examine multiple variable relationships in the path model. In this process, many variable relationships can be hypotheses tested with many different parameters being estimated (Schumacker and Lomax, 2016). In CFA models, the rectangles are the observed variables (Harrington, 2009); The relationship between observed and latent variables uses single-headed arrows from the latent variable to the observed variable (Harrington, 2009). The relationship between two latent variables is the factor correction in the standardised solutions or a factor covariance in unstandardised solutions (Harrington, 2009). Factor correlations or covariances use double-headed arrows connecting with two latent variables (Harrington, 2009). Each indicator that are not accounted for by the latent factor, which is called measurement errors (Harrington, 2009).

Path models consist of a few regression equations to extend multiples regression models. Consequently, path models draw the multiple regression equations in a path model (Schumacker and Lomax, 2016). Figure 9-2 presents the CFA model specification. It contains the 32 observed variables and 6 latent constructs.

Figure 9-2 CFA Model Specification



9.7.4 Model identification

Model identification is the second step for CFA (Schumacker and Lomax, 2016). It is to test identification problems before estimation (Schumacker and Lomax, 2016). In the initial CFA model, the number of distinct values for order condition in the matrix S is given by (Schumacker and Lomax, 2016):

Number of data points = $\frac{p(p+1)}{2}$,

Where p is the number of observed variables (Byrne, 2010). The number of free parameters estimated should be kept lower or equal to the number of distinct values in the matrix (Schumacker and Lomax, 2016). This study has 32 observed variables. There are 528 data points and the number of district parameters estimated is 79. Consequently the degrees of freedom in the matrix (528-79) is 449, this CFA model can be regarded as over identified because the degree of freedom is over than zero (Schumacker and Lomax, 2016). Meanwhile, the results of the degree of freedom could be zero (just identified) or negative (under-identified) (Schumacker and Lomax, 2016).

9.7.5 Model estimation

It is necessary to estimate the factor loading in the hypotheses factor model (Schumacker and Lomax, 2016). The factor loading presents the regression coefficients for expressing the relationship between indicators (the observed variables) and latent factors (Harrington, 2009). A higher factor loading means a close relationship. In general, loadings under .30 are not interpreted. Loadings over .71 are excellent, .63 is very good, .55 is good, .45 is fair and .32 is poor (Ullman and Bentler, 2007). The factor loading data are shown in the variance-covariance matrix through different estimation procedures (Schumacker and Lomax, 2016). It can be reported as unstandardised estimates and standardised estimates (Schumacker and Lomax, 2016). Figure 9-3 shows standardised estimates of the CFA model for factor loading and factor correlation based on AMOS output files.



Figure 9-3 Initial CFA with Standardised Regression Weights

9.7.6 Model fit assessment

After CFA model measurements, whether the CFA model can fit needs to be determined. It also decides how to revise a model to make the model fit (Harrington, 2009). Model fit refers to the extent to which the sample variance-covariance data adequate the SEM and CFA (Schumacker and Lomax, 2016). The classification of model fit criteria type is in three aspects: model fit, model comparison and model parsimony (Schumacker and Lomax, 2016). Model comparison is used to compare alternative models (Schumacker and Lomax, 2016). Model parsimony considers the number of estimated parameters to obtain for the model fit (Schumacker and Lomax, 2016). It includes PGFI and PNFI (Mulaik *et al.*, 1989). There are other model fit indices like ECVI (the expected Cross-Validation Index) and Hoelter's CN (Critical N) (Byrne, 2010), which helps to examine the goodness-of-fit. The basic concepts of each model fit criteria are as follows.

Model Chi-square (χ^2)

The chi-square (χ^2) test is used to test significance for the theoretical model based on a statistical test with an associated degree of the freedom. The value range of chi-square is from 0 (perfect fit) to $+\infty$ (poor fit) for observed variance-covariance matrix and the implied variance-covariance matrix (Schumacker and Lomax, 2016). If the value of χ^2 is not significant, it indicates that the two matrices are similar, thus, the sample data support the theoretical model (Schumacker and Lomax, 2016). Accordingly, if the probability is over .5, the model is accepted (Barrett, 2007; Hair *et al.*, 2013; Kline, 2015). Generally, chi-square is not considered to be the good fit index for most researchers, because it is difficult to get a nonsignificant chi-square when the sample size is over 200 (Tanaka, 1993; Maruyama, 1997).

Relative Chi-Square (CMIN/DF)

Relative chi-square is also named as the normed chi-square (Schumacker and Lomax, 2016). It is to deal with the problem of sample size's influence on the χ^2 value (Byrne, 2016). It is shown in AMOS as CMIN/DF (Byrne, 2016). The acceptable value for the relative chi-square is from less than 2 (Ullman and Bentler, 2007) to less than 5 (Schumacker and Lomax, 2016).

Root-mean-square Error of Approximation (RMSEA)

RMSEA contains the degree of freedom and sample size. The degree of freedom indicates the model complexity (Schumacker and Lomax, 2016). Schumacker and Lomax (2016) suggest the adequate RMSEA values should be kept between .05 and .08

for identifying the complexity of the theoretical model. When the value is lower than .05 that indicates the good fit of the model complexity (Schumacker and Lomax, 2016).

The Expected Cross-validation Index (ECVI)

The expected cross-validation index (ECVI) is to "measures the discrepancy between the fitted covariance matrix in the analysed sample, and the expected covariance matrix that would be obtained in another sample of equivalent size" (Byrne, 2016, p.135). It enables researchers to compare alternative models through a set of data (Schumacker and Lomax, 2016). Researchers need to observe the ECVI value through three models in terms of default, saturated and independence (Byrne, 2016). If the value of ECVI default model is less than ECVI Saturated and ECVI independence model, the model is acceptable (Byrne, 2016).

Comparative Fit Index (CFI)

The comparative fit index (CFI) is to compare "the amount of departure from close fit for the researcher's model against that of the independence (null) model" (Kline, 2015, p.276). The values range from 0 to 1.0 (Kline, 2015). It is useful to select several competing models based on its centrality (Schumacker and Lomax, 2016). Hu and Bentler (1999) state that the value of CFI should be higher or equal to .95, while Bentler (1990) suggests that the value of CFI should be higher or equal to .90.

Normed Fit Index (NFI)

The measure of normed fit index (NFI) is to rescale chi-square to the range of values 0 to 1.0. It is used to improve the accepted fit of the hypothesised model compared to the independence model (Schumacker and Lomax, 2016). The numbers 0 to 1.0 corresponds to no fit to perfect fit. The value close to .90 or .95 reflects a good model fit (Schumacker and Lomax, 2016).

Root-mean-square Residual Index (RMR)

The root-mean-square residual index (RMR) is to measure the differences between matrix elements in S and Σ (Schumacker and Lomax, 2016). It is difficult to interpret as it is influenced by the metric of the input variables (Harrington, 2009). This value is judged by the researcher and is indicated the closeness of the sample covariance matrix (S) to the model-implied covariance matrix (Σ) (Schumacker and Lomax, 2016). Hu and Bentler (1999) suggest its value should be less than or equal to .8. Schumacker and Lomax (2016) point out that the value of RMR should be less than .5.

Goodness-of-fit Index (GFI)

The goodness-of-fit index (GFI) is "based on the ratio of the sum of the squared differences between the observed and reproduced matrices to the observed variances, thus allowing for scale" (Schumacker and Lomax, 2016, p.113). The reproduced matrix predicts a number of variances and covariances in the observed matrix (Schumacker and Lomax, 2016). The acceptable level is from 0 (no fit) to 1.0 (perfect fit), and a value close to .90 or .95 means a good fit (Schumacker and Lomax, 2016).

Adjusted Goodness-of-fit Index (AGFI)

Adjusting the degree of freedom of a model regarding a series of variables is called the adjusted goodness-of-fit index (AGFI) (Schumacker and Lomax, 2016). The GFI and AGFI indices commonly compare the fit of two alternative models with the same data or identify a single model using difference data (Schumacker and Lomax, 2016). The acceptable level is from 0 (no fit) to 1.0 (perfect fit) and the value adjusted to .90 or .95 reflects a good model fit (Schumacker and Lomax, 2016).

Parsimony Goodness-of-fit Index (PGFI)

In order to overcome the complex model causing a less rigorous theoretical model in the estimation process, Mulaik *et al.* (1989) developed two parsimony of fit indexes: parsimony normed fit Index (PNFI) and parsimony good fit index (PGFI). PGFI evaluates the overall model fit of hypothesised model concerning the complexity (Byrne, 2016). Mulaik *et al.* (1989) suggest that the value of good fit is greater .5.

Hoelter's Critical N (Hoelter's CN)

Hoelter's Critical N pays attention to the sample size rather than the fit of the model (Byrne, 2016). It reflects if the sample size is appropriate to the acceptable model fit. The model is assessed for identical hypothetical models based on the different sample sizes (Hoelter, 1983). Hoelter (1983) suggests that a value over 200 presents replicating an observed covariance structure in a model.

9.7.7 Summary of initial model fit assessment

Table 9-10 concludes the initial model fit statistics and provides the suggested value to evaluate the initial CFA model. The result of the model RMSEA is .053, higher than the suggested value .05; NFI is .866, lower than suggested value .90; GFI is .858, lower than the suggested .90; AGFI is .833, lower than the suggested .90; PGFI is .730, greater than suggested value .50. Therefore, the results of the initial CFA model are not good

for the structure equation modeling development, consequently, model modification is necessary for CFA.

Fit Index	Initial CFA Model	Suggested Values
Chi-square	939.052(df = 449)	P > .5 (Barrett, 2007; Hair <i>et al.</i> , 2013; Kline, 2015)
	P = .000	
Relative	2.091	< 5 (Schumacker and Lomax, 2016)
Chi-square		< 2 (Ullman and Bentler, 2007)
(CMIN/DF)		
RMSEA	.053	\leq .05 Good fit
		.05 < RMSEA ≤ .08 Adequate fit
		$.08 < RMSEA \le .10$ Mediocre fit
		(Schumacker and Lomax, 2016)
ECVI	> ECVI Saturated	ECVI < ECVI Saturated
	< ECVI Independence	ECVI < ECVI Independence (Byrne, 2010)
CFI	.925	\geq .95 (Hu and Bentler, 1999)
		$\geq .90$ (Bentler, 1990)
NFI	.866	> .95 Good fit
		> .90 Acceptable fit
		(Schumacker and Lomax, 2016)
RMR	.073	< .05 (Byrne, 2010)
		\leq .08 (Hu and Bentler, 1999)
GFI	.858	> .90
		> .95 (Schumacker and Lomax, 2016)
AGFI	.833	> .90
		> .95 (Schumacker and Lomax, 2016)
PGFI	.730	> .50 (Mulaik et al., 1989)
Hoelter's CN	206	> 200 (Hoelter, 1983)

Table 9-10 Summary of Fit Indices of Initial Measurement Model

9.7.8 Model modification

The methods of model modification contain examinations of parameters, standardised residuals, modification indices (MI), goodness-of-fit indices and parameter changes (Schumacker and Lomax, 2016).

The error covariance needs to be investigated at the beginning, as there could appear random sources errors, which have the relationship with observed variables (Schumacker and Lomax, 2016). Generally, in order to improve the model fit, research could add an error covariance (Schumacker and Lomax, 2016). Then, researchers need to test the new CFA model. Besides, it is necessary to observe the factor loading (Schumacker and Lomax, 2016). In the factor loading, 0 indicates the factor has no relationship with the variables. If each observed variable's value in one factor loading is .60 or higher, the factor is significant to be determined by the observed variables (Schumacker and Lomax, 2016). In addition, AMOS output files for MIs that the value should drop for χ^2 and all parameters should be close to 0 (Byrne, 2016). The parameter change value helps a researcher predict estimated change (Byrne, 2016). In general, MI value should be lower than 10.0 (Byrne, 2016). Therefore, the general method of model medication is by adjusting the MIs. If viewing the output files of AMOS, standardised residuals help the researcher find the covariance between two variables (Byrne, 2016). When the value is over 2.58, it means the potential problem between two variables, therefore, researchers need to remove values over 2.58 in standardised residuals (Byrne, 2010).

The initial CFA model represents the poor model fit because of low regression weights, standardised residuals, and modification indices. According to the model modification rules, 11 variables were eliminated and 13 modifications to CFA models were produced during the process.

9.7.9 Final modified measurement (CFA) model

Figure 9-4 presents the final CFA specification. Figure 9-5 shows the final CFA model results. The results of the final CFA model indicate good suitability for following SEM analysis compared to the initial CFA model as shown in Table 9-11. The values of RMSEA, NFI, GFI in the final CFA are improved and meet the requirements of the CFA model statistics. After the final modification, 21 observed variables and 6 latent variables remain in the following SEM analysis.

Figure 9-4 Final CFA Specification





Figure 9-5 Final CFA with Standardised Regression Weights

Fit Index	Initial CFA Model	Final CFA Model	Suggested Values		
Chi-square	939.052(df = 449)	272.163 (df = 174)	P > .5 (Barrett, 2007; Hair <i>et</i>		
_	P = .000	P = .000	al., 2013; Kline, 2015)		
Relative	2.091	1.564	< 5 (Schumacker and Lomax,		
Chi-square			2016)		
(CMIN/DF)			< 2 (Ullman and Bentler,		
			2007)		
RMSEA	.053	.038	\leq .05 Good fit		
			$.05 < RMSEA \leq .08$		
			Adequate fit		
			$.08 < RMSEA \leq .10$		
			Mediocre fit		
			(Schumacker and Lomax,		
ECM					
ECVI	> ECVI Saturated	< ECVI Saturated	ECVI < ECVI Saturated		
	< ECVI Independence	< ECVI Independence	ECVI < ECVI Independence		
CEL	025	075	(Byrne, 2010)		
CFI	.925	.975	$\geq .95$ (Hu and Bentler, 1999)		
NEL	866	025	$\geq .90$ (Bentler, 1990)		
NFI	.800	.935	> 90 Acceptable fit		
			Schumacker and Lomax		
			(Schumacker and Lomax, 2016)		
RMR	073	056	< 05 (Schumacker and		
KMK	.075	.050	Lomax 2016)		
			< .08 (Hu and Bentler, 1999)		
GFI	.858	.938	> .90		
			> .95		
			(Schumacker and Lomax,		
			2016)		
AGFI	.833	.918	> .90		
			> .95		
			(Schumacker and Lomax,		
			2016)		
PGFI	.730	.707	> .50 (Mulaik et al., 1989)		
Hoelter's CN	206	292	> 200 (Hoelter, 1983)		

9.8 Construct Validity

Constructs are unobserved and theoretical like factors or latent variables (Harrington, 2009). Construct validity refers to the extent to which instruments truly examine the constructs (Voorhees *et al.*, 2016). It is to measure the relationship among the constructs (Harrington, 2009). It can be seen as combining the underlying theories and previous research to support current research scale. The measure of construct validity is to identify the same theoretical constructs by the correlation coefficient between two or more measurements at the same time (Blunch, 2013). The common methods to examine construct validity include convergent validity and discriminant validity (Campbell and Fiske, 1959; Voorhees *et al.*, 2016).

9.8.1 Convergent validity

Convergent validity is to measure whether the same concept is developed through other research (Bryman and Bell, 2015). The purpose is to measure the same construct correlated (Kline, 2015). The measure of convergent validity is according to the variables, average variance extracted (AVE) and composite reliability (Schumacker and Lomax, 2016). The value of AVE should be over .50 (Fornell and Larcker, 1981). The result of convergent validity is shown in Table 9-12. It indicates that there is good convergent validity of each construct.

Factor	Variable	Standardised	Squared	Average	Composite
		Factor	Factor	Variance	Reliability
		Analysis	Loading	Extracted	(CR)
				(AVE)	
	U5	.830	.689	.628	.910
Usefulness	U4	.808	.653		
	U6	.814	.662		
	U7	.800	.640		
	U2	.727	.529		
	U3	.772	.596		
Ease of Use	EOU3	.726	.527	.519	.764
	EOU2	.728	.529		
	EOU4	.708	.501		
	PI2	.816	.666	.599	.856
Purchase	PI3	.789	.623		
Intention	PI4	.698	.488		
	PI1	.788	.621		
Informativanass	15	.739	.546	.526	.689
11101 mativeness	I4	.711	.505		
	A1	.648	.420	.577	.802
Arousal	A3	.819	.671		
	A4	.800	.641		
	WOM3	.810	.656	.546	.782
WOM Intention	WOM4	.745	.555		
	WOM1	.654	.427		

Table 9-12 Convergent Validity Results

9.8.2 Discriminant validity

Discriminant validity is a special method to examine the factor correlation matrices (Byrne, 2010). The content of one construct (Construct A) is different from a measure to test another construct (Construct B) (Bryman and Bell, 2015). AVE (average variance extracted) is a method to evaluate discriminant validity. AVE of each construct should be higher than the squared factor correlations with any other constructs (Fornell and Larcker, 1981; Hair *et al.*, 2013). In this study, AVE value of each construct is greater than .50. Each construct is appropriate to process to examine discriminant validity. According to the analysis of discriminant validity, it presents a good discriminant validity result for each construct as shown in Table 9-13, which means the differences among each construct have low correlation. Thus, the CFA is valid for the following SEM analysis.

	Arousal	Usefulness	Ease of Use	Purchase	Informativeness	WOM
				Intention		
Arousal	.760					
Usefulness	.733	.793				
Ease of Use	.352	.419	.721			
Purchase	.475	.367	.558	.774		
Intention						
Informativeness	.302	.396	.712	.615	.725	
WOM	.453	.375	.573	.705	.636	.739

Table 9-13 Discriminant Validity Results

9.9 Structural Equation Modeling and Hypothesis Testing

Structural Equation Modeling (SEM) has become a trend to examine nonexperimental research (Byrne, 2010). SEM describes the relationship between observed and latent variables in several theoretical models. The aim of this technique is to provide a quantitative test of a theoretical hypothesis and model for researchers (Schumacker and Lomax, 2016). Researchers use graphical conceptual models to show the hypotheses. It provides a visual representation of theoretical variables and relations (Kline, 2015). In SEM, dependent variables are called endogenous variables, and the meaning of endogenous is "from within". Each endogenous variable has more than one cause and is listed at the left of the diagram. These causes are independent variables, which are called exogenous variables in SEM. The meaning of exogenous is "from outside" (Kline, 2015).

The aim of SEM analysis is to decide the degree to which the theoretical model is supported by data sets (Schumacker and Lomax, 2004, 2010, 2016). The following section will present SEM steps in detail. Figure 9-6 shows the final observed variables and latent variables in CFA to explore the SEM results.

Figure 9-6 Appropriate Data Set for SEM

Scale Items

Observed Variables Latent Variables

Please evaluate the value of social tags in images' function according to not sensible/sensible.	$\left - \right $	U5		
Please evaluate the value of social tags in images' function according to useless /useful.	-	U4))	
Please evaluate the value of social tags in images' function according to inefficient/ efficient.	-	U6	\mathbb{N}^{-}	
Please evaluate the value of social tags in images' function according to unproductive/productive		U7	H	Usefulness
Please evaluate the value of social tags in images' function according to not functional/functional.	$\left - \right $	U2	Y/	
Please evaluate the value of social tags in images' function according to impratical/ practical.	-	U3	J	
It is easy to use social tags in images.	-	EOU3		
It is easy to make social tags in images do what I want it to do.	$\left - \right $	EOU2) I	Ease of Use
My interaction with social tags in images is clear and understandable.	$\left - \right $	EOU4	у L	
The probability that I would consider buying fashion items tagged in images is high.	-	PI2		
My willingness to buy fashion items tagged in images is high.	-	PI3	h	Puchase
I would purchase fashion items tagged in images.	-	PI4	Ŋ	Intention
The likelihood of purchasing fashion items tagged in images is high .	-	PI1	/ _	
Information which is tagged on fashion items in images would be helpful.	$\left - \right $	15	Inf	ormativeness
Information which is tagged on fashion items in images would be useful.	-	I4	/ L	
Social tags in images make me feel relaxed/stimulated.	$\left - \right $	A1		
Social tags in images make me feel sleepy/wide-awake.	-	A3	H	Arousal
Social tags in images make me feel unaroused/aroused.	-	A4	Y	
I am likely to recommend Xiaohongshu's mobile s-commerce app to my friends or acquaintances.	$\left - \right $	WOM3		
I am likely to encourage others to consider using Xiaohongshu's mobile s-commerce app.	-	WOM4	Ww	OM Intention
I would tell others positive things about Xiaohongshu's mobile s- commerce app.	$\left - \right $	WOM1	γ∟)

9.9.1 Specification

Specification is the first step because it later results in data and the research's hypotheses (Kline, 2015). Figure 9-7 shows the SEM path model.





9.9.2 Identification

Even though the concept model has been specified to present hypotheses, they need to be calculated and imported into data analysis, namely by transforming to statistical models (Kline, 2015). These statistical models could be expressed by a series of equations. The equations decide the model parameters, which show the relationship between variables and sample data (Kline, 2015). Statistical models rely on the identification's rules or limitations (Kline, 2015). In this study, SEM is over identified with 231-52 = 179.

9.9.3 Estimation

Estimation is used to conduct the analysis through a SEM computer tool (Kline, 2015). Through specifying direct, indirect and correlated impacts, it shows the relationships among observed variables in a theoretical model (Schumacker and Lomax, 2016). Relying on AMOS, the initial structural model estimation is shown in Figure 9-8.

Figure 9-8 Structural Model Estimation



9.9.4 Model fit assessment

Generally, in order to achieve the acceptable model, modification of SEM and subsequent evaluations are required after the initial SEM (Schumacker and Lomax, 2016). Byrne (2010) suggests that the SEM modification step should attempt to seek additional parameters and the expected change will be significant. However, Schumacker and Lomax (2016) do not recommend to change the model by adding or deleting a path unless researchers could find additional theories to support the structure model modification. Table 9-18 shows the results of fit indices, which are ideally performed for final SEM. There is no need to modify the model. Therefore, this SEM is appropriate for the hypothesis testing.

Fit Index	Model Fit	Suggested Value
Chi-square	$\begin{array}{r} 282.763(df=179) \\ P = .000 \end{array}$	P > .05 (Barrett, 2007; Hair <i>et al.</i> , 2013; Kline, 2015)
Relative chi- square (CMIN/DF)	1.580	< 5 (Schumacker and Lomax, 2016) < 2 (Ullman and Bentler, 2007)
RMSEA	.039	 ≤ .05 Good fit .05 < RMSEA ≤ .08 Adequate fit .08 < RMSEA ≤ .10 Mediocre fit (Schumacker and Lomax, 2016)
ECVI	< ECVI Saturated < ECVI Independence	ECVI < ECVI Saturated ECVI < ECVI Independence (Byrne, 2010)
CFI	.974	≥ .95 (Hu and Bentler, 1999) ≥ .90 (Bentler, 1990)
NFI	.932	 > .95 good fit > .90 acceptable fit (Schumacker and Lomax, 2016)
RMR	.060	<.05 (Schumacker and Lomax, 2016) 5.08 (Hu and Bentler, 1999)
GFI	.936	> .90 > .95 (Schumacker and Lomax, 2016)
AGFI	.917	> .90 > .95 (Schumacker and Lomax, 2016)
PGFI	.725	> .50 (Mulaik et al., 1989)
Hoelter's CN	289	> 200 (Hoelter, 1983)

Table 9-14 Model Fit Statistics

9.9.5 Hypothesis testing

The purpose of hypothesis testing is to confirm whether the sample data fits a theoretical model (Schumacker and Lomax, 2016). Testing the probability of hypotheses is to identify the relationship between variables (Schumacker and Lomax, 2016). At the beginning of hypothesis testing is to determine the null and alternative hypotheses (Malhotra *et al.*, 2017). The meaning of null hypotheses states there is no expected difference and effect (Malhotra *et al.*, 2017). Alternative hypotheses state the change and effects expected (Malhotra *et al.*, 2017). The null hypotheses are proposed to be true until proved, conversely, if the consequence is different, the null hypotheses are replaced by the alternative hypotheses (Zdemir, 2016).

In multivariate analysis, if p value < .05, it rejects the null hypothesis and expresses the statistic significant, if p value \ge .05, it accepts the null hypotheses. Meanwhile, t value namely critical ratio (C.R.), should be greater than $|\pm 1.96|$, if t value is less than $|\pm 1.96|$, reject the alternative hypothesis or not support the path (Hair *et al.*, 2013).

In this study, hypotheses were tested in the initial SEM model regarding the previous literature review and the results of EFA and CFA. Table 9-15 and Table 9-16 illustrate the estimations of unstandardised regression weights, standardised regression weights, p value and t value between two variables.

			Estimate	S.E.	C.R.	Р
Usefulness	<	EOU	.582	.084	6.898	* * *
Informativeness	<	EOU	.682	.073	9.390	***
Arousal	<	Usefulness	.661	.060	11.042	* * *
Arousal	<	EOU	.077	.135	.569	.570
Arousal	<	Informativeness	.003	.148	.020	.984
PI	<	Informativeness	.746	.096	7.756	* * *
PI	<	Arousal	.289	.054	5.341	* * *
WOM	<	Informativeness	.362	.087	4.159	* * *
WOM	<	Arousal	.110	.042	2.590	.010
WOM	<	PI	.308	.061	5.018	* * *

Table 9-15 Estimate of Regression Weights

Table 9-16 Estimates of Standardised Regression Weights

			Estimate
Usefulness	<	EOU	.434
Informativeness	<	EOU	.759
Arousal	<	Usefulness	.699
Arousal	<	EOU	.061
Arousal	<	Informativeness	.002
PI	<	Informativeness	.551
PI	<	Arousal	.301
WOM	<	Informativeness	.356
WOM	<	Arousal	.152
WOM	<	PI	.409

Figure 9-17 demonstrates 10 remaining hypotheses in the initial SEM model and 5 removed original hypotheses (H1, H3, H5, H7, H9) due to lack of the emotional pleasure construct. Furthermore, a direct relationship between Informativeness and Arousal is not supported (unstandardised regression weight = .003, standardised regression weight = .002, p > .05), thus H4 is not supported. A direct relationship between Ease of Use and Arousal is not supported (unstandardised regression weight = .077, standardised regression weight = .061, p > .05), H6 is not supported. Finally, total 8 hypotheses are valid in SEM as shown in Table 9-17.

Number	Hypothesis	Remained
H1	High usefulness of social tags in UGFIs will be positively related	No
	to users' emotional pleasure.	
H2	High usefulness of social tags in UGFIs will be positively related	Yes
	to users' emotional arousal.	
H3	High ease of use of social tags in UGFIs will be positively related	No
	to users' emotional pleasure.	
H4	High ease of use of social tags in UGFIs will be positively related	No
	to users' emotional arousal.	
H5	High informativeness of tagging content about fashion items in	No
	UGIs will be positively related to users' emotional pleasure.	
H6	High informativeness of tagging content about fashion items in	No
	UGIs will be positively related users' emotional arousal.	
Η7	High pleasure will have a positive relationship with purchase	No
	intention.	
H8	High arousal will have a positive relationship with purchase	Yes
	intention.	
H9	High pleasure will be related positively to WOM intention.	No
H10	High arousal will be related positively to WOM intention.	Yes
H11	High ease of use of tagging content about fashion items in UGIs	Yes
	will be positively related to usefulness.	
H12	High ease of use of social tags in UGFIs will be positively related	Yes
	to tagged items' informativeness.	
H13	High informativeness of tagging content about fashion items in	Yes
	UGIs will be positively related to purchase intention.	
H14	High informativeness of tagging content about fashion items in	Yes
	UGIs will be positively related to WOM intention.	
H15	High purchase intention about fashion items in UGIs will be	Yes
	positively related to WOM intention.	

Table 9-17 Summary of Final Remained Hypotheses for SEM

9.9.6 Parameter summary for the structural model

A correlation coefficient enables researchers to evaluate the strength of relationships between variables. The coefficient (r) ranges from +1.0 to -1.0, a value from 0~1.0 shows a positive coefficient, while a value from -1.0~0 indicates a negative coefficient (Schumacker and Lomax, 2016). It is important to review the parameter of the final structural equation model, because it helps evaluate the significant relationships among the latent factors in the statistical analysis. Table 9-18 shows the estimates of regression weights of SEM. Table 9-19 illustrates the standardised regression weights.

			Estimate	S.E.	C.R.	Р
Usefulness	<	EOU	.582	.084	6.898	* * *
Informativeness	<	EOU	.682	.073	9.390	* * *
Arousal	<	Usefulness	.661	.060	11.042	* * *
PI	<	Informativeness	.746	.096	7.756	***
PI	<	Arousal	.289	.054	5.341	***
WOM	<	Informativeness	.362	.087	4.159	***
WOM	<	Arousal	.110	.042	2.590	.010
WOM	<	PI	.308	.061	5.018	* * *

Table 9-18 Regression Weights
			Estimate
Usefulness	<	EOU	.434
Informativeness	<	EOU	.759
Arousal	<	Usefulness	.699
PI	<	Informativeness	.551
PI	<	Arousal	.301
WOM	<	Informativeness	.356
WOM	<	Arousal	.152
WOM	<	PI	.409

Table 9-19 Standardised Regression Weights

The final structural model parameters demonstrate the following significant relationships:

- 1. Ease of Use of the social tagging in UGIs has moderate positive influence on Usefulness (unstandardised regression weight = .582, standardised regression weight = .434, p < .001).
- 2. Ease of Use of the social tagging in UGIs feature has a strong positive impact on Informativeness of fashion items tagged (unstandardised regression weight = .682, standardised regression weight = .759, p < .001).
- 3. Usefulness of the social tagging in UGIs feature has a strong positive effect on the user's Arousal (unstandardised regression weight = .661, standardised regression weight = .699, p < .001).
- 4. Emotion Arousal has a weak positive effect on the community users' Purchase Intention towards fashion items tagged in UGIs (unstandardised regression weight = .289, standardised regression weight = .301, p < .001).
- 5. Informativeness of social tagging in UGIs has a moderate positive impact on users' Purchase Intention towards fashion items tagged in UGIs (unstandardised regression weight = .746, standardised regression weight = .551, p < .001).
- 6. Emotional Arousal has a weak positive effect on WOM Intention towards mobile s-commerce app (unstandardised regression weight = .110, standardised regression weight = .152, p < .05).
- 7. Informativeness of fashion items tagged in UGIs is more likely to have moderate positive WOM Intention towards the mobile s-commerce app (unstandardised regression weight = .362, standardised regression weight = .356, p < .001).
- 8. Purchase Intention of fashion items tagged within UGIs has a moderate positive WOM Intention towards mobile s-commerce app (unstandardised regression weight = .308, standardised regression weight = .409, p < .001).

9.9.7 Squared multiple correlations

The coefficient of determination is to evaluate the strength of a cause-and-effect relationship between dependent variables and more than one independent variables (Schumacker and Lomax, 2016). The coefficient, R^2 , expresses the goodness of fit in the regression analysis (Sekaran and Bougie, 2016). Sekaran and Bougie (2016, p.313)

expound that " R^2 is the percentage of variance in the dependent variable that is explained by the variation in the independent variable". The application of multiple regression analysis indicates the relationship through the regression coefficients between the independent variables and the dependent variables (Sekaran and Bougie, 2016).

	Estimate
Ease of Use	.000
Informativeness	.576
Usefulness	.188
Arousal	.530
PI	.487
WOM	.588

Table 9-20 Squared Multiple Correlations

According to the Table 9-20, the summary of squared multiple correlation value for the latent factors:

- 1. Ease of Use is viewed as a predictor for Informativeness, total 57.6% of Informativeness can be explained by Ease of Use.
- 2. Ease of Use serves as a predictor for Usefulness, total 18.8% of Usefulness can be explained by Ease of Use.
- 3. Arousal is seen to be predicted by Usefulness, which accounts for 53.0% of the variance associated with this factor.
- 4. Also, Purchase Intention is seen to have predictors including Informativeness and Arousal. 48.7% of the variance associated with Purchase Intention is accounted for by Informativeness and Arousal.
- 5. As a result, 58.8% of the variance associated with WOM Intention is accounted for by the latent factors, Informativeness, Arousal and Purchase Intention.

9.9.8 Direct effects

A direct effect is that a variable directly causes another variable's effect in a complete model (Byrne, 2010, 2016). There are 10 direct effects between constructs as shown in Table 9-21 below. It demonstrates that the highest direct effect is between ease of use and informativeness (.759), while the weakest direct effect is between informativeness and arousal (.002).

	EOU	Informativeness	Usefulness	Arousal	PI	WOM
Informativeness	.759	.000	.000	.000	.000	.000
Usefulness	.434	.000	.000	.000	.000	.000
Arousal	.061	.002	.699	.000	.000	.000
PI	.000	.551	.000	.301	.000	.000
WOM	.000	.356	.000	.152	.409	.000

Table 9-21 Standardised Direct Effects

9.9.9 Indirect effects

An indirect effect indicates the change that an independent variable cause one or more mediating variables, in return causes a dependent variable (MacKinnon, Lockwood and Williams, 2004). Thus, mediation is a causal pathway and a causal hypothesis that makes effects transfer to an outcome (Kline, 2015). This intervening or mediating variable is the mediator (Kline, 2015). The use of mediation need to consider time precedence in the nonexperimental designs, for instance, an independent variable could directly cause the effect on a dependent variable, in this process, it is impossible to show the indirect pathway from the independent variable to the dependent variable simultaneously, therefore, the term of indirect effect is more appropriate (Kline, 2015).

It can be seen in Table 9-22 below that total 8 indirect effects present in this study. The strong indirect effect is between ease of use and WOM intention. If ease of use increases by 1 standard deviation, WOM intention will increase by .541 as well. In addition, when ease of use goes up by 1 standard deviation, purchase intention and arousal will separately go up to .529, and .305 respectively. The weakest indirect effect is between informativeness and purchase intention (.001).

Table 9-22 Standardised Indirect Effects

	EOU	Informativeness	Usefulness	Arousal	PI	WOM
Informativeness	.000	.000	.000	.000	.000	.000
Usefulness	.000	.000	.000	.000	.000	.000
Arousal	.305	.000	.000	.000	.000	.000
PI	.529	.001	.210	.000	.000	.000
WOM	.541	.226	.192	.123	.000	.000

9.9.10 Total effects

The total effects are a sum of direct effects and indirect effects with coefficients in a complete model (Kline, 2015; Grimm, Ram and Estabrook, 2016). The strongest total effect in this study is ease of use on informativeness (.759); the following are usefulness on emotional arousal (.699), and informativeness on WOM intention (.582) as shown in Table 9-23.

	EOU	Informativeness	Usefulness	Arousal	PI	WOM
Informativeness	.759	.000	.000	.000	.000	.000
Usefulness	.434	.000	.000	.000	.000	.000
Arousal	.365	.002	.699	.000	.000	.000
PI	.529	.552	.210	.301	.000	.000
WOM	.541	.582	.192	.275	.409	.000

Table 9-23 Standardised Total Effects

9.9.11 Effects on usefulness

There is only one direct and total effect on the variable from ease of use (.434) in Table 9-24.

Table 9-24 Effects on Usefulness

Standardised Direct Effects	Standardised Indirect Effects	Standardised Total Effects
Ease of Use .434		Ease of Use .434

9.9.12 Effects on arousal

There is only one indirect effect from ease of use (.305). There are three direct effects, namely, ease of use (.061), usefulness (.699) and informativeness (.002) as shown in Table 9-25.

Table 9-25 Effects on Arousal

Standardised Direct Effects	Standardised Indirect Effects	Standardised Total Effects
Ease of Use .061	Ease of Use .305	Ease of Use.365
Informativeness .002		Informativeness.002
Usefulness .699		Usefulness .699

9.9.13 Effects on informativeness

There is one total effect on the informativeness construct, the highest total effect is .759 (ease of use). Ease of use also has a direct effect on informativeness (.759) as shown in Table 9-26.

Standardised Direct Effects	Standardised Indirect Effects	Standardised Total Effects
Ease of Use .759		Ease of Use .759

9.9.14 Effects on purchase intention

Purchase intention is the outcome construct in this study. The strongest total effect is informativeness (.552) and the weakest total effect is usefulness (.210). Informativeness has both a direct effect (.551) and an indirect effect (.001) on purchase intention. Arousal (.301) and informativeness (.551) have direct effects on purchase intention, while informativeness (.001), usefulness (.210) and ease of use (.529) have indirect effects on purchase intention as shown in Table 9-27.

Standardised Direct Effects	Standardised Indirect Effects	Standardised Total Effects
Arousal .301	Ease of Use .529	Ease of Use .529
Informativeness .551	Usefulness .210	Usefulness .210
	Informativeness .001	Informativeness .552
		Arousal .301

Table 9-27 Effects on Purchase Intention

9.9.15 Effects on WOM intention

WOM intention is the outcome construct in this study, thus, it is necessary to reveal the degree of different effects on the latent variable. Table 9-28 summarises five total effects on WOM intention: ease of use (.541), usefulness (.192), informativeness (.582), arousal (.275) and purchase intention (.409). Direct effects on WOM intention are informativeness (.356), arousal (.152) and purchase intention (.409). In the indirect effects, the strongest is ease of use (.541), whereas the weakest is arousal (.123).

Table 9-28 Effects on WOM Intention

Standardised Direct Effects	Standardised Indirect Effects	Standardised Total Effects
Purchase Intention .409	Ease of Use .541	Ease of Use .541
Informativeness .356	Usefulness .192	Usefulness .192
Arousal .152	Informativeness. 226	Informativeness .582
	Arousal .123	Arousal .275
		Purchase Intention. 409

9.10 Fashion Mobile S-commerce Consumer Behaviour Model

Regarding the SEM process, the fashion mobile s-commerce consumer behaviour model is presented in Figure 9-9. In this model, ease of use plays a primary role on the consumer's perceived informativeness and usefulness, then the usefulness of social tagging has a positive effect on emotional arousal, which in turn leads to purchase intention towards sharing products or items in UGIs and WOM intention towards the scommerce app. Similarity, perceived informativeness of social tagging within UGIs also results in purchase intention. However, informativeness' effect on behavioural intention is significantly higher than emotional arousal's, and further, consumers who have purchase intentions through social tagging within UGIs are more likely to have WOM intention for the s-commerce app.



9.11 Summary

Briefly, appropriate statistical analysis techniques and computer tools were adopted to present the data results, such as descriptive data analysis, reliability analysis, factor analysis (exploratory and confirmatory) and SEM. A total of 387 sample sets were valid for analysis. The findings show relationships between constructs, perspectives and statistics regarding Generation Y females in Xiaohongshu mobile s-commerce community about social tagging within UGIs.

AMOS 23.0 and SPSS 23.0 were then used to process EFA and CFA. In the final SEM, there remain 21 items among 6 constructs to establish a new framework. Meanwhile, it reflects the relationships among the different constructs, which is used to explain the research objectives and outcomes. The following chapter will include discussion and conclusion of this study.

Chapter 10 Discussion and Conclusion

10.1 Introduction

This study investigated how social tagging within UGIs features stimulates the consumer's emotion and behaviour in B2C mobile s-commerce apps by developing a research framework. The impacts in academic and practical aspects are identified to generate meaningful conclusions. This chapter summarises and discusses the findings of this study. This chapter also mentions the limitations of the research and possible further work.

As stated in the Introduction, the objectives of the study were:

- To review the literature of the fashion e-tailing market and mobile s-commerce trends in China.
- To identify the function and value of social tagging from current studies.
- To review the literature on the TAM, IAM, S-O-R model, and U&G theory in current studies.
- To review the literature on usefulness, ease of use, informativeness, emotion (pleasure and arousal), WOM intention as well as purchase intention variables.
- To develop a new framework based on previous literature reviews and identify the variables contributing to social tags within UGFIs in the mobile s-commerce context.
- To analyse and evaluate the impact of social tagging within the UGIs' value and consumer behaviour.
- To provide practical and academic recommendations in the mobile s-commerce aspect.

The research outcomes for this study include:

- An understanding of e-tailing development and mobile s-commerce trends in the fashion industry.
- An understanding of social tagging feature and communication in the fashion industry.
- A literature review concerning social tagging within UGIs' technological acceptance (usefulness, ease of use, informativeness) and attachments (emotion, word of mouth intention and purchase intention).
- The identification of social tagging within UGIs variables and attachment variables in the fashion mobile s-commerce environment.
- The development of a set of hypotheses relying on the literature reviews.
- The development of a model for social tagging within UGIs' in the mobile scommerce environment.

- The development of a model relying on EFA, CFA and SEM.
- Identify how mobile app managers use the social tagging within UGIs' communication tool in the s-commerce context.
- Conclusions of analysis for the mobile social tagging communication model.

Each objective was achieved in this study. Objective 1 was completed in Chapter 2. Objective 2 was achieved in Chapter 3. Objective 3 was studied through the reviewed s-commerce consumer behaviour in Chapter 4. Objective 4 was met by the theoretical literature review in Chapter 5. Identifying the research variables for this study in Chapter 6 was important to develop the fifteen hypotheses and achieve objectives 7-8. Chapters 8 and 9 met data collecting and data analysis results of objectives 6 and 7. Objectives 7 and 8 are also met sufficiently in the following sections.

10.2 Chapter Summaries

Chapter 1 outlines the research questions, aims, objectives and outcomes of this study. It helps readers understand the research context and relevant knowledge concerning the research questions. This study identifies the value of social media tools in B2C mobile s-commerce for the fashion industry and finds a gap to fulfil which is social tagging within UGIs in B2C mobile s-commerce apps.

Chapter 2 reviews the main details of the online retailing channel and presents the China fashion online buying market. It also demonstrates the online retailing formats: B2C e-tailing, pure-play and C2C e-tailing. Retailers adopt mobile channel, multi-channel, or omni-channel to implement the market strategy to meet consumer segments. At the same time, it shows the trend of s-commerce for retailers' service.

Chapter 3 introduces social media tools (e.g. online community, social networking sites, image sharing, social tagging and blogs) in s-commerce, and shows mobile channel for s-commerce. This chapter also shows the importance of the social tagging feature for B2C mobile s-commerce apps. It shows that a gap of social tagging within UGIs is a communication tool in the B2C s-commerce community of the Xiaohongshu app.

Chapter 4 reviews online consumer behaviour, especially WOM communication in scommerce context. This chapter also introduces the influence of fashion bloggers and opinion leaders on s-commerce. It also briefly describes consumer behaviour concerning this study. It is highly related to Generation Y and the female roles in scommerce context.

Chapter 5 brings into focus a series of research theories about consumer behaviour: TAM, IAM, U&G theory and S-O-R model. In addition, this chapter critically argues

these four theories to apply in the mobile s-commerce context. It identifies the combination of the TAM and the S-O-R model.

Chapter 6 makes a summary of the variables: usefulness, ease of use, informativeness, pleasure and arousal, purchase intention and WOM intention. It helps readers understand these research variables deeply and also lists suggestions of what is needed to be measured in the study.

Chapter 7 contains the S-O-R model framework research resources and combines with the usefulness and ease of use of the TAM. Then, according to the proposed framework, this study generates 15 hypotheses to test the theory.

Chapter 8 considers a series of research methods, data collecting techniques, data analysis techniques and question designs, relying on the literature review about methodology. It suggests using quantitative research methods to collect online questionnaire data. It also presents how to control and improve data collection quality.

Chapter 9 reports the primary data results and the researcher adopts AMOS and SPSS software to do data analysis. In this chapter, EFA, CFA and SEM are performed to test the hypotheses. The consequences of the data analysis are subsequently presented.

Chapter 10 concerns the summary of the study and identifies the study outcomes, limitations and future research directions.

10.3 Conceptual Framework and Hypotheses Results

As shown in Figure 10-1, the conceptual framework and SEM model have a core contribution to provide suggestions in the design of social tagging with UGIs feature and service for mobile s-commerce app managers in the fashion industry. The final conceptual framework demonstrates the technological design features: ease of use and usefulness as the stimuli. This study also explores the strong direct relationship between usefulness and arousal, ease of use and informativeness, in turn, informativeness has a stronger relationship with purchase intention and WOM intention than emotional arousal. Based on the previous original hypotheses and outcomes of the SEM, the final hypotheses testing failed to support H1, H3, H4, H5, H6, H7 and H9. More details about the hypotheses and results are presented in Table 10-1.





Table 1	0-1	Hypotheses	and	Results
---------	-----	------------	-----	---------

Hypotheses	Estimateß	<i>t</i> -value	<i>p</i> -value	Results
H1: High usefulness of social tags in UGFIs will be positively related to users' emotional pleasure.	-	-	-	Not Supported
H2: High usefulness of social tags in UGFIs will be positively related to users' emotional arousal.	.699	11.402	***	Supported
H3: High ease of use of social tags in UGFIs will be positively related to users' emotional pleasure.	-	-	-	Not Supported
H4: High ease of use of social tags in UGFIs will be positively related to users' emotional arousal.	.061	.569	.570	Not Supported
H5: High informativeness of tagging content about fashion items in UGIs will be positively related to users' emotional pleasure.	-	-	-	Not supported
H6: High informativeness of tagging content about fashion items in UGIs will be positively related uses' emotional arousal.	.002	.020	.984	Not Supported
H7: High pleasure will have a positive relationship with purchase intention.	-	-	-	Not Supported
H8: High arousal will have a positive relationship with purchase intention.	.301	5.341	***	Supported
H9: High pleasure will be related positively to WOM intention.	-	-	-	Not supported
H10: High arousal will be related positively to WOM intention.	.152	2.590	.010	Supported
H11: High ease of use of tagging content about fashion items in UGIs will be positively related to usefulness.	.434	6.898	* * *	Supported
H12: High ease of use of social tags in UGFIs will be positively related to tagged items' informativeness.	.759	9.390	***	Supported
H13: High informativeness of tagging content about fashion items in UGIs will be positively related to purchase intention.	.551	7.756	***	Supported
H14: High informativeness of tagging content about fashion items in UGIs will be positively related to WOM intention.	.356	4.159	***	Supported
H15: High purchase intention about fashion items in UGIs will be positively related to WOM intention.	.409	5.018	* * *	Supported
Notes: * = p < .05, ** = p < .01, *** = p < .001 Usefulness R ² = .188; Arousal R ² = .530; Informativeness R ² = .576; Purchase Intention R ² = .487; WOM R ² = .588				

10.4 Discussion

The final SEM and theoretical models have the relationships between Ease of Use, Usefulness, Arousal, Informativeness, Purchase Intention as well as WOM Intention in the mobile s-commerce environment about social tagging in UGIs' behaviour. Figures 10-3 and 10-4 list 21 scale items maintained in the final SEM. Seven initial hypotheses are not supported. Five of these hypotheses are about emotional Pleasure. There are no links between Pleasure and other constructs in the SEM. Thus, the mobile s-commerce technology's environment is a little bit different to use high technology products (Lee, Ha and Widdows, 2011) and game experience (Huang, Ali and Liao ,2017). Moreover, Ease of Use does not have a direct impact on emotional Arousal. More details about Ease of Use and Arousal are in the section 10.5. Informativeness is to examine the relationship among Ease of Use, WOM Intention and Purchase Intention. Consequently, Informativeness does not affect emotional Arousal. More details about Informativeness and Arousal are in the section 10.5.

Figure 10-2 Technological Items Associated with Final SEM



Figure 10-3 Attachment Items Associated with the Final SEM



10.4.1 Direct relationship between social tagging within UGIs'

technological constructs

Table 10-2 Direct Relationship Between Ease of Use and Usefulness

Antecedents	Usefulness	Ease of use
Usefulness	NA	.434***
Ease of Use	NA	NA

Usefulness-Ease of Use

The result, as seen in Table 10-2 above, indicates that the direct relationship between usefulness and ease of use about social tagging within UGFIs in the mobile s-commerce context. Ease of use has a moderate positive influence on usefulness ($\beta = .434$, t = 6.898, p < .001). Mobile s-commerce communities' female users will evaluate the usefulness if they suppose that the social tagging UGIs' feature is easy to use. This finding is consistent with prior research that ease of use has a positive significant relationship with usefulness (Ha and Stoel, 2009; Rese, Schreiber and Baier, 2014; Pengnate and Sarathy, 2017). Therefore, mobile s-commerce apps should make social tagging within UGIs easy to use at the first for social shopping users in the s-commerce community.

10.4.2 The direct relationships between technological features and

attachments

Antecedents	Usefulness	Ease of Use	Arousal	Informativeness	Purchase Intention	WOM
Informativeness	NA	.759***	NA	NA	NA	NA
Arousal	.699***	.061	NA	.002	NA	NA
Purchase Intention	NA	NA	.301***	.551***	NA	NA
WOM	NA	N/A	.152**	.356***	.409***	NA

Table 10-3 Direct Relationship between Technological Features and Attachments

It is apparent from Table 10-3 that there is no significant influence between ease of use and arousal ($\gamma = .061$), informativeness and arousal ($\gamma = .002$) about social tagging within UGFIs under the mobile s-commerce context. More details about no significant influence present in the section 10.5. The following will discuss the significant direct effects of each construct as shown in Table 10-3.

Ease of Use-Informativeness

The most important effect on perceived informativeness is ease of use about social tagging within UGFIs under the mobile s-commerce context. Ease of use has the

strongest effect on the informativeness of tagged content ($\beta = .759$, t = 9.390, p < .001). When social tagging within UGIs is easy to use, it would appear that users seek for useful and helpful information about social shopping through social tagging within UGIs. Moreover, the finding demonstrates that ease of use in the technology environment promotes the perceived information quality (informativeness) in fashion retailing (Kim and Niehm, 2009). Therefore, ease of use is consistent with prior research and extends its value in the fashion mobile s-commerce environment.

Usefulness-Arousal

Usefulness significantly affects emotional arousal about social tagging within UGFIs under the mobile s-commerce context. High usefulness of social tags in UGIs is positively related to users' emotional arousal ($\beta = .699$, t = 11.402, p < .001). In other words, performance expectancy of technology use could increase consumer emotional arousal in the mobile environment (Kourouthanassis *et al.*, 2015). Thus, if community users perceive usefulness (e.g. effective, functional, productive and practical) of technological features like transactions, visual focus about items tagged in UGIs or interactions with the website, they are more likely to have positive emotional arousal about social tagging within UGIs in the mobile s-commerce environment.

Arousal-Purchase Intention

Arousal has a weak positive effect on purchase intention about social tagging within UGFIs under the mobile s-commerce context ($\beta = .301$, t = 5.341, p < .001). It confirms that the consumers' positive emotional arousal enable them to make purchase decisions (Kim *et al.*, 2009; Demangeot and Broderick, 2017). Thus, if s-commerce users feel emotional arousal about social tagging within UGIs, they are likely to take the buying decisions about fashion items tagged in UGIs.

Arousal-WOM Intention

Arousal about social tagging within UGFIs has a weak positive direct effect on WOM intention in the mobile s-commerce context ($\beta = .152$, t = 2.590, p < .05). The finding is consistent with the prior research that consumers' emotional arousal can evoke their recommendation (Huang *et al.*, 2017; Vazquez *et al.*, 2017). Thus, the community users with positive emotional arousal are likely to recommend Xiaohongshu mobile s-commerce app to others. It will increase more potential users to access the Xiaohongshu s-commerce app. This study extends emotional arousal value in the mobile s-commerce environment about new communication technology's feature development.

Informativeness-Purchase Intention

Informativeness results in a positive moderate impact on purchase intention about social tagging within UGIs in the mobile s-commerce context ($\beta = .551$, t = 7.756, p < .001). Prior research indicates that perceived informativeness as one dimension of information quality has an effect on the consumers' purchase intention regarding the online consumer review (Park, Lee and Han, 2007; Zhang *et al.*, 2014). Especially, the website's informativeness directly affects consumer decision making (Richard and Chebat, 2015). Therefore, tagging informativeness about sharing items in UGIs is important. Tagging content is one part of consumer review and recommendation about sharing favourite fashion items in UGIs. When the community users receive the tagging "keywords" which is useful and helpful for sharing fashion items, they are more likely to adopt tagging information to make the purchase decision. It meets the community users' information seeking aims.

Informativeness-WOM Intention

Informativeness of fashion items tagged in UGIs has moderate positive WOM intention towards the mobile s-commerce app ($\beta = .356$, t = 4.159, p < .001). It is consistent with previous research (Kim and Niehm, 2009; Ha and Im, 2012). When the community users obtain useful and helpful information for sharing fashion items from tagging posters, they could recommend the Xiaohongshu s-commerce app to others. Managers should meet the users' information seeking tasks and use "keywords" to make information posters to spread social shopping suggestions and recommendations based on social tagging within UGIs.

Purchase Intention-WOM Intention

The finding also shows that purchase intention has a moderate direct impact on WOM intention ($\beta = .409$, t = 5.018, p < .001). It is consistent with Tsiotsou and Alexandris (2009) and Sichtmann (2007). If social shopping users have a positive purchase intention towards fashion items tagged in UGIs, they will probably share and recommend Xiaohongshu mobile s-commerce app to others. That is because the mobile s-commerce community and social tagging within UGIs meet their social shopping decision making tasks.

10.5 Analyses of Hypotheses not Being Supported

Contrary to expectations, this study did not find a significant relationship between the pleasure construct and other constructs because pleasure was presented in usefulness. Social tagging within UGIs feature is pleasure-oriented "technological usefulness". More details about pleasure in usefulness analysis present in the section 10.9.

The hypothesis between informativeness and arousal (p = .984, p > .05) is not supported. Previous research shows that informativeness could have a positive effect on emotional arousal because consumers judge by website design including colours and images (Lin *et al.*, 2012). Compared to entertainment in a website, informativeness evokes lower emotional arousal and pleasure. Additionally, for the informativeness of online reviews, it could express bloggers' emotions (Ruiz-Mafe *et al.*, 2018), and rich media (Vazquez *et al.*, 2017). This study evaluates informativeness of social tagging within UGIs by "helpful" and "useful", informativeness of social tagging with UGIs not includes colours, emotion or rich media. Therefore, the informativeness of social tagging in UGIs could have no relationship with emotional pleasure and arousal.

Previous researchers have investigated ease of use's direct effects on emotional responses in technological aspects (Igbaria *et al.*, 1995; Van derHeijden, 2004; Lee *et al.*, 2011; Loureiro, 2015). In this study, the relationship between ease of use and arousal (p = .570, p > .05) also is not supported. It is possible that social tagging is the basic social feature on most multimedia platforms and is common in the online community (Lee and Cho, 2013; Zhang and Liu, 2017).

10.6 Individual Construct Conclusions

10.6.1 Ease of use

Ease of use is the first predictor in the structural model; It includes interaction, easy to use and effort. The evidence from this study indicated that ease of use about social tagging within UGIs apparently drives usefulness and informativeness of social tagging within UGIs under the fashion mobile s-commerce context. Ease of use positively affects usefulness on online apparel shopping (Ha and Stoel, 2009) and mobile commerce (Wu and Wang, 2005). Consequently, ease of use (e.g. interaction, effort and easy to use) promotes usefulness of social tagging within UGIs. Furthermore, this ease of use feature could help information seekers identify keywords to find informative content for social shopping. Previous research stated that highlighting product and service information in the product images help consumers save time and effort about searching products and services without viewing the product detail pages (Jensen et al., 2013). Time saving is an information value to attract consumers to choose channels for its comfort and functionality in fashion e-commerce (Escobar-Rodríguez and Bonsón-Fernández, 2017). Social tagging within UGFIs is similar to highlight sharing items in UGIs as it could help users to save time and effort to provide or search for product and service information about the shared fashion items.

10.6.2 Usefulness

The findings indicate that usefulness has a direct effect on emotional arousal, and indirect effects on purchase intention and WOM intention about social tagging within UGFIs in the mobile s-commerce app. Social tagging enables users to navigate a lot of information; this feature helps users access other interested information through links, for example, to access a large image collection (Im and Park, 2015) and to do later information retrieval (Raban et al., 2017). Previous research has shown multiple features to explain the usability-oriented design like the speed of locating an item, navigation or consistent design format which makes the consumer control their movement in a system and kept informed (Huang and Benyoucef, 2013). When community users evaluate social tagging useful, efficient, productive, functional for attracting attention of sharing items (Sigala, 2011), transaction (click-out) (Olbrich and Holsing 2011), entertainment (Sigala, 2011); the usefulness of social tagging within UGIs are likely to evoke stimulated, wide-awake and aroused emotions in mobile scommerce context. It also results in community users' potential purchase intention and WOM intention. Therefore, usefulness based on information technology is supported in s-commerce, however it is not similar to previous research on pleasure-oriented information technology like websites (Parboteeah et al., 2009), 3D environment (Huang et al., 2013) and high technology products (Lee et al., 2011).

10.6.3 Arousal

This study indicates that arousal has a positive impact on purchase intention and WOM intention about social tagging within UGFIs on Xiaohongshu mobile commerce app. In this study, highlighting usefulness (e.g. functional, practical and effective) on emotional arousal can promote the consumer to make the purchase decisions in mobile commerce context (Demangeot and Broderick, 2017). Similarly, when consumers are involved in the mobile store's advertisement (Demangeot and Broderick, 2017) and online website presentation (Kim, Kim and Lennon, 2009), the consumers are more likely to make purchase decisions. Emotional arousal positively affects WOM communication (Ladhari, 2007; Huang *et al.*, 2017; Vazquez *et al.*, 2017). Therefore, emotional arousal (e.g. stimulated, wide-awake and aroused) for social tagging within UGIs is an important role in WOM recommendations for the mobile commerce app and purchase intention in social shopping, as well as enhancing purchase intention to improve positive word of mouth recommendations towards the mobile s-commerce app.

10.6.4 Informativeness

Informativeness of social tagging within UGIs about sharing fashion items directly contributes to the purchase intention and WOM recommendations towards the mobile s-commerce app. Participants like to seek product information and recommendations through social tagging in UGIs. This feature is similar to the discussion boards on consumer sharing UGC about product information (Cheong and Morrison, 2008). Online users find it easy to post online reviews and provide information about products for their potential intention as it provides the indirect experience of the product (Park et al., 2007). Thus, the value of information about social tagging in UGIs is more likely to cause purchase decision and WOM intention than emotional arousal. This is because social tagging in UGIs through keywords describes the sharing item's information (e.g. product title, brand, price and purchase location) and reduces the information overload in the s-commerce environment. Community users rely on key information about the product to make purchase decisions or recommend the s-commerce platform to others. It is similar to sellers generating textual information like product title, the name of sellers, location and price, which strongly influences consumer decision making (Wu et al., 2016). Thus, bloggers who share key product information have an effect on consumer decision making. There is not necessary for bloggers to post a large amount text with the UGIs. Most helpful information is higher exposure because it is more attractive (Singh et al., 2017). Taking price as an example, at the beginning of using the new media in e-commerce, it was expected to increase price competition and reduce the seller's power through reducing information search costs (Bakos, 1997). Consumers searching for online price information can affect their offline purchase decision (Jiang, 2002). Therefore, website platforms need to design and organise the information placed (Ganguly et al., 2010). Furthermore, when community users obtain useful and helpful informative content, they are likely to recommend and communicate with others (Kim and Niehm, 2009; Ha and Im, 2012). Thus, informative content of social tagging within UGIs is possible to make users recommend and communicate Xiaohongshu mobile scommerce app with others. Furthermore, informativeness has an indirect effect on WOM intention. When community users obtain informative contents for social decision making, they are more likely to recommend the Xiaohongshu mobile s-commerce app to others.

10.6.5 Purchase intention

Purchase intention has been found to have a direct relationship with arousal, informativeness and WOM intention, also an indirect relationship with ease of use and usefulness about social tagging within UGFIs on mobile commerce app. Users who have high purchase intention will probably have the WOM recommendations towards the mobile s-commerce app. It is clear that s-commerce community users are more willing

to make the product decision making in the s-commerce environment. When users obtain the value of social shopping, they are more likely to share that mobile s-commerce app with other people. The effect of purchase intention on WOM recommendation has been examined in previous research, for instance, in the sports industry (Tsiotsou and Alexandris, 2009) and brand (Sichtmann, 2007).

10.6.6 WOM intention

WOM intention is found to have a direct link with arousal, informativeness and purchase intention. Indirect effects are the ease of use and usefulness about social tagging within UGFIs in the mobile commerce app. Accordingly all constructs have an indirect or direct effect on WOM intention in the final structural model. WOM recommendation has been studied as the outcome in the retailing context (Brown *et al.*, 2005), luxury shopping (Chang, Ko and Leite, 2016) and online shopping sites (Garbarino and Strahilevitz, 2004). This study associates social tagging in UGIs' technological feature concerning emotional arousal, informativeness and purchase intention constructs to achieve the WOM recommendation of the Xiaohongshu mobile s-commerce app. It indicates the design of social communication features in social shopping, which could make the consumer provide positive WOM recommendation towards mobile s-commerce app.

10.7 Impact on Theory

Previous research applied the S-O-R model to examine the environmental stimuli in consumer emotion and behavioural intention (Eroglu *et al.*, 2001; Park, Kim and Forney, 2006; Kim *et al.*, 2009; Miniero, Rurale and Addis, 2014; Wu, Hsu and Lee, 2015). This study took consideration technology acceptable factors and integrated usefulness and ease of use into the S-O-R model to explore consumer behavioural intentions in the mobile s-commerce context. Consumer behaviour in the mobile s-commerce context can also be explored in the TAM. Therefore, this study has contributions on both the TAM and the S-O-R model.

10.7.1 Theoretical contribution to TAM

Usefulness and ease of use-extended in the mobile s-commerce context

Usefulness and ease of use are fundamental beliefs in the TAM (Pookulangara and Koesler, 2011). This study focuses on the technological environment and extends usefulness and ease of use constructs as technological features in the mobile s-commerce environment; prior research mainly focused their value separately in mobile

commerce (Wu and Wang, 2005; Chong, Chan and Ooi, 2012; Jaradat and Rababaa, 2013) or s-commerce (Wirtz and Göttel, 2016; Yan *et al.*, 2016).

Arousal-extended in TAM

Most prior TAM research pays attention to consumers' satisfaction (Wixom and Todd, 2005; Kalinic and Zoran, 2017; Natarajan *et al.*, 2017; Pantano, Rese and Baier, 2017), attitude (Ha and Stoel, 2009; Pantano and Di Pietro, 2012; Lee, Chung and Kim, 2013; Kim *et al.*, 2017; Pantano, Rese and Baier, 2017; Hansen, Saridakis and Benson, 2018) and enjoyment (Van derHeijden, 2004; Pantano *et al.*, 2017) for the usage of information technology. In this model, it shows the social feature's technological usefulness on emotional arousal. Thus, it implies that web 2.0 information technology is different to the traditional information technology.

WOM intention and purchase intention-extended in TAM

In the TAM, technological usage intention is traditional in consumer behaviour research (Davis, 1989; Van derHeijden, 2004; Lee *et al.*, 2017). This study involves WOM intention and purchase intention to the TAM. Thus, s-commerce information technology influences consumer decision making and behaviour.

10.7.2 Theoretical contribution for S-O-R model

Unlike the TAM, usefulness and ease of use are regarded as the mediators in previous S-O-R model (Childers *et al.*, 2001). In this study, ease of use and usefulness are the technological features. The finding confirms that technological usefulness can evoke users' emotional arousal, and technological ease of use is positively related to perceived informativeness about social tagging within UGIs. Previous some research about informativeness construct is as the stimulus in S-O-R model, In this study, informativeness as users' inner response towards technological environment, which is consistent with previous research in the S-O-R model (Mazaheri, Richard and Laroche, 2012; Richard and Chebat, 2015).

This study contributes to the S-O-R model by enhancing current constructs in stimuli, organisms and responses through applying in the mobile s-commerce area. It provides a new integrated framework to explain the design of mobile s-commerce function's impacts for Chinese fashion young females.

10.8 Contribution for Ease of Use Construct

In the exploratory factor analysis, informativeness' scale item "..... is a good source of information" is involved in ease of use construct. In the previous research, ease of use has an ability to search for information (Yoo and Donthu, 2001). Ease of use of social tagging in UGIs can help users identify sharing keywords in UGIs under the mobile s-commerce context. Moreover, some consumers prefer to use social tagging feature to search based on their preference and relations to achieve retrieval tasks for the contextual information (Xie *et al.*, 2014) and navigation (Held, Kimmerle and Cress, 2012). Therefore, "..... *is a good source of information*" is regarded to evaluate the ease of use about social tagging within UGIs under the mobile s-commerce context.

10.9 Contribution for Usefulness Construct

In the exploratory factor analysis, pleasure construct's scale item "happy", "satisfied" and "joyful" is combined with usefulness construct. From the consumer's aspect, usefulness is multidimensional (Saadé, 2007). Saadé (2007) stated the dimensions of usefulness include extrinsic motivation (performance goal orientation), intrinsic motivation (enjoyment) and learning goal orientation. Bauer *et al.* (2005) and Wu and Lu (2013) define enjoyment by using the words "fun", "exciting" and "entertaining" to evaluate perceived utility. Ladhari, Souiden and Dufour (2017) use "happy", "satisfied" and "joyful" to indicate consumer affective emotional satisfaction. Thus, this study involved extrinsic motivation and intrinsic motivation to evaluate the usefulness of social tagging within UGIs. In addition, resources, search engines, searching and surfing are identified for the internet process gratification (Stafford, Stafford and Schkade, 2004). When communities' female users regard social tagging in UGIs as pleasure-oriented technology, they would evaluate its usefulness value according to their emotional attachment in the mobile s-commerce context.

10.10 Academic Data Contribution

The academic contribution of this study concentrates on new constructs, which deepens previous knowledge, develops new relationships between variables and evaluates new functional features for social tagging within UGIs under the mobile s-commerce context in Table 10-4.

Academic Contributions	Explanation	Related Chapters
Decide the specific	Ease of Use	Chapter 6
constructs about the design of	Usefulness	Chapter 7
new social feature	Informativeness	
Identify the relationship	Ease of Use-Usefulness	Chapter 9
among variables	Ease of Use-Informativeness	Chapter 10
	Usefulness-Arousal	
	Arousal-WOM Intention	
	Arousal-Purchase Intention	
	Informativeness-Purchase Intention	
	Informativeness-WOM Intention	
	Purchase Intention-WOM Intention	
Create new relationships to	Ease of Use-Usefulness	Chapter 9
be examined in further study	Usefulness-Arousal	Chapter 10
	Ease of Use–Informativeness	
	Informativeness-Purchase Intention	
	Informativeness-WOM Intention	
	Arousal-WOM Intention	
	Arousal-Purchase Intention	
	Purchase intention-WOM Intention	

Table 10-4 Academic Data Contribution Guide

10.11 Contributions for Mobile S-commerce Research

Social tagging in UGIs' feature is a vital s-commerce tool in B2C mobile apps. This study examined and explored technological features as well as contributing to mobile s-commerce for the fashion industry, which can be used to evaluate social tagging in UGIs' performance for consumer purchase intention and WOM intention from the Chinese consumer's perspective. Therefore, B2C e-commerce app managers need to improve and manage social media tools in the community to improve consumer relationships, as well as understanding consumer preferences and promote C2C communication in the s-commerce.

10.12 Managerial Contribution

This study underlines a new integrated framework to explain social feature design's value for Chinese fashion young females on B2C mobile s-commerce apps. The benefits of social tagging are to capture the sharing content and master the interests of the community by keywords as well as helping managers to improve the design process for the social business (Cheng *et al.*, 2016). This study reveals new insights on the social tagging within UGIs' feature in B2C e-commerce apps. Because consumers do the decision making in the mobile s-commerce environment, managers cannot ignore the importance of information technology in long term management. Mobile s-commerce managers of B2C retailing apps should pay attention to explore new social technological designs for their social shopping users and stimulate their positive emotional arousal and perceived informativeness about sharing products. Accordingly, the community users could improve the purchase intention and increase recommendation of the mobile platform with others.

Huang and Benyoucef (2013) provide suggestions to market managers who concern new social feature designs in the s-commence aspect. Firstly, consumers should be the first to participate in the new feature development. Secondly, designers should check whether the function meets the consumer's needs. Thirdly, social feature designers need to provide flexible web 2.0 tools and social content. Designers also need to obtain successful experience to meet the specific design needs. More details about social tagging within UGIs for managerial contributions present in Table 10-5.

Constructs	Short Term Managerial	Long Term Managerial Implications
Ease of Use	Technological interaction, effort and ease of use features are meaningful for the use of social tagging within UGIs in mobile s-commerce communities.	Ease of use enhances the usefulness of social tagging within UGIs, and it contributes perceived informativeness of sharing items in UGIs. Therefore, fashion mobile s-commerce manager should adopt this technology's characteristics (e.g. interaction, effort and easy to use) to design, apply and provide information seeking, purchase links and visual attention services for s- commerce.
Usefulness	The feature of usefulness (e.g. productive, functional and effective) can be promoted by ease of use. When social tagging UGIs' users consider it easy to use, they are likely to receive high usefulness of technology in s-commerce context.	Usefulness concentrates on emotional arousal, which decides the personal positive feeling towards social tagging in UGIs. Managers should make the social tagging within UGIs more practical, effective, functional and productive for social shopping like information retrieve and purchase links.
Arousal	Arousal plays an important role in connecting with usefulness, word of mouth and purchase intentions of social tagging in UGIs.	Emotional arousal could enhance word of mouth recommendation for mobile s- commerce apps and purchase intention in the mobile s-commerce environment. Managers should understand that emotional arousal could be measured in social shopping.
Informativeness	Informativeness of sharing items in the online community can mainly be encouraged by ease of use of social tagging in UGIs.	Informativeness of social tagging is the most vital role about sharing items in UGIs. It directly decides consumer purchase intention and word of mouth intention. Thus, fashion mobile s- commerce managers can design this feature and guide bloggers to post helpful and useful "keywords" (e.g. price and brand) in UGIs. Managers should continue to explore what limited keywords and make posting social tagging content from broad (any content) to narrow (specific information) for social shopping.
Purchase	Purchase intention can be facilitated by emotional arousal	Purchase intention positively
Intention	and informativeness under the fashion mobile s-commerce context based on social tagging within UGIs.	towards s-commerce apps. Managers should create users' purchase intention opportunity to increase users' positive word of mouth intention towards platforms. For instance, promoting bloggers to share links, providing relevant recommendation system and "quick buy" option in UGIs.
WOM Intention	The final outcome is word of mouth recommendation and communication towards the mobile s-commerce app.	The long term success of the mobile s- commerce app is through designing and managing social features in the communities. Managers should keep social features easy to use and identify emotional arousal, information seeking quality and usefulness, which would make community users recommend mobile s-commerce apps, and engage potential users to participate in community or social shopping through the B2C mobile s-commerce app.

Table 10-5 Managerial Contribution

10.13 Research Limitations

Although the findings provide insights on the S-O-R model, TAM and managerial implications, this study was limited in four aspects as follows.

10.13.1 Females sample

This study only examined Generation Y females' perspective on social tagging within UGFIs' feature in B2C mobile s-commerce apps. The research topic of gender is important to the marketing, psychological and behaviour areas (Shaouf *et al.*, 2016). Prior research also investigated the difference between females' and males' behaviour in the s-commerce context, therefore, the result of this study could be not applicable to males.

10.13.2 Age range

This study has a limited age range from18 to 34, and the results of social tagging in UGIs' benefits on mobile commerce cannot be applied for ages older or younger than this range. For instance, Braun (2013) examined social networking websites for older people between 60 and 90 years old. Therefore, exploring different age ranges about social tagging within UGFIs under the mobile commerce context is valuable in future academic research.

10.13.3 Limitation of category comparison

With the goal of analysing the behaviour of the social tagging in UGFIs' participant, this study did not differentiate between participants' roles of tagging posters and tagging browsers. Participants are treated as the same group of potential technological users. Setting tagging posters and tagging browsers into two research groups may be helpful to explore the same framework validity. Alternatively, it could explore the value of social tagging within UGFIs to see whether the results are consistent for tagging posters and tagging browsers by comparing two different groups.

10.13.4 Limitation of posting informativeness content and policy

This study focuses on the social tagging's informativeness (e.g. helpfulness and usefulness) in UGIs under the fashion mobile s-commerce context. However, it has no practical information about sharing fashion items. For instance, previous research has

focused on mobile advertisement informative content about purchase location of products, which leads to consumer positive emotional pleasure and arousal, in turn, this results in consumers make the purchase decision (Demangeot and Broderick, 2017). It is necessary to continue to explore the value of information in UGIs under mobile s-commerce context. In addition, there is a lack of research about sharing items in UGIs' information standards. The issue of social tagging is that tagging posters could make errors such as spelling mistakes or homonyms, which causes inappropriate connections or information search (Raban *et al.*, 2017). Mobile s-commerce apps have to deal with this issue and improve bloggers' sharing information accuracy.

10.14 Suggestions for Future Work

The findings provide the following insights for future work, firstly, to explore different social media features in B2C mobile apps could help recognise what tools the consumer prefers in the mobile s-commerce context and identify different informative content values on consumer purchase intention and WOM intention. Secondly, the limitations of this study could require further investigation and understanding to make the study more practical. Thirdly, further research could seek to address the actual purchase decision behaviour concerning social tagging within UGIs, which could examine social tagging within UGIs' actual benefits for B2C mobile s-commerce apps.

10.15 Summary

In summary, this study concentrates on how the social tagging in UGIs' technological feature affects users' arousal and informativeness in a mobile s-commerce community. This study both contributes to the academic and commercial areas. From the consumers' perspective, social tagging in UGIs should be easy to use (e.g. interaction, easy to use and effort) and useful (e.g. effective, practical, functional and productive); Ease of use strongly affects 18-34 years female users' perceived informativeness (e.g. useful and helpful keywords for s-commerce), in turn, continues to increase the probability of consumers making purchase decisions and app recommendations. This study also found that technology's usefulness can evoke Chinese 18-34 female participants' emotional arousal (e.g. stimulated, wide-awake and aroused). It explored emotional arousal on participants' purchase intention and WOM communication.

For the B2C mobile s-commerce community, app managers should provide this social tagging within UGIs is easy to use and useful in the technological aspects, meanwhile, managers should explore what is useful and helpful informative content through social tagging within UGIs for social shopping content and promote blogger to post tagging content' accuracy. As a result, it could enhance social tagging within UGIs value in s-commerce value (e.g. sales and WOM recommendation). The benefits of this conceptual model can help s-commerce app managers to examine social tagging in UGIs' value in

China market as well as providing a theoretical framework to design new social functions in the mobile s-commerce environment. Therefore, the application of social tagging in UGIs is essential for fashion mobile s-commerce managers. Of course, it is critical to examine and evaluate other new function designs in the mobile s-commerce app through the suggested theoretical model in China market.

Although this study provided the insights of social tagging in UGIs' factors affecting behavioural intentions under the mobile s-commerce app context, there still exist some limitations (e.g. female sample, age range and tagging information policy) and future work (e.g. comparing different social features' value and actual sales) in the study. Therefore, limitations and future work need to be explored in further research.

References

Abarbanel, B., Bernhard, B., Singh, A. K. and Lucas, A. (2015) 'Impact of virtual atmospherics and functional qualities on the online gambler's experience', *Behaviour & Information Technology*, 34(10), pp. 1005–1021.

Abdel-Hafez, A. and Xu, Y. (2013) 'A survey of user modelling in social media websites', *Computer and Information Science*, 6(4), pp. 1913–8989.

Adam, M. T. P., Astor, P. J. and Krämer, J. (2016) 'Images, emotion regulation and bidding behavior: An experiment on the influence of competition and community emotions in internet auctions', *Journal of Interactive Marketing*, 35, pp. 56–69.

Ahmed, F. and Abulaish, M. (2013) 'A generic statistical approach for spam detection in online social networks', *Computer Communications*, 36(10), pp. 1120–1129.

Ajzen, I., Brown, T. C., Service, U. S. F., Mountain, R., Colli, F. and Carvajal, F. (2004) 'Explaining the discrepancy between intentions and actions: The case of hypothetical bias in contingent valuation', *Personality and Social Psychology bulletin*, 30(9), pp. 1108–1121.

Ajzen, I. and Fishbein, M. (1977) 'Attitude-behavior relations: A theoretical analysis and review of empirical research', *Psychological Bulletin*, 84(5), pp. 888–918.

Akar, E. and Nasir, V. A. (2015) 'A review of literature on consumers' online purchase intentions', *Journal of Consumer Behaviour*, 14(3), pp. 215–233.

Akram, U., Hui, P., Khan, M., Yan, C. and Akram, Z. (2018) 'Factors affecting online impulse buying: Evidence from Chinese social commerce environment', *Sustainability*, 10(2), p. 352.

Alalwan, A. A. (2018) 'Investigating the impact of social media advertising features on customer purchase intention', *International Journal of Information Management*, 42, pp. 65–77.

Alasuutari, P., Bickman, L. and Brannen, J. (eds) (2008) The SAGE handbook of social research methods. London: Sage publications.

Alba, J., Lynch, J., Weitz, B., Janiszewski, C., Lutz, R., Sawyer, A. and Wood, S. (1997) 'Interactive Home Shopping: Consumer, Retailer, and Manufacturer Incentives to Participate in Electronic Marketplaces', *Journal of Marketing*, 61(3), pp. 38–53.

Alhamid, M. F., Rawashdeh, M., Hossain, M. A., Alelaiwi, A. and EI Saddik, A. (2016) 'Towards context-aware media recommendation based on social tagging', *Journal of Intelligent Information Systems*, 46(3), pp. 499–516.

Aliaga, M. and Gunderson, B. (2000) Introduction to Quantitative research. London: Sage publications.

Aljukhadar, M. and Senecal, S. (2015) 'Determinants of an organization's website ease of use: The moderating role of product tangibility', *Journal of Organizational Computing and Electronic Commerce*, 25(4), pp. 337–359.

Allsop, D. T., Bassett, B. R. and Hoskins, J. A. (2007) 'Word-of-mouth research: principles and applications', *Journal of Advertising Research*, 47(4), pp. 398-411.

Arli, D. (2017) 'Does social media matter? Investigating the effect of social media features on consumer attitudes', *Journal of Promotion Management*, 23(4), pp. 521–539.

Ashman, R. and Vazquez, D. (2012) 'Simulating attachment to pure-play fashion retailers', *International Journal of Retail & Distribution Management*, 40(12), pp. 975–996.

Ayeh, J. K. (2015) 'Travellers' acceptance of consumer-generated media: An integrated model of technology acceptance and source credibility theories', *Computers in Human Behavior*, 48, pp. 173–180.

Baber, A., Thurasamy, R., Malik, M. I., Sadiq, B., Islam, S. and Sajjad, M. (2016) 'Online word-of-mouth antecedents, attitude and intention-to-purchase electronic products in Pakistan', *Telematics and Informatics*, 33(2), pp. 388–400.

Baek, K., Holton, A., Harp, D. and Yaschur, C. (2011) 'The links that bind: Uncovering novel motivations for linking on Facebook', *Computers in Human Behavior*, 27(6), pp. 2243–2248.

Bagozzi, R. (2007) 'The legacy of the technology acceptance model and a proposal for a paradigm shift', *Journal of the association for information systems*, 7(4), pp. 244–254.

Bagozzi, R. P. (1983) 'A holistic methodology for modeling consumer response to innovation', *Operations Research*, 31(1), pp. 128–176.

Bagozzi, R. P., Gopinath, M. and Nyer, P. U. (1999) 'The role of emotions in marketing', Journal of the academy of marketing science, 28(2), pp. 184–206.

Bai, Y., Yao, Z. and Dou, Y. F. (2015) 'Effect of social commerce factors on user purchase behavior: An empirical investigation from renren.com', *International Journal of Information Management*, 35(5), pp. 538–550.

Baker, R., Brick, J. M., Bates, N. A., Battaglia, M., Couper, M. P., Dever, J. A., Gile, K. J. and Tourangeau, R. (2013) 'Summary report of the aapor task force on non-probability sampling', *Journal of Survey Statistics and Methodology*, 1(2), pp. 90–105.

Bakewell, C. and Mitchell, V. W. (2004) 'Male consumer decision-making styles', *The International Review of Retail, Distribution and Consumer Research*, 14(2), pp. 223–240.

Bakewell, C. and Mitchell, V. W. (2006) 'Male versus female consumer decision making styles', *Journal of Business Research*, 59(12), pp. 1297–1300.

Bakos, J. Y. (1997) 'Reducing buyer search costs: Implications for electronic marketplaces', *Management Science*, 43(12), pp. 1676–1692.

Bapna, R., Gupta, A., Rice, S. and Sundararajan, A. (2017) 'Trust and the strength of ties in online social networks: An exploratory field experiment', *MIS Quarterly*, 41(1), pp. 115–130.

Barnes, S. J. and Vidgen, R. (2001) 'An evaluation method of cyber-bookshops : The WebQual method', *International Journal of Electronic Commerce*, 6(1), pp. 11–30.

Barrett, P. (2007) 'Structural equation modelling: Adjudging model fit', *Personality* and *Individual Differences*, 42(5), pp. 815–824.

Bauer, H. H., Reichardt, T., Barnes, S. J. and Neumann, M. M. (2005) 'Driving consumer acceptance of mobile marketing: A theoretical framework and empirical study', *Journal of Electronic Commerce Research*, 6(3), pp. 188–192.

Beins, B. C. and McCarthy, M. A. (2011) *Research methods and statistics*. Boston, MA, United States: Pearson Education Inc.

Bellizzi, J. A. and Hite, R. E. (1992) 'Environmental color, consumer feelings, and purchase likelihood', *Psychology & marketing*, 9(5), pp. 347-363.

Bennett, S., Maton, K. and Kervin, L. (2008) 'The "digital natives" debate: A critical review of the evidence', *British Journal of Educational Technology*, 39(5), pp. 775-786.

Bentler, P. M. (1990) 'Comparative fit indexes in structural models', *Psychological Bulletin*, 107(2), pp. 238-246.

Berger, J. (2014) 'Word of mouth and interpersonal communication: A review and directions for future research', *Journal of Consumer Psychology*, 24(4), pp. 586–607.

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

Bhattacharjya, J., Ellison, A. and Tripathi, S. (2016) 'An exploration of logisticsrelated customer service provision on Twitter The case of e-retailers', *International Journal of Physical Distribution & Logistics Management*, 46(6/7), pp. 659–610.

Bhattacherjee, A. and Premkumar, G. (2004) 'Understanding changes in belief and attitude toward information technology usage: A theoretical model and longitudinal test', *MIS Quarterly*, 28(2), pp. 229–254.

Bhattacherjee, A. and Sanford, C. (2006) 'Influence processes for information technology acceptance: An elaboration likelihood model', *MIS Quarterly*, 30(4), pp. 805–825.

Bi, S., Liu, Z. and Usman, K. (2017) 'The influence of online information on investing decisions of reward-based crowdfunding', *Journal of Business Research*, 71, pp. 10–18.

Bilgihan, A., Barreda, A., Okumus, F. and Nusair, K. (2016) 'Consumer perception of knowledge-sharing in travel-related OnlineSocial Networks', *Tourism Management*, 52, pp. 287–296.

Birkinshaw, J., Brannen, M. Y. and Tung, R. L. (2011) 'From a distance and generalizable to up close and grounded: Reclaiming a place for qualitative methods in international business research', *Journal of International Business Studies*, 42(5), pp. 573–581.

Blessing, L. T. and Chakrabarti, A. (2009) DRM, a design research methodology. England, United Kingdom: Springer London Ltd.

Blunch, N. (2013) Introduction to structural equation modeling using IBM SPSS statistics and AMOS. London, United Kingdom: Sage Publications Ltd.

Boato, G., Dang-Nguyen, D. T., Muratov, O., Alajlan, N. and De Natale, F. G. B. (2016) 'Exploiting visual saliency for increasing diversity of image retrieval results', *Multimedia Tools and Applications*. Multimedia Tools and Applications, 75(10), pp. 5581–5602.

Bolton, R. N., Parasuraman, A., Hoefnagels, A., Migchels, N., Kabadayi, S., Gruber, T., Loureiro, Y. K. and Solnet, D. (2013) 'Understanding Generation Y and their use of social media: a review and research agenda', *Journal of Service Management*, 24(3), pp. 245–267.

Bonn, M. A., Gon Kim, W., Kang, S. and Cho, M. (2016) 'Purchasing wine online: The effects of social influence, perceived usefulness, perceived ease of use, and wine involvement', *Journal of Hospitality Marketing & Management*, 25(7), pp. 841–869.

Braun, M. T. (2013) 'Obstacles to social networking website use among older adults', *Computers in Human Behavior*, 29(3), pp. 673–680.

Brosdahl, D. J. C. and Carpenter, J. M. (2011) 'Shopping orientations of US males : A generational cohort comparison', *Journal of Retailing and Consumer Services*, 18(6),

pp. 548-554.

Brown, T. A. (2006) Confirmatory factor analysis for applied research. New York, USA: Guilford Publications.

Brown, T. J., Barry, T. E., Daclin, P. A. and Gunst, R. F. (2005) 'Spreading the word: Investigating antecedents of consumers' positive word-of-mouth intentions and behaviors in a retailing context', *Journal of the Academy of Marketing Science*, 33(2), pp. 123–138.

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

Bryman, A. and Bell, E. (2015) Business research methods. 4th ed. Oxford, United Kingdom: Oxford University Press.

Burke, R. R. (2002) 'Technology and the customer interface: What consumers want in the physical and virtual store', *Journal of the Academy of Marketing Science*, 30(4), pp. 411–432.

Burns, A. C. and Bush, R. F. (2013a) *Marketing research, International edition*. Harlow, United Kingdom: Pearson Education Limited.

Burns, A. C. and Bush, R. F. (2013b) Marketing Research. 7th ed. United States: Pearson Education Limited.

Burns, R. P. and Burns, R. (2008) Business research methods and statistics using SPSS. Thousand Oaks, United States: Sage Publications Inc.

Byrne, B. M. (2010) Structural equation modeling with AMOS: Basic concepts, applications, and programming. 2nd ed. Taylor & Francis Ltd.

Byrne, B. M. (2016) Structural equation modeling with AMOS: Basic concepts, applications, and programming. 3rd ed. London, United Kingdom: Taylor & Francis Ltd.

Campbell, D. T. and Fiske, D. W. (1959) 'Convergent and discriminant validation by the multitrait-multimethod matrix', *Psychological Bulletin*, 56(2), pp. 81–105.

Campo, K. and Breugelmans, E. (2015) 'Buying Groceries in Brick and Click Stores: Category Allocation Decisions and the Moderating Effect of Online Buying Experience', *Journal of Interactive Marketing*, 31, pp. 63–78.

Cao, D., Nie, L., He, X., Wei, X., Shen, J., Wu, S. and Chua, T. S. (2017) 'Version-sensitive mobile App recommendation', *Information Sciences*, 381, pp. 161–175.

Carlson, J., Rahman, M., Voola, R. and De Vries, N. (2018) 'Customer engagement behaviours in social media: capturing innovation opportunities', *Journal of Services Marketing*, 32(1), pp. 83–94.

Carpenter, J. M. and Fairhurst, A. (2005) 'Consumer shopping value, satisfaction, and loyalty for retail apparel brands', *Journal of Fashion Marketing and Management: An International Journal*, 9(3), pp. 256–269.

Carpenter, J. M., Moore, M. and Fairhurst, A. E. (2005) 'Consumer shopping value for retail brands', *Journal of Fashion Marketing and Management*, 9(1), pp. 43–53.

Carrington, M. J., Neville, B. A. and Whitwell, G. J. (2014) 'Lost in translation: Exploring the ethical consumer intention-behavior gap', *Journal of Business Research*, 67(1), pp. 2759–2767.

CCEAA (2015) 2014-2015 China's Cross-border E- Commerce Development Report.

Available at: https://www.ecommercewiki.org/reports/19/2014-2015-chinas-crossborder-ecommerce-development-report (Accessed: 12 June 2017).

Chan, S. S., Fang, X., Zhou, Y. and Xu, S. (2002) 'Usability for mobile commerce across multiple form factors', *Journal of Electronic Commerce Research*, 3(3), pp. 187–199.

Chang, M. K., Cheung, W. and Lai, V. S. (2005) 'Literature derived reference models for the adoption of online shopping', *Information & Management*, 42, pp. 543–559.

Chang, S. E., Shen, W. C. and Liu, A. Y. (2016) 'Why mobile users trust smartphone social networking services? A PLS-SEM approach', *Journal of Business Research*, 69(11), pp. 4890–4895.

Chang, S. H., Chih, W. H., Liou, D. K. and Hwang, L. R. (2014) 'The influence of web aesthetics on customers' PAD', *Computers in Human Behavior*, 36, pp. 168–178.

Chang, Y., Ko, Y. J. and Leite, W. L. (2016) 'The effect of perceived brand leadership on luxury service WOM', *Journal of Services Marketing*, 30(6), pp. 659–671.

Chari, S., Christodoulides, G., Presi, C., Wenhold, J. and Casaletto, J. P. (2016) 'Consumer trust in user-generated brand recommendations on Facebook', *Psychology & Marketing*, 33(12), pp. 1071–1081.

Chen, H. T. and Li, X. (2017) 'The contribution of mobile social media to social capital and psychological well-being: Examining the role of communicative use, friending and self-disclosure', *Computers in Human Behavior*, 75, pp. 958–965.

Chen, J. and Shen, X. (2015) 'Consumers' decisions in social commerce context: An empirical investigation', *Decision Support Systems*, 79, pp. 55-64.

Chen, J., Teng, L., Yu, Y. and Yu, X. (2015) 'The effect of online information sources on purchase intentions between consumers with high and low susceptibility to informational influence', *Journal of Business Research*, 69(2), pp. 467–475.

Chen, J. V., Su, B. C. and Widjaja, A. E. (2016) 'Facebook C2C social commerce: A study of online impulse buying', *Decision Support Systems*, 83, pp. 57–69.

Chen, X. and Kong, H. (2013) 'All online friends are not created equal: Discovering influence structure in online social networks.', *Proceedings of the 14th Annual International Conference on Electronic Commerce*, pp. 322–340.

Chen, X. and Shin, H. (2013) 'Tag recommendation by machine learning with textual and social features', *Journal of Intelligent Information Systems*, 40(2), pp. 261–282.

Chen, Y. C., Shang, R. A. and Kao, C. Y. (2009) 'The effects of information overload on consumers' subjective state towards buying decision in the internet shopping environment', *Electronic Commerce Research and Applications*, 8(1), pp. 48–58.

Chen, Y., Hsu, T. and Lu, Y. (2018) 'Impact of flow on mobile shopping intention', *Journal of Retailing and Consumer Services*, 41, pp. 281–287.

Chen, Y., Jermias, J. and Panggabean, T. (2016) 'The role of visual attention in the managerial judgment of balanced-scorecard performance evaluation: Insights from ssing an eye-tracking device', *Journal of Accounting Research*, 54(1), pp. 113–146.

Cheng, C. C. J., Shiu, E., Cheng, C. C. J. and Shiu, E. (2016) 'A framework to capture and reuse process knowledge in business process design and execution using social tagging', *Business Process Management Journal*, 22(4), pp. 835–859.

Cheong, H. J. and Morrison, M. A. (2008) 'Consumers' reliance on product information and recommendations found in UGC', *Journal of Interactive Advertising*, 8(2), pp. 38–49.

Cheung, C. M. K. and Thadani, D. R. (2012) 'The impact of electronic word-of-mouth communication: A literature analysis and integrative model', *Decision Support Systems*, 54(1), pp. 461–470.

Cheung, M. F. Y. and To, W. M. (2017) 'The influence of the propensity to trust on mobile users' attitudes toward in-app advertisements: An extension of the theory of planned behavior', *Computers in Human Behavior*, 76, pp. 102–111.

Childers, T. L., Carr, C. L., Peck, J. and Carson, S. (2001) 'Hedonic and utilitarian motivations for online retail shopping behavior', *Journal of Retailing*, 77(4), pp. 511–535.

Chin, W. W. (1998) 'The partial least squares approach to structural equation modeling', *Modern Methods for Business Research*, 295(2), pp. 295–336.

Chittenden, T. (2010) 'Digital dressing up: Modelling female teen identity in the discursive spaces of the fashion blogosphere', *Journal of Youth Studies*, 13(4), pp. 505–520.

Cho, S. and Workman, J. (2011) 'Gender, fashion innovativeness and opinion leadership, and need for touch: Effects on multi-channel choice and touch/non-touch preference in clothing shopping', *Journal of Fashion Marketing and Management: An International Journal*, 15(3), pp. 363–382.

Choi, J., Ok, C. and Choi, S. (2016) 'Outcomes of Destination Marketing Organization Outcomes of Destination Marketing Organization Website Navigation: The Role of Telepresence', *Journal of Travel & Tourism Marketing*, 33(1), pp. 46–62.

Choi, T. M., Chen, Y. and Chung, S. H. (2017) 'Online-offline fashion franchising supply chains without channel conflicts: Choices on postponement and contracts', *International Journal of Production Economics*, pp. 1–11.

Choi, W. and Lee, Y. (2019) 'Effects of fashion vlogger attributes on product attitude and content sharing', *Fashion and Textiles*, 6(1), pp. 1–18.

Chong, A. Y. L., Chan, F. T. S. and Ooi, K. B. (2012) 'Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia', *Decision Support Systems*, 53(1), pp. 34–43.

Chopdar, P. K., Korfiatis, N., Sivakumar, V. J. and Lytras, M. D. (2018) 'Mobile shopping apps adoption and perceived risks: A cross-country perspective utilizing the Unified Theory of Acceptance and Use of Technology', *Computers in Human Behavior*, 86, pp. 109–128.

Christodoulides, G. and de Chernatony, L. (2004) 'Dimensionalising on-and offline brands' composite equity', *Journal of Product & Brand Management*, 13(3), pp. 168–179.

Chu, S. C. and Kim, Y. (2011) 'Determinants of consumer engagement in electronic Word-Of-Mouth (eWOM) in social networking sites', *International Journal of Advertising*, 30(1), pp. 47–75.

Clow, K. E. and James, K. E. (2013) *Essentials of marketing research: Putting research into practice*. Thousand Oaks, United States: Sage Publications Inc.

CNNIC (2016) Statistical report on internet development in China. Available at: https://cnnic.com.cn/IDR/ReportDownloads/201611/P020161114573409551742.pdf (Accessed: 25 March 2017).

Coelho, R. L. F., Oliveira, D. S. D. and Almeida, M. I. S. D. (2016) 'Does social media matter for post typology? Impact of post content on Facebook and Instagram metrics', *Online Information Review*, 40(4), pp. 458–471.

Colliander, J. and Dahlén, M. (2011) 'Following the fashionable friend: The power of social media', *Journal of Advertising Research*, 51(1), pp. 313-320.

Colliander, J. and Marder, B. (2018) "snap happy' brands: Increasing publicity effectiveness through a snapshot aesthetic when marketing a brand on Instagram', *Computers in Human Behavior*, 78, pp. 34–43.

Corbitt, B. J., Thanasankit, T. and Yi, H. (2003) 'Trust and e-commerce: A study of consumer perceptions', *Electronic Commerce Research and Applications*, 2(3), pp. 203–215.

Couper, M. P. (2008) Designing effective Web surveys. Cambridge, United Kingdom: Cambridge University Press.

Couper, M. P., Conrad, F. G. and Tourangeau, R. (2007) 'Visual context effects in web surveys', *Public Opinion Quarterly*, 71(4), pp. 623–634.

Creswell, J. W. (2002) Research design: Qualitative, quantitative, and mixed methods approaches. 2nd ed. Thousand Oaks, United States: Sage Publications Inc.

Creswell, J. W. (2008) Research design: Qualitative, quantitative and mixed method aproaches. 3rd ed. Thousand Oaks, United States: Sage Publications Inc.

Creswell, J. W. and Creswell, J. D. (2018) Research design: Qualitative, quantitative and mixed research approaches. 5th ed. Thousand Oaks, United States: Sage Publications Inc.

Crotty, M. J. (1998) The foundations of social research: Meaning and perspective in the research process. Thousand Oaks, United States: Sage Publications Inc.

Curwin, J., Slater, R. and Eadson, D. (2013) *Quantitative methods for business decisions*. 7th ed. London, United Kingdom: Cengage Learning EMEA.

Dao, W. V. T., Le, A. N. H., Cheng, J. M. S. and Chen, D. C. (2014) 'Social media advertising value: The case of transitional economies in Southeast Asia', *International Journal of Advertising*, 33(2), pp. 271–294.

Das, G. (2014) 'Impacts of retail brand personality and self-congruity on store loyalty: The moderating role of gender', *Journal of Retailing and Consumer Services*, 21(2), pp. 130–138.

Davis, C. S., Gallardo, H. L. and Lachlan, K. L. (2009) 'Sampling', in *Straight Talk About Communication Research Methods*. 1st ed. United States: Kendall/Hunt Publishing Company, pp. 159–176.

Davis, D. F. and Venkatesh, V. (2004) 'Toward preprototype user acceptance testing of new information systems: implications for software project management', *IEEE Transactions on Engineering Management*, 51(1), pp. 31–46.

Davis, F. D. (1989) 'Perceived usefulness, perceived ease of use, and user acceptance of information technology', *MIS Quarterly*, 13(3), p. 319-340.

Davis, F. D., Bagozzi, R. P. and Paul, W. R. (1989) 'User acceptance of computer technology: a comparison of two theoretical models', *Management Science*, 35(8), pp. 982–1003.

Dedeke, A. N. (2016) 'Travel web-site design: Information task-fit, service quality and purchase intention', *Tourism Management*, 54, pp. 541–554.

Dehghani, M., Niaki, M. K., Ramezani, I. and Sali, R. (2016) 'Evaluating the influence of YouTube advertising for attraction of young customers', *Computers in Human Behavior*, 59, pp. 165–172.

Dellarocas, C. (2003) 'The digitization of Word of Mouth: Promise and challenges of online feedback mechanisms', *Management Science*, 49(10), pp. 1407–1424.

DeLone, W. H. . and McLean, E. R. . (1992) 'Information systems success: The quest for the dependent variable', *Information Systems Research*, 3(1), pp. 60–95.

Delpechitre, D., Beeler-Connelly, L. L. and Chaker, N. (2018) 'Customer value cocreation behavior: A dyadic exploration of the influence of salesperson emotional intelligence on customer participation and citizenship behavior', *Journal of Business Research*, 92, pp. 9–24.

Demangeot, C. and Broderick, A. J. (2017) 'How mobile in-store advertising influences purchase intention: Value drivers and mediating effects from a consumer perspective', *Psychology & Marketing*, 34(2), pp. 157–174.

Demoulin, N. T. M. (2011) 'Music congruency in a service setting: The mediating role of emotional and cognitive responses', *Journal of Retailing and Consumer Services*, 18(1), pp. 10–18.

Dennis, C., Morgan, A., Wright, L. T. and Jayawardhena, C. (2010) 'The influences of social e-shopping in enhancing young women's online shopping behaviour', *Journal of Customer Behaviour*, 9(2), pp. 151–174.

Van derHeijden, H. (2004) 'User acceptance of hedonic information systems', MIS Quarterly, 28(4), pp. 695-704.

Derntl, M., Hampel, T., Motschnig-pitrik, R. and Pitner, T. (2011) 'Inclusive social tagging and its support in Web 2.0 services', *Computers in Human Behavior*, 27(4), pp. 1460–1466.

Dessart, L., Veloutsou, C. and Morgan-Thomas, A. (2015) 'Consumer engagement in online brand communities: a social media perspective', *Journal of Product and Brand Management*, 24(1), pp. 28–42.

Dhir, A., Chen, G. M. and Chen, S. (2017) 'Why do we tag photographs on Facebook? Proposing a new gratifications scale', *New Media & Society*, 19(4), pp. 502–521.

Dhir, A., Kaur, P. and Rajala, R. (2018) 'Why do young people tag photos on social networking sites ? Explaining user intentions', *International Journal of Information Management*, 38(1), pp. 117–127.

Dhir, A. and Torsheim, T. (2016) 'Age and gender differences in photo tagging gratifications', *Computers in Human Behavior*, 63, pp. 630–638.

Djafarova, E. and Rushworth, C. (2017) 'Exploring the credibility of online celebrities' Instagram profiles in influencing the purchase decisions of young female users', *Computers in Human Behavior*, 68, pp. 1–7.

Dodds, W. B., Monroe, K. B. and Grewal, D. (1991) 'Effects of price, brand, and store information on buyers' product evaluations', *Journal of Marketing Research*, 28(3), pp. 307–319.

Dorotic, M., Bijmolt, T. H. A. and Verhoef, P. C. (2012) 'Loyalty programmes: Current knowledge and research directions', *International Journal of Management Reviews*, 14(3), pp. 217–237.

Eagar, T. and Dann, S. (2016) 'Classifying the narrated #selfie: genre typing humanbranding activity', *European Journal of Marketing*, 50(9/10), pp. 1835–1857.

Edwards, S. M., Li, H. and Lee, J. H. (2002) 'Forced exposure and psychological reactance: Antecedents and consequences of the perceived intrusiveness of pop-up ads', *Journal of Advertising*, 31(3), pp. 83–95.

Eftekhar, A., Fullwood, C. and Morris, N. (2014) 'Capturing personality from Facebook photos and photo-related activities : How much exposure do you need?', *Computers in Human Behavior*, 37, pp. 162–170.

Elwalda, A., Lü, K. and Ali, M. (2016) 'Perceived derived attributes of online customer reviews', *Computers in Human Behavior*, 56, pp. 306–319.

Ergu, D. and Kou, G. (2012) 'Questionnaire design improvement and missing item scores estimation for rapid and efficient decision making', *Annals of Operations Research*, 197(1), pp. 5–23.

Erkan, I. and Evans, C. (2016) 'The influence of eWOM in social media on consumers' purchase intentions: An extended approach to information adoption', *Computers in Human Behavior*, 61, pp. 47–55.

Erkan, I. and Evans, C. (2018) 'Social media or shopping websites? The influence of eWOM on consumers' online purchase intentions', *Journal of Marketing Communications*, 24(6), pp. 617–632.

Eroglu, S. A., Machleit, K. A. and Davis, L. M. (2001) 'Atmospheric qualities of online retailing: A conceptual model and implications', *Journal of Business Research*, 54(2), pp. 177–184.

Eroglu, S. A., Machleit, K. A. and Davis, L. M. (2003) 'Empirical testing of a model of online store atmospherics and shopper responses', *Psychology and Marketing*, 20(2), pp. 139–150.

Escobar-Rodríguez, T. and Bonsón-Fernández, R. (2017) 'Analysing online purchase intention in Spain: fashion e-commerce', *Information Systems and e-Business Management*, 15(3), pp. 599–622.

Evans, M., Wedande, G., Ralston, L. and Hul, S. V. 'T (2001) 'Consumer interaction in the virtual era: some qualitative insights', *Qualitative Market Research: An International Journal*, 4(3), pp. 150–159.

Fang, J., Zhao, Z., Wen, C. and Wang, R. (2017) 'Design and performance attributes driving mobile travel application engagement', *International Journal of Information Management*, 37(4), pp. 269–283.

Fang, Y. H. (2014) 'Beyond the credibility of electronic word of mouth: Exploring eWOM adoption on social networking sites from affective and curiosity perspectives.', *International Journal of Electronic Commerce*, 18(3), pp. 67–102.

Fang, Y., Tang, K., Li, C. and Wu, C. (2018) 'On electronic word-of-mouth diffusion in social networks: curiosity and influence', *International Journal of Advertising*, 37(3), pp. 360–384.

Fedorikhin, A. and Patrick, V. M. (2010) 'Positive mood and resistance to temptation: The interfering influence of elevated arousal', *Journal of Consumer Research*, 37(4), pp. 698–711.

Field, A. (2013) Discovering statistics using IBM SPSS statistics. 4th ed. London, United Kingdom: Sage Publications Ltd.

Field, A. (2018) Discovering statistics using IBM SPSS statistics. 5th ed. London, United Kingdom: Sage Publications Ltd.

Filieri, R. (2016) 'What makes an online consumer review trustworthy?', Annals of Tourism Research, 58, pp. 46–64.

Filieri, R. and McLeay, F. (2014) 'E-WOM and accommodation: An analysis of the factors that influence travelers' adoption of information from online reviews', *Journal of Travel Research*, 53(1), pp. 44–57.

Filieri, R., McLeay, F., Tsui, B. and Lin, Z. (2018) 'Consumer perceptions of information helpfulness and determinants of purchase intention in online consumer reviews of services', *Information and Management*.

Fink, A. (2003) *The Survey Handbook*. 2nd ed. Thousand Oaks, United States: Sage Publications Inc.

Flavián, C. and Miguel Guinalíu (2005) 'The influence of virtual communities on distribution strategies in the internet', *International Journal of Retail & Distribution Management*, 33(6), pp. 405–425.

Fong, J. and Burton, S. (2006) 'Elecronic word-of-mouth: A comparison of stated and revealed behavior on electronic discussion boards', *Journal of Interactive Advertising*, 6(2), pp. 7–62.

Fong, J. and Burton, S. (2008) 'A cross-cultural comparison of electronic word-ofmouth and country-of-origin effects', *Journal of Business Research*, 61(3), pp. 233– 242.

Fong, L. H. N., Lam, L. W. and Law, R. (2017) 'How locus of control shapes intention to reuse mobile apps for making hotel reservations: Evidence from chinese consumers', *Tourism Management*, 61, pp. 331–342.

Fornell, C. and Larcker, D. F. (1981) 'Structural equation models with unobservable variables and measurement error: Algebra and statistics', *Journal of Marketing Research*, 18(3), p. 382.

Frith, H. and Gleeson, K. (2004) 'Clothing and embodiment: Men Managing Body and appearence', *Psychology of men and masculinity*, 5(1), pp. 40–48.

Füller, J., Mühlbacher, H., Matzler, K. and Jawecki, G. (2010) 'Consumer Empowerment Through Internet-Based Co-creation', *Journal of Management Information Systems*, 26(3), pp. 71–102.

Furner, C. P. and Zinko, R. A. (2017) 'The influence of information overload on the development of trust and purchase intention based on online product reviews in a mobile vs. web environment: an empirical investigation', *Electronic Markets*, 27(3), pp. 211–224.

Ganguly, B., Dash, S. B., Cyr, D. and Head, M. (2010) 'The effects of website design on purchase intention in online shopping: the mediating role of trust and the moderating role of culture', *International Journal of Electronic Business*, 8(4/5), pp. 302–330.

Gao, L. and Bai, X. (2014) 'Online consumer behaviour and its relationship to website atmospheric induced flow: Insights into online travel agencies in China', *Journal of Retailing and Consumer Services*, 21(4), pp. 653–665.

Gao, Y., Wang, M., Zha, Z. J., Shen, J., Li, X. and Wu, X. (2013) 'Visual-textual joint relevance learning for tag-based social image search', *IEEE Transactions on Image Processing*, 22(1), pp. 363–376.

Garbarino, E. and Strahilevitz, M. (2004) 'Gender differences in the perceived risk of buying online and the effects of receiving a site recommendation', *Journal of Business Research*, 57(7), pp. 768–775.

Gaur, A. S. and Gaur., S. S. (2006) Statistical methods for practice and research: A guide to data analysis using SPSS. Thousand Oaks, United States: Sage Publications Inc.

Gaygisiz, E. (2013) 'How are cultural dimensions and governance quality related to socioeconomic development?', *Journal of Socio-Economics*, 47, pp. 170–179.

Geurin-Eagleman, A. N. and Burch, L. M. (2016) 'Communicating via photographs: A
gendered analysis of Olympic athletes' visual self-presentation on Instagram', Sport Management Review, 19(2), pp. 133-145.

Gibbs, M., Meese, J., Arnold, M., Nansen, B. and Carter, M. (2015) '# Funeral and Instagram: death, social media, and platform vernacular', *Information, Communication & Society*, 18(3), pp. 255–268.

Giovannini, S., Xu, Y. and Thomas, J. (2015) 'Luxury fashion consumption and Generation Y consumers Self, brand consciousness, and consumption motivations', *Journal of Fashion Marketing and Management*, 19(1), pp. 22–40.

Giunchiglia, F., Zeni, M., Gobbi, E., Bignotti, E. and Bison, I. (2018) 'Mobile social media usage and academic performance', *Computers in Human Behavior*, 82, pp. 177–185.

Godey, B., Manthiou, A., Pederzoli, D., Rokka, J., Aiello, G., Donvito, R. and Singh, R. (2016) 'Social media marketing efforts of luxury brands : Influence on brand equity and consumer behavior', *Journal of Business Research*, 69(12), pp. 5833–5841.

Goodrich, K. and de Mooij, M. (2014) 'How "social" are social media? A cross-cultural comparison of online and offline purchase decision influences', *Journal of Marketing Communications*, pp. 103–116.

Grewal, D., Monroe, K. B. and Krishnan, R. (1998) 'The Effects of Price-Comparison Advertising on Buyers' Perceptions of Acquisition Value, Transaction Value, and Behavioral Intentions', *Journal of Marketing*, 62(2), p. 46.

Grimm, K. J., Ram, N. and Estabrook, R. (2016) *Growth modeling: Structural equation and multilevel modeling approaches*. New York, United States: Guilford Publications.

Grissemann, U. S. and Stokburger-Sauer, N. E. (2012) 'Customer co-creation of travel services: The role of company support and customer satisfaction with the co-creation performance', *Tourism Management*, 33(6), pp. 1483–1492.

Grönroos, C. and Voima, P. (2013) 'Critical service logic: Making sense of value creation and co-creation', *Journal of the Academy of Marketing Science*, 41(2), pp. 133–150.

Grøtnes, E. (2009) 'Standardization as open innovation: two cases from the mobile industry', *Information Technology & People*, 22(4), pp. 367–381.

Gu, B., Park, J. and Konana, P. (2012) 'The impact of external word-of-mouth sources on retailer sales of high-involvement products', *Information Systems Research*, 23(1), pp. 182–196.

Gunawan, D. D. and Huarng, K. H. (2015) 'Viral effects of social network and media on consumers' purchase intention', *Journal of Business Research*, 68(11), pp. 2237–2241.

Gursoy, D., Maier, T. A. and Chi, C. G. (2008) 'Generational differences: An examination of work values and generational gaps in the hospitality workforce', *International Journal of Hospitality Management*, 27(3), pp. 448–458.

Ha, S. and Stoel, L. (2009) 'Consumer e-shopping acceptance: Antecedents in a technology acceptance model', *Journal of Business Research*, 62(5), pp. 565–571.

Ha, Y. and Im, H. (2012) 'Role of web site design quality in satisfaction and word of mouth generation', *Journal of Service Management*, 23(1), pp. 79–96.

Ha, Y. and Lennon, S. J. (2010a) 'Effects of site design on consumer emotions: role of product involvement', *Journal of Research in Interactive Marketing*, 4(2), pp. 80–96.

Ha, Y. and Lennon, S. J. (2010b) 'Online visual merchandising (VMD) cues and

consumer pleasure and arousal: Purchasing versus browsing situation', *Psychology & Marketing*, 27(2), pp. 141–165.

Haig, B. D. (2018) The philosophy of quantitative methods: Understanding statistics. Oxford, United Kingdom: Oxford University Press.

Hair, J. F., Black, W. C., Babin, B. J. and Anderson, R. E. (2009) *Multivariate data* analysis: Global edition. 7th ed. Upper Saddle River, NJ, United States: Pearson Education.

Hair, J. F., Black, W. C., Babin, B. J. and Anderson, R. E. (2013) *Multivariate data* analysis: Pearson new International Edition. 7th ed. Harlow, United Kingdom: Pearson Education Limited.

Hajli, N., Shanmugam, M., Powell, P. and Love, P. E. D. (2015) 'A study on the continuance participation in online communities with social commerce perspective', *Technological Forecasting and Social Change*, 96, pp. 232–241.

Hajli, N., Sims, J., Zadeh, A. H. and Richard, M. O. (2017) 'A social commerce investigation of the role of trust in a social networking site on purchase intentions', *Journal of Business Research*, 71, pp. 133–141.

Halvorsen, K., Hoffmann, J., Coste-Manière, I. and Stankeviciute, R. (2013) 'Can fashion blogs function as a marketing tool to influence consumer behavior? Evidence from Norway', *Journal of Global Fashion Marketing*, 4(3), pp. 211–224.

Hammerl, M., Dorner, F., Foscht, T. and Brandstätter, M. (2016) 'Attribution of symbolic brand meaning: the interplay of consumers, brands and reference groups', *Journal of Consumer Marketing*, 33(1), pp. 32–40.

Hansen, J. M., Saridakis, G. and Benson, V. (2018) 'Risk, trust, and the interaction of perceived ease of use and behavioral control in predicting consumers' use of social media for transactions', *Computers in Human Behavior*, 80, pp. 197–206.

Hansen, T. and Jensen, J. M. (2009) 'Shopping orientation and online clothing purchases: the role of gender and purchase situation', *European Journal of Marketing*, 43(9/10), pp. 1154–1170.

Hanson, D. and Grimmer, M. (2007) 'The mix of qualitative and quantitative research in major marketing journals, 1993-2002', *European Journal of Marketing*, 41, pp. 58–70.

Harrington, D. (2009) Confirmatory Factor Analysis. New York: Oxford University Press.

Hart, C., Farrell, A. M., Stachow, G., Reed, G. and Cadogan, J. W. (2007) 'Enjoyment of the shopping experience: Impact on customers' repatronage intentions and gender influence', *Service Industries Journal*, 27(5), pp. 583–604.

Hassan, M. and Ariño, L. V. C. (2016) 'Consumer devotion to a different height How consumers are defending the brand within Facebook brand communities', *Internet Research*, 26, pp. 963–981.

Hazari, S., Bergiel, B. J. and Sethna, B. N. (2016) 'Hedonic and utilitarian use of usergenerated content on online shopping websites', *Journal of Marketing Communications*, 7266(11), pp. 1–20.

Heide, B. V. D., D'Angelo, J. D. and Schumaker, E. M. (2012) 'The effects of verbal versus photographic self-presentation on impression formation in Facebook', *Journal of Communication*, 62(1), pp. 98–116.

Held, C., Kimmerle, J. and Cress, U. (2012) 'Learning by foraging: The impact of individual knowledge and social tags on web navigation processes', *Computers in*

Human Behaviour, 28(1), pp. 34-40.

Hennig-Thurau, T., Gwinner, K. P., Walsh, G. and Gremler, D. 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), pp. 38–52.

Hennig-thurau, T., Walsh, G. and Walsh, G. (2003) 'Electronic word-of-mouth: Motives for and consequences of reading customer articulations on the Internet', *International Journal of Electronic Commerce*, 8(2), pp. 51–74.

Heuer, D., Brettel, M. and Kemper, J. (2015) 'Brand competition in fashion ecommerce', *Electronic Commerce Research and Applications*, 14(6), pp. 514–522.

Hew, J. J., Lee, V. H., Ooi, K. B. and Lin, B. (2016) 'Mobile social commerce: The booster for brand loyalty?', *Computers in Human Behavior*, 59, pp. 142–154.

Hew, J. J., Leong, L. Y., Tan, G. W. H., Lee, V. H. and Ooi, K. B. (2018) 'Mobile social tourism shopping: A dual-stage analysis of a multi-mediation model', *Tourism Management*, 66, pp. 121–139.

Hill, S. R., Troshani, I. and Chandrasekar, D. (2017) 'Signalling Effects of Vlogger Popularity on Online Consumers', *Journal of Computer Information Systems*, pp. 1–9.

Hillman, S. and Neustaedter, C. (2017) 'Trust and mobile commerce in North America', *Computers in Human Behavior*, 70, pp. 10–21.

Ho, H. F. (2014) 'The effects of controlling visual attention to handbags for women in online shops: Evidence from eye movements', *Computers in Human Behavior*, 30, pp. 146–152.

Hoelter, J. W. (1983) 'The analysis of covariance structures: Goodness-of-fit indices', *Sociological Methods & Reaseach*, 11(3), pp. 324–344.

Hoffman, D. D. L. D. L. and Fodor, M. (2010) 'Can you measure the ROI of your social media marketing', *MIT Sloan Management Review*, 52(1), pp. 41-49.

Hoffman, D. L. and Novak, T. P. (1996) 'Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations', *Journal of Marketing*, 60(3), p. 50. doi: 10.2307/1251841.

Hofstede, G. (1980) 'Culture and organizations', International Studies of Management & Organization, 10(4), pp. 15-41.

Hofstede, G. (2001) Culture's consequences: Comparing values, behaviors, institutions and organizations across nations. 2nd ed. ThousandOaks, CA: Sage publications.

Holden, M. T. and Lynch, P. (2004) 'Choosing the appropriate methodology: Understanding research philosophy', *The Marketing Review*, 4(4), pp. 397–409.

Hong, I. B. (2015) 'Understanding the consumer's online merchant selection process: The roles of product involvement, perceived risk, and trust expectation', *International Journal of Information Management*, 35(3), pp. 322–336.

Hopkins, C. D., Grove, S. J., Raymond, M. A. and LaForge, M. C. (2009) 'Designing the e-servicescape: Implications for online retailers', *Journal of Internet Commerce*, 8(1/2), pp. 23-43.

Hou, J. and Elliott, K. (2014) 'How do online bidders differ from non-bidders?', Journal of Retailing and Consumer Services, 21(1), pp. 18–25.

Howe, N., Strauss, W., Center, P. R., Valentine, D. B., Powers, T. L. and Emeagwali, N. S. (2013) 'Generation Y values and lifestyle segments', *Journal of Consumer*

Marketing, 30(7), pp. 22-26.

Hsieh, J. K., Hsieh, Y. C., Chiu, H. C. and Yang, Y. R. (2014) 'Customer response to web site atmospherics: Task-relevant cues, situational involvement and PAD', *Journal of Interactive Marketing*, 28(3), pp. 225–236.

Hsu, C. L. and Lin, J. C. C. (2008) 'Acceptance of blog usage: The roles of technology acceptance, social influence and knowledge sharing motivation', *Information and Management*, 45(1), pp. 65–74.

Hsu, C. L. and Lin, J. C. C. (2016) 'Effect of perceived value and social influences on mobile app stickiness and in-app purchase intention', *Technological Forecasting and Social Change*, 108, pp. 42–53.

Hsu, C. L., Lin, J. C. C. and Chiang, H. Sen (2013) 'The effects of blogger recommendations on customers' online shopping intentions', *Journal of Marketing Research*, 23(1), pp. 69–88.

Hsu, C. P., Huang, H. C., Ko, C. H. and Wang, S. J. (2014) 'Basing bloggers' power on readers' satisfaction and loyalty', *Online Information Review*, 38(1), pp. 78–94.

Hu, L. T. and Bentler, P. M. (1999) 'Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives', *Structural Equation Modeling*, 6(1), pp. 1–55.

Hu, X., Huang, Q., Zhong, X., Davison, R. M. and Zhao, D. (2016) 'The influence of peer characteristics and technical features of a social shopping website on a consumer's purchase intention', *International Journal of Information Management*, 36(6), pp. 1218–1230.

Huang, A. W. and Chuang, T. (2009) 'Social tagging, online communication, and Peircean semiotics: a conceptual framework', *Journal of Information Science*, 35(3), pp. 340–357.

Huang, C. Y., Shen, Y. Z., Lin, H. X. and Chang, S. S. (2007) 'Bloggers' motivations and behaviors: A model', *Journal of Advertising Research*, 47(4), pp. 472–484.

Huang, G. H. and Korfiatis, N. (2015) 'Trying before buying: The moderating role of online reviews in trial attitude formation toward mobile applications', *International Journal of Electronic Commerce*, 19(4), pp. 77–111.

Huang, H. Y. (2016) 'Examining the beneficial effects of individual's self-disclosure on the social network site', *Computers in Human Behavior*, 57, pp. 122–132.

Huang, L. T. (2016) 'Flow and social capital theory in online impulse buying', *Journal* of Business Research, 69(6), pp. 2277–2283.

Huang, L. Y., Hsieh, Y. J. and Wu, Y. C. J. (2014) 'Gratifications and social network service usage: The mediating role of online experience', *Information and Management*, 51(6), pp. 774–782.

Huang, M., Ali, R. and Liao, J. (2017) 'The effect of user experience in online games on word of mouth: A pleasure-arousal-dominance (PAD) model perspective', *Computers in Human Behavior*, 75, pp. 329–338.

Huang, R. and Sarigöllü, E. (2014) 'Fashion Branding and Consumer Behaviors', in Choi, T.-M. and Huang, R. (eds) *International Series on Consumer Science*. Springer Science & Business Media, pp. 113–132.

Huang, S. L., Lin, S. C. and Chan, Y. C. (2012) 'Investigating effectiveness and user acceptance of semantic social tagging for knowledge sharing', *Information Processing and Management*, 48(4), pp. 599–617.

Huang, Y. C., Backman, S. J., Backman, K. F. and Moore, D. (2013) 'Exploring user acceptance of 3D virtual worlds in travel and tourism marketing', *Tourism Management*, 36, pp. 490–501.

Huang, Z. and Benyoucef, M. (2013) 'From e-commerce to social commerce: A close look at design features', *Electronic Commerce Research and Applications*, 12(4), pp. 246–259.

Hubert, M., Blut, M., Brock, C., Backhaus, C. and Eberhardt, T. (2017) 'Acceptance of smartphone-based mobile shopping: Mobile benefits, customer characteristics, perceived risks, and the impact of application context', *Psychology and Marketing*, 34(2), pp. 175–194.

Hübner, A., Wollenburg, J. and Holzapfel, A. (2016) 'Retail logistics in the transition from multi-channel to omni-channel', *International Journal of Physical Distribution & Logistics Management*, 46(6/7), pp. 562–583.

Hung, N. C., Yang, S. T. and Hsieh, T. C. (2012) 'An examination of the determinants of mobile shopping continuance', *International Journal of Electronic Business Management*, 10(1), pp. 29–37.

Hur, H. J., Lee, H. K. and Choo, H. J. (2017) 'Understanding usage intention in innovative mobile app service: Comparison between millennial and mature consumers', *Computers in Human Behavior*, 73, pp. 353–361.

Hutter, K., Hautz, J., Dennhardt, S. and Füller, J. (2013) 'The impact of user interactions in social media on brand awareness and purchase intention: the case of MINI on Facebook', *Journal of Product and Brand Management*, 22(5), pp. 342–351.

Hyde, K. F. (2000) 'Recognising deductive processes in qualitative research', *Qualitative Market Research: An International Journal*, 3(2), pp. 82–90.

Iacobucci, D. (2010) 'Structural equations modeling: Fit Indices, sample size, and advanced topics', *Journal of Consumer Psychology*, 20(1), pp. 90–98.

Igbaria, M., Iivari, J. and Maragahh, H. (1995) 'Why do individuals use computer technology? A Finnish case study', *Information and Management*, 29(5), pp. 227–238.

Im, D. H. and Park, G. D. (2015) 'Linked tag: image annotation using semantic relationships between image tags', *Multimedia Tools and Applications*, 74(7), pp. 2273–2287.

Instagram (2018) A Better Shopping Experience on Instagram. Available at: https://business.instagram.com/blog/a-better-shopping-experience-on-instagram (Accessed: 29 March 2018).

iResearch (2015a) China Fasion & Makeup Community Apps Capture Women' Interests. Available at: http://www.iresearchchina.com/content/details7_17341.html (Accessed: 17 January 2018).

iResearch (2015b) *iResearch Discloses H1 2015 China Online Clothing Shopping*. Available at: http://www.iresearchchina.com/content/details7_19518.html (Accessed: 27 January 2018).

iResearch (2017a) China's Online Apparel Brand Advertising Data in June 2016. Available at: http://www.iresearchchina.com/content/details7_25978.html (Accessed: 22 October 2017).

iResearch (2017b) China's Online Shopping GMV Approached 5 Trillion Yuan in 2016. Available at: http://www.iresearchchina.com/content/details7_30708.html (Accessed: 1 January 2017).

iResearch (2017c) China's Mobile Shopping Market Faces a New Round of Competition.

Available at: http://www.iresearchchina.com/content/details7_31125.html (Accessed: 27 January 2018).

iResearch (2017d) The Female Service Apps Usher in an Era of Prosperity in China. Available at: http://www.iresearchchina.com/content/details7_39007.html (Accessed: 27 January 2018).

iResesach (2017) WeChat Business GMV Is Expected to Hit One Trillion Yuan by 2019. Available at: http://www.iresearchchina.com/content/details7_33370.html (Accessed: 27 January 2018).

Ishfaq, R., Defee, C. C. and Gibson, B. J. (2015) 'Realignment of the physical distribution process in omni-channel fulfillment Rafay', *International Journal of Physical Distribution & Logistics Management*, 45(1/2), pp. 90–117.

Jalilvand, M. R. and Samiei, N. (2012) 'The effect of electronic word of mouth on brand image and purchase intention: An empirical study in the automobile industry in Iran', *Marketing Intelligence & Planning*, 30(4), pp. 460–476.

De Jans, S., Cauberghe, V. and Hudders, L. (2019) 'How an Advertising Disclosure Alerts Young Adolescents to Sponsored Vlogs: The Moderating Role of a Peer-Based Advertising Literacy Intervention through an Informational Vlog', *Journal of Advertising*, pp. 1–17.

Janssens, W., De Pelsmacker, P. and Kenhove, V. P. (2008) Marketing research with SPSS. Harlow, United Kingdom: Pearson Education Limited.

Jaradat, M. R. M. and Rababaa, M. S. Al (2013) 'Assessing key factor that influence on the acceptance of mobile commerce based on modified UTAUT', *International Journal of Business and Management*, 8(23), pp. 102–112.

Jayawardhena, C. and Wright, L. T. (2009) 'An empirical investigation into e-shopping excitement: antecedents and effects.', *European Journal of Marketing*, 43(9/10), pp. 1171–1187.

Jehu-Appiah, C., Aryeetey, G., Spaan, E., de Hoop, T., Agyepong, I. and Baltussen, R. (2011) 'Equity aspects of the National Health Insurance Scheme in Ghana: Who is enrolling, who is not and why?', *Social Science and Medicine*, 72(2), pp. 157–165.

Jensen, M. L., Averbeck, J. M., Zhang, Z. and Wright, K. B. (2013) 'Credibility of Anonymous Online Product Reviews: A Language Expectancy Perspective', *Journal of Management Information Systems*, 30(1), pp. 293–324.

Jiang, G., Ma, F., Shang, J. and Chau, P. Y. K. (2014) 'Evolution of knowledge sharing behavior in social commerce: An agent-based computational approach', *Information Sciences*, 278, pp. 250–266.

Jiang, P. (2002) 'A model of price search behavior in electronic marketplace', *Internet Research*, 12(2), pp. 181–190.

Jiménez, F. R. and Mendoza, N. A. (2013) 'Too popular to ignore: The influence of online reviews on purchase intentions of search and experience products', *Journal of Interactive Marketing*, 27(3), pp. 226–235.

Jin, C. H. (2010) 'An empirical comparison of online advertising in four countries: Cultural characteristics and ceative strategies', *Journal of Targeting, Measurement and Analysis for Marketing*, 18(3/4), pp. 253–261.

Jin, W., Yongqiang, Nan, S. and Zhang, W. X. (2017) 'Why users purchase virtual products in MMORPG? An integrative perspective of social presence and user engagement', *Internet Research*, 27(2), pp. 408–427.

Ju, J. and Ahn, J. (2016) 'The effect of social and ambient factors on impulse purchasing

behavior in social commerce', Journal of Organizational Computing and Electronic Commerce, 26(4), pp. 285–306.

June, L. (2014) 'Are personal innovativeness and social influence critical to continue with mobile commerce?', *Internet Research*, 24(2), pp. 134–159.

Kalinic, V. and Zoran, M. (2017) 'Antecedents of customer satisfaction in mobile commerce: exploring the moderating effect of customization', *Online Information Review*, 26(1), pp. 40–53.

Kamboj, S., Sarmah, B., Gupta, S. and Dwivedi, Y. (2018) 'Examining branding cocreation in brand communities on social media: Applying the paradigm of Stimulus-Organism-Response', *International Journal of Information Management*, 39, pp. 169– 185.

Kang, J. Y. M., Johnson, K. K. P. and Wu, J. (2014) 'Consumer style inventory and intent to social shop online for apparel using social networking sites', *Journal of Fashion Marketing and Management*, 18(3), pp. 301–320.

Kaplan, A. M. (2012) 'If you love something, let it go mobile: Mobile marketing and mobile social media 4x4', *Business Horizons*, 55(2), pp. 129–139.

Kaplan, A. M. and Haenlein, M. (2010) 'Users of the world, unite! The challenges and opportunities of Social Media', *Business Horizons*, 53, pp. 59–68.

Kaplan, A. M. and Haenlein, M. (2011) 'The early bird catches the news: Nine things you should know about micro-blogging', *Business Horizons*, 54(2), pp. 105–113.

Kasabov, E. (2016) 'Unknown, surprising, and economically significant: The realities of electronic word of mouth in Chinese social networking sites', *Journal of Business Research*, 69(2), pp. 642–652.

Katz, E., Blumler, J. G. and Gurevitch, M. (1973) 'Uses and gratifications research', *The Public Opinion Quarterly*, 37(4), pp. 509–523.

Katz, E. and Gurevitch, M. (1973) 'On the use of the mass media for important things', *American Sociological Review*, 38(2), pp. 164–181.

Khan, I. and Rahman, Z. (2016) 'E-tail brand experience's influence on e-brand trust and e-brand loyalty The moderating role of gender', *International Journal of Retail & Distribution Management*, 44(6), pp. 588–606.

Khan, M. L. (2017) 'Social media engagement: What motivates user participation and consumption on YouTube?', *Computers in Human Behavior*, 66, pp. 236–247.

Kietzmann, J. H., Hermkens, K., McCarthy, I. P. and Silvestre, B. S. (2011) 'Social media? Get serious! Understanding the functional building blocks of social media', *Business Horizons*, 54(3), pp. 241–251.

Kim, A. J. and Johnson, K. K. P. (2016) 'Power of consumers using social media: Examining the influences of brand-related user-generated content on Facebook', *Computers in Human Behavior*, 58, pp. 98–108.

Kim, D.Y., Lehto, X. Y. and Morrison, A. M. (2007) 'Gender differences in online travel information search: Implications for marketing communications on the internet', *Tourism Management*, 28(2), pp. 423–433.

Kim, D. and Jang, S. (2014) 'Motivational drivers for status consumption: A study of Generation Y consumers', *International Journal of Hospitality Management*, 38, pp. 39–47.

Kim, E. E. K. (2016) 'The impact of restaurant service experience valence and purchase involvement on consumer motivation and intention to engage in eWOM', *Journal of*

Quality Assurance in Hospitality & Tourism, 18(3), pp. 259–289.

Kim, H. and Fesenmaier, D. R. (2008) 'Persuasive Design of Destination Web Sites: An Analysis of First Impression', *Journal of Travel Research*, 47(1), pp. 3–13.

Kim, H. and Lennon, S. J. (2010) 'E-atmosphere, emotional, cognitive, and behavioral responses', *Journal of Fashion Marketing and Management: An International Journal*, 14(3), pp. 412–428.

Kim, H. N., Alkhaldi, A., El Saddik, A. and Jo, G. S. (2011) 'Collaborative user modeling with user-generated tags for social recommender systems', *Expert Systems with Applications*, 38(7), pp. 8488–8496.

Kim, H. and Niehm, L. S. (2009) 'The impact of website quality on information quality, value, and loyalty intentions in apparel retailing', *Journal of Interactive Marketing*, 23(3), pp. 221–233.

Kim, H. S. and Jin, B. (2006) 'Exploratory study of virtual communities of apparel retailer', *Journal of Fashion Marketing and Management: An International Journal*, 10(1), pp. 41–55.

Kim, H. Y., Lee, J. Y., Mun, J. M. and Johnson, K. K. P. (2017) 'Consumer adoption of smart in-store technology: assessing the predictive value of attitude versus beliefs in the technology acceptance model', *International Journal of Fashion Design*, *Technology and Education*, 10(1), pp. 26–36.

Kim, J. B. (2015) 'The mediating role of presence on consumer intention to participate in a social commerce Site', *Journal of Internet Commerce*, 14(4), pp. 425–454.

Kim, J. and Forsythe, S. (2008) 'Adoption of virtual try-on technology for online apparel shopping', *Journal of Interactive Marketing*, 22(2), pp. 45–59.

Kim, J. and Gupta, P. (2012) 'Emotional expressions in online user reviews: How they in fluence consumers' product evaluations', *Journal of Business Research*, 65(7), pp. 985–992.

Kim, J., Kim, J. and Johnson, K. K. (2010) 'The customer-salesperson relationship and sales effectiveness in luxury fashion stores: the role of self monitoring', *Journal of Global Fashion Marketing*, 1(4), pp. 230–239.

Kim, J., Kim, M. and Lennon, S. J. (2009) 'Effects of web site atmospherics on consumer responses: music and product presentation', *Direct Marketing: An International Journal*, 3(1), pp. 4–19.

Kim, J. Y., Shim, J. P. and Ahn, K. M. (2011) 'Social networking service: motivation, pleasure, and behavioral intention to use', *Journal of Computer Information System*, 51(4), pp. 92–101.

Kim, M., Kim, J., Choi, J. and Trivedi, M. (2017) 'Mobile Shopping Through Applications: Understanding Application Possession and Mobile Purchase', *Journal of Interactive Marketing*, 39, pp. 55–68.

Kim, M. and Lennon, S. (2008) 'The effects of visual and verbal information on attitudes and purchase intentions in internet shopping', *Psychology & Marketing*, 25(2), pp. 146–178.

Kim, S. E., Lee, K. Y., Shin, S. Il and Yang, S. B. (2016) 'Effects of tourism information quality in social media on destination image formation: The case of Sina Weibo', *Information & Management*, (2016).

Kim, S. J., Wang, R. J. H., Maslowska, E. and Malthouse, E. C. (2016) "understanding a fury in your words": The effects of posting and viewing electronic negative word-of-mouth on purchase behaviors', *Computers in Human Behavior*, 54, pp. 511–521.

Kim, S. and Park, H. (2013) 'Effects of various characteristics of social commerce (scommerce) on consumers' trust and trust performance', *International Journal of Information Management*, 33(2), pp. 318–332.

King, R. A., Racherla, P. and Bush, V. D. (2014) 'What we know and don't know about online word-of-mouth: A review and synthesis of the literature', *Journal of Interactive Marketing*, 28(3), pp. 167–183.

Kitzinger, J. (1994) 'The methodology of Focus Groups: the importance of interaction between research participants', *Sociology of Health & Illness*, 16(1), pp. 103–121.

Kleijnen, M., de Ruyter, K. and Wetzels, M. (2007) 'An assessment of value creation in mobile service delivery and the moderating role of time consciousness', *Journal of Retailing*, 83(1), pp. 33–46.

Kline, R. B. (2015) *Principles and practice of structural equation modeling*. 4th ed. New York, United States: Guilford Publications.

Knittel, Z., Beurer, K. and Berndt, A. (2016) 'Brand avoidance among Generation Y consumers', *Qualitative Market Research: An International Journal*, 19(1), pp. 27-43.

Knoll, J. and Proksch, R. (2017) 'Why we watch others' responses to online advertising – investigating users' motivations for viewing user-generated content in the context of online advertising', *Journal of Marketing Communications*, 23(4), pp. 400–412.

Ko, J., Ko, E. and Chun, E. (2017) 'Channel attributes of traditional market-based fashion brands and consumers ' multi-channel shopping orientation', *Journal of Global Fashion Marketing*, 8(2), pp. 125–142.

Kollmann, T., Kuckertz, A. and Kayser, I. (2012) 'Cannibalization or synergy? Consumers' channel selection in online-offline multichannel systems', *Journal of Retailing and Consumer Services*, 19(2), pp. 186–194.

Koo, W. and Park, H. (2017) 'Critical atmospheric cues in designing online stores: The case of Amazon.com', *International Journal of Marketing Studies*, 9(1), pp. 37–45.

Kotzab, H., Kotzab, H. and Management, D. (2017) 'Social, local and mobile commerce practices in omni-channel retailing: Insights from Germany and Turkey', *International Journal of Retail & Distribution Management*, 45(7/8), pp. 711–729.

Kourouthanassis, P., Boletsis, C., Bardaki, C. and Chasanidou, D. (2015) 'Tourists responses to mobile augmented reality travel guides: The role of emotions on adoption behavior', *Pervasive and Mobile Computing*, 18, pp. 71–87.

Kozinets, R. (2010) Netnography: Doing ethnographic research online. London, United Kingdom: Sage Publications Ltd.

Kozinets, R. V (2015) *Netnography: Redefined*. 2nd ed. London, United Kingdom: Sage Publications Ltd.

KPMG (2016) China's connected consumers 2016 - A mobile evolution. Available at: https://assets.kpmg.com/content/dam/kpmg/cn/pdf/en/2016/11/china-s-connected-consumer-2016.pdf (Accessed: 12 September 2017).

KPMG (2017) China e-retail market report 2016. Available at: https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2017/01/the-truth-about-onlineconsumers.pdf (Accessed: 12 June 2017).

Kucukemiroglu, S. and Kara, A. (2015) 'Online word-of-mouth communication on social networking sites', *International Journal of Commerce and Management*, 25(1), pp. 2–20.

Kulmala, M., Mesiranta, N. and Tuominen, P. (2013) 'Organic and amplified eWOM in

consumer fashion blogs', Journal of Fashion Marketing and Management, 17(3), pp. 20-37.

Kumar, R. (2010) Research methodology: A step-by-step guide for beginners. 3rd ed. London, United Kingdom: Sage Publications Ltd.

Kuo, Y. F. and Feng, L. H. (2013) 'Relationships among community interaction characteristics, perceived benefits, community commitment, and oppositional brand loyalty in online brand communities', *International Journal of Information Management*, 33(6), pp. 948–962.

Ladhari, R. (2007) 'The effect of consumption emotions on satisfaction and word-ofmouth communications', *Psychology & Marketing*, 24(12), pp. 1085–1108.

Ladhari, R., Souiden, N. and Dufour, B. (2017) 'The role of emotions in utilitarian service settings: The effects of emotional satisfaction on product perception and behavioral intentions', *Journal of Retailing and Consumer Services*, 34, pp. 10–18.

Lapan, S. D., Quartaroli, M. T. and Riemer, F. J. (eds) (2012) *Qualitative research: An introduction to methods and designs*. Chichester, United Kingdom: John Wiley and Sons Ltd.

Lea-Greenwood, G. (2013) Fashion Marketing Communications. Chichester, United Kingdom: John Wiley and Sons Ltd.

Lebib, F. Z., Mellah, H. and Drias, H. (2017) 'Enhancing information source selection using a genetic algorithm and social tagging', *International Journal of Information Management*, 37(6), pp. 741–749.

Lee, C. S., Goh, D. H. L., Razikin, K. and Chua, A. Y. K. (2009) 'Tagging, sharing and the influence of personal experience', *Journal of Digital Information*, 10(1), pp. 1–15.

Lee, D. C., Lin, S. H., Ma, H. L. and Wu, D. B. (2017) 'Use of a modified UTAUT Model to investigate the perspectives of Internet access device users', *International Journal of Human-Computer Interaction*, 33(7), pp. 549-664.

Lee, D., Chung, J. Y. and Kim, H. (2013) 'Text me when it becomes dangerous: Exploring the determinants of college students' adoption of mobile-based text alerts short message service', *Computers in Human Behavior*, 29(3), pp. 563–569.

Lee, J. E. and Watkins, B. (2016) 'YouTube vloggers' influence on consumer luxury brand perceptions and intentions', *Journal of Business Research*, 69(12), pp. 5753-5760.

Lee, J. and Hong, I. B. (2016) 'Predicting positive user responses to social media advertising: The roles of emotional appeal, informativeness, and creativity', *International Journal of Information Management*, 36(3), pp. 360–373.

Lee, J. and Lee, J. N. (2015) 'How purchase intention consummates purchase behaviour: The stochastic nature of product valuation in electronic commerce', *Behaviour and Information Technology*, 34(1), pp. 57–68.

Lee, K. and Garrison, G. (2013) 'Effects of collectivism on actual s-commerce use and the moderating effect of price consciousness', *Journal of Electronic Commerce Research*, 14(3), pp. 244–261.

Lee, M. Y., Kim, Y. K., Pelton, L., Knight, D. and Forney, J. (2008) 'Factors affecting Mexican college students' purchase intention toward a US apparel brand', *Journal of Fashion Marketing and Management: An International Journal*, pp. 294–307.

Lee, S. H. and Ro, H. (2016) 'The impact of online reviews on attitude changes: The differential effects of review attributes and consumer knowledge', *International Journal of Hospitality Management*, 56, pp. 1–9.

Lee, S., Ha, S. and Widdows, R. (2011) 'Consumer responses to high-technology products: Product attributes, cognition, and emotions', *Journal of Business Research*, 64(11), pp. 1195–1200.

Lee, S. Y. T. and Phang, C. W. (2015) 'Leveraging social media for electronic commerce in Asia: Research areas and opportunities', *Electronic Commerce Research and Applications*, 14(3), pp. 145–149.

Lee, Y. and Cho, S. (2013) 'A mobile picture tagging system using tree-structured layered Bayesian networks', *Mobile Information Systems*, 9, pp. 209–224.

Leech, N. L. and Onwuegbuzie, A. J. (2009) 'A typology of mixed methods research designs', *Quality & Quantity*, 43(2), pp. 265–275.

De Leeuw, S., Minguela-Rata, B., Sabet, E., Boter, J. and Sigurðardóttir, R. (2016) 'Trade-offs in managing commercial consumer returns for online apparel retail', *International Journal of Operations & Production Management*, 36(6), pp. 710–731.

Li, R., Chung, T. L. (Doreen) and Fiore, A. M. (2017) 'Factors affecting current users' attitude towards e-auctions in China: An extended TAM study', *Journal of Retailing and Consumer Services*, 34, pp. 19–29.

Lian, J. W. and Yen, D. C. (2017) 'Understanding the relationships between online entrepreneurs' personal innovativeness, risk taking, and satisfaction: Comparison of pure-play and click-and-mortar', *Journal of Organizational Computing and Electronic Commerce*, 27(2), pp. 135–151.

Liang, T. and Lai, H. (2002) 'Effect of store design on consumer purchases : van empirical study of on-line bookstores', *Information & Management*, 39(6), pp. 431-444.

Liang, T. P., Ho, Y. T., Li, Y. W. and Turban, E. (2011) 'What drives social commerce: The role of social support and relationship quality', *International Journal of Electronic Commerce*, 16(2), pp. 69–90.

Lien, C. H. and Cao, Y. (2014) 'Examining WeChat users' motivations, trust, attitudes, and positive word-of-mouth: Evidence from China', *Computers in Human Behavior*, 41, pp. 104–111.

Lietz, P. (2010) 'Research into questionnaire design', International Journal of Market Research, 52(2), pp. 249–272.

Lim, J. S., Al-Aali, A., Heinrichs, J. H. and Lim, K. S. (2013) 'Testing alternative models of individuals' social media involvement and satisfaction', *Computers in Human Behavior*, 29(6), pp. 2816–2828.

Lim, Y. S., Heng, P. C., Ng, T. H. and Cheah, C. S. (2016) 'Customers' online website satisfaction in online apparel purchase: A study of Generation Y in Malaysia', *Asia Pacific Management Review*, 21(2), pp. 74–78.

Lin, S. W. and Lo, L. Y. S. (2016) 'Evoking online consumer impulse buying through virtual layout schemes', *Behaviour & Information Technology*, 35(1), pp. 38–56.

Lin, T. M. Y., Lu, K. and Wu, J. (2012) 'The effects of visual information in eWOM communication', *Journal of Research in Interactive Marketing*, 6(1), pp. 7–26.

Lin, X., Li, Y. and Wang, X. (2017) 'Social commerce research: Definition, research themes and the trends', *International Journal of Information Management*, 37(3), pp. 190–201.

Lingshu, S. W., Zhang, T. X. and Zhu, Y. G. Y. (2016) 'How does word of mouth affect customer satisfaction?', *Journal of Business & Industrial Marketing*, 31(3), pp. 393-403.

Linkedin (2017) Keep up with Xiaohongshu. Available at: https://www.linkedin.com/company/red (小红书) (Accessed: 5 January 2017).

Lissitsa, S. and Kol, O. (2016) 'Generation X vs. Generation Y - A decade of online shopping', *Journal of Retailing and Consumer Services*, 31, pp. 304–312.

Liu, C. and Arnett, K. P. (2000) 'Exploring the factors associated with Web site success in the context of electronic commerce', *Information & Management*, 38(1), pp. 23–33.

Liu, H., Chu, H., Huang, Q. and Chen, X. (2016) 'Enhancing the flow experience of consumers in China through interpersonal interaction in social commerce', *Computers in Human Behavior*, 58, pp. 306–314.

Liu, M. T., Liu, Y. and Zhang, L. L. (2019) 'Vlog and brand evaluations: the influence of parasocial interaction', *Asia Pacific Journal of Marketing and Logistics*.

Liu, N. and Yu, R. (2016) 'Identifying design feature factors critical to acceptance and usage behavior of smartphones', *Computers in Human Behavior*, 70, pp. 131–142.

Liu, Y., Li, H. and Hu, F. (2013) 'Website attributes in urging online impulse purchase: An empirical investigation on consumer perceptions', *Decision Support Systems*, 55(3), pp. 829–837.

Liu, Y. and Shrum, L. J. (2002) 'What is interactivity and is it always such a good thing? Implications of definition, person, and situation for the influence of interactivity on advertising effectiveness', *Journal of Advertising*, 31(4), pp. 53–64.

Liu, Z. and Park, S. (2015) 'What makes a useful online review? Implication for travel product websites', *Tourism Management*, 47, pp. 140–151.

Logan, K., Bright, L. F. and Gangadharbatla, H. (2012) 'Facebook versus television: advertising value perceptions among females', *Journal of Research in Interactive Marketing*, 6(3), pp. 164–179.

Lonka, K. (2016) 'Why do adolescents untag photos on Facebook ?', Computers in Human Behavior, 55, pp. 1106-1115.

Lookbook (2017) Advertise with us. Available at: http://lookbook.nu/advertise (Accessed: 1 January 2017).

Van Looy, A. (2016) Social media management: Technologies and strategies for creating business value. Cham, Switzerland: Springer International Publishing AG.

Loureiro, S. M. C. (2015) 'The role of website quality on PAD, attitude and intentions to visit and recommend island destination', *International Journal of Tourism Research*, 17(6), pp. 545–554.

Loureiro, S. M. C., Almeida, M. and Rita, P. (2013) 'The effect of atmospheric cues and involvement on pleasure and relaxation: The spa hotel context', *International Journal of Hospitality Management*, 35, pp. 35–43.

Loureiro, S. M. C. and Ribeiro, L. (2014) 'Virtual atmosphere: The effect of pleasure, arousal, and delight on word-of-mouth', *Journal of Promotion Management*, 20(4), pp. 452–469.

Lu, K. Y. and Lin, H. P. (2015) 'Predicting mobile social network acceptance based on mobile value and social influence', *Internet Research*, 25(1), pp. 107–130.

Lu, L. C., Chang, W. P. and Chang, H. H. (2014) 'Consumer attitudes toward blogger's sponsored recommendations and purchase intention: The effect of sponsorship type, product type, and brand awareness', *Computers in Human Behavior*, 34, pp. 258–266.

Lu, W. and Stepchenkova, S. (2015) 'User-generated content as a research mode in tourism and hospitality applications: Topics, methods, and software', *Journal of Hospitality Marketing & Management*, 24(2), pp. 119–154.

Lu, Y., Zhao, L. and Wang, B. (2010) 'From virtual community members to C2C ecommerce buyers: Trust in virtual communities and its effect on consumers' purchase intention', *Electronic Commerce Research and Applications*, 9(4), pp. 346–360.

Luo, C., Luo, X., Schatzberg, L. and Sia, C. L. (2013) 'Impact of informational factors on online recommendation credibility: The moderating role of source credibility', *Decision Support Systems*, 56(1), pp. 92–102.

Luo, N., Zhang, M. and Liu, W. (2015) 'The effects of value co-creation practices on building harmonious brand community and achieving brand loyalty on social media in China', *Computers in Human Behavior*, 48, pp. 492–499.

Machleit, K. a. and Mantel, S. P. (2001) 'Emotional response and shopping satisfaction', *Journal of Business Research*, 54, pp. 97–106.

MacKinnon, D., Lockwood, C. and Williams, J. (2004) 'Confidence limits for the indirect effect: distribution of the product and resampling methods', *Multivariate Behavioral Research*, 39(1), pp. 99–128.

Magrath, V. and McCormick, H. (2013) 'Branding design elements of mobile fashion retail apps', *Journal of Fashion Marketing and Management*, 17(1), pp. 98–114.

Malhotra, N. (2003) *Marketing research: An applied orientation*. 4th ed. United States: Pearson Education Limited.

Malhotra, N. (2010) *Marketing research: An applied orientation*. 6th ed. Harlow, United Kingdom: Pearson Education Limited.

Malhotra, N. K. and Birks, D. F. (2007) *Marketing research: An applied approach*. 3rd ed. Harlow, United Kingdom: Pearson Education.

Malhotra, N. K., Nunan, D. and Birks, D. F. (2017) Marketing research: An applied orientation. 5th ed. Harlow, United Kingdom: Pearson Education Limited.

Malik, A., Dhir, A. and Nieminen, M. (2016) 'Uses and gratifications of digital photo sharing on Facebook', *Telematics and Informatics*, 33(1), pp. 129–138.

Malthouse, E. C., Jain, V., Takayanagi, M. and Carl Malthouse, E. (2014) 'Effects of show windows on female consumers' shopping behaviour', *Journal of Consumer Marketing*, 31(5), pp. 380-390.

Malthousea, E. C., Calderb, B. J., Kimc, S. J. and Vandenbosch, M. (2016) 'Evidence that user-generated content that produces engagement increases purchase behaviours', *Journal of Marketing Management*, 32(5/6), pp. 427–444.

Manganari, E. E., Siomkos, G. J. and Rigopoulou, I. D. (2011) 'Virtual store layout effects on consumer behaviour: Applying an environmental psychology approach in the online travel industry', *Internet research*, 21(3), pp. 326–346.

Mangold, W. G. and Faulds, D. J. (2009) 'Social media : The new hybrid element of the promotion mix', *Business Horizons*, 52(4), pp. 357–365.

Maria, S., Loureiro, C., Costa, I. and Panchapakesan, P. (2017) 'A passion for fashion: The impact of social influence, vanity and exhibitionism on consumer behaviour', *International Journal of Retail & Distribution Management International*, 45(15), pp. 468–484.

Marinelli, G. (2016) *This Japanese Fashion Obsession Is Finally HERE*. Available at: http://www.refinery29.com/wear-japanese-street-style-app-us-launch (Accessed: 12

June 2017).

Martínez-López, F. J., Gázquez-Abad, J. C. and Sousa, C. M. (2013) 'Structural equation modelling in marketing and business research: Critical issues and practical recommendations', *European Journal of Marketing*, 47(1/2), pp. 115–152.

Maruyama, G. (1997) Basics of structural equation modeling. Thousand Oaks, United States: Sage Publications Inc.

Mattila, A. and Wirtz, J. (2000) 'The role of preconsumption affect in postpurchase evaluation of services', *Psychology and Marketing*, 17(7), pp. 587–605.

Matute, J., Polo-Redondo, Y. and Utrillas, A. (2016) 'The influence of EWOM characteristics on online repurchase intention', *Online Information Review*, 40(7), pp. 1090–1110.

Maylor, H. and Blackmon, K. (2005) Researching bhusiness and management: A roadmap for success. Basingstoke, United Kingdom: Palgrave Macmillan.

Mazaheri, E., Richard, M. and Laroche, M. (2012) 'The role of emotions in online consumer behavior: a comparison of search, experience, and credence services', *Journal of Services Marketing*, 26(7), pp. 535–550.

Mazaheri, E., Richard, M. O., Laroche, M. and Ueltschy, L. C. (2014) 'The influence of culture, emotions, intangibility, and atmospheric cues on online behavior', *Journal of Business Research*, 67(3), pp. 253–259.

Mcandrew, F. T. and Jeong, H. S. (2012) 'Who does what on Facebook? Age, sex, and relationship status as predictors of Facebook use. Computers in Human Behavior', *Computers in Human Behavior*, 28(6), pp. 2359–2365.

Mehrabian, A. and Russell, J. A. (1974) An approach to environmental psychology. Cambridge, Mass., United States: The MIT Press.

Menon, R. G. V., Sigurdsson, V., Magne, N., Fagerstrøm, A. and Foxall, G. R. (2016) 'Consumer attention to price in social commerce: Eye tracking patterns in retail clothing', *Journal of Business Research*, 69(11), pp. 5008–5013.

Menon, S. and Kahn, B. (2002) 'Cross-category effects of induced arousal and pleasure on the Internet shopping experience', *Journal of Retailing*, 78, pp. 31–40.

Miles, M. B. and Huberman, A. M. (1994) *Qualitative data analysis: An expanded sourcebook*. 2nd ed. Thousand Oaks, United States: Sage Publications Inc.

Min, S. and Wolfinbarger, M. (2005) 'Market share, profit margin, and marketing efficiency of early movers, bricks and clicks, and specialists in e-commerce', *Journal of Business Research*, 58(8), pp. 1030–1039.

Miniero, G., Rurale, A. and Addis, M. (2014) 'Effects of arousal, dominance, and their interaction on pleasure in a cultural enviorment', *Psychology and Marketing*, 31(8), pp. 628–634.

Mintel (2017) Luxury brands seeing results from messaging app. Available at: http://academic.mintel.com/display/847303/?highlight#hit1 (Accessed: 20 September 2017).

Mohapatra, S. (2012) *E-commerce: Text and Cased*. New York, NY, United States: Springer-Verlag New York Inc.

Monge, P. (2013) 'The Functionality of Social Tagging as a Communication System', *International Journal of Communication*, 7, pp. 653–680.

Monsuwé, T. P., Dellaert, B. G. and De Ruyter, K. (2004) 'What drives consumers to

shop online? A literature review", International Journal of Service Industry Management', International Journal of Service Industry Management, 15(1), pp. 102–121.

Montoya-Weiss, M. M., Voss, G. B. and Grewal, D. (2003) 'Determinants of online channel use and overall satisfaction with a relational, multichannel service provider', *Journal of the Academy of Marketing Science*, 31(4), pp. 448–458.

Mooi, E., Sarstedt, M. and Mooi-Reci, I. (2018) Market research: the process, data, methods using stata. Singapore, Singapore: Springer Verlag, Singapore.

Morrison, M. A., Cheong, H. J. and McMillan, S. J. (2013) 'Posting, Lurking, and Networking: Behaviors and characteristics of consumers in the context of user-generated content', *Journal of Interactive Advertising*, 13(2), pp. 97–108.

Mpinganjira, M. (2015) 'Using online service-scape to appeal to customers: A focus on hedonic shoppers', *The Retail and Marketing Review*, 11(1), pp. 61–75.

Mulaik, S. A., James, L. R., Van Alstine, J., Bennett, N., Lind, S. and Stilwell, C. D. (1989) 'Evaluation of goodness-of-fit indices for structural equation models.', *Psychological Bulletin*, 105(3), pp. 430–445.

Munar, A. M. and Jacobsen, J. K. S. (2014) 'Motivations for sharing tourism experiences through social media', *Tourism Management*, 43, pp. 46–54.

Munnukka, J., Maity, D., Reinikainen, H. and Luoma-aho, V. (2019) "Thanks for watching". The effectiveness of YouTube vlogendorsements', *Computers in Human Behavior*, 93, pp. 226–234.

Muntinga, D. G., Moorman, M. and Smit, E. G. (2011) 'Introducing COBRAs: Exploring motivations for Brand-Related social media use', *International Journal of Advertising*, 30(1), pp. 13–46.

Di Muro, F. and Murray, K. B. (2012) 'An arousal regulation explanation of mood effects on consumer choice', *Journal of Consumer Research*, 39(3), pp. 574–584.

Musa, R., Saidon, J., Harun, M. H. M., Adam, A. A., Dzahar, D. F., Haussain, S. S. and Lokman, W. M. W. (2016) 'The Predictors and Consequences of Consumers' Attitude Towards Mobile Shopping Application', *Procedia Economics and Finance*, 37(16), pp. 447–452.

Muscanell, N. L. and Guadagno, R. E. (2012) 'Make new friends or keep the old: Gender and personality differences in social networking use', *Computers in Human Behavior*, 28(1), pp. 107–112.

Nadeem, W., Juntunen, M. and Juntunen, J. (2017) 'Consumer segments in social commerce: A latent class approach', *Journal of Consumer Behaviour*, 16(3), pp. 279–292.

Nam, H. and Kannan, P. K. (2014) 'The informational value of social tagging networks', *Journal of Marketing*, 78(4), pp. 21–40.

Natarajan, T., Balasubramanian, S. A. and Kasilingam, D. L. (2017) 'Understanding the intention to use mobile shopping applications and its influence on price sensitivity', *Journal of Retailing and Consumer Services*, 37, pp. 8–22.

Negahban, A. and Chung, C. H. (2014) 'Discovering determinants of users perception of mobile device functionality fit', *Computers in Human Behavior*, 35, pp. 75–84.

Newman, A. J. and Patel, D. (2004) 'The marketing directions of two fashion retailers', *European Journal of Marketing*, 38(7), pp. 770–789.

Ngai, W. T. N., Moon, K. K., Lam, S. S., Chin, E. S. K. and Tao, S.C., S. (2013) 'Social

media models, technologies, and application: An academic review and case study', *Industrial Management & Data Systems*, 115(5), pp. 769-802.

Nie, W., Liu, A., Wang, Z. and Su, Y. (2016) 'Geo-location driven image tagging via cross-domain learning', *Multimedia Systems*, 22(4), pp. 395–404.

De Nisco, A. and Warnaby, G. (2014) 'Urban design and tenant variety influences on consumers' emotions and approach behavior', *Journal of Business Research*, 67(2), pp. 211–217.

Noori, A. S., Hashim, K. F. and Yusof, S. A. M. (2016) 'The Conceptual Relation of Electronic Word-of-mouth, Commitment and Trust in Influencing Continuous Usage of Social Commerce', *International Review of Management and Marketing*, 6(7S), pp. 226–230.

Nov, O. and Ye, C. (2010) 'Why do people tag?: motivations for photo tagging', *Communications of the ACM*, 53(7), pp. 128–131.

Nurse, J. R. C., Agrafiotis, I., Goldsmith, M., Creese, S. and Lamberts, K. (2015) 'Tag clouds with a twist: using tag clouds coloured by information's trustworthiness to support situational awareness', *Journal of Trust Management*, 2(10), pp. 1–22.

Nusair, K. K., Bilgihan, A., Okumus, F. and Cobanoglu, C. (2013) 'Generation Y travelers' commitment to online social network websites', *Tourism Management*, 35, pp. 13–22.

Nysveen, H., Pedersen, P. E. and Thorbjernsen, H. (2005) 'Intentions to use mobile services: Antecedents and cross-service comparisons', *Journal of the Academy of Marketing Science*, 33(3), pp. 330–346.

O. Pappas, I., G. Pateli, A., N. Giannakos, M. and Chrissikopoulos, V. (2014) 'Moderating effects of online shopping experience on customer satisfaction and repurchase intentions', *International Journal of Retail & Distribution Management*, 42(3), pp. 187–204.

O'Cass, A. and Choy, E. (2008) 'Studying Chinese generation Y consumers' involvement in fashion clothing and perceived brand status', *Journal of Product and Brand Management*, 17(5), pp. 341–352.

O'Cass, A. and Siahtiri, V. (2013) 'In search of status through brands from western and asian origins: examining the changing face of fashion clothing consumption in chinese young adults', *Journal of Retailing and Consumer Services*, 20(6), pp. 505–515.

O'Cass, A. and Siahtiri, V. (2014) 'Are young adult Chinese status and fashion clothing brand conscious?', *Journal of Fashion Marketing and Management: An International Journal*, 19(1), pp. 22–40.

Oeldorf-Hirsch, A. and Sundar, S. S. (2015) 'Posting, commenting, and tagging: Effects of sharing news stories on Facebook', *Computers in Human Behavior*, 44, pp. 240–249.

Oeldorf-Hirsch, A. and Sundar, S. S. (2016) 'Social and technological motivations for online photo sharing', *Journal of Broadcasting and Electronic Media*, 60(4), pp. 624–642.

Oh, S., Lehto, X. Y. and Park, J. (2009) 'Travelers' intent to use mobile technologies as a function of effort and performance expectancy', *Journal of Hospitality Marketing & Management*, 18(8), pp. 765–781.

Okazaki, S. and Hirose, M. (2009) 'Effects of displacement-reinforcement between traditional media, PC internet and mobile internet: A quasi-experiment in Japan', *International Journal of Advertising*, 28(1), pp. 77–104.

Okazaki, S. and Taylor, C. R. (2013) 'Social media and international advertising:

theoretical challenges and future directions', *International Marketing Review*, 30(1), pp. 56-71.

Olaru, D., Purchase, S. and Peterson, N. (2008) 'From customer value to repurchase intentions and recommendations', *Journal of Business and Industrial Marketing*, 23(8), pp. 554–565.

Olbrich, R. and Holsing, C. (2011) 'Modeling Consumer Purchasing Behavior in Social Shopping Communities with Clickstream Data', *International Journal of Electronic Commerce*, 16(2), pp. 15–40.

Ooi, K. B., Hew, J. J. and Lin, B. (2018) 'Unfolding the privacy paradox among mobile social commerce users: a multi-mediation approach', *Behaviour & Information Technology*, 37(6), pp. 575–595.

Oppenheim, A. N. (2000) *Questionnaire design, interviewing and attitude measurement*. Bloomsbury Publishing.

Ott, H. K., Vafeiadis, M., Kumble, S. and Waddell, T. F. (2016) 'Effect of message interactivity on product attitudes and purchase intentions', *Journal of Promotion Management*, 22(1), pp. 89–106.

Owusu, R. A., Mutshinda, C. M., Antai, I., Dadzie, K. Q. and Winston, E. M. (2016) 'Which UGC features drive web purchase intent? A spike-and-slab Bayesian Variable Selection Approach', *Internet Research*, 26(1), pp. 22–37.

Paina, N. D. R. and Luca, T. A. (2010) 'Several considerations regarding the online consumer in the 21st century-A theoretical approach', *Management and Marketing*, 5(1), pp. 87–88.

Pang, Y., Hao, Q., Yuan, Y., Hu, T., Cai, R. and Zhang, L. (2011) 'Summarizing tourist destinations by mining user-generated travelogues and photos', *Computer Vision and Image Understanding*, 115(3), pp. 352–363.

Panke, S. and Gaiser, B. (2009) "With my head Up in the Clouds" using social tagging to organize knowledge", *Journal of business and Technical Communication*, 23(3), pp. 318–349.

Pantano, E. and Di Pietro, L. (2012) 'Understanding consumer's acceptance of technology-based innovations in retailing', *Journal of Technology Management and Innovation*, 7(4), pp. 1–19.

Pantano, E., Rese, A. and Baier, D. (2017) 'Enhancing the online decision-making process by using augmented reality: A two country comparison of youth markets', *Journal of Retailing and Consumer Services*, 38, pp. 81–95.

Parboteeah, D. V., Valacich, J. S. and Wells, J. D. (2009) 'The influence of website characteristics on a consumer's urge to buy impulsively', *Information Systems Research*, 20(1), pp. 60–78.

Park, D. H., Lee, J. and Han, I. (2007) 'The effect of on-line consumer reviews on consumer purchasing intention: The moderating role of involvement', *International Journal of Electronic Commerce*, 11(4), pp. 125–148.

Park, E. J., Kim, E. Y. and Forney, J. C. (2006) 'A structural model of fashion-oriented impulse buying behavior', *Journal of Fashion Marketing and Management: An International Journal*, 10(4), pp. 433–446.

Park, E. J., Kim, E. Y., Funches, V. M. and Foxx, W. (2012) 'Apparel product attributes, web browsing, and e-impulse buying on shopping websites', *Journal of Business Research*, 65(11), pp. 1583–1589.

Park, H. and Cho, H. (2012) 'Social network online communities: information sources

for apparel shopping', Journal of Consumer Marketing, 29(6), pp. 400-411.

Park, J. and Stoel, L. (2005) 'Effect of brand familiarity, experience and information on online apparel purchase', *International Journal of Retail and Distribution Management*, 33(2), pp. 148–160.

Parklu (2018) What is Retailtainment & Why has Amazon fallen behind China? Available at: https://www.parklu.com/retailtainment-amazon-china/ (Accessed: 12 June 2018).

Parsons, A. G. (2002) 'Non-functional motives for online shoppers: why we click', *Journal of Consumer Marketing*, 19(5), pp. 380–392.

Patten, M. L. and Newhart, M. (2017) Understanding research methods: An overview of the essentials. London, United Kingdom: Taylor & Francis Ltd.

Payne, A. F., Storbacka, K. and Frow, P. (2008) 'Managing the co-creation of value', *Journal of the Academy of Marketing Science*, 36(1), pp. 83–96.

Peng, C. and Kim, Y. G. (2014) 'Application of the Stimuli-Organism-Response (S-O-R) Framework to Online Shopping Behavior', *Journal of Internet Commerce*, 13(3/4), pp. 159–176.

Peng, L., Liao, Q., Wang, X. and He, X. (2016) 'Factors affecting female user information adoption: an empirical investigation on fashion shopping guide websites', *Electronic Commerce Research*, 16(2), pp. 145–169.

Pengnate, S. (Fone) and Sarathy, R. (2017) 'An experimental investigation of the influence of website emotional design features on trust in unfamiliar online vendors', *Computers in Human Behavior*, 67, pp. 49–60.

Pentecost, R. and Andrews, L. (2010) 'Fashion retailing and the bottom line: The effects of generational cohorts, gender, fashion fanship, attitudes and impulse buying on fashion expenditure', *Journal of Retailing and Consumer Services*, 17(1), pp. 43–52.

Penz, E. and Hogg, M. K. (2011) 'The role of mixed emotions in consumer behaviour: investigating ambivalence in consumers' experiences of approach-avoidance conflicts in online and offline settings', *European Journal of Marketing*, 45(1/2), pp. 104–132.

Pescher, C., Reichhart, P. and Spann, M. (2014) 'Consumer decision-making processes in mobile viral marketing campaigns', *Journal of Interactive Marketing*, 28(1), pp. 43–54.

Peterson, R. A. and Merunka, D. R. (2014) 'Convenience samples of college students and research reproducibility', *Journal of Business Research*, 67(5), pp. 1035–1041.

Petty, R. E. and Cacioppo, J. T. (1986) 'The elaboration likelihood model of persuasion', *Advances in Experimental Social Psychology*, 19, pp. 123–205.

Petty, R. E., Cacioppo, J. T. and Goldman, R. (1981) 'Personal involvement as a determinant of argument-based persuasion', *Journal of Personality and Social Psychology*, 41(5), pp. 847–855.

Pihl, C. (2014) 'Brands, community and style – exploring linking value in fashion blogging', *Journal of Fashion Marketing and Management*, 18(1), pp. 3–19.

Pikkarainen, T., Pikkarainen, K., Karjaluoto, H. and Pahnila, S. (2004) 'Consumer acceptance of online banking: an extension of the technology acceptance model', *Internet Research*, 14(3), pp. 224–235.

Piotrowicz, W. and Cuthbertson, R. (2014) 'Introduction to the Special Issue Information Technology in Retail: Toward Omnichannel Retailing', *International Journal of Electronic Commerce*, 18(4), pp. 5–16.

Pirolli, P. and Kairam, S. (2013) 'A knowledge-tracing model of learning from a social tagging system', *User Modeling and User-Adapted Interaction*, 23(2/3), pp. 139–168.

Pittman, M. and Reich, B. (2016) 'Social media and loneliness: Why an Instagram picture may be worth more than a thousand Twitter words', *Computers in Human Behavior*, 62, pp. 155–167.

Ponte, E. B., Carvajal-Trujillo, E. and Escobar-Rodríguez, T. (2015) 'Influence of trust and perceived value on the intention to purchase travel online: Integrating the effects of assurance on trust antecedents', *Tourism Management*, 47, pp. 286–302.

Pookulangara, S. and Koesler, K. (2011) 'Cultural influence on consumers' usage of social networks and its' impact on online purchase intentions', *Journal of Retailing and Consumer Services*, 18(4), pp. 348–354.

Prendergast, G. and Ching Lam, C. (2013) 'An evolutionary explanation for shopping behavior', *Journal of Consumer Marketing*, 30(4), pp. 366–370.

Pruzan, P. (2016) Research methodology: the aims, practices and ethics of science. Cham, Switzerland: Springer International Publishing AG.

Purnawirawan, N., Eisend, M., De Pelsmacker, P. and Dens, N. (2015) 'A meta-analytic investigation of the role of valence in online reviews', *Journal of Interactive Marketing*, 31, pp. 17–27.

PWCNK (2017) eCommerce in China – the future is already here. Available at: https://www.pwccn.com/en/retail-and-consumer/publications/total-retail-2017-china/total-retail-survey-2017-china-cut.pdf (Accessed: 25 January 2018).

Qu, Z., Wang, Y., Wang, S. and Zhang, Y. (2013) 'Implications of online social activities for e-tailers ' business performance', *European Journal of Marketing*, 47(8), pp. 1190–1212.

Raban, D. R., Danan, A., Ronen, I. and Guy, I. (2017) 'Impression management through people tagging in the enterprise: Implications for social media sampling and design', *Journal of Information Science*, 43(3), pp. 295–315.

Ranjan, K. R. and Read, S. (2016) 'Value co-creation: concept and measurement', *Journal of the Academy of Marketing Science*, 44(3), pp. 290–315.

Rath, P. M., Bay, S., Petrizzi, R. and Penny Gill (2015) The Why of the Buy: Consumer Behavior And Fashion Marketing. Bloomsbury Publishing Inc.

Rese, A., Schreiber, S. and Baier, D. (2014) 'Technology acceptance modeling of augmented reality at the point of sale: Can surveys be replaced by an analysis of online reviews?', *Journal of Retailing and Consumer Services*, 21(5), pp. 869–876.

Reum Choi, B. and Lee, I. (2017) 'Trust in open versus closed social media: The relative influence of user-and marketer-generated content in social network services on customer trust', *Telematics and Informatics*, 34(5), pp. 550–559.

Rheingold, H. (1994) The virtual community. United States: Harper Perennial.

Richard, M. O. (2005) 'Modeling the impact of internet atmospherics on surfer behavior', *Journal of Business Research*, 58(12), pp. 1632–1642.

Richard, M. O. and Chebat, J. C. (2015) 'Modeling online consumer behavior: Preeminence of emotions and moderating influences of need for cognition and optimal stimulation level', *Journal of Business Research*, 69(2), pp. 541–553.

Richard, M. O. and Habibi, M. R. (2016) 'Advanced modeling of online consumer behavior: The moderating roles of hedonism and culture', *Journal of Business Research*, 69(3), pp. 1103–1119.

Richins, M. L. (1983) 'Negative word-of-mouth by dissatisfied consumers: A pilot study', *Journal of Marketing*, 47(1), pp. 68–78.

Ritchie, J. and Lewis, J. (eds) (2013) Qualitative research practice: A guide for social science Students and researchers. Thousand Oaks, United States: Sage Publications Inc.

Rodgers, S. and Wang, Y. (2011) 'Electronic word of mouth and consumer generated content', in *In handbook of research on digital media and advertising*. IGI Global, pp. 212–231.

Rooderkerk, R. P. and Pauwels, K. H. (2016) 'No comment?! The drivers of reactions to online posts in professional groups', *Journal of Interactive Marketing*, 35, pp. 1–15.

Royo-Vela, M. and Casamassima, P. (2014) 'The influence of belonging to virtual brand communities on consumers' affective commitment, satisfaction and word-of-mouth advertising The ZARA case', *Online Information Review*, 35(4), pp. 517–542.

Rui, J. and Stefanone, M. A. (2013) 'Strategic self-presentation online: A cross-cultural study', *Computers in Human Behavior*, 29(1), pp. 110–118.

Ruiz-Mafe, C., Chatzipanagiotou, K. and Curras-Perez, R. (2018) 'The role of emotions and conflicting online reviews on consumers' purchase intentions', *Journal of Business Research*, 89, pp. 336–344.

Saadé, R. (2007) 'Dimensions of perceived usefulness: Toward enhanced assessment', *Decision Sciences Journal of Innovative Education*, 5(2), pp. 289–310.

Sandlin, J. a (2007) 'Netnography as a consumer education research tool', *International Journal of Consumer Studies*, 31(3), pp. 288–294.

Santarossa, S., Coyne, P., Lisinski, C. and Woodruff, S. J. (2016) '#fitspo on Instagram: A mixed-methods approach using Netlytic and photo analysis, uncovering the online discussion and author/image characteristics', *Journal of Health Psychology*, pp. 1–10.

Saran, R., Roy, S. and Sethuraman, R. (2016) 'Personality and fashion consumption: a conceptual framework in the Indian context', *Journal of Fashion Marketing and Management*, 20(2), pp. 157–176.

Sarkar, A. (2011) 'Impact of utilitarian and hedonic shopping values on individual's perceived benefits and risks in online shopping', *International Management Review*, 7(1), pp. 58–95.

Saunders, M., Lewis, P. and Thornhill, A. (2013) Research methods for business students. 6th ed. Harlow, United Kingdom: Pearson Education Limited.

Saunders, M., Lewis, P. and Thornhill, A. (2015) Research methods for business students. 7th ed. Harlow, United Kingdom: Pearson Education Limited.

Schillwaert, N. and Meulemeester, P. (2005) 'Comparing response distributions of offline and online data collection methods', *International Journal of Market Research*, 47(2), pp. 163–178.

Schivinski, B. and Dabrowski, D. (2016) 'The effect of social media communication on consumer perceptions of brands', *Journal of Marketing Communications*, 22(2), pp. 189–214.

Schumacker, R. E. and Lomax, Richard G. (2010) A beginner's guide to structural equation modeling. 3rd ed. London, United Kingdom: Taylor & Francis Ltd.

Schumacker, R. E. and Lomax, R. G. (2004) A beginner's guide to structural equation modeling. Philadelphia, United States: Taylor & Francis Ltd.

Schumacker, R. E. and Lomax, R. G. (2016) A beginner's guide to structural equation

modeling. 4th ed. London, United Kingdom: Taylor & Francis Ltd.

See-To, E. W. K. and Ho, K. K. W. (2014) 'Value co-creation and purchase intention in social network sites: The role of electronic Word-of-Mouth and trust - A theoretical analysis', *Computers in Human Behavior*, 31(1), pp. 182–189.

Seidenspinner, M. and Theuner, G. (2007) 'Intercultural aspects of online communication a comparison of mandarin-speaking, US, Egyptian and German user preferences', *Journal of Business Economics and Management*, 8(2), pp. 101–109.

Sekaran, U. S. and Bougie, R. J. (2016) *Research methods for business: A skill building approach.* 7th ed. New York, United States: John Wiley and Sons Ltd.

Shafiq, O., Alhajj, R. and Rokne, J. G. (2015) 'On personalizing Web search using social network analysis', *Information Sciences*, 314, pp. 55-76.

Shang, S. S. C., Wu, Y. L. and Sie, Y. J. (2017) 'Generating consumer resonance for purchase intention on social network sites', *Computers in Human Behavior*, 69, pp. 18–28.

Shankar, V., Kleijnen, M., Ramanathan, S., Rizley, R., Holland, S. and Morrissey, S. (2016) 'Mobile shopper marketing: Key issues, current insights, and future research avenues', *Journal of Interactive Marketing*, 34, pp. 37–48.

Shao, G. (2009) 'Understanding the appeal of user-generated media: a uses and gratification perspective', *Internet Research*, 19(1), pp. 7–25.

Shaouf, A., Lü, K. and Li, X. (2016) 'The effect of web advertising visual design on online purchase intention: An examination across gender', *Computers in Human Behavior*, 60, pp. 622–634.

Sheldon, P. and Bryant, K. (2016) 'Instagram: Motives for its use and relationship to narcissism and contextual age', *Computers in Human Behavior*, 58, pp. 89–97.

Sheng, X. and Zolfagharian, M. (2014) 'Consumer participation in online product recommendation services: augmenting the technology acceptance model', *Journal of Services Marketing*, 28(6), pp. 460–470.

Shergill, G. S. and Chen, Z. (2005) 'Web-based shopping: Consumers' attitudes towards online shopping in New Zealand', *Journal of Electronic Commerce Research*, 6(2), pp. 79–94.

Shiri, A. (2009) 'An examination of social tagging interface features and functionalities: An analytical comparison', *Online Information Review*, 33(5), pp. 901–919.

Shu, M. (Lavender) and Scott, N. (2014) 'Influence of Social Media on Chinese Students' Choice of an Overseas Study Destination: An Information Adoption Model Perspective', *Journal of Travel and Tourism Marketing*, 31(2), pp. 286–302.

Sichtmann, C. (2007) 'An analysis of antecedents and consequences of trust in a corporate brand', *European Journal of Marketing*, 41(9/10), pp. 999–1015.

Siddiqui, N., O'Malley, A., McColl, J. C. and Birtwistle, G. (2003) 'Retailer and consumer perceptions of online fashion retailers: Web site design issues', *Journal of Fashion Marketing and Management: An International Journal*, 7(4), pp. 345–355.

Sigala, M. (2011) 'eCRM 2.0 applications and trends: The use and perceptions of Greek tourism firms of social networks and intelligence', *Computers in Human Behavior*, 27(2), pp. 655–661.

Sinclair, J., Cardew-hall, M., Sinclair, J. and Cardew-hall, M. (2008) 'The folksonomy tag cloud: when is it useful ?', *Journal of Information Science*, 34(1), pp. 15–29.

Singh, J. P., Irani, S., Rana, N. P., Dwivedi, Y. K., Saumya, S. and Kumar Roy, P. (2017) 'Predicting the "helpfulness" of online consumer reviews', *Journal of Business Research*, 70, pp. 346–355.

Sit, J. K. and Birch, D. (2014) 'Entertainment events in shopping malls—profiling passive and active participation behaviors', *Journal of Consumer Behaviour*, 13, pp. 383–392.

Soars, B. (2003) 'What every retailer should know about the way into the shopper's head', *International Journal of Retail & Distribution Management*, 31(12), pp. 628-637.

Sobh, R. and Perry, C. (2006) 'Research design and data analysis in realism research', *European Journal of Marketing*, 40(11–12), pp. 1194–1209.

Sohn, S. (2017) 'A contextual perspective on consumers' perceived usefulness: The case of mobile online shopping', *Journal of Retailing and Consumer Services*, 38, pp. 22–33.

Solomon, M. R., Dahl, D. W., White, K. and Zaichkowsky, J. L. (2014) Consumer behavior: Buying, having, and being. 11th ed. Upper Saddle River, United States: Pearson Education Limited.

Solomon, M. R. and Rabolt, N. J. (2004) Consumer behaviour in fashion. New Jersey, United States: Pearson Education Inc.

Stafford, T. F., Stafford, M. R. and Schkade, L. L. (2004) 'Determining uses and gratifications for the internet', *Decision Sciences*, 35(2), pp. 259–288.

Statista (2013) Most Popular Categories Purchased by Female Online Consumers in China in 2013. Available at: https://www-statistacom.manchester.idm.oclc.org/statistics/432238/most-popular-categories-purchasedby-female-online-consumers-china/ (Accessed: 9 July 2017).

Statista (2015a) Distribution of mobile app distribution channel users in China in 2015, by gender. Available at: https://www-statistacom.manchester.idm.oclc.org/statistics/646400/china-mobile-app-store-users-bygender/ (Accessed: 13 June 2017).

Statista (2015b) *E-commerce in China. Available at: https://www-statista-com.manchester.idm.oclc.org/study/11567/e-commerce-in-china-statista-dossier/* (Accessed: 10 April 2017).

Statista (2016) Preferred Communication Channels Among China's Young Ultra High Net Worth Individuals (UHNWI) in 2015, by Gender. Available at: https://www.statista.com/statistics/441281/china-preferred-communication-channelsamong-uhnwi-by-gender/ (Accessed: 5 June 2018).

Statista (2017a) Digital Advertising Report 2017-Social media Advertising. Available at: http://www.statista.com/outlook (Accessed: 12 January 2018).

Statista (2017b) eCommerce Report 2017. Available at: https://www-statistacom.manchester.idm.oclc.org/study/52041/2017-e-commerce-kpi-benchmarks-study/ (Accessed: 29 March 2018).

Statista (2017c) Forecast China-Fashion-Retail-e-Commerce-Sales 2015-2021. Available at: https://www.statista.com/statistics/644461/forecast-of-b2c-fashion-ecommerce- sales-in-china/ (Accessed: 12 July 2017).

Statista (2017d) Social Commerce: Expert Opinion-Comparison-Usage. Available at: https://www-statista-com.manchester.idm.oclc.org/study/42241/social-commerce-expert-opinion-comparison-usage/ (Accessed: 20 January 2018).

Statista (2017e) Social Networks in China. Available at: https://www.statista.com/topics/1170/social-networks-in-china/ (Accessed: 12 October 2017).

Stein, M. K., Newell, S., Wagner, E. L. and Galliers, R. D. (2015) 'Coping with information technology: mixed emotions, vacillation and nonconforming use patterns', *MIS Quarterly*, 39(2), pp. 367–392.

Steinfield, C. (2002) 'Understanding click and mortar e-commerce approaches', *Journal of Interactive Advertising*, 2(2), pp. 1–10.

Steinfield, C., Bouwman, H. and Adelaar, T. (2002) 'The dynamics of click-and-mortar electronic commerce: Opportunities and management strategies', *International Journal of Electronic Commerce*, 7(1), pp. 93–119.

Stepaniuk, K. (2017) 'Blog content management in shaping pro recreational attitudes', *Journal of Business Economics and Management*, 18(1), pp. 146–162.

Suh, B., Hong, L., Pirolli, P. and Chi, E. H. (2010) 'Want to be retweeted? large scale analytics on factors impacting retweet in Twitter network', *Social computing (socialcom), 2010 ieee second international conference on. IEEE*, pp. 177–184.

Sun, T., Youn, S., Wu, G. and Kuntaraporn, M. (2006) 'Online word-of-mouth (or mouse): An exploration of its antecedents and consequences', *Journal of Computer-Mediated Communication*, 11(4), pp. 1104–1127.

Supino, P. G. and Borer, J. S. (eds) (2012) Principles of research methodology: A guide for clinical investigators. New York, NY, United States: Springer Science & Business Media.

Sussman, S. W. and Siegal, W. S. (2003) 'Informational influence in organizations: An integrated approach to knowledge adoption', *Information Systems Research*, 14(1), pp. 47–65.

Tanaka, J. S. (1993) Multifaceted conceptions of fit in structural equation models. Newbury, Park, CA: Sage.

Taylor, D. G. and Levin, M. (2014) 'Predicting mobile app usage for purchasing and information sharing', *International Journal of Retail & Distribution Management*, 42(8), pp. 759–774.

The Wall Street Journal (2015) China's New 'Little Red Book': A Shopping App for
Foreign Products. Available at:
https://blogs.wsj.com/chinarealtime/2015/11/16/chinas-new-little-red-book-a-
shopping-app-for-foreign-products/ (Accessed: 7 January 2018).

Thomas, J. B., Peters, C. O. and Tolson, H. (2007) 'An exploratory investigation of the virtual community MySpace.comWhat are consumers saying about fashion?', *Journal of Fashion Marketing and Management*, 11(4), pp. 587–603.

Thompson, S. A., Loveland, J. M. and Fombelle, P. W. (2014) 'Thematic discrepancy analysis: A method to gain insights into lurkers and test for non-response bias', *Journal of Interactive Marketing*, 28(1), pp. 55–67.

Toufaily, E. and Pons, F. (2017) 'Impact of customers' assessment of website attributes on e-relationship in the securities brokerage industry: A multichannel perspective', *Journal of Retailing and Consumer Services*, 34, pp. 58–69.

Tsai, W. H. S. and Men, L. R. (2013) 'Motivations and antecedents of consumer engagement with brand pages on social networking sites', *Journal of Interactive Advertising*, 13(2), pp. 76–87.

Tsiotsou, R. and Alexandris, K. (2009) 'Delineating the outcomes of sponsorship:

sponsor image, word of mouth, and purchase intentions', *International Journal of Retail and Distribution Management*, 37(4), pp. 358–369.

Turban, E., Jon Outland, Lee, D. J. K., Liang, T. P. and Turban, C. D. (2018) *Electronic commerce 2018: A managerial and social networks perspective.* 9th ed. Cham, Switzerland: Springer International Publishing AG.

Turban, E., King, D., Lee, J. K., Liang, T. P. and Turban, D. C. (2015) *Electronic commerce: A managerial and social networks perspective*. 8th ed. Cham, Switzerland: Springer International Publishing AG.

Turban, E., Strauss, J. and Lai, L. (2015) Social commerce: Marketing, technology, management. Cham, Switzerland: Springer International Publishing AG.

Ullman, J. B. and Bentler, P. M. (2007) Using multivariate statistics. 5th ed. Boston, MA: Allyn & Bacon/Pearson Education.

Vazquez, D., Dennis, C. and Zhang, Y. (2017) 'Understanding the effect of smart retail brand – Consumer communications via mobile instant messaging (MIM) – An empirical study in the Chinese context', *Computers in Human Behavior*, 77, pp. 425–436.

Venkatesh, V., Brown, S. A. and Bala, H. (2013) 'Bridging the qualitative-quantitative divide: Guidelines for conducting mixed methods research in information systems', *MIS Quarterlyuarterly*, 37(3), pp. 855–879.

Venkatesh, V., Morris, M. G., Davis, G. B. and Davis, F. D. (2003) 'User acceptance of information technology: toward a unified view', *MIS Quarterly*, 27(3), pp. 425–478.

Verhoef, P. C., Kannan, P. K. and Inman, J. J. (2015) 'From multi-channel retailing to omni-channel retailing: introduction to the special issue on multi-channel retailing', *Journal of Retailing*, 91(2), pp. 174–181.

Vieira, V. A. (2013) 'Stimuli-organism-response framework: A meta-analytic review in the store environment', *Journal of Business Research*, 66(9), pp. 1420–1426.

Voorhees, C. M., Brady, M. K., Calantone, R. and Ramirez, E. (2016) 'Discriminant validity testing in marketing: an analysis, causes for concern, and proposed remedies', *Journal of the Academy of Marketing Science*, 44(1), pp. 119–134.

Voss, K. E., Spangenberg, E. R. and Grohmann, B. (2003) 'Measuring the hedonic and utilitarian dimensions of consumer attitude', *Journal of Marketing Research*, 40(3), pp. 310–320.

Wallace, D. W., Giese, J. L. and Johnson, J. L. (2004) 'Consumer retailer loyalty in the context of multiple channel strategies', *Journal of Retailing*, 80(4), pp. 249–263.

Wamba, S. F., Bhattacharya, M., Trinchera, L. and Ngai, E. W. T. (2017) 'Role of intrinsic and extrinsic factors in user social media acceptance within workspace: Assessing unobserved heterogeneity', *International Journal of Information Management*, 37(2), pp. 1–13.

Wang, C. and Ping, Z. (2012) 'The evolution of social commerce: The people, management, technology, and information dimensions', *Communications of the* Association for Information Systems, 31(1), pp. 105–127.

Wang, C. Y., Lee, H. C., Wu, L. W. and Liu, C. C. (2017) 'Quality dimensions in online communities influence purchase intentions', *Management Decision*, 55(9), pp. 1984–1998.

Wang, C., Zhou, Z., Jin, X. L., Fang, Y. and Lee, M. K. O. (2017) 'The influence of affective cues on positive emotion in predicting instant information sharing on microblogs: Gender as a moderator', *Information Processing and Management*, 53(3), pp. 721–734.

Wang, N., Shen, X. L. and Sun, Y. (2013) 'Transition of electronic word-of-mouth services from web to mobile context: A trust transfer perspective', *Decision Support Systems*, 54(3), pp. 1394–1403.

Wang, S. and Lin, J. C. C. (2011) 'The effect of social influence on bloggers' usage intention', *Online Information Review*, 35(1), pp. 50-65.

Wang, W., Lee, H. and Fetzer, S. J. (2006) 'Challenges and strategies of instrument translation', *Western Journal of Nursing Research*, 28(3), pp. 310-321.

Wang, Y. (2016) 'The study on model transformation from traditional business to e-commerce', *Management & Engineering*, 23, pp. 1838–5745.

Wang, Y. and Yu, C. (2015) 'Social interaction-based consumer decision-making model in social commerce: The role of word of mouth and observational learning', *International Journal of Information Management*, 37(3), pp. 179–189.

Wang, Z., Tchernev, J. M. and Solloway, T. (2012) 'A dynamic longitudinal examination of social media use, needs, and gratifications among college students', *Computers in Human Behavior*, 28(5), pp. 1829–1839.

Westbrook, R. A. and Oliver, R. L. (1991) 'The dimensionality of consumption emotion patterns and consumer satisfaction', *Journal of Consumer Research*, 18(1), pp. 84–91.

White, C. J. (2010) 'The impact of emotions on service quality, satisfaction, and positive word-of-mouth intentions over time', *Journal of Marketing Management*, 25(5/6), pp. 381-394.

Williams, M. D. (2018) 'Social commerce and the mobile platform: Payment and security perceptions of potential users', *Computers in Human Behavior*.

Willig, C. (2013) *Introducing qualitative research in psychology*. 3rd ed. Milton Keynes, United Kingdom: Open University Press.

Wilson, A. (2011) *Marketing research: An integrated approach*. 3rd ed. Harlow, United Kingdom: Pearson Education Limited.

Winer, R. S. (2009) 'New Communications Approaches in Marketing: Issues and Research Directions', *Journal of Interactive Marketing*, 23(2), pp. 108–117.

Wirtz, B. W. and Göttel, V. (2016) 'Technology acceptance in social media: review, synthesis and directions for future empirical research', *Journal of Electronic Commerce Research*, 17(2), pp. 97–115.

Wixom, B. H. and Todd, P. A. (2005) 'A theoretical integration of user satisfaction and technology acceptance', *Information Systems Research*, 16(1), pp. 85–102.

Wolny, J. and Mueller, C. (2013) 'Analysis of fashion consumers' motives to engage in electronic word-of-mouth communication through social media platforms', *Journal of Marketing Management*, 29(5/6), pp. 562–583.

Wood, N. T. and Burkhalter, J. N. (2014) 'Tweet this, not that: A comparison between brand promotions in microblogging environments using celebrity and company-generated tweets', *Journal of Marketing Communications*, pp. 129–146.

Workman, J. E. (2010) 'Fashion consumer groups, gender, and need for touch', *Clothing and Textiles Research Journal*, 28(2), pp. 126–139.

Workman, J. E. and Studak, C. M. (2006) 'Fashion consumers and fashion problem recognition style', *International Journal of Consumer Studies*, 30(1), pp. 75-84.

Wu, J. H. and Wang, S. C. (2005) 'What drives mobile commerce? An empirical evaluation of the revised technology acceptance model', *Information and Management*,

42(5), pp. 719–729.

Wu, J. and Holsapple, C. (2014) 'Imaginal and emotional experiences in pleasureoriented IT usage: A hedonic consumption perspective', *Information and Management*, 51(1), pp. 80–92.

Wu, J., Kang, J.-Y. M., Damminga, C., Kim, H.-Y. and Johnson, K. K. P. (2016) 'MC 2.0: testing an apparel co-design experience mode', *Journal of Fashion Marketing and Management*, 19(1), pp. 69–86.

Wu, J. and Lu, X. (2013) 'Effects of extrinsic and intrinsic motivators on using utilitarian, hedonic, and dual-purposed information systems: A meta-analysis', *Journal of the Association for Information Systems*, 14(3), pp. 153–191.

Wu, J., Won Ju, H., Kim, J., Damminga, C., Kim, H. Y. and KP Johnson, K. (2013) 'Fashion product display: An experiment with Mockshop investigating colour, visual texture, and style coordination', *International Journal of Retail & Distribution Management*, 41(10), pp. 765–789.

Wu, K., Vassileva, J., Zhao, Y., Noorian, Z., Waldner, W. and Adaji, I. (2016) 'Complexity or simplicity? Designing product pictures for advertising in online marketplaces', *Journal of Retailing and Consumer Services*, 28, pp. 17–27.

Wu, T. Y., Hsu, Y. and Lee, G. A. (2015) 'The effect of product appearances on consumer emotions and behaviors: a perspective of involvement', *Journal of Industrial and Production Engineering*, 32(8), pp. 486–499.

Wu, W. Y., Lee, C. L., Fu, C. S. and Wang, H. C. (2013) 'How can online store layout design and atmosphere influence consumer shopping intention on a website?', *International Journal of Retail & Distribution Management*, 42(1), pp. 4–24.

Xiang, L., Zheng, X., Lee, M. K. O. and Zhao, D. (2016) 'Exploring consumers' impulse buying behavior on social commerce platform: The role of parasocial interaction', *International Journal of Information Management*, 36(3), pp. 333–347.

Xiao, Q. (2016) 'Managing e-commerce platform quality and its performance implication: A multiple-group structural model comparison', *Journal of Internet Commerce*, 15(2), pp. 142–162.

Xie, H., Li, Q., Mao, X. and Li, X. (2014) 'Mining latent user community for tag-based and content-based search in social media', *The Computer Journal*, 57(9), pp. 1415–1430.

Xing, Y. and Grant, D. B. (2006) 'Developing a framework for measuring physical distribution service quality of multi-channel and "pure player" internet retailers Yuan', *International Journal of Retail & Distribution Management*, 34(4/5), pp. 278–289.

Xu, H., Gong, Y., Chu, C. and Zhang, J. (2017) 'Dynamic lot-sizing models for retailers with online channels', *International Journal of Production Economics*, 183, pp. 171–184.

Xu, P., Chen, L. and Santhanam, R. (2015) 'Will video be the next generation of ecommerce product reviews? Presentation format and the role of product type', *Decision Support Systems*, 73, pp. 85–96.

Yadav, M. S., de Valck, K., Hennig-Thurau, T., Hoffman, D. L. and Spann, M. (2013) 'Social commerce: A contingency framework for assessing marketing potential', *Journal of Interactive Marketing*, 27(4), pp. 311–323.

Yan, Q., Wu, S., Wang, L., Wu, P., Chen, H. and Wei, G. (2016) 'E-WOM from ecommerce websites and social media: Which will consumers adopt?', *Electronic Commerce Research and Applications*, 17, pp. 62–73. Yang, Y., Wang, X., Guan, T., Shen, J. and Yu, L. (2014) 'A multi-dimensional image quality prediction model for user-generated images in social networks', *Information Sciences*, 281, pp. 601–610.

Yani-de-soriano, M., Foxall, G. R. and Newman, A. J. (2013) 'The impact of the interaction of utilitarian and informational reinforcement and behavior setting scope on consumer response', *Psychology and Marketing*, 30(2), pp. 148–159.

Yeap, J. A. L., Ignatius, J. and Ramayah, T. (2014) 'Determining consumers' most preferred eWOM platform for movie reviews: A fuzzy analytic hierarchy process approach', *Computers in Human Behavior*, 31(1), pp. 250–258.

Yeh, C. H., Wang, Y. S., Li, H. T. and Lin, S. Y. (2017) 'The effect of information presentation modes on tourists' responses in Internet marketing: the moderating role of emotions', *Journal of Travel & Tourism Marketing*, 34(8), pp. 1018–1032.

Yoo, B. and Donthu, N. (2001) 'Developing a scale to measure the perceived quality of an Internet shopping site (SITEQUAL)', *Quarterly Journal of Electronic Commerce*, 2(1), pp. 31–47.

You, W., Liu, L., Xia, M. and Lv, C. (2011) 'Reputation inflation detection in a Chinese C2C market', *Electronic Commerce Research and Applications*, 10(5), pp. 510–519.

Yu, C. H., Tsai, C. C., Wang, Y., Lai, K. K. and Tajvidi, M. (2018) 'Towards building a value co-creation circle in social commerce', *Computers in Human Behavior*, pp. 1–10.

Yu, G., Carlsson, C. and Zou, D. (2014) 'Exploring the influence of user-generated content factors on the behavioral intentions of travel consumers', 25th Australasian Conference on Information Systems 8th -10th.

Yuksel, A. (2007) 'Tourist shopping habitat: Effects on emotions, shopping value and behaviours', *Tourism Management*, 28(1), pp. 58-69.

Zdemir, D., O." (2016) Applied statistics for economics and business. 2nd ed. Cham, Switzerland: Springer International Publishing AG.

Zhang, C., Li, Y., Wu, B. and Li, D. (2017) 'How WeChat can retain users: Roles of network externalities, social interaction ties, and perceived values in building continuance intention', *Computers in Human Behavior*, 69, pp. 284–293.

Zhang, H., Lu, Y., Gupta, S. and Zhao, L. (2014) 'What motivates customers to participate in social commerce? the impact of technological environments and virtual customer experiences', *Information and Management*, 51(8), pp. 1017–1030.

Zhang, H., Lu, Y., Wang, B. and Wu, S. (2015) 'The impacts of technological environments and co-creation experiences on customer participation', *Information and Management*, 52(4), pp. 468–482.

Zhang, H., Zhang, K. Z. K., Lee, M. K. O. and Feng, F. (2015) 'Brand loyalty in enterprise microblogs Influence of community commitment, IT habit, and participation', *Information Technology & People*, 28(2), pp. 304–326.

Zhang, H., Zhao, L. and Gupta, S. (2018) 'The role of online product recommendations on customer decision making and loyalty in social shopping communities', *International Journal of Information Management*, 38(1), pp. 150–166.

Zhang, J. and Liu, R. (2017) 'Popularity of digital products in online social tagging systems', *Journal of Brand Management*, 24(1), pp. 105–127.

Zhang, K. Z. and Benyoucef, M. (2016) 'Consumer behavior in social commerce: A literature review', *Decision Support Systems*, 86, pp. 95–108.

Zhang, K. Z., Zhao, S. J., Cheung, C. M. and Lee, M. K. (2014) 'Examining the influence of online reviews on consumers' decision-making: A heuristic-systematic model', *Decision Support Systems*, 67, pp. 78–89.

Zhang, L., Peng, T. Q., Zhang, Y. P., Wang, X. H. and Zhu, J. J. H. (2014) 'Content or context: Which matters more in information processing on microblogging sites', *Computers in Human Behavior*, 31(1), pp. 242–249.

Zhang, L., Zhu, J. and Liu, Q. (2012) 'A meta-analysis of mobile commerce adoption and the moderating effect of culture', *Computers in Human Behavior*, 28(5), pp. 1902–1911.

Zhang, T., Abound Omran, B. and Cobanoglu, C. (2017) 'Generation Y's positive and negative eWOM: use of social media and mobile technology', *International Journal of Contemporary Hospitality Management*, 29(2), pp. 732–762.

Zhao, Z. and Balagué, C. (2015) 'Designing branded mobile apps: Fundamentals and recommendations', *Business Horizons*, 58(3), pp. 305–315.

Zhou, T. and Li, H. (2014) 'Understanding mobile SNS continuance usage in China from the perspectives of social influence and privacy concern', *Computers in Human Behavior*, 37, pp. 283–289.

Zhou, Z., Wu, J. P., Zhang, Q. and Xu, S. (2013) 'Transforming visitors into members in online brand communities: Evidence from China', *Journal of Business Research*, 66, pp. 2438–2443.

Zhu, D. H. and Chang, Y. P. (2014) 'Understanding motivations for continuance intention of online communities in China: A comparison of active users of social networking sites and virtual communities', *Information Development*, 30(2), pp. 172–180.

Zhu, D. H., Sun, H. and Ping, Y. (2016) 'Effect of social support on customer satisfaction and citizenship behavior in online brand communities : The moderating role of support source', *Journal of Retailing and Consumer Services*, 31, pp. 287–293.

Zhu, F. and Zhang, X. (2010) 'Impact of online consumer reviews on sales: The moderating role of product and consumer characteristics', *Journal of Marketing*, 74(2), pp. 133–148.

Žmuk, B. (2018) 'Impact of different questionnaire design characteristics on survey response rates: Evidence from Croatian business web survey', *Statistika*, 98(1), pp. 69–87.

Zolkepli, I. A. and Kamarulzaman, Y. (2015) 'Social media adoption: The role of media needs and innovation characteristics', *Computers in Human Behavior*, 43, pp. 189–209.

Appendices

Appendix A: Selected UGFIs in Xiaohongshu S-commerce App









Dooooominic 🥑

+ Follow

Appendix B: Questionnaire of This Study

分析社会化标签在图片中对移动时尚社交商务的影响

Analysing Impact of Social Tags in Images on Fashion Mobile S-commerce

Questionnaire Information Sheet and Consent Form

Dear Participant:

You are invited to take part in an academic study about your personal experience of social tags in images on Xiaohongshu' fashion mobile s-commerce community. Mobile s-commerce community is a virtual community of online users via mobile devices (e.g. tablets and smartphones). Users can share product and shopping information by posting pictures, videos, blogs and others, and discuss with other users to support the purchasing decision. Social tags in images mean that online users create and post keywords to share or classify information content in images by a tagging function. In Xiaohongshu's mobile social community, fashion items are tagged in images via the online community's users sharing favourite or purchased items (e.g. apparel, shoes, bags, watches and other accessories) by social tagging in sharing images. You could use the random images from Xiaohongshu's fashion s-commerce community to recall your past social tags in images' experience like posting or browsing.





The purpose of this study is to evaluate your personal emotional value and behaviour intention about social tags in images' feature and information value. It will take you appropriately 15 minutes to complete the related questions. Furthermore, respondents who complete the survey will have a 1 in 20 chance to win a Redpocket prize of RMB 10.

Before you decide to participate, please take time to read the following information carefully to decide whether or not you wish to take part. Your participation in this study is voluntary and you are free to answer the questionnaire(s) without exposing you to any negative consequences. This questionnaire data will be stored and kept strictly confidential by the University of Manchester. You will not be identified in reports or publications unless you have given consent for this research. If you would like to be kept informed about the research presentations/publications arising from this research, please indicate this in the opinion box at the end of the questionnaire.

This study is being conducted by Shanshan Li. If you have any questions, please feel free to contact me. Textile Design & Fashion Management, School of Materials, The University of Manchester, M13 9PL. shanshanli-5@postgrad.manchester.ac.uk.

For the related complaint or ethical information about this research, you could contact UREC (the Secretary of the Research Ethics Committee) at research.ethics@manchester.ac.uk.

研究课题:分析社会化标签在图片中对移动时尚社交商务的影响

问卷信息表及同意书

尊敬的问卷参与者:

您被邀请参加一项关于分享在"小红书"移动时尚社交商务社区中的,存在图片中的社会化标签的学术研究."移动社交商务社区"是一种通过使用平板电脑和智能手机等移动设备,在线用户用以分享文字,图片,视频,博客的方式来传播产品和购物信息以及与其他用户讨论并做出购买决定的虚拟社区. "图片中的社会化标签"是指在线用户创建和发布在图片中的关键词.这些关键词作为标签具有一定 的标记功能用来分享或分类信息内容. 在 "小红书" 移动社交商务社区中, "图片中标签标记的时尚物 品" 是指在线社区用户可以在分享的图片中用社会化标签来标记自己喜欢或者已经购买的物品, 例如 服装, 鞋, 包, 手表, 和其他配饰. 您可以使用以下在"小红书"移动时尚社交商务社区中随机选择的图 片帮助您回忆之前在图片中发布过或者浏览过社会化标签的经历.

本课题的研究目的是用于评估 "社会化标签" 存在于图片中的技术性能和标签信息价值对您的个人情 绪和行为倾向的影响. 您将需要花费大约 15 分钟的时间来完成所有相关的问题. 此外, 完成调查的受 访者将有二十分之一的几率获得 10 元的红包现金奖励.

在决定填写问卷之前,请您先仔细阅读以下信息然后再做决定是否参与本次问卷调查.您是自愿参与 本次课题研究,可以自由地回答问题且无需担心受到任何负面的影响.此问卷的数据将被英国曼彻斯 特大学严格保管.除非您同意参与这项课题研究,否则您将不会被发表到任何报刊期刊上.如果您想 持续了解这项研课题究的未来展示或者出版,请您在问卷结束前注明在意见栏里.

这项课题研究是由李姗姗负责,如果您有任何问题,请随时联系我. 地址: 英国曼彻斯特大学纺织材料 学 院, 纺 织 设 计 与 时 尚 管 理 专 业, 邮 编: M13 9PL; 邮 箱 地 址: shanshanli-5@postgrad.manchester.ac.uk.

对于本次研究的投诉以及道德伦理信息,请您联络英国曼彻斯特大学学术研究伦理委员会,邮箱地址: research.ethics@manchester.ac.uk.

Consent (同意书)

By checking the following boxes, I confirm that (通过核对以下问题框, 我确认):

- 1. I understand what is being asked of me based on the information above (根据上面的信息, 我理解问卷 的问题). [单选题] [必答题]
- Yes (是的)
- No (不是) (请跳至第问卷末尾,提交答卷) (skip to the end)
- I understand the confidentiality limits specified above (我理解上述的保密限制信息内容). [单选题] [必答题]
- I agree to participate(我同意参与).
- A part: The following questions are about your general personal information (A 部分: 接下来是关于您 个人信息的问题).
- 3. Gender (您的性别) [单选题] [必答题]
- Male(男) (请跳至第问卷末尾,提交答卷) (skip to the end)

◦ Female(女)

4. Age (您的年龄) [单选题] [必答题]

Below 18 (18 岁以下) (请跳至第问卷末尾,提交答卷) (skip to the end)
18-24
25-34
35-44 (请跳至第问卷末尾,提交答卷) (skip to the end)
45-54 (请跳至第问卷末尾,提交答卷) (skip to the end)

○ 55-64 (请跳至第问卷末尾,提交答卷) (skip to the end)

- 5. You have used Xiaohongshu's fashion mobile s-commerce community (您已经使用过 "小红书" 移动时 尚社交商务社区). [单选题] [必答题]
- Yes (有)
- No (没有) (请跳至第问卷末尾,提交答卷) (skip to the end)
- 6. How do you use social tags in the images' function on Xiaohongshu's fashion mobile s-commerce community (在"小红书"移动时尚社交商务社区, 您是如何使用图片中的社会化标签的功能)? [单选题] [必答题]
- I post but don't browse other people's tagging content (e.g. brand name, product title, purchase price and location) for fashion items in images (我会在图片中发布标签, 例如: 品牌名称, 产品名称, 购买 的价格和购买地点, 但不会浏览其他人用标签标记的时尚产品信息内容).
- I browse other people's tagging content for fashion items in images but don't post (我会浏览其他人在 图片中用标签标记的时尚物品信息内容, 但自己不发布).
- I both post and browse other people's tagging content for fashion items in images (上述在图片中发布 和浏览标签的功能我都使用).
- I neither post nor browse other people's tagging content for fashion items in images (上述在图片中发 布和浏览标签标记的功能我都不使用).
- How long have you been using Xiaohongshu's mobile s-commerce app (您使用 "小红书" 的移动社交商 务应用软件已有多长时间)? [单选题] [必答题]
- \circ <6 months (月) \circ ≥6, <1 year (年) \circ ≥1, <2 years (年) \circ ≥2 years (年)
- How often do you use Xiaohongshu's fashion mobile s-commerce community (您使用 "小红书" 移动时 尚社交商务社区的频率为)? [单选题] [必答题]
- Daily (每天地)
- Weekly (每周地)
- Less often (很少地)
- 9. On average, how much time do you use Xiaohongshu's fashion mobile s-commerce community each time (您平均每次使用"小红书" 移动时尚社交商务社区的时间有多长)? [单选题] [必答题]
- Less than 30 minutes (少于 30 分钟)
- o Between 30 minutes and one hour (在 30 分钟至 1 小时之间)
- More than 1 hour (超过 1 小时)

10. What is your education level (您的学历)? [单选题] [必答题]

- High school or below (高中或以下)
- Junior college (中专或大专)
- University (大学本科)
- Master or above (研究生或者以上)

11. What is your monthly expenditures in RMB (您每月的个人支出)? [单选题] [必答题]

○ < 1000 (1000 元以下)

。1000-2000 元

- 。2001-3000 元
- 。3001-4000 元
- 。4001-5000 元
- > 5000 (5000 元以上)
- 12. What items have you purchased via mobile s-commerce platform (您通过移动社交商务平台购买过哪 些商品)?[多项选择] [多选题] [必答题]

□ Ticket (订票类)

- □ Beauty (美容及美发类)
- □ Fashion (服装和饰品类)
- □ Electronic Application (电子应用类)
- □ Others (其他)
 - B part: This section is concerned with your perceived usefulness of social tags in the images' function (e.g. posting or browsing tagging content). On a scale from 1 to 7, 1 is an extremely negative evaluation, 4 is neutral, and 7 is an extremely positive evaluation (B 部分: 本节关注的是您对在图 片中发布社会化标签或者浏览社会化标签内容功能的感知有用性. 下列题目中, 您的感知程度将会用 1-7 的数字量表来衡量, 选项 1=非常负面的评价, 4= 中立, 7=非常正面的评价).
- Please select the number between 1 and 7 to evaluate the value of social tags in images' function on Xiaohongshu's fashion mobile s-commerce community according to the following dimensions (adjectives) (请根据下面维度/尺度(形容词),从 1-7 中选择一个数字来表示您对 "小红书" 移动时尚社 交商务社区中图片上的社会化标签的价值评估). [矩阵量表题] [必答题]

	1	2	3	4	5	6	7	
Ineffective (无效果的)	0	0	0	0	0	0	0	Effective (有效果的)
Not functional (不实用的)	0	0	0	0	0	0	0	Functional (实用的)
Impractical (不实际的)	0	0	0	0	0	0	0	Practical (实际的)
Useless (没有用的)	0	0	0	0	0	0	0	Useful (有用的)
Not sensible (不合理的)	0	0	0	0	0	0	0	Sensible (合理的)
Inefficient (无效率的)	0	0	0	0	0	0	0	Efficient (有效率的)
Unproductive (无成效的)	0	0	0	0	0	0	0	Productive (有成效的)

- C part: Perceived ease of use refers to the effort of individuals using technology or a service. This section is concerned with your perceived ease of use perspective of social tags in images; Please indicate to what extent agree or disagree with the following questions (C 部分: "感知易用性" 是 指在使用某种技术或服务时个人所付出的努力或精力.本节关注的是您对在图片中生成社会化标签或 者浏览社会化标签内容的感知易用性,请根据以下问题表明同意或者不同意的程度).
- Learning to use social tags in images is easy on Xiaohongshu's fashion mobile s-commerce community (在"小红书"移动时尚社交商务社区,学习使用在图片中带有社会化标签是很容易的). [单选题] [必答题]

 Strongly	○ Disagree	 Slightly	○ No opinion	 Slightly	○ Agree	 Strongly
disagree	(不同音)	disagree	(一般)	agree	(同音)	agree
(非常不同意)		(有点不同意)		(有点同意)		(非常同意)

 It is easy to make social tags in images do what I want it to do on Xiaohongshu's fashion mobile community (在"小红书"移动时尚社交商务社区,在图片中使用社会化标签并达到我的目的是很容易 的). [单选题] [必答题]

 Strongly 	 Disagree 	 Slightly 	 No opinion 	 Slightly 	o Agree	 Strongly
disagree	(不同意)	disagree	(一般)	agree	(同意)	agree
(非常不同意)	(,	(有点不同意)	((有点同意)	(/	(非常同意)

16. It is easy to use social tags in images on Xiaohongshu's fashion mobile s-commerce community (在 " 小红书"移动时尚社交商务社区,在图片中使用社会化标签是很方便的).[单选题][必答题]

 Strongly 	 Disagree 	 Slightly 	 No opinion 	 Slightly 	 Agree 	 Strongly
disagree	(不同意)	disagree	(一般)	agree	(同意)	agree
(非常不同意)		(有点不同意)	((有点同意)	(19,61)	(非常同意)

17. My interaction with social tags in images is clear and understandable on Xiaohongshu's fashion mobile s-commerce community (在 "小红书" 移动时尚社交商务社区, 我与图片中社会化标签的互动 是清晰明了的且很好理解的). [单选题] [必答题]

• Strongly	• Disagree	 Slightly 	 No opinion 	 Slightly 	• Agree	 Strongly
disagree	(不同意)	disagree	(一般)	agree	(同意)	agree
(非常不同意)		(有点不同意)		(有点同意)	(, , , , , , , , , , , , , , , , , , ,	(非常同意)

- D part: Informativeness relates to information content' necessity and helpfulness for readers understanding certain products or activities. This section is concerned with your informativeness perspective for fashion items tagged in images; please indicate the extent that you agree or disagree with the following questions (D 部分: "资讯性" 是指涉及某些产品或者活动信息内容的必 要性和有助读者理解某些产品或活动的帮助性. 本节关注的是您对在图片中用标签标记时尚物品的信 息内容 "资讯性"的观点; 请根据以下问题表明同意或者不同意程度).
- 18. Social tags in images are a good source of information for fashion items on Xiaohongshu's fashion mobile s-commerce community (在 "小红书" 移动时尚社交商务社区, 图片中社会化标签是了解时尚 物品信息的很好来源). [单选题] [必答题]

 Strongly	○ Disagree	 Slightly	∘ No opinion	 Slightly	○ Agree	 Strongly
disagree	(不同意)	disagree	(—般)	agree	(同意)	agree
(非常不同意)		(有点不同意)		(有点同意)	(13,8,)	(非常同意)

19. Social tags in images supply relevant fashion items information on Xiaohongshu's fashion mobile scommerce community (在 "小红书" 移动时尚社交商务社区, 图片中的社会化标签提供了时尚物品的相 关信息). [单选题] [必答题]

 Strongly 	 Disagree 	 Slightly 	 No opinion 	 Slightly 	 Agree 	 Strongly
disagree	(不同意)	disagree	(一般)	agree	(同意)	agree
(非常不同意)		(有点不同意)		(有点同意)		(非常同意)

20. Social tags in images are a convenient source of fashion items information on Xiaohongshu's fashion mobile s-commerce community (在 "小红书" 移动时尚社交商务社区, 图片中的社会化标签是 臣

付尚物品信息的便捷来源). [[单选题] [必答题]
-----------------	-------------

 Strongly 	• Disagree	 Slightly 	 No opinion 	 Slightly 	\circ Agree	 Strongly
disagree	○ Disagice	disagree	(一般)	agree	⊖ Agree	agree
(非常不同意)	(个问息)	(有点不同意)	((有点同意)	(回息)	(非常同意)

21. Information which is tagged on fashion items in images would be useful on Xiaohongshu's fashion mobile s-commerce community (在 "小红书" 移动时尚社交商务社区, 图片中用标签标记的时尚物品 信息是有用的). [单选题] [必答题]

o Strongly	• Disagree	 Slightly 	 No opinion 	 Slightly 	o Agree	 Strongly
disagree	(不同意)	disagree	(一般)	agree	(同意)	agree
(非常不同意).	((有点不同意)	((有点同意)	((= = =)	(非常同意)

 Information which is tagged on fashion items in images would be helpful on Xiaohongshu's fashion mobile s-commerce community (在 "小红书" 移动时尚社交商务社区,图片中用标签标记的时尚物品 信息是有帮助的). [单选题] [必答题]

 Strongly 	• Disagree	 Slightly 	 No opinion 	 Slightly 	o Agree	 Strongly
disagree	(不同意)	disagree	(一般)	agree	(同意)	agree
(非常不同意)	(115,6,)	(有点不同意)	(122)	(有点同意)	(13,8,)	(非常同意)

 I learn a lot from fashion items tagged in images on Xiaohongshu's fashion mobile s-commerce community (在 "小红书" 移动时尚社交商务社区,图片中社会化标签让我获取到很多有关被标记的时 尚物品的信息). [单选题] [必答题]

o Strongly	 Disagree 	 Slightly 	 No Opinion 	 Slightly 	• Agree	 Strongly
disagree	(不同意)	disagree	(一般)	agree	(同意)	agree
(非常不同意)	((有点不同意)	((有点同意)	(12/2/)	(非常同意)

E part: In this section, please read both sides of the adjectives in the following question, then choose the number between 1-7 to indicate you're feeling about social tags in images. Rate your feeling on a scale of 1 (extremely negative) to 7 (extremely positive) (E 部分: 在本节中, 清阅读问题两边 的形容词, 然后从 1-7 中选择一个数字来表示您对图片中社会化标签的个人感觉. 您的个人感觉将会使 用从 1=非常负面到 7=非常正面的数字量表来测量).

24. Social tags in images make me feel (图片中的社会化标签使我感觉): [矩阵量表题] [必答题]

	1	2	3	4	5	6	7	
Unhappy (不开心的)	0	0	0	0	0	0	0	Happy (开心的)
Annoyed (烦闷的)	0	0	0	0	0	0	0	Pleased (高兴的)
Dissatisfied (不满意的)	0	0	0	0	0	0	0	Satisfied (满意的)
Not joyful (不愉快的)	0	0	0	0	0	0	0	Joyful (愉快的)
Bored (无聊的)	0	0	0	0	0	0	0	Relaxed (放松的)
Relaxed (松懈的)	0	0	0	0	0	0	0	Stimulated (亢奋的)
Calm (平静的)	0	0	0	0	0	0	0	Excited (兴奋地)
Sleepy (瞌睡的)	0	0	0	0	0	0	0	Wide awake (清醒的)
Unaroused (没有唤醒的)	0	0	0	0	0	0	0	Aroused (唤醒的)

F part: This section is concerned with your word-of-mouth intention for Xiaohongshu's mobile scommerce app. Please indicate the extent which you agree or disagree with the following questions (F 部分: 本节关注的是您对 "小红书" 移动社交商务应用软件的口碑传播倾向, 请根据以下问题表明同 意或者不同意程度).

25. I would tell others positive things about Xiaohongshu's mobile s-commerce app (我想告诉其他人有关 "小红书" 移动社交商务应用软件的正面评价). [单选题] [必答题]

 Strongly 	o Disagraa	 Slightly 	• No	 Slightly 	0 A graa	 Strongly
disagree		disagree	opinion	agree	⊖ Agree	agree
(非常不同意)	(个问愿)	(有点不同意)	(一般)	(有点同意)	(问息)	(非常同意)

26. I would provide others with information (e.g. shopping experience blogs, reviews) on Xiaohongshu's mobile s-commerce app (在"小红书" 移动社交购物应用软件中, 我将向其他人提供有关购物经验的博 客, 帖子, 评论等信息). [单选题] [必答题]

 Strongly 	• Disagree	 Slightly 	 No opinion 	 Slightly 	• Agree	 Strongly
disagree	(不同意)	disagree	(一般)	agree	(同意)	agree
(非常不同意)	(115,6,)	(有点不同意)		(有点同意)	(19,8,)	(非常同意)
27. I am likely to recommend Xiaohongshu's mobile s-commerce app to my friends or acquaintances (我 可能向我的朋友或者熟人推荐"小红书" 移动社交购物应用软件). [单选题] [必答题]

 Strongly 	• Disagree	 Slightly 	 No opinion 	 Slightly 	o Agree	 Strongly
disagree	(不同意)	disagree	(一般)	agree	(同意)	agree
(非常不同意)	(/	(有点不同意)	((有点同意)	()	(非常同意)

28. I am likely to encourage others to consider using Xiaohongshu's mobile s-commerce app (我可能鼓励 其他人考虑使用 "小红书" 移动社交购物应用软件). [单选题] [必答题]

 Strongly 	 Disagree 	 Slightly 	 No opinion 	 Slightly 	 Agree 	 Strongly
disagree	(不同意)	disagree	(一般)	agree	(同意)	agree
(非常不同意)	()	(有点不同意)	((有点同意)	(/	(非常同意)

G part: This section is concerned with your purchase intention of fashion items tagged in images on Xiaohongshu's mobile s-commerce community. Please indicate the extent which you agree or disagree with the following questions (G 部分: 本节关注的是您对在"小红书"移动社交购物社区的 图片中被标签标记的时尚物品购买倾向, 请您根据以下问题表明同意或者不同意程度).

29. The likelihood of purchasing fashion items tagged in images is high (我购买在图片中被标签标记的时 尚物品可能性很高). [单选题] [必答题]

 Strongly 	 Disagree 	 Slightly 	 No opinion 	 Slightly 	 Agree 	 Strongly
disagree	(不同意)	disagree	(一般)	agree	(同意)	agree
(非常不同意)	(/	(有点不同意)	((有点同意)		(非常同意)

30. The probability that I would consider buying fashion items tagged in images is high (我考虑购买在图 片中被标签标记的时尚物的机率很高). [单选题] [必答题]

 Strongly 	• Disagree	 Slightly 	• No opinion	 Slightly 	• Agree	 Strongly
disagree	· Disagree	disagree	- 100 opinion	agree	- 115100	agree
(非常不同意)	(个同意)	(有点不同意)	(一股)	(有点同意)	(问意)	(非常同意)

 My willingness to buy fashion items tagged in images is high (我很乐意购买在图片中被标签标记的时 尚物品). [单选题] [必答题]

 Strongly 	 Disagree 	 Slightly 	 No opinion 	 Slightly 	 Agree 	 Strongly
disagree	(不同意)	disagree	(一般)	agree	(同意)	agree
(非常不同意)	(/	(有点不同意)	((有点同意)	(/	(非常同意)

32. I would purchase fashion items tagged in images (我将要购买在图片中被标签标记的时尚物品). [单选题] [必答题]

 Strongly 	 Disagree 	 Slightly 	 No opinion 	 Slightly 	• Agree	 Strongly
disagree	(不同意)	disagree	(一般)	agree	(同意)	agree
(非常不同意)	((有点不同意)	((有点同意)		(非常同意)

33. If you would like to have a chance to win a Redpocket with 10 RMB, and then provide your Alipay or WeChat pay account to receive the money, please write your email address (如果您想赢得 10 元 现金红包并且愿意提供支付宝或微信支付账户来领取,请写下您的电子邮件地址).

Tips: Email addresses, Alipay or WeChat pay account only are used to receive the prize and kept separately from the questionnaire data (提示: 电子邮件地址、支付宝或微信支付帐户只用于接收奖 品并与问卷数据分开保存). [填空题]

217

34. Please write any personal opinions or other information you have (请写下您的个人意见或者其他信息)___ [填空题]

This is the end of the questionnaire, thanks for your participation (问卷结束, 感谢您的参与).

Appendix C: Descriptive Analysis

Variables	Categories	Frequency	Valid Percent
Gender	Female	387	100.0
Age	18-24	270	69.8
5	25-34	117	30.2
How do you use social tags in	Posting tagging	121	31.3
the images' function on	not browsing		
Xiaohongshu's fashion mobile	Browsing not	205	53.0
s-commerce community?	posting		
	Both using	58	15.0
	Both not using	3	0.8
How long have you been using	< 6 months	146	37.7
Xiaohongshu's mobile app?	>=6. <1 year	143	37.0
	>=1, <2 Year	75	19.4
	>=2 Year	23	5.9
How often do you use	Everyday	88	22.7
Xiaohongshu's fashion mobile	Weekly	232	59.9
s-commerce community?	Less often	67	17.3
On average, how much time do	Less 30m	119	30.7
vou use Xiaohongshu's fashion	30-1 hour	245	63.3
mobile s-commerce community	Over 1 hour	23	5.9
each time?		-	
What is your education level?	High school or	18	4.7
	Below		
	Junior college	99	25.6
	University	205	53.0
	Master or above	65	16.8
What is individual monthly	<1000	57	14.7
expenditures in RMB?	1000-2000	143	37.0
	2001-3000	83	21.4
	3001-4000	49	12.7
	4001-5000	23	5.9
	> 5000	32	8.3
What items are purchased	Tickets	133	34.4
from mobile s-commerce	Beauty	245	63.3
platform (multiple-	Fashion	316	81.7
responses)?	Electricity	109	28.2
	application		
	Other	78	20.2

Frequency Table

Appendix D: Reliability Analysis

Reliability Analysis-Usefulness

Reliability Statistics

Cronbach's Alpha	N of Items
.913	7

Item Statistics

	Mean	Std. Deviation	Ν
U1	5.42	1.085	387
U2	5.41	1.162	387
U3	5.19	1.217	387
U4	5.32	1.331	387
U5	5.25	1.329	387
U6	5.18	1.349	387
U7	5.22	1.332	387

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
U1	31.57	41.184	.642	.910
U2	31.59	39.668	.703	.904
U3	31.80	38.693	.735	.900
U4	31.67	37.086	.768	.897
U5	31.75	36.832	.788	.895
U6	31.81	36.870	.771	.897
U7	31.77	37.349	.748	.899

Mean	Variance	Std. Deviation	N of Items
36.99	51.308	7.163	7

Reliability Analysis-Ease of Use

Reliability Statistics

Cronbach's Alpha	N of Items
.808	4

Item Statistics

	Mean	Std. Deviation	Ν
EOU1	5.02	1.263	387
EOU2	5.05	1.179	387
EOU3	5.44	1.137	387
EOU4	5.44	1.202	387

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
EOU1	15.93	8.402	.617	.763
EOU2	15.90	8.604	.654	.745
EOU3	15.51	8.940	.630	.757
EOU4	15.51	8.815	.597	.772

Mean	Variance	Std. Deviation	N of Items
20.95	14.518	3.810	4

Reliability Analysis-Informativeness

Reliability Statistics

Cronbach's Alpha	N of Items
.804	6

Item Statistics

	Mean	Std. Deviation	N
I1	5.55	1.067	387
I2	5.68	1.094	387
I3	5.47	1.068	387
I4	5.55	1.055	387
I5	5.51	1.141	387
I6	5.57	1.064	387

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
I1	27.78	15.747	.522	.783
I2	27.65	15.062	.595	.766
I3	27.86	15.618	.539	.779
I4	27.79	15.499	.565	.773
I5	27.82	14.359	.653	.752
I6	27.76	15.983	.493	.789

Mean	Variance	Std. Deviation	N of Items
33.33	21.311	4.616	6

Reliability Analysis-Pleasure

Reliability Statistics

Cronbach's Alpha	N of Items
.918	5

Item Statistics

	Mean	Std. Deviation	Ν
P1	5.34	1.262	387
P2	5.22	1.346	387
P3	5.22	1.397	387
P4	5.15	1.411	387
P5	5.27	1.398	387

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
P1	20.86	24.188	.747	.908
P2	20.98	22.484	.842	.889
P3	20.97	22.403	.809	.896
P4	21.05	22.142	.822	.893
P5	20.93	23.238	.731	.912

Mean	Variance	Std. Deviation	N of Items
26.20	35.051	5.920	5

Reliability Analysis-Arousal

Reliability Statistics

Cronbach's Alpha	N of Items
.827	4

Item Statistics

	Mean	Std. Deviation	N
A1	4.75	1.255	387
A2	4.74	1.336	387
A3	5.09	1.296	387
A4	5.03	1.303	387

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
A1	14.86	10.706	.667	.776
A2	14.88	10.596	.618	.799
A3	14.52	10.426	.675	.772
A4	14.58	10.534	.654	.782

Mean	Variance	Std. Deviation	N of Items
19.61	17.761	4.214	4

Reliability Analysis-Word of Mouth Intention

Reliability Statistics

Cronbach's Alpha	N of Items
.786	4

Item Statistics

	Mean	Std. Deviation	N
WOM1	5.34	1.157	387
WOM2	5.12	1.224	387
WOM3	5.51	1.069	387
WOM4	5.41	1.151	387

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
WOM1	16.04	7.843	.575	.742
WOM2	16.25	7.842	.520	.772
WOM3	15.86	7.652	.696	.684
WOM4	15.96	7.781	.592	.733

Mean	Variance	Std. Deviation	N of Items
21.37	12.908	3.593	4

Reliability Analysis-Purchase Intention

Reliability Statistics

Cronbach's Alpha	N of Items
.854	4

Item Statistics

	Mean	Std. Deviation	Ν
PI1	5.00	1.271	387
PI2	5.21	1.160	387
PI3	5.07	1.256	387
PI4	4.89	1.295	387

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
PI1	15.17	10.109	.688	.818
PI2	14.96	10.395	.741	.797
PI3	15.09	10.007	.718	.805
PI4	15.28	10.275	.643	.837

Mean	Variance	Std. Deviation	N of Items
20.17	17.285	4.158	4

Appendix E: Exploratory Factor Analysis

Initial Exploratory Factor Analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of	f Sampling Adequacy.	.944
_	Approx. Chi-Square	7719.140
Bartlett's Test of Sphericity	df	561
	Sig.	.000

Communalities

	Initial	Extraction
U1	1.000	.549
U2	1.000	.639
U3	1.000	.640
U4	1.000	.707
U5	1.000	.718
U6	1.000	.678
U7	1.000	.676
EOU1	1.000	.613
EOU2	1.000	.640
EOU3	1.000	.665
EOU4	1.000	.555
I1	1.000	.549
I2	1.000	.575
13	1.000	.461
I4	1.000	.512
15	1.000	.614
I6	1.000	.537
P1	1.000	.640
P2	1.000	.784
Р3	1.000	.742
P4	1.000	.737
Р5	1.000	.668
A1	1.000	.619
A2	1.000	.614
A3	1.000	.638
A4	1.000	.647
WOM1	1.000	.635
WOM2	1.000	.512
WOM3	1.000	.712
WOM4	1.000	.688
PI1	1.000	.688
PI2	1.000	.759
PI3	1.000	.705
PI4	1.000	.649

Extraction Method: Principal Component Analysis.

Component	nt Initial Eigenvalues		Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings			
	Total	% of	Cumulative	Total	<u>8</u> 3 %	ofCumulative	Total	% of	Cumulative
	Total	Variance	%	Total	Variance	%	Total	Variance	%
1	12.114	35.630	35.630	12.114	35.630	35.630	6.464	19.013	19.013
2	4.162	12.241	47.871	4.162	12.241	47.871	3.931	11.563	30.576
3	2.121	6.238	54.108	2.121	6.238	54.108	3.306	9.723	40.299
4	1.169	3.437	57.545	1.169	3.437	57.545	2.943	8.656	48.955
5	1.155	3.398	60.944	1.155	3.398	60.944	2.889	8.498	57.453
6	1.044	3.070	64.014	1.044	3.070	64.014	2.231	6.561	64.014
7	.843	2.480	66.494						
8	.798	2.347	68.840						
9	.712	2.095	70.935						
10	.691	2.034	72.969						
11	.645	1.898	74.866						
12	.620	1.825	76.691						
13	.582	1.711	78.402						
14	.537	1.580	79.982						
15	.513	1.509	81.491						
16	.504	1.482	82.973						
17	.466	1.372	84.344						
18	.452	1.329	85.673						
19	.444	1.307	86.980						
20	.428	1.259	88.239						
21	.393	1.157	89.396						
22	.369	1.084	90.480						
23	.346	1.019	91.499						
24	.335	.985	92.484						
25	.325	.955	93.438						
26	.320	.940	94.379						
27	.292	.859	95.238						
28	.279	.821	96.059						
29	.263	.774	96.833						
30	.252	.741	97.574						
31	.227	.668	98.243						
32	.219	.645	98.888						
33	.208	.611	99.499						
34	.170	.501	100.000						

Total Variance Explained

Extraction Method: Principal Component Analysis.



Component Matrix^a

	Component	Component						
	1	2	3	4	5	6		
P2	.760							
P4	.758							
Р3	.748							
P1	.737							
Р5	.705							
U4	.705							
U5	.697							
A4	.694							
U6	.686							
U3	.674							
U7	.673							
A3	.656							
U1	.648							
U2	.631							
PI1	.575							
PI3	.569							
WOM1	.568							
WOM3	.561							
EOU2	.555							
A2	.552							
A1	.551							
PI2	.548							
PI4	.543							
15	.535							
WOM2	.501							
EOU4								
EOU3								
WOM4								
I4					1			
I2					1			
I3					1			
EOU1					1			
I1					1			
16					1			

Extraction Method: Principal Component Analysis.

a. 6 components extracted.

	Component							
	1	2	3	4	5	6		
U5	.804							
U4	.797							
U6	.782							
U7	.776							
U2	.770							
U3	.754							
U1	.645							
P3	.619	.520						
P4	.595	.526						
A1		.726						
A2		.681						
A3		.645						
A4		.640						
P2	.585	.610						
P5	.535	.578						
P1	.507	.537						
EOU3			.768					
EOU1			.732					
EOU2			.715					
I1			.633					
EOU4			.628					
PI2				.794				
PI3				.741				
PI4 DV1				.719				
P11				./16	(70)			
15					.672			
16					.635			
12					.604			
14 12					.382			
					.340	725		
WOM3						.123		
WOM4						./0/		
WOMI						.009		
wOM2		-	_		-	.310		

Rotated Component Matrix^a

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 9 iterations.

Component Transformation Matrix

Component	1	2	3	4	5	6
1	.631	.455	.335	.327	.326	.264
2	527	338	.473	.334	.422	.308
3	.346	415	.501	555	.213	323
4	124	.195	.614	.220	676	254
5	423	.671	.163	536	.238	.017
6	.102	137	.099	371	396	.817

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

Final Exploratory Factor Analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of	.940	
-	Approx. Chi-Square	6798.163
Bartlett's Test of Sphericity	df	496
	Sig.	.000

Communalities

	Initial	Extraction
U1	1.000	.532
U2	1.000	.638
U3	1.000	.637
U4	1.000	.708
U5	1.000	.717
U6	1.000	.680
U7	1.000	.677
EOU1	1.000	.614
EOU2	1.000	.645
EOU3	1.000	.671
EOU4	1.000	.555
I1	1.000	.546
I2	1.000	.551
13	1.000	.495
I4	1.000	.514
15	1.000	.622
16	1.000	.560
P1	1.000	.629
P3	1.000	.726
P4	1.000	.696
A1	1.000	.681
A2	1.000	.647
A3	1.000	.635
A4	1.000	.638
WOM1	1.000	.640
WOM2	1.000	.519
WOM3	1.000	.734
WOM4	1.000	.698
PI1	1.000	.687
PI2	1.000	.759
PI3	1.000	.707
PI4	1.000	.646

 PI4
 1.000
 porto

 Extraction Method: Principal Component Analysis.
 Principal Component C

Component	Initial	Eigenvalues		Extract	ion Sum	s of Squared	Rotat	ion Sums	of Squared
			-	Loadin	gs		Loadi	ings	
	Total	% of	Cumulative	Total	%	ofCumulative	Total	% of	Cumulative
		Variance	%		Variance	%		Variance	%
1	11.110	34.718	34.718	11.110	34.718	34.718	6.302	19.695	19.695
2	3.889	12.153	46.871	3.889	12.153	46.871	3.254	10.168	29.864
3	2.111	6.598	53.469	2.111	6.598	53.469	2.921	9.129	38.993
4	1.165	3.642	57.111	1.165	3.642	57.111	2.866	8.958	47.950
5	1.125	3.517	60.628	1.125	3.517	60.628	2.834	8.857	56.807
6	1.000	3.126	63.754	1.000	3.126	63.754	2.223	6.946	63.754
7	.817	2.554	66.308						
8	.789	2.465	68.773						
9	.702	2.193	70.966						
10	.654	2.044	73.010						
11	.630	1.968	74.978						
12	.614	1.918	76.896						
13	.580	1.812	78.708						
14	.532	1.661	80.369						
15	.506	1.580	81.949						
16	.499	1.558	83.507						
17	.465	1.454	84.961						
18	.444	1.387	86.348						
19	.433	1.354	87.702						
20	.407	1.272	88.974						
21	.393	1.227	90.201						
22	.367	1.147	91.348						
23	.335	1.048	92.396						
24	.332	1.037	93.433						
25	.320	1.000	94.432						
26	.304	.950	95.383						
27	.277	.864	96.247						
28	.267	.833	97.080						
29	.256	.799	97.880						
30	.247	.773	98.652						
31	.226	.705	99.357						
32	.206	.643	100.000						

Total Variance Explained

Extraction Method: Principal Component Analysis.



	Component									
	1	2	3	4	5	6				
P4	.724									
P3	.716									
P1	.714									
U4	.689									
U5	.678									
U6	.670									
A4	.667									
U3	.659									
U7	.653									
U1	.645									
A3	.626									
U2	.611									
PI1	.594									
PI3	.593									
WOM1	.586									
WOM3	.586									
EOU2	.577									
PI2	.573									
15	.560									
PI4	.551									
A2	.539									
A1	.531									
EOU4	.525									
WOM2	.521									
EOU3	.517									
WOM4	.515									
I4	.508									
EOU1										
I3										
I2										
I1										
I6										

Component Matrix^a

Extraction Method: Principal Component Analysis. a. 6 components extracted.

	Component									
	1	2	3	4	5	6				
U5 U4 U6 U7 U2 U3 P3 P4 U1 P1 EOU3 EOU1 EOU2 I1 EOU2 I1 EOU4 P12 P13 P14 P11 I5 I6 I3 I4 I2 A1 A2 A3 A4 WOM3 WOM4 WOM1 WOM2	.816 .808 .793 .790 .777 .763 .671 .649 .647 .555	.770 .731 .718 .627 .625	.793 .743 .720 .716	.681 .672 .589 .585 .583	.763 .717 .601 .590	.746 .716 .617 .519				

Rotated Component Matrix^a

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

Component Transformation Matrix

Component	1	2	3	4	5	6
1	.636	.367	.352	.349	.360	.293
2	620	.429	.309	.425	282	.275
3	.291	.514	553	.214	447	317
4	223	.629	.054	541	.437	261
5	248	022	663	.304	.552	.319
6	128	144	.183	.516	.308	754

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Appendix F: CFA Results

Initial CFA Results

Notes for Model (Default model)

Computation of degrees of freedom (Default model)

Number of distinct sample moments:	528
Number of distinct parameters to be estimated:	79
Degrees of freedom (528 - 79):	449

Result (Default model)

Minimum was achieved Chi-square = 939.052 Degrees of freedom = 449 Probability level = .000

Assessment of normality (Group number 1)

Variable	min	max	skew	c.r.	kurtosis	c.r.
WOM3	2.000	7.000	802	-6.439	.510	2.048
WOM4	1.000	7.000	658	-5.283	.215	.863
WOM1	1.000	7.000	639	-5.131	008	030
WOM2	1.000	7.000	830	-6.664	.730	2.932
A1	1.000	7.000	437	-3.513	.142	.570
A2	1.000	7.000	548	-4.402	.250	1.002
A3	1.000	7.000	409	-3.283	029	117
A4	1.000	7.000	521	-4.188	.143	.576
15	1.000	7.000	882	-7.085	.685	2.751
I6	2.000	7.000	586	-4.710	265	-1.062
I3	2.000	7.000	657	-5.277	.177	.711
I4	2.000	7.000	907	-7.283	.852	3.423
I2	1.000	7.000	-1.082	-8.692	1.445	5.804
PI2	2.000	7.000	378	-3.037	415	-1.667
PI3	2.000	7.000	196	-1.578	770	-3.094
PI4	1.000	7.000	527	-4.231	.000	.001
PI1	1.000	7.000	424	-3.406	090	361
EOU3	1.000	7.000	595	-4.777	.132	.530
EOU1	1.000	7.000	989	-7.942	.961	3.860
EOU2	1.000	7.000	517	-4.156	008	033
I1	2.000	7.000	804	-6.458	.357	1.432
EOU4	1.000	7.000	782	-6.282	.276	1.107
U5	1.000	7.000	622	-4.995	010	042
U4	1.000	7.000	792	-6.359	.222	.890
U6	1.000	7.000	685	-5.502	.170	.682
U7	1.000	7.000	807	-6.477	.605	2.429
U2	2.000	7.000	753	-6.044	.530	2.127
U3	1.000	7.000	568	-4.561	011	043
P3	1.000	7.000	793	-6.368	.303	1.217
P4	1.000	7.000	750	-6.019	.445	1.788
U1	1.000	7.000	778	-6.249	1.136	4.560
P1	1.000	7.000	764	-6.140	.468	1.878
Multivariate					199.787	42.127

Observation number	Mahalanobis d-squared	n1	n2
381	80.368	.000	.002
127	75.865	.000	.000
331	75.578	.000	.000
229	74.199	.000	.000
218	71.285	.000	.000
69	70.723	.000	.000
260	69.612	.000	.000
163	69.489	.000	.000
183	68.755	.000	.000
305	68.429	.000	.000
335	67.096	.000	.000
88	66.785	.000	.000
337	66.138	.000	.000
249	65.002	.000	.000
353	65.000	.000	.000
345	64.262	.001	.000
219	63.923	.001	.000
200	63.860	.001	.000
311	63.256	.001	.000
376	63.073	.001	.000
352	62.762	.001	.000
75	62.412	.001	.000
326	61.948	.001	.000
271	61.627	.001	.000
212	60.585	.002	.000
300	59.698	.002	.000
185	59.575	.002	.000
234	59.402	.002	.000
106	59.274	.002	.000
148	59.207	.002	.000
196	59.185	.002	.000
301	57.572	.004	.000
382	57.520	.004	.000
20	57.112	.004	.000
361	56.987	.004	.000
181	56.752	.004	.000
303	56.619	.005	.000
285	56.533	.005	.000
239	56.233	.005	.000
327	55.596	.006	.000
157	55.464	.006	.000
288	55.340	.006	.000
211	55.281	.006	.000
142	55.080	.007	.000
299	54.942	.007	.000
230	54.722	.007	.000
336	54.281	.008	.000
230	54.270 54.025	.008	.000
228	54.055 52.260	.009	.000
328	53.300	.010	.000
29	52.557	.010	.000
293	52.058	.011	.000
247	51.056	.011	.000
230 128	51.910	.014	.000
224	51.745	.015	.000
316	51.095	.015	.000
205	51.125	.017	.000
203	50.562	.017	.000
51/	50.502	.020	.000

Observations farthest from	n the centroid (Mahalanobis	distance) (Group number 1))
----------------------------	-----------------------------	----------------------------	---

Observation number	Mahalanobis d-squared	p1	p2
107	50.030	.022	.000
204	49.941	.023	.000
52	49.556	.025	.000
334	49.516	.025	.000
60	49.128	.027	.000
356	49.087	.027	.000
341	48.950	.028	.000
369	48.875	.029	.000
101	48.120	.034	.000
80	47.431	.039	.000
307	47.333	.040	.000
312	47.309	.040	.000
87	46.967	.043	.000
372	46.939	.043	.000
145	46.898	.043	.000
287	46.603	.046	.000
147	46.557	.046	.000
56	46.316	.049	.000
308	45.174	.061	.000
2	45.150	.062	.000
297	44.902	.065	.000
354	44.765	.066	.000
350	44.740	.067	.000
3	44.582	.069	.000
162	44.410	.071	.000
179	44.310	.072	.000
330	43.659	.082	.000
30	43.543	.084	.000
325	43.492	.085	.000
250	43.414	.086	.000
232	43.230	.089	.000
138	43.069	.092	.000
43	42.713	.098	.000
366	42.464	.102	.000
168	42.342	.104	.000
371	42.132	.108	.000
315	42.074	.110	.000
274	41.861	.114	.000
262	41.625	.119	.000
347	41.564	.120	.000
268	41.521	.121	.000

Scalar Estimates (Group number 1 - Default model)

-							
			Estimate	S.E.	C.R.	Р	Label
P1	<	Usefulness	1.000				
U1	<	Usefulness	.798	.061	13.064	***	
P4	<	Usefulness	1.203	.079	15.243	***	
P3	<	Usefulness	1.219	.078	15.619	***	
U3	<	Usefulness	.998	.068	14.630	***	
U2	<	Usefulness	.919	.065	14.092	***	
U7	<	Usefulness	1.119	.075	15.003	***	
U6	<	Usefulness	1.166	.075	15.470	***	
U4	<	Usefulness	1.151	.074	15.467	***	
U5	<	Usefulness	1.175	.074	15.828	***	
EOU4	<	EOU	1.000				
I1	<	EOU	.832	.071	11.701	***	
EOU2	<	EOU	1.016	.079	12.803	***	
EOU1	<	EOU	1.040	.085	12.301	***	
EOU3	<	EOU	.961	.076	12.584	***	
PI1	<	PI	1.000				
PI4	<	PI	.910	.065	13.923	***	
PI3	<	PI	.989	.062	15.850	***	
PI2	<	PI	.951	.057	16.539	***	
I2	<	Informativeness	1.000				
I4	<	Informativeness	1.007	.092	10.964	***	
I3	<	Informativeness	.934	.091	10.215	***	
I6	<	Informativeness	.855	.090	9.523	***	
15	<	Informativeness	1.188	.101	11.704	***	
A4	<	Arousal	1.000				
A3	<	Arousal	1.002	.063	16.010	***	
A2	<	Arousal	.852	.066	12.904	***	
A1	<	Arousal	.843	.062	13.683	***	
WOM2	<	WOM	1.000				
WOM1	<	WOM	1.022	.097	10.580	***	
WOM4	<	WOM	1.081	.098	11.056	***	
WOM3	<	WOM	1.112	.094	11.791	***	

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate
P1	<	Usefulness	.725
U1	<	Usefulness	.673
P4	<	Usefulness	.780
P3	<	Usefulness	.799
U3	<	Usefulness	.750
U2	<	Usefulness	.724
U7	<	Usefulness	.769
U6	<	Usefulness	.791
U4	<	Usefulness	.791
U5	<	Usefulness	.809
EOU4	<	EOU	.706
I1	<	EOU	.661
EOU2	<	EOU	.730
EOU1	<	EOU	.699
EOU3	<	EOU	.716
PI1	<	PI	.785
PI4	<	PI	.702
PI3	<	PI	.787
PI2	<	PI	.819
I2	<	Informativeness	.647
I4	<	Informativeness	.675
I3	<	Informativeness	.618
I6	<	Informativeness	.568
15	<	Informativeness	.736
A4	<	Arousal	.791
A3	<	Arousal	.797
A2	<	Arousal	.658
A1	<	Arousal	.692
WOM2	<	WOM	.623
WOM1	<	WOM	.673
WOM4	<	WOM	.716
WOM3	<	WOM	.793

Standardised Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	Р	Label
Usefulness	<>	EOU	.343	.054	6.395	***	
Usefulness	<>	PI	.377	.060	6.305	***	
Usefulness	<>	Informativeness	.274	.046	5.979	***	
Usefulness	<>	Arousal	.742	.080	9.299	***	
Usefulness	<>	WOM	.310	.050	6.136	***	
EOU	<>	PI	.445	.062	7.123	***	
EOU	<>	Informativeness	.469	.058	8.105	***	
EOU	<>	Arousal	.281	.058	4.849	***	
EOU	<>	WOM	.379	.055	6.957	***	
PI	<>	Informativeness	.447	.058	7.638	***	
PI	<>	Arousal	.515	.072	7.128	***	
PI	<>	WOM	.549	.068	8.026	***	
Informativeness	<>	Arousal	.220	.049	4.454	***	
Informativeness	<>	WOM	.368	.051	7.224	***	
Arousal	<>	WOM	.393	.060	6.523	***	

Covariances: (Group number 1 - Default model)

Correlations	(Group	number	1 -	Default	model)
--------------	--------	--------	-----	---------	--------

			Estimate
Usefulness	<>	EOU	.443
Usefulness	<>	PI	.414
Usefulness	<>	Informativeness	.424
Usefulness	<>	Arousal	.788
Usefulness	<>	WOM	.445
EOU	<>	PI	.527
EOU	<>	Informativeness	.783
EOU	<>	Arousal	.322
EOU	<>	WOM	.588
PI	<>	Informativeness	.634
PI	<>	Arousal	.502
PI	<>	WOM	.723
Informativeness	<>	Arousal	.302
Informativeness	<>	WOM	.685
Arousal	<>	WOM	.501

	Estimate	S.E.	C.R.	Р	Label
Usefulness	.835	.103	8.114	***	
EOU	.717	.096	7.471	***	
PI	.995	.113	8.786	***	
Informativeness	.499	.075	6.623	***	
Arousal	1.060	.120	8.830	***	
WOM	.580	.092	6.312	***	
e1	.753	.058	12.907	***	
e2	.642	.049	13.157	***	
e3	.777	.062	12.507	***	
e4	.705	.057	12.324	***	
e5	.646	.051	12.747	***	
e6	.641	.050	12.914	***	
e7	.724	.057	12.608	***	
e8	.678	.055	12.400	***	
e9	.661	.053	12.402	***	
e10	.609	.050	12.206	***	
e11	.723	.062	11.600	***	
e12	.639	.053	12.101	***	
e13	.647	.058	11.244	***	
e14	.815	.070	11.691	***	
e15	.628	.055	11.454	***	
e16	.618	.057	10.752	***	
e17	.849	.071	12.025	***	
e18	.600	.056	10.725	***	
e19	.443	.045	9.922	***	
e20	.695	.057	12.099	***	
e21	.605	.051	11.794	***	
e22	.703	.057	12.353	***	
e23	.764	.060	12.710	***	
e24	.595	.055	10.898	***	
e25	.634	.061	10.409	***	
e26	.611	.060	10.261	***	
e27	1.011	.082	12.337	***	
e28	.818	.068	12.003	***	
e29	.915	.074	12.299	***	
e30	.729	.062	11.792	***	
e31	.644	.057	11.209	***	
e32	.422	.044	9.536	***	

Variances: (Group number 1 - Default model)

	Estimate
WOM3	.629
WOM4	.513
WOM1	.454
WOM2	.388
A1	.480
A2	.432
A3	.635
A4	.626
15	.542
I6	.323
I3	.382
I4	.456
I2	.418
PI2	.670
PI3	.619
PI4	.492
PI1	.617
EOU3	.513
EOU1	.488
EOU2	.534
I1	.438
EOU4	.498
U5	<u>.654</u>
U4	.626
U6	.626
U7	.591
U2	.524
U3	.563
P3	.638
P4	.609
U1	.453
P1	.526

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
----------------------------------------

## Modification Indices (Group number 1 - Default model)

		1	
		M.I.	Par Change
e31 <	> PI	10.290	.112
e31 <	> e32	7.425	.089
e30 <	> Informativeness	6.342	.064
e30 <	> PI	11.462	124
e29 <	> WOM	4.234	063
e29 <	> Arousal	8.643	.115
e29 <	> EOU	4.297	.073
e29 <	> Usefulness	5.008	074
e29 <	> e31	5.211	101
e27 <	> e32	4.233	083
e27 <	> e31	6.341	.119
e27 <	> e28	38.430	.319
e26 <	> PI	5.161	081
e26 <	> e27	6.221	117
e25 <	> e31	7.803	111
e25 <	> e28	6.586	111
e23 <	> WOM	4 965	063
e23 <	> e30	10 380	136
e23 <	- e30	6 582	114
e23 <	$> e^{25}$	4 169	- 085
e23 <	> EOU	11 /63	085
e20 <	> E00	0.271	.104
-10	> -20	9.571	.104
17 <		10.528	115
el / <	> Informativeness	4.931	061
el / <	> e31	8.752	129
el7 <	> e29	4.457	.106
el7 <	> el8	5.352	.098
e16 <	> e24	7.500	.104
e16 <	> e17	7.792	120
e15 <	> Usefulness	4.862	062
e15 <	≥ e29	6.986	.116
e15 <	> e25	4.223	.080
e15 <	> e23	8.121	113
e14 <	> e16	6.629	111
e13 <	> Informativeness	4.789	054
e13 <	> e27	6.654	.122
e13 <	> e14	4.826	.094
e12 <	> Informativeness	6.702	.061
e12 <	> e27	8.582	134
e12 <	> e21	5.123	081
e12 <	> e20	26.321	.195
e11 <	> e22	4.219	.084
e10 <	> Arousal	4.658	069
e10 <	> Usefulness	4.691	.058
e10 <	> e18	6.328	092
e9 <	> Arousal	4.675	072
e9 <	> e28	9.083	126
e9 <	> e27	7.038	- 122
e9 <	> e21	5 270	083
e8 <	$> e^{24}$	5.270	- 088
	> 02 <del>4</del>	6 295	000
co <	> 010	0.303	.098
co <		14./31	.140
	> mormauveness	4.740	034
e/ <	~ eZ/	0.230	12U
e/ <	<ul> <li>e18</li> <li>14</li> </ul>	4.273	081
e'/ <	> e14	5.269	.101

## Covariances: (Group number 1 - Default model)

			M.I.	Par Change
e7	<>	e10	9.778	.117
e7	<>	e8	9.813	.123
e6	<>	Arousal	4.820	071
e6	<>	Usefulness	4.214	.055
e5	<>	e17	8.077	.119
e5	<>	e9	15.158	.141
e4	<>	Arousal	12.140	.120
e4	<>	Informativeness	6.574	.064
e4	<>	EOU	5.144	070
e4	<>	Usefulness	5.745	069
e4	<>	e30	7.790	.115
e4	<>	e25	5.002	.091
e4	<>	e8	4.046	078
e4	<>	e7	7.222	108
e4	<>	e5	10.356	121
e3	<>	Arousal	15.076	.139
e3	<>	Informativeness	5.410	.061
e3	<>	EOU	4.126	066
e3	<>	Usefulness	10.218	096
e3	<>	e25	13.112	.153
e3	<>	e20	5.672	.099
e3	<>	e10	14.746	149
e3	<>	e7	4.892	092
e3	<>	e5	5.893	095
e3	<>	e4	45.280	.280
e2	<>	e27	4.042	.089
e2	<>	e4	13.159	134
e2	<>	e3	6.730	100
e1	<>	Arousal	12.903	.125
e1	<>	Usefulness	13.820	108
e1	<>	e28	4.422	.092
e1	<>	e27	13.387	.177
e1	<>	e24	4.459	.082
e1	<>	e23	5.787	.100
e1	<>	e21	4.788	083
e1	<>	e10	5.239	086
e1	<>	e9	16.007	156
e1	<>	e8	13.787	147
e1	<>	e7	12.575	144
e1	<>	e5	5.383	088
e1	<>	e4	32.749	.231
e1	<>	e3	21.649	.196
e1	<>	e2	9.334	.115

## Model Fit Summary

### CMIN

Model	NPAR	CMIN	DF	Р	CMIN/DF
Default model	79	939.052	449	.000	2.091
Saturated model	528	.000	0		
Independence model	32	7006.918	496	.000	14.127

#### RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.073	.858	.833	.730
Saturated model	.000	1.000		
Independence model	.519	.210	.159	.197

#### **Baseline Comparisons**

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.866	.852	.925	.917	.925
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

#### Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.905	.784	.837
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

#### NCP

Model	NCP	LO 90	HI 90
Default model	490.052	405.960	581.897
Saturated model	.000	.000	.000
Independence model	6510.918	6243.691	6784.581

#### FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	2.433	1.270	1.052	1.508
Saturated model	.000	.000	.000	.000
Independence model	18.153	16.868	16.175	17.577

### RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.053	.048	.058	.135
Independence model	.184	.181	.188	.000

### AIC

Model	AIC	BCC	BIC	CAIC
Default model	1097.052	1111.823	1409.768	1488.768
Saturated model	1056.000	1154.720	3146.048	3674.048
Independence model	7070.918	7076.901	7197.588	7229.588

### ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	2.842	2.624	3.080	2.880
Saturated model	2.736	2.736	2.736	2.992
Independence model	18.318	17.626	19.027	18.334
HOELTER				

Model	HOELTER .05	HOELTER .01
Default model	206	215
Independence model	31	32

#### **Final CFA Results**

#### Notes for Model (Default model)

#### Computation of degrees of freedom (Default model)

Number of distinct sample moments:	231
Number of distinct parameters to be estimated:	57
Degrees of freedom (231 - 57):	174

Result (Default model)

Minimum was achieved Chi-square = 272.163 Degrees of freedom = 174 Probability level = .000

#### Scalar Estimates (Group number 1 - Default model)

#### **Maximum Likelihood Estimates**

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	Р	Label
U3	<	Usefulness	1.000				
U2	<	Usefulness	.900	.061	14.867	***	
U7	<	Usefulness	1.134	.068	16.642	***	
U6	<	Usefulness	1.168	.069	16.984	***	
U4	<	Usefulness	1.146	.068	16.848	***	
U5	<	Usefulness	1.174	.068	17.395	***	
EOU4	<	EOU	1.000				
EOU2	<	EOU	1.009	.086	11.691	***	
EOU3	<	EOU	.971	.083	11.676	***	
PI1	<	PI	1.000				
PI4	<	PI	.902	.065	13.865	***	
PI3	<	PI	.989	.062	15.931	***	
PI2	<	PI	.945	.057	16.509	***	
I4	<	Informativeness	1.000				
15	<	Informativeness	1.124	.104	10.778	***	
A4	<	Arousal	1.000				
A3	<	Arousal	1.018	.065	15.618	***	
A1	<	Arousal	.780	.063	12.436	***	
WOM1	<	WOM	1.000				
WOM4	<	WOM	1.135	.097	11.671	***	
WOM3	<	WOM	1.145	.094	12.191	***	

			Estimate
U3	<	Usefulness	.772
U2	<	Usefulness	.727
U7	<	Usefulness	.800
U6	<	Usefulness	.814
U4	<	Usefulness	.808
U5	<	Usefulness	.830
EOU4	<	EOU	.708
EOU2	<	EOU	.728
EOU3	<	EOU	.726
PI1	<	PI	.788
PI4	<	PI	.698
PI3	<	PI	.789
PI2	<	PI	.816
I4	<	Informativeness	.711
I5	<	Informativeness	.739
A4	<	Arousal	.800
A3	<	Arousal	.819
A1	<	Arousal	.648
WOM1	<	WOM	.654
WOM4	<	WOM	.745
WOM3	<	WOM	.810

<b>Standardised Regressi</b>	on Weights:	(Group number	1 -	<ul> <li>Default mod</li> </ul>	el)
------------------------------	-------------	---------------	-----	---------------------------------	-----

#### Covariances: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	Р	Label
EOU	<>	PI	.475	.066	7.195	***	
EOU	<>	Informativeness	.453	.060	7.567	***	
EOU	<>	Arousal	.312	.062	5.008	***	
EOU	<>	WOM	.368	.054	6.750	***	
Usefulness	<>	EOU	.334	.056	5.971	***	
PI	<>	Informativeness	.461	.062	7.436	***	
PI	<>	Arousal	.495	.073	6.806	***	
PI	<>	WOM	.533	.066	8.062	***	
Usefulness	<>	PI	.344	.060	5.751	***	
Informativeness	<>	Arousal	.236	.056	4.202	***	
Informativeness	<>	WOM	.359	.052	6.979	***	
Usefulness	<>	Informativeness	.278	.051	5.500	***	
Arousal	<>	WOM	.356	.059	6.087	***	
Usefulness	<>	Arousal	.716	.079	9.119	***	
Usefulness	<>	WOM	.265	.049	5.468	***	

			Estimate
EOU	<>	PI	.558
EOU	<>	Informativeness	.712
EOU	<>	Arousal	.352
EOU	<>	WOM	.573
Usefulness	<>	EOU	.419
PI	<>	Informativeness	.615
PI	<>	Arousal	.475
PI	<>	WOM	.705
Usefulness	<>	PI	.367
Informativeness	<>	Arousal	.302
Informativeness	<>	WOM	.636
Usefulness	<>	Informativeness	.396
Arousal	<>	WOM	.453
Usefulness	<>	Arousal	.733
Usefulness	<>	WOM	.375

## Correlations: (Group number 1 - Default model)

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	Р	Label
Usefulness	.880	.100	8.773	***	
EOU	.721	.101	7.142	***	
PI	1.001	.114	8.817	***	
Informativeness	.561	.082	6.841	***	
Arousal	1.086	.124	8.769	***	
WOM	.570	.086	6.626	***	
e1	.598	.049	12.072	***	
e2	.634	.051	12.507	***	
e3	.637	.054	11.690	***	
e4	.613	.053	11.463	***	
e5	.613	.053	11.558	***	
e6	.548	.049	11.144	***	
e7	.719	.069	10.364	***	
e8	.653	.066	9.927	***	
e9	.610	.061	9.961	***	
e10	.611	.057	10.660	***	
e11	.857	.071	12.038	***	
e12	.593	.056	10.629	***	
e13	.448	.045	9.949	***	
e14	.550	.059	9.344	***	
e15	.590	.070	8.490	***	
e16	.609	.066	9.289	***	
e17	.552	.064	8.661	***	
e18	.911	.075	12.104	***	
e19	.764	.065	11.749	***	
e20	.588	.058	10.199	***	
e21	.392	.047	8.297	***	

	Estimate
WOM3	.656
WOM4	.555
WOM1	.427
A1	.420
A3	.671
A4	.641
15	.546
I4	.505
PI2	.666
PI3	.623
PI4	.488
PI1	.621
EOU3	.527
EOU2	.529
EOU4	.501
U5	.689
U4	.653
U6	.662
U7	.640
U2	.529
U3	.596

#### Total Effects (Group number 1 - Default model)

	WOM	Arousal	Informativeness	PI	EOU	Usefulness
WOM3	1.145	.000	.000	.000	.000	.000
WOM4	1.135	.000	.000	.000	.000	.000
WOM1	1.000	.000	.000	.000	.000	.000
A1	.000	.780	.000	.000	.000	.000
A3	.000	1.018	.000	.000	.000	.000
A4	.000	1.000	.000	.000	.000	.000
I5	.000	.000	1.124	.000	.000	.000
I4	.000	.000	1.000	.000	.000	.000
PI2	.000	.000	.000	.945	.000	.000
PI3	.000	.000	.000	.989	.000	.000
PI4	.000	.000	.000	.902	.000	.000
PI1	.000	.000	.000	1.000	.000	.000
EOU3	.000	.000	.000	.000	.971	.000
EOU2	.000	.000	.000	.000	1.009	.000
EOU4	.000	.000	.000	.000	1.000	.000
U5	.000	.000	.000	.000	.000	1.174
U4	.000	.000	.000	.000	.000	1.146
U6	.000	.000	.000	.000	.000	1.168
U7	.000	.000	.000	.000	.000	1.134
U2	.000	.000	.000	.000	.000	.900
U3	.000	.000	.000	.000	.000	1.000

	WOM	Arousal	Informativeness	PI	EOU	Usefulness
WOM3	.810	.000	.000	.000	.000	.000
WOM4	.745	.000	.000	.000	.000	.000
WOM1	.654	.000	.000	.000	.000	.000
A1	.000	.648	.000	.000	.000	.000
A3	.000	.819	.000	.000	.000	.000
A4	.000	.800	.000	.000	.000	.000
15	.000	.000	.739	.000	.000	.000
I4	.000	.000	.711	.000	.000	.000
PI2	.000	.000	.000	.816	.000	.000
PI3	.000	.000	.000	.789	.000	.000
PI4	.000	.000	.000	.698	.000	.000
PI1	.000	.000	.000	.788	.000	.000
EOU3	.000	.000	.000	.000	.726	.000
EOU2	.000	.000	.000	.000	.728	.000
EOU4	.000	.000	.000	.000	.708	.000
U5	.000	.000	.000	.000	.000	.830
U4	.000	.000	.000	.000	.000	.808
U6	.000	.000	.000	.000	.000	.814
U7	.000	.000	.000	.000	.000	.800
U2	.000	.000	.000	.000	.000	.727
U3	.000	.000	.000	.000	.000	.772

#### Standardised Total Effects (Group number 1 - Default model)

#### Direct Effects (Group number 1 - Default model)

	WOM	Arousal	Informativeness	PI	EOU	Usefulness
WOM3	1.145	.000	.000	.000	.000	.000
WOM4	1.135	.000	.000	.000	.000	.000
WOM1	1.000	.000	.000	.000	.000	.000
A1	.000	.780	.000	.000	.000	.000
A3	.000	1.018	.000	.000	.000	.000
A4	.000	1.000	.000	.000	.000	.000
I5	.000	.000	1.124	.000	.000	.000
I4	.000	.000	1.000	.000	.000	.000
PI2	.000	.000	.000	.945	.000	.000
PI3	.000	.000	.000	.989	.000	.000
PI4	.000	.000	.000	.902	.000	.000
PI1	.000	.000	.000	1.000	.000	.000
EOU3	.000	.000	.000	.000	.971	.000
EOU2	.000	.000	.000	.000	1.009	.000
EOU4	.000	.000	.000	.000	1.000	.000
U5	.000	.000	.000	.000	.000	1.174
U4	.000	.000	.000	.000	.000	1.146
U6	.000	.000	.000	.000	.000	1.168
U7	.000	.000	.000	.000	.000	1.134
U2	.000	.000	.000	.000	.000	.900
U3	.000	.000	.000	.000	.000	1.000

	WOM	Arousal	Informativeness	PI	EOU	Usefulness
WOM3	.810	.000	.000	.000	.000	.000
WOM4	.745	.000	.000	.000	.000	.000
WOM1	.654	.000	.000	.000	.000	.000
A1	.000	.648	.000	.000	.000	.000
A3	.000	.819	.000	.000	.000	.000
A4	.000	.800	.000	.000	.000	.000
I5	.000	.000	.739	.000	.000	.000
I4	.000	.000	.711	.000	.000	.000
PI2	.000	.000	.000	.816	.000	.000
PI3	.000	.000	.000	.789	.000	.000
PI4	.000	.000	.000	.698	.000	.000
PI1	.000	.000	.000	.788	.000	.000
EOU3	.000	.000	.000	.000	.726	.000
EOU2	.000	.000	.000	.000	.728	.000
EOU4	.000	.000	.000	.000	.708	.000
U5	.000	.000	.000	.000	.000	.830
U4	.000	.000	.000	.000	.000	.808
U6	.000	.000	.000	.000	.000	.814
U7	.000	.000	.000	.000	.000	.800
U2	.000	.000	.000	.000	.000	.727
U3	.000	.000	.000	.000	.000	.772

#### Standardised Direct Effects (Group number 1 - Default model)

#### Indirect Effects (Group number 1 - Default model)

	WOM	Arousal	Informativeness	PI	EOU	Usefulness
WOM3	.000	.000	.000	.000	.000	.000
WOM4	.000	.000	.000	.000	.000	.000
WOM1	.000	.000	.000	.000	.000	.000
A1	.000	.000	.000	.000	.000	.000
A3	.000	.000	.000	.000	.000	.000
A4	.000	.000	.000	.000	.000	.000
I5	.000	.000	.000	.000	.000	.000
I4	.000	.000	.000	.000	.000	.000
PI2	.000	.000	.000	.000	.000	.000
PI3	.000	.000	.000	.000	.000	.000
PI4	.000	.000	.000	.000	.000	.000
PI1	.000	.000	.000	.000	.000	.000
EOU3	.000	.000	.000	.000	.000	.000
EOU2	.000	.000	.000	.000	.000	.000
EOU4	.000	.000	.000	.000	.000	.000
U5	.000	.000	.000	.000	.000	.000
U4	.000	.000	.000	.000	.000	.000
U6	.000	.000	.000	.000	.000	.000
U7	.000	.000	.000	.000	.000	.000
U2	.000	.000	.000	.000	.000	.000
U3	.000	.000	.000	.000	.000	.000
	WOM	Arousal	Informativeness	PI	EOU	Usefulness
------	------	---------	-----------------	------	------	------------
WOM3	.000	.000	.000	.000	.000	.000
WOM4	.000	.000	.000	.000	.000	.000
WOM1	.000	.000	.000	.000	.000	.000
A1	.000	.000	.000	.000	.000	.000
A3	.000	.000	.000	.000	.000	.000
A4	.000	.000	.000	.000	.000	.000
I5	.000	.000	.000	.000	.000	.000
I4	.000	.000	.000	.000	.000	.000
PI2	.000	.000	.000	.000	.000	.000
PI3	.000	.000	.000	.000	.000	.000
PI4	.000	.000	.000	.000	.000	.000
PI1	.000	.000	<u>.</u> 000	.000	.000	.000
EOU3	.000	.000	.000	.000	.000	.000
EOU2	.000	.000	.000	.000	.000	.000
EOU4	.000	.000	.000	.000	.000	.000
U5	.000	.000	.000	.000	.000	.000
U4	.000	.000	.000	.000	.000	.000
U6	.000	.000	.000	.000	.000	.000
U7	.000	.000	.000	.000	.000	.000
U2	.000	.000	.000	.000	.000	.000
U3	.000	.000	.000	.000	.000	.000

## Standardised Indirect Effects (Group number 1 - Default model)

## Modification Indices (Group number 1 - Default model)

# Covariances: (Group number 1 - Default model)

			M.I.	Par Change
e20	<>	PI	8.552	.102
e19	<>	PI	6.413	097
e19	<>	EOU	7.406	.100
e17	<>	PI	4.825	080
e16	<>	e20	5.314	092
e13	<>	e20	9.859	.106
e13	<>	e19	8.257	105
e11	<>	Informativeness	5.221	081
e11	<>	e20	8.190	123
e11	<>	e18	4.077	.102
e11	<>	e12	5.585	.100
e10	<>	e15	7.095	.106
e10	<>	e11	7.581	118
e9	<>	e16	5.549	.096
e8	<>	e19	6.398	.110
e5	<>	Informativeness	6.194	.077
e5	<>	e18	5.816	105
e4	<>	e19	4.099	.082
e4	<>	e11	4.769	093
e4	<>	e10	6.310	.095
e4	<>	e6	4.013	.070
e3	<>	e16	4.894	.088
e2	<>	WOM	4.687	.059
e1	<>	e11	8.521	.120
e1	<>	e5	6.753	.092

### Variances: (Group number 1 - Default model)

M.I. Par Change

			M.I.	Par Change
WOM4	<	A4	6.262	084
WOM4	<	PI2	6.724	.098
WOM4	<	U4	4.982	074
WOM4	<	U7	4.411	069
WOM1	<	EOU	7.000	.165
WOM1	<	Usefulness	7.128	.141
WOM1	<	EOU2	10.636	.132
WOM1	<	EOU4	5.023	.089
WOM1	<	U5	4.477	.076
WOM1	<	U4	5.242	.082
WOM1	<	U6	10.002	.112
A3	<	PI2	4.925	087
A3	<	PI3	4.115	073
A4	<	EOU3	4.959	.091
PI2	<	WOM1	4.737	074
PI4	<	Arousal	5.869	.126
PI4	<	WOM4	4.151	089
PI4	<	A1	8.431	.116
PI4	<	A3	4.562	.083
PI4	<	I4	4.626	102
PI4	<	U3	8.777	.122
PI1	<	I5	6.278	.098
EOU2	<	WOM1	4.371	.084
U4	<	Informativeness	4.106	.133
U4	<	I4	5.670	.098
U3	<	PI4	6.397	.082

Regression	Weights:	(Group	number	1 -	Default	model	l
							2

# Model Fit Summary

## CMIN

Model	NPAR	CMIN	DF	Р	CMIN/DF
Default model	57	272.163	174	.000	1.564
Saturated model	231	.000	0		
Independence model	21	4186.817	210	.000	19.937

## RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.056	.938	.918	.707
Saturated model	.000	1.000		
Independence model	.524	.279	.207	.253

### **Baseline Comparisons**

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.935	.922	.976	.970	.975
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

### **Parsimony-Adjusted Measures**

Model	PRATIO	PNFI	PCFI
Default model	.829	.775	.808
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

## NCP

Model	NCP	LO 90	HI 90
Default model	98.163	57.324	146.942
Saturated model	.000	.000	.000
Independence model	3976.817	3770.203	4190.716

## FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.705	.254	.149	.381
Saturated model	.000	.000	.000	.000
Independence model	10.847	10.303	9.767	10.857

## RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.038	.029	.047	.989
Independence model	.221	.216	.227	.000

## AIC

Model	AIC	BCC	BIC	CAIC
Default model	386.163	393.053	611.793	668.793
Saturated model	462.000	489.923	1376.396	1607.396
Independence model	4228.817	4231.356	4311.944	4332.944

## ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	1.000	.895	1.127	1.018
Saturated model	1.197	1.197	1.197	1.269
Independence model	10.955	10.420	11.510	10.962

### HOELTER

Model	HOELTER .05	HOELTER .01
Default model	292	313
Independence model	23	25

# Appendix G: Convergent Validity and Discriminant Validity

	CR	AVE	MSV	Max <b>R</b> (H)	Arousal	Usofulnoss	FOU	Ы	Informativoness	WOM
	CK	ALL	141.5 4		Albusai	Osciunicas	LOU	11	mormativeness	wom
Arousal	0.802	0.577	0.537	0.819	0.760					
Usefulness	0.910	0.628	0.537	0.937	0.733	0.793				
EOU	0.764	0.519	0.507	0.948	0.352	0.419	0.721			
Purchase Intention	0.856	0.599	0.497	0.961	0.475	0.367	0.558	0.774		
Informativeness	0.689	0.526	0.507	0.964	0.302	0.396	0.712	0.615	0.725	
Word of Mouth	0.782	0.546	0.497	0.968	0.453	0.375	0.573	0.705	0.636	0.739

Convergent Validity and Discriminant Validity

# **Appendix H: SEM Results**

### Notes for Model (Default model)

### Computation of degrees of freedom (Default model)

Number of distinct sample moments:	231
Number of distinct parameters to be estimated:	52
Degrees of freedom (231 - 52):	179

#### Result (Default model)

Minimum was achieved Chi-square = 282.763 Degrees of freedom = 179 Probability level = .000

## Estimates (Group number 1 - Default model)

#### Maximum Likelihood Estimates

Regression	Weights:	(Group	number	1 -	Default model	)

			Estimate	S.E.	C.R.	Р	Label
Usefulness	<	EOU	.582	.084	6.898	* * *	
Informativeness	<	EOU	.682	.073	9.390	* * *	
Arousal	<	Usefulness	.661	.060	11.042	* * *	
Arousal	<	EOU	.077	.135	.569	.570	
Arousal	<	Informativeness	.003	.148	.020	.984	
PI	<	Informativeness	.746	.096	7.756	* * *	
PI	<	Arousal	.289	.054	5.341	* * *	
WOM	<	Informativeness	.362	.087	4.159	* * *	
WOM	<	Arousal	.110	.042	2.590	.010	
WOM	<	PI	.308	.061	5.018	* * *	
U5	<	Usefulness	1.000				
U4	<	Usefulness	.973	.053	18.367	* * *	
U6	<	Usefulness	.996	.052	18.972	* * *	
U7	<	Usefulness	.966	.053	18.386	* * *	
U2	<	Usefulness	.766	.048	16.068	* * *	
U3	<	Usefulness	.851	.049	17.253	* * *	
PI1	<	PI	1.000				
PI4	<	PI	.901	.067	13.533	* * *	
PI3	<	PI	.988	.063	15.724	* * *	
PI2	<	PI	.944	.056	16.745	* * *	
WOM1	<	WOM	1.000				
WOM4	<	WOM	1.137	.101	11.303	* * *	
WOM3	<	WOM	1.148	.094	12.187	* * *	
A4	<	Arousal	1.000				
A3	<	Arousal	1.023	.067	15.249	* * *	
A1	<	Arousal	.779	.064	12.189	* * *	
EOU3	<	EOU	1.000				
EOU2	<	EOU	1.038	.086	12.091	* * *	
EOU4	<	EOU	1.033	.089	11.611	* * *	
I4	<	Informativeness	1.000				
15	<	Informativeness	1.113	.100	11.092	* * *	

			Estimate
Usefulness	<	EOU	.434
Informativeness	<	EOU	.759
Arousal	<	Usefulness	.699
Arousal	<	EOU	.061
Arousal	<	Informativeness	.002
PI	<	Informativeness	.551
PI	<	Arousal	.301
WOM	<	Informativeness	.356
WOM	<	Arousal	.152
WOM	<	PI	.409
U5	<	Usefulness	.830
U4	<	Usefulness	.807
U6	<	Usefulness	.815
U7	<	Usefulness	.800
U2	<	Usefulness	.727
U3	<	Usefulness	.771
PI1	<	PI	.788
PI4	<	PI	.697
PI3	<	PI	.788
PI2	<	PI	.815
WOM1	<	WOM	.652
WOM4	<	WOM	.745
WOM3	<	WOM	.810
A4	<	Arousal	.801
A3	<	Arousal	.824
A1	<	Arousal	.647
EOU3	<	EOU	.723
EOU2	<	EOU	.724
EOU4	<	EOU	.707
I4	<	Informativeness	.700
15	<	Informativeness	.721

# Standardised Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	Р	Label
EOU	.675	.092	7.344	* * *	
e25	.986	.106	9.331	* * *	
e26	.231	.048	4.797	* * *	
e24	.511	.068	7.508	* * *	
e22	.512	.069	7.382	* * *	
e23	.233	.041	5.630	* * *	
e1	.547	.049	11.080	* * *	
e2	.617	.054	11.509	* * *	
e3	.610	.053	11.413	* * *	
e4	.636	.055	11.666	* * *	
e5	.635	.051	12.499	* * *	
e6	.598	.050	12.014	* * *	
e7	.609	.058	10.566	* * *	
e8	.857	.072	11.932	* * *	
e9	.595	.057	10.496	* * *	
e10	.448	.045	9.856	* * *	
e11	.766	.066	11.650	* * *	
e12	.588	.058	10.127	* * *	
e13	.390	.048	8.168	* * *	
e14	.608	.067	9.037	* * *	
e15	.539	.065	8.255	* * *	
e16	.913	.076	12.054	* * *	
e17	.615	.061	10.042	* * *	
e18	.660	.066	9.977	* * *	
e19	.720	.070	10.302	* * *	
e20	.566	.057	9.859	* * *	
e21	.624	.067	9.336	* * *	

Variances: (Group number 1 - Default model)

Squared Multiple (	Correlations: (	Group number 1	l - Default model)
--------------------	-----------------	----------------	--------------------

	Estimate
Informativeness	.576
Usefulness	.188
Arousal	.530
PI	.487
WOM	.588
15	.520
I4	.491
EOU4	.500
EOU2	.524
EOU3	.523
A1	.419
A3	.678
A4	.641
WOM3	.656
WOM4	.554
WOM1	.425
PI2	.665
PI3	.621
PI4	.486
PI1	.621
U3	.595
U2	.529
U7	.641
U6	.664
U4	.651
U5	.690

# Matrices (Group number 1 - Default model)

	EOU	Informativeness	Usefulness	Arousal	PI	WOM
Informativeness	.682	.000	.000	.000	.000	.000
Usefulness	.582	.000	.000	.000	.000	.000
Arousal	.463	.003	.661	.000	.000	.000
PI	.643	.747	.191	.289	.000	.000
WOM	.496	.592	.131	.198	.308	.000
15	.759	1.113	.000	.000	.000	.000
I4	.682	1.000	.000	.000	.000	.000
EOU4	1.033	.000	.000	.000	.000	.000
EOU2	1.038	.000	.000	.000	.000	.000
EOU3	1.000	.000	.000	.000	.000	.000
A1	.361	.002	.514	.779	.000	.000
A3	.474	.003	.676	1.023	.000	.000
A4	.463	.003	.661	1.000	.000	.000
WOM3	.569	.680	.150	.228	.353	1.148
WOM4	.563	.673	.149	.226	.350	1.137
WOM1	.496	.592	.131	.198	.308	1.000
PI2	.607	.705	.180	.273	.944	.000
PI3	.635	.738	.188	.285	.988	.000
PI4	.579	.673	.172	.260	.901	.000
PI1	.643	.747	.191	.289	1.000	.000
U3	.495	.000	.851	.000	.000	.000
U2	.446	.000	.766	.000	.000	.000
U7	.562	.000	.966	.000	.000	.000
U6	.579	.000	.996	.000	.000	.000
U4	.567	.000	.973	.000	.000	.000
U5	.582	.000	1.000	.000	.000	.000

# Total Effects (Group number 1 - Default model)

	EOU	Informativeness	Usefulness	Arousal	PI	WOM
Informativeness	.759	.000	.000	.000	.000	.000
Usefulness	.434	.000	.000	.000	.000	.000
Arousal	.365	.002	.699	.000	.000	.000
PI	.529	.552	.210	.301	.000	.000
WOM	.541	.582	.192	.275	.409	.000
15	.547	.721	.000	.000	.000	.000
I4	.532	.700	.000	.000	.000	.000
EOU4	.707	.000	.000	.000	.000	.000
EOU2	.724	.000	.000	.000	.000	.000
EOU3	.723	.000	.000	.000	.000	.000
A1	.237	.001	.452	.647	.000	.000
A3	.301	.002	.575	.824	.000	.000
A4	.293	.002	.559	.801	.000	.000
WOM3	.439	.471	.156	.223	.331	.810
WOM4	.403	.433	.143	.205	.304	.745
WOM1	.353	.379	.125	.179	.266	.652
PI2	.431	.450	.172	.246	.815	.000
PI3	.416	.435	.166	.237	.788	.000
PI4	.369	.385	.147	.210	.697	.000
PI1	.417	.435	.166	.237	.788	.000
U3	.335	.000	.771	.000	.000	.000
U2	.315	.000	.727	.000	.000	.000
U7	.347	.000	.800	.000	.000	.000
U6	.354	.000	.815	.000	.000	.000
U4	.350	.000	.807	.000	.000	.000
U5	.360	.000	.830	.000	.000	.000

Standardised To	tal Effects	(Group	number	1 -	Default 1	model)
-----------------	-------------	--------	--------	-----	-----------	--------

# Direct Effects (Group number 1 - Default model)

	EOU	Informativeness	Usefulness	Arousal	PI	WOM
Informativeness	.682	.000	.000	.000	.000	.000
Usefulness	.582	.000	.000	.000	.000	.000
Arousal	.077	.003	.661	.000	.000	.000
PI	.000	.746	.000	.289	.000	.000
WOM	.000	.362	.000	.110	.308	.000
15	.000	1.113	.000	.000	.000	.000
I4	.000	1.000	.000	.000	.000	.000
EOU4	1.033	.000	.000	.000	.000	.000
EOU2	1.038	.000	.000	.000	.000	.000
EOU3	1.000	.000	.000	.000	.000	.000
A1	.000	.000	.000	.779	.000	.000
A3	.000	.000	.000	1.023	.000	.000
A4	.000	.000	.000	1.000	.000	.000
WOM3	.000	.000	.000	.000	.000	1.148
WOM4	.000	.000	.000	.000	.000	1.137
WOM1	.000	.000	.000	.000	.000	1.000
PI2	.000	.000	.000	.000	.944	.000
PI3	.000	.000	.000	.000	.988	.000
PI4	.000	.000	.000	.000	.901	.000
PI1	.000	.000	.000	.000	1.000	.000
U3	.000	.000	.851	.000	.000	.000
U2	.000	.000	.766	.000	.000	.000
U7	.000	.000	.966	.000	.000	.000
U6	.000	.000	.996	.000	.000	.000
U4	.000	.000	.973	.000	.000	.000
U5	.000	.000	1.000	.000	.000	.000

	EOU	Informativeness	Usefulness	Arousal	PI	WOM
Informativeness	.759	.000	.000	.000	.000	.000
Usefulness	.434	.000	.000	.000	.000	.000
Arousal	.061	.002	.699	.000	.000	.000
PI	.000	.551	.000	.301	.000	.000
WOM	.000	.356	.000	.152	.409	.000
15	.000	.721	.000	.000	.000	.000
I4	.000	.700	.000	.000	.000	.000
EOU4	.707	.000	.000	.000	.000	.000
EOU2	.724	.000	.000	.000	.000	.000
EOU3	.723	.000	.000	.000	.000	.000
A1	.000	.000	.000	.647	.000	.000
A3	.000	.000	.000	.824	.000	.000
A4	.000	.000	.000	.801	.000	.000
WOM3	.000	.000	.000	.000	.000	.810
WOM4	.000	.000	.000	.000	.000	.745
WOM1	.000	.000	.000	.000	.000	.652
PI2	.000	.000	.000	.000	.815	.000
PI3	.000	.000	.000	.000	.788	.000
PI4	.000	.000	.000	.000	.697	.000
PI1	.000	.000	.000	.000	.788	.000
U3	.000	.000	.771	.000	.000	.000
U2	.000	.000	.727	.000	.000	.000
U7	.000	.000	.800	.000	.000	.000
U6	.000	.000	.815	.000	.000	.000
U4	.000	.000	.807	.000	.000	.000
U5	.000	.000	.830	.000	.000	.000

## Standardised Direct Effects (Group number 1 - Default model)

### Indirect Effects (Group number 1 - Default model)

	EOU	Informativeness	Usefulness	Arousal	PI	WOM
Informativeness	.000	.000	.000	.000	.000	.000
Usefulness	.000	.000	.000	.000	.000	.000
Arousal	.386	.000	.000	.000	.000	.000
PI	.643	.001	.191	.000	.000	.000
WOM	.496	.230	.131	.089	.000	.000
15	.759	.000	.000	.000	.000	.000
I4	.682	.000	.000	.000	.000	.000
EOU4	.000	.000	.000	.000	.000	.000
EOU2	.000	.000	.000	.000	.000	.000
EOU3	.000	.000	.000	.000	.000	.000
A1	.361	.002	.514	.000	.000	.000
A3	.474	.003	.676	.000	.000	.000
A4	.463	.003	.661	.000	.000	.000
WOM3	.569	.680	.150	.228	.353	.000
WOM4	.563	.673	.149	.226	.350	.000
WOM1	.496	.592	.131	.198	.308	.000
PI2	.607	.705	.180	.273	.000	.000
PI3	.635	.738	.188	.285	.000	.000
PI4	.579	.673	.172	.260	.000	.000
PI1	.643	.747	.191	.289	.000	.000
U3	.495	.000	.000	.000	.000	.000
U2	.446	.000	.000	.000	.000	.000
U7	.562	.000	.000	.000	.000	.000
U6	.579	.000	.000	.000	.000	.000
U4	.567	.000	.000	.000	.000	.000
U5	.582	.000	.000	.000	.000	.000

Standardised Indirect Effects (Group number 1 - Default model)

	EOU	Informativeness	Usefulness	Arousal	PI	WOM
Informativeness	.000	.000	.000	.000	.000	.000
Usefulness	.000	.000	.000	.000	.000	.000
Arousal	.305	.000	.000	.000	.000	.000
PI	.529	.001	.210	.000	.000	.000
WOM	.541	.226	.192	.123	.000	.000
15	.547	.000	.000	.000	.000	.000
I4	.532	.000	.000	.000	.000	.000
EOU4	.000	.000	.000	.000	.000	.000
EOU2	.000	.000	.000	.000	.000	.000
EOU3	.000	.000	.000	.000	.000	.000
A1	.237	.001	.452	.000	.000	.000
A3	.301	.002	.575	.000	.000	.000
A4	.293	.002	.559	.000	.000	.000
WOM3	.439	.471	.156	.223	.331	.000
WOM4	.403	.433	.143	.205	.304	.000
WOM1	.353	.379	.125	.179	.266	.000
PI2	.431	.450	.172	.246	.000	.000
PI3	.416	.435	.166	.237	.000	.000
PI4	.369	.385	.147	.210	.000	.000
PI1	.417	.435	.166	.237	.000	.000
U3	.335	.000	.000	.000	.000	.000
U2	.315	.000	.000	.000	.000	.000
U7	.347	.000	.000	.000	.000	.000
U6	.354	.000	.000	.000	.000	.000
U4	.350	.000	.000	.000	.000	.000
U5	.360	.000	.000	.000	.000	.000

			M.I.	Par Change
e16	<>	e22	5.577	.106
e14	<>	e17	4.825	.090
e12	<>	e25	4.296	097
e12	<>	e22	8.970	.115
e12	<>	e14	4.881	088
e11	<>	EOU	8.342	.126
e11	<>	e22	9.999	132
e11	<>	e18	6.252	.109
e10	<>	e12	9.854	.106
e10	<>	e11	8.259	105
e8	<>	e26	5.092	080
e8	<>	e25	4.551	.114
e8	<>	e24	5.303	.102
e8	<>	e16	4.379	.106
e8	<>	e12	8.151	123
e8	<>	e9	5.732	.102
e7	<>	e21	6.790	.105
e7	<>	e8	7.736	120
e6	<>	e8	8.156	.118
e5	<>	e23	4.141	.056
e4	<>	e14	5.186	.091
e3	<>	e11	4.212	.083
e3	<>	e8	5.229	098
e3	<>	e7	6.131	.094
e2	<>	e26	5.342	.071
e2	<>	e20	4.250	.076
e2	<>	e16	5.942	107
e2	<>	e6	7.102	.094
e1	<>	e9	4.174	073

## Modification Indices (Group number 1 - Default model)

### Covariances: (Group number 1 - Default model)

## Variances: (Group number 1 - Default model)

M.I. Par Change

### Regression Weights: (Group number 1 - Default model)

			M.I.	Par Change
EOU2	<	WOM1	4.995	.090
A1	<	PI4	4.578	.085
A4	<	EOU3	4.476	.086
WOM4	<	Usefulness	4.044	083

## Model Fit Summary

## CMIN

Model	NPAR	CMIN	DF	Р	CMIN/DF
Default model	52	282.763	179	.000	1.580
Saturated model	231	.000	0		
Independence model	21	4186.817	210	.000	19.937

## RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.060	.936	.917	.725
Saturated model	.000	1.000		
Independence model	.524	.279	.207	.253

## **Baseline Comparisons**

Model	NFI Delta1	RFI rhol	IFI Delta2	TLI rho2	CFI
Default model	.932	.921	.974	.969	.974
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

## Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.852	.795	.830
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

#### NCP

Model	NCP	LO 90	HI 90
Default model	103.763	61.952	153.506
Saturated model	.000	.000	.000
Independence model	3976.817	3770.203	4190.716

### FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.733	.269	.160	.398
Saturated model	.000	.000	.000	.000
Independence model	10.847	10.303	9.767	10.857

### RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.039	.030	.047	.987
Independence model	.221	.216	.227	.000

## AIC

Model	AIC	BCC	BIC	CAIC
Default model	386.763	393.048	592.601	644.601
Saturated model	462.000	489.923	1376.396	1607.396
Independence model	4228.817	4231.356	4311.944	4332.944

# ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	1.002	.894	1.131	1.018
Saturated model	1.197	1.197	1.197	1.269
Independence model	10.955	10.420	11.510	10.962

## HOELTER

Model	HOELTER .05	HOELTER .01
Default model	289	309
Independence model	23	25