

School of Management and Marketing

Determinants of a Holistic Social Commerce Model for Saudi Arabia

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Declaration

To the best of my knowledge and belief, this thesis contains no material previously published by any other person except where due acknowledgement has been made.

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

The research presented and reported in this thesis was conducted in accordance with the National Health and Medical Research Council National Statement on Ethical Conduct in Human Research (2007) – updated March 2014. The proposed research study received human research ethics approval from the Curtin University Human Research Ethics Committee (EC00262), Approval Number # **HRE2020-0163**

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Published Works

1. **Aljaafari, M.** (2020). A Holistic Social Commerce Framework for Saudi Arabia. *17th International Conference on Web Based Communities and Social Media, held in Zagreb, Croatia, (pp. 241-246).*
2. Issa, T., **Aljaafari, M. A.**, Alqahtani, A. S., Alqahtani, S., Issa, T., Maketo, L., & Pervaiz, S. (2021). Benefits and challenges of social networking during COVID-19: personal perspective. *International Journal of Web-Based Communities.*
3. **Aljaafari, M.**, Issa, T., Abu-Salih, B., Nau, S. Z. (2022). A Systematic Review of Consumer Behaviour in the Context of Social Commerce (Under Review).

Abstract

Over the last few years, Web technology has evolved in terms of its use consistent with the introduction of new tools and practices pertinent to users. With the increased evolution of Web 1.0 in tandem with the birth of digital technology, Web 2.0 was created with websites that provide more interactive and richer user experiences. Through Web 2.0, social networking creates an online community that allows users to engage in discussions and collaborations, and comment on topics of common interest. In Saudi Arabia, social networking usage has increased rapidly and has begun to be an indispensable part of everyday life. The evolution of social networking and the significant growth of e-commerce has changed the nature of e-commerce interactions between customers and organizations. This evolution has produced a new form of e-commerce known as “social commerce” (*s-commerce*). The current literature indicates that s-commerce has not been studied extensively and the majority of the studies have focused mainly on the investigation of specific factors. Hence, more research is needed to analyse and evaluate s-commerce theoretically and empirically to increase our knowledge of this significant and growing area of research. Therefore, the aim of this thesis is to identify all the factors necessary for implementing s-commerce in Saudi Arabia successfully, by developing and evaluating a model for s-commerce aligned with one of the goals of Saudi Vision 2030. In this study, a new initial model is developed for s-commerce in Saudi Arabia based on an extensive literature review. The model comprises several themes: organizational characteristics, human-computer interaction (HCI), content, social, psychological and culture aspects, and sustainability. The purpose of this study is to identify the major factors for each theme that influence the customers’ attitude to the adoption of s-commerce in Saudi Arabia.

After an initial s-commerce model was derived from the literature review, the study adopted a mixed-methods approach (explanatory sequential design) to assess the effectiveness of this s-commerce model which was based on all the factors that emerged from the literature review. This strategy involved two phases of data collection and

analysis: quantitative and qualitative. In the first phase, quantitative data was collected via an online survey to assist the researcher to obtain an overview of the customers' thoughts about and attitudes toward the adoption of s-commerce in Saudi Arabia, and to validate the initial themes. The exploratory factor analysis technique was applied to minimize the number of factors and to identify the most important ones to be considered and, therefore, included in the final model. The analysis of the EFA and participants' comments resulted in seven themes.

Second, the qualitative method was applied to explore the quantitative results from the survey to obtain more explanation of the constructed factors. Semi-structured interviews were conducted with 25 interviewees to determine the improvements needed to be made to the s-commerce adoption model and to ensure that it was comprehensive. Thematic analysis was conducted on the collected qualitative data. A few changes were made to the enhanced model based on the opinions of s-commerce experts. The analysis of the interview data resulted in seven themes, with each theme having two or more factors. The researcher refined the enhanced social commerce model for Saudi Arabia so as to accommodate the new interview findings.

This study makes new theoretical contributions to the current literature regarding the significant factors required to implement s-commerce in Saudi Arabia successfully. Moreover, this research contributes to the Saudi Vision 2030 and has practical implications for Saudi Internet entrepreneurs by offering recommendations that will encourage consumers to adopt s-commerce in Saudi Arabia.

Finally, an acknowledgment of the study's limitations and directions for potential future research are discussed. These future research directions can be considered by academic researchers in developed or developing countries.

Table of Contents

Declaration	ii
Acknowledgements.....	iii
Published Works.....	iv
Abstract	v
Table of Contents.....	vii
List of Figures.....	xiii
List of Tables.....	xvii
1 Introduction	20
1.1 Introduction	20
1.2 Background	20
1.3 Research Context.....	22
1.3.1 Saudi Arabia.....	22
1.3.2 Saudi Vision 2030	23
1.4 Research Objectives.....	24
1.5 Research Questions.....	25
1.6 Research Design	27
1.7 Research Contributions	27
1.7.1 Theoretical Contributions	28
1.7.2 Practical Contributions.....	28
1.8 Overview of the Research Flow	29
1.9 Thesis Outline and Structure	30
1.10 Conclusion.....	31
2 Literature Review	32

2.1	Introduction	32
2.2	Scope of the Literature Review	33
2.3	Electronic Commerce.....	37
2.3.1	Definition	37
2.3.2	E-commerce Business Benefits	37
2.3.3	E-commerce Risks and Limitations.....	39
2.3.4	E-commerce in Saudi Arabia	40
2.3.5	E-commerce statistics in Saudi Arabia	41
2.3.6	Limitations of E-commerce in Saudi Arabia	42
2.4	Social Media.....	43
2.4.1	Evolution of Web 2.0.....	44
2.4.2	Definition of Web 2.0	45
2.4.3	Advantages of Web 2.0.....	45
2.4.4	Types of Web 2.0 Applications	46
2.4.5	SN Application of Web 2.0.....	49
2.4.6	SN in Different Sectors	50
2.4.7	Impacts of SN on Business	50
2.4.8	SN statistics for Saudi Arabia	51
2.4.9	The State of SN in Saudi Arabia	53
2.5	Social Commerce.....	54
2.5.1	The Evolution of Social Commerce	54
2.5.2	Definition of Social Commerce.....	56
2.5.3	Distinctions between traditional e-commerce and s-commerce.....	59
2.5.4	Benefits of S-commerce for Business.....	61

2.6	Review of Current S-commerce Theories, Frameworks and Models.....	62
2.6.1	Wijaya, Rai and Hariguna Framework	62
2.6.2	Akman and Mishra Model	62
2.6.3	Gatautis and Medziausiene Model	63
2.6.4	Noh et al. Model.....	64
2.6.5	Social Commerce Adoption Model	65
2.6.6	Kim and Park Model.....	66
2.6.7	Ng Model	67
2.6.8	Hajli et al. Model.....	68
2.6.9	Aladwan Model	68
2.6.10	Sheikh et al. Model.....	69
2.6.11	Alotaibi Model	69
2.6.12	Saprikis and Markos Model	70
2.6.13	Shen Model	70
2.6.14	Lal Model.....	71
2.6.15	Hajli et al. Model.....	72
2.6.16	Gan and Wang Model.....	73
2.6.17	Chen et al. Model.....	74
2.6.18	Liang et al. Model.....	75
2.6.19	Technology Adoption Theories and Models.....	76
2.7	An Integrated Approach and the Initial Factors	83
2.7.1	Organization Characteristics Theme.....	84
2.7.2	Human Computer Interaction (HCI) Theme	85
2.7.3	Content Theme	86

2.7.4	Social Theme	87
2.7.5	Psychological Theme	88
2.7.6	Culture Theme	90
2.7.7	Sustainability Theme	92
2.8	Research Gap.....	93
2.9	Initial Model.....	94
2.10	The Impact of COVID-19 Influences on S-commerce	95
2.11	Conclusion.....	96
3	Research Methodology	97
3.1	Introduction	97
3.2	Purpose of Research.....	97
3.3	Research ‘Onion’	101
3.3.1	Research Philosophy.....	103
3.3.2	Research Approach.....	111
3.3.3	Methodological Choice	113
3.3.4	Choosing a Research Strategy.....	117
3.3.5	Time Horizon	120
3.3.6	Data collection and analysis.....	121
3.3.7	The Research Design Choices Adopted for this Research.....	136
3.4	Ethical Considerations	138
3.5	Conclusion.....	139
4	Online Survey	141
4.1	Introduction	141
4.2	Survey Design	142

4.2.1	Survey Structure	142
4.2.2	Questionnaire Variables	143
4.2.3	Developing the Survey Questionnaire	147
4.2.4	Administering the Survey	148
4.3	Pilot Study	150
4.4	Descriptive Statistics.....	151
4.5	Factor Analysis	159
4.5.1	Exploratory Factor Analysis (EFA).....	159
4.6	Conclusion.....	203
5	Interviews	205
5.1	Introduction	205
5.2	Interview Design and Rationale	207
5.3	Reaching out to the Interviewees.....	209
5.4	Data Analysis	211
5.5	Validity and Reliability	217
5.6	Interpretations and Results	218
5.6.1	Demographics Questions	219
5.6.2	Important S-commerce Factors Based on the Interviewees' Experience	225
5.6.3	Thematic Analysis of S-commerce Themes	227
5.6.4	Experts' Perception of the Enhanced S-commerce Model	263
5.6.5	Interview Findings	268
5.6.6	Summary of the Study Findings	272
5.7	Conclusion.....	278
6	Conclusion.....	279

6.1	Introduction	279
6.2	Research Method	279
6.3	Research Findings Overview.....	285
6.3.1	Research Question One.....	286
6.3.2	Research Question Two	288
6.3.3	Research Question Three	289
6.4	Recommendations.....	290
6.4.1	Information Quality	291
6.4.2	Usability	292
6.4.3	Trust.....	292
6.4.4	Social	293
6.4.5	Culture.....	294
6.4.6	Sustainability.....	294
6.5	Research Contributions	295
6.5.1	Theoretical Implications	296
6.5.2	Practical Implications	296
6.6	Research Limitations	297
6.7	Future Research	298
6.8	Conclusion.....	300
	References	301
	Appendices	361
	Appendix 1: Ethical Approval.....	361
	Appendix 2: Online Survey Questions	362
	Appendix 3: Interview Consent Form.....	376

Appendix 4: Interview Questions 377

List of Figures

Figure 1.1: S-commerce definition (prepared by the author)..... 22

Figure 1.2: Identifying research questions (Adapted from Collis and Hussey (2014, p. 104))..... 26

Figure 1.3: Research Flow (Prepared by author)..... 30

Figure 2.4: Flow diagram depicts the different phases of a systematic review; adopted from (Page et al., 2021)..... 35

Figure 2.5: Development of social commerce..... 55

Figure 2.6: Akman and Mishra (2017) Model 63

Figure 2.7: Gatautis and Medziausiene (2014) Model..... 64

Figure 2.8: Social Commerce Adoption Model (Hajli, 2013)..... 66

Figure 2.9: Ng (2013) Model 67

Figure 2.10: S. S. Alotaibi (2018) Model..... 70

Figure 2.11: Shen (2013) Model..... 71

Figure 2.12: Lal (2017) Model 72

Figure 2.13: Hajli, Wang, et al. (2017) Model 73

Figure 2.14: J. Chen et al. (2014) Model 74

Figure 2.15: Liang et al. (2011) Model..... 75

Figure 2.16: Theory of Reasoned Action (Fishbein & Ajzen, 1975) 77

Figure 2.17: Theory of Planned Behaviour (Ajzen, 1991)..... 78

Figure 2.18: Technology Acceptance Model (Davis, 1989)..... 79

Figure 2.19: Unified Theory of Acceptance and Use of Technology.....	80
Figure 2.20: Initial social commerce model (prepared by the author).....	95
Figure 3.21: The ‘research onion’; adopted from Saunders et al. (2016, p. 124).....	102
Figure 3.22: Selected philosophy of this research (prepared by author)	111
Figure 3.23: Approach selected for this research (prepared by author).....	113
Figure 3.24: Methodological choice (prepared by author).....	114
Figure 3.25: Sequential explanatory design (prepared by author).....	117
Figure 3.26: Research strategies (prepared by author)	118
Figure 3.27: The selected time horizon (prepared by author)	121
Figure 3.28: Research process flow chart (prepared by author).....	122
Figure 3.29: Sample size calculator (Creative Research Systems, n.d.).....	127
Figure 3.30: Electronic interview (prepared by author).....	131
Figure 3.31: Research onion choices adopted for this study.....	138
Figure 4.32: Initial s-commerce model (prepared by the author).....	141
Figure 4.33: Structure of the online survey (prepared by the author).....	143
Figure 4.34: Design process of the survey (prepared by the author)	148
Figure 4.35: Gender breakdown of the full sample	151
Figure 4.36: Age breakdown of the full sample	152
Figure 4.37: Highest Education Level breakdown of the full sample	153
Figure 4.38: Occupation Status breakdown of the full sample	154
Figure 4.39: Monthly Income breakdown of the full sample.....	154
Figure 4.40: Usage Duration breakdown of the full sample	155
Figure 4.41: S-commerce Experiences breakdown of the full sample	156
Figure 4.42: Preferred S-commerce Platform	156

Figure 4.43: Five-Step Exploratory Factor Analysis Protocol (prepared by the author).....	160
Figure 4.44: Factors Extraction Method in SPSS Version 26.....	163
Figure 4.45: Rotational Method in SPSS Version 26.....	165
Figure 4.46: Word cloud result based on the participants' comments.....	199
Figure 4.47: Enhanced social commerce model for Saudi Arabia.....	204
Figure 5.48: Thematic analysis steps.....	212
Figure 5.49: Interview coding tree.....	216
Figure 5.50: Interview questions sections.....	219
Figure 5.51: Participants' gender.....	220
Figure 5.52: Interviewees' rate regarding the importance of the four factors under the organization characteristics theme.....	228
Figure 5.53: Interviewees' evaluation regarding the relations between factors in the organization characteristics theme.....	232
Figure 5.54: Coding tree of organization characteristics theme.....	233
Figure 5.55: Interviewees' rate regarding the importance of the four factors under the design theme.....	234
Figure 5.56: Interviewees' evaluation regarding the relations between factors in the design theme.....	238
Figure 5.57: Coding tree of design theme.....	239
Figure 5.58: Interviewees' rating regarding the importance of the two factors under the content theme.....	240
Figure 5.59: Coding tree of perceived usefulness theme.....	244
Figure 5.60: Interviewees' rate regarding the importance of the four factors under the social theme.....	245

Figure 5.61: Interviewees’ evaluation regarding the relations between factors in the social theme	248
Figure 5.62: Coding tree of social theme	249
Figure 5.63: Interviewees’ rate regarding the importance of the four factors under the psychological theme.....	250
Figure 5.64: Coding tree of psychological theme.....	253
Figure 5.65: Interviewees’ rate regarding the importance of the five factors under the culture theme	254
Figure 5.66: Interviewees’ evaluation regarding the relations between factors in the culture theme	258
Figure 5.67: Coding tree of culture theme	259
Figure 5.68: Interviewees’ rate regarding the importance of the two factors under the sustainability theme	260
Figure 5.69: Interviewees’ evaluation regarding the relations between factors in the sustainability theme	262
Figure 5.70: Coding tree of sustainability theme	263
Figure 5.71: Interviewees’ responses to the enhanced s-commerce model	267
Figure 5.72: Ratings of overall factors	269
Figure 5.73: Holistic S-commerce model for Saudi Arabia (Final Version)	277
Figure 6.74: Holistic S-commerce Model for Saudi Arabia (HSMSA model)	288
Figure 6.75: Summary of recommendations for ensuring the effectiveness of s-commerce adoption in Saudi Arabia.....	291
Figure 6.76: Future research.....	298

List of Tables

Table 2.1: Literature review categorizations (Adopted from Cooper, 1988).....	33
Table 2.2: List of journals with two or more studies	36
Table 2.3: Key statistics for SN in Saudi Arabia (GMI Blogger, 2022).....	52
Table 2.4: Number of active SN users in Saudi Arabia (GMI Blogger, 2022).....	52
Table 2.5: Various definitions of social commerce from the literature	57
Table 2.6: Factors discussed and suggested in related s-commerce studies (‘√’ means this factor is addressed in this model or framework).....	81
Table 3.7: Research questions and objectives	99
Table 3.8: Summary of four research paradigms: Adapted from (W. Chen & Hirschheim, 2004; Collis & Hussey, 2014; Saunders et al., 2016)	108
Table 4.9: Mapping of research questions, and objectives to questions in the questionnaire.....	145
Table 4.10: Frequencies and Percentages of Demographic characteristics and SN users’ behavior.....	157
Table 4.11: EFA requirements summary	168
Table 4.12: EFA analysis results for “Organization Characteristics”	171
Table 4.13: Factor labels for “Organization Characteristics” theme	172
Table 4.14: EFA analysis results for “Design”	176
Table 4.15: Factor labels for “Design” theme.....	177
Table 4.16: EFA analysis results for “Content”	180
Table 4.17: Factor labels for “Content” theme.....	181
Table 4.18: EFA analysis results for “Social”.....	183
Table 4.19: Factor labels for “Social” theme	184

Table 4.20: EFA analysis results for “Psychological”	187
Table 4.21: Factor labels for “Psychological” theme	188
Table 4.22: EFA analysis results for “Culture”	191
Table 4.23: Factor labels for “Culture” theme	192
Table 4.24: EFA analysis results for “Sustainability”	195
Table 4.25: Factor labels for “Sustainability” theme.....	196
Table 4.26: Summary of factor analysis results from the online survey data	202
Table 5.27: Interview questions and reason for each question.....	205
Table 5.28: The four steps of the interview phase	208
Table 5.29: The interview rounds	210
Table 5.30: Distribution methods	211
Table 5.31: Participant demographic information	219
Table 5.32: Interviewees and their descriptions	222
Table 5.33: Experts’ recommendations and the decisions taken.....	265
Table 5.34: Summary of thematic analysis results from the interviews data.....	271
Table 6.35: Factors associated with the “Organization Characteristics” theme.....	272
Table 6.36: Factors associated with the “Design” theme.....	273
Table 6.37: Factors associated with the “Perceived Usefulness” theme	274
Table 6.38: Factors associated with the “Social” theme	274
Table 6.39: Factors associated with the “Psychological” theme	275
Table 6.40: Factors associated with the “Culture” theme	276
Table 6.41: Factors associated with the “Sustainability” theme	277
Table 6.42: Changes and development of the initial s-commerce model for Saudi Arabia.....	282

Table 6.43: The relationships between the research questions, objectives, method and analysis 285

Table 6.44: An indication in which phase the research questions were answered 286

1 Introduction

1.1 Introduction

The main aim of this study is to identify all the factors necessary for the successful implementation of s-commerce in Saudi Arabia. This is done by developing and evaluating a holistic model for s-commerce in Saudi Arabia. This chapter gives the reader the relevant background information for this study. The backdrop of the study is described first, followed by the research context. This involves providing the reader with background information about the country in which the study is conducted. The research objectives and questions follow this. Subsequently, the theoretical and practical contributions of the research are explained. Following that, a brief description is given of the research design including the research process implemented to conduct the study, followed by an overview of the research flow. Lastly, the thesis structure is outlined.

1.2 Background

Internet development and maturation has seen the emergence of new forms of communication technologies, which allow users to exchange messages almost instantly. It also built online communities for information sharing and trading. Trading over the Internet, often known as Electronic Commerce (e-commerce), refers to the conducting of financial transactions via the Internet, the Web, or mobile apps in exchange for goods or services (Qin et al., 2014).

Recent technology has enabled firms to launch alternative sales channels in the form of e-commerce sites (Rose et al., 2011). As a result, businesses and customers alike have benefited. Customers have profited from e-commerce in various ways: it enables products to be purchased without regard to time or location (Rose et al., 2011); consumers can access rich product information (L. Jiang et al., 2016), product flexibility and availability (Soscia et al., 2010), and have the opportunity to compare prices from other websites readily (Aydemir, 2013; Kacen et al., 2013).

E-commerce has also benefitted businesses in a variety of ways. Among these advantages are: the availability of new internationally accessible sales channels (Aydemir, 2013), immediate savings from cost reductions throughout the firm, improved customer service, a competitive edge obtained by shortening the time between manufacturing and selling (White et al., 2014), and popularisation of the firm brand (Wanyoike et al., 2012).

Moreover, over the last few years, there has been a gradual increase in the number of social networking (SN) sites that have attracted people in such a way that SN has become a necessary part of their daily routine (Gayathri et al., 2012). The number of SN users worldwide was 4.65 billion in April 2022, 26.6% of whom use SN to find products to purchase (DataReportal, n.d.). This seems to be an easy way for companies to obtain access to their customers' information. This access gives companies the opportunity to modify their business and marketing strategies by keeping in view the consumer's interests and preferences (Gatautis & Medziausiene, 2014). Currently, SN not only gives users a medium of communication whereby they can share views and news, but also offers new opportunities for online buying and selling of products (Noh et al., 2013).

Accordingly, the popularity of SN, along with the significant growth of e-commerce has produced a new form of e-commerce known as Social Commerce (s-commerce). S-commerce is a phenomenon that has continued to evolve since its initial emergence in 2005 (C. Wang & Zhang, 2012). As seen in Figure 1.1, s-commerce is a subset of e-commerce, that uses the SN platforms as a bridge to e-commerce to facilitate the online buying and selling of products and services via Internet technologies (Noh et al., 2013).

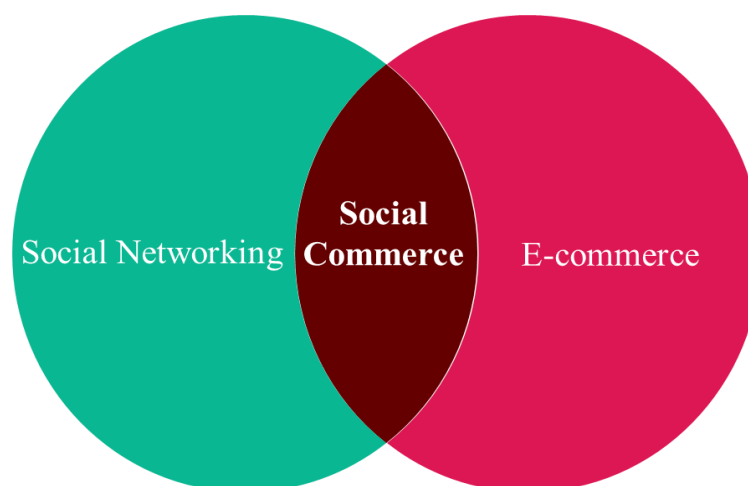


Figure 1.1: S-commerce definition (prepared by the author)

The advent of social commerce has transformed the roles of customers, making them active players in online transactions and enabling them to engage in marketing, comparing, buying, and selling in online shops (Hajli et al., 2015). It has been pointed out that s-commerce has a vital influence on economic growth, as it provides new opportunities for firms and customers to communicate with each other (S. Sharma & Crossler, 2014). Firms began to embrace SN to strengthen information sharing, communication, and cooperation by implementing various innovative and critical business practices. This involves incorporating SN into corporate branding and marketing activities (Gummerus et al., 2012).

1.3 Research Context

Since this research focuses on the Saudi Arabian context, this section will present a brief description of Saudi profile, demographics, and the Saudi Vision 2030 initiative.

1.3.1 Saudi Arabia

Saudi Arabia (SA) is one of the biggest areas in the Middle East, with an area of 2.15 million square kilometres (World Bank, n.d.-b) and a population of 35.8 million (Worldometer, 2022). The country is a member of the G20 countries and the Gulf

Cooperation Council (GCC; Al-Somali et al., 2015). In 2021, Saudi Arabia's economy was one of the top 20 largest economies listed globally, and the largest in the Arab world. Also, it is considered to be a rapidly developing country (StatisticsTimes.com, 2021).

Retailers see SA as a desirable country for commercial transactions due to its young population and the great number of active SN users. In 2020, those aged between 15 and 34 years represented 36.7% of the total Saudi population (General Authority for Statistics, 2020). Several SA firms use SN for commerce due to its popularity among consumers and business operators (Abed et al., 2015).

SN users in SA are growing rapidly due to the widespread use of smartphones. In 2021, there were 25.92 million Saudi Facebook users, and 25.05 million Twitter users. In 2022, SA ranked number 5 on a list of 20 leading countries based on Snapchat audience size (Statista Research Department, 2022). Additionally, SA is an attractive country for investors as it was 27th in the largest market list for e-commerce in 2021 with a revenue of US\$8 billion (ecommerceDB, n.d.).

The Saudi Ministry of Commerce and Investment also aided the e-commerce sector of by launching the Maroof service, which assists company owners to document their electronic stores. This service benefits all e-commerce users, whether sellers or buyers, and strengthens the trust between them (Albelaihi et al., 2019). Another purpose of this service is to improve individual quality of life, which is one of the goals of Vision 2030 (Saudi Vision 2030, 2019).

1.3.2 Saudi Vision 2030

Saudi Arabia is undergoing a series of significant changes under the present governing power of King Salman and Crown Prince Mohammed bin Salman. These changes involve budgets, regulations, and policies that will be enacted in order to ensure that SA becomes less reliant on oil by developing a diverse and sustainable economy (Khan, 2016). The transformation process began with the launch of "Vision 2030" by

the Crown Prince of SA. One of the Vision's primary goal is to "ensure a thriving economy include raising the share of non-oil private sector GDP from 40 percent to 65 percent" (Khan, 2016, p. 38). Moreover, the vision highlights the significant role of small and medium-sized enterprises (SMEs) in contributing to the overall growth of the country's economy by creating more jobs and innovating. The Vision also emphasises the localisation of specialised industries, such as the digital economy (Alshuwaikhat & Mohammed, 2017). Mesenbourg (2001) defines the digital economy as having three main elements: supporting infrastructures, electronic business processes, and electronic commerce transactions. SA places a high value on e-commerce and s-commerce, and is making significant attempts to entice vendors and consumers to use it to achieve economic benefits (A. Alghamdi, 2020). According to a report provided by the Saudi Arabian Communication and Information Technology Commission (CITC), "e-commerce development will help achieve the Vision 2030 goals of creating a diversified economy and establishing an attractive environment for investment, entrepreneurship, and employment" (CITC, 2017, p. 21).

Moreover, one of the commitments of Vision 2030 is to increase job opportunities for Saudi women (Saudi Vision 2030, 2019). The emphasis is on developing resources and programmes for both young people and women to help them improve their job opportunities and skills. SA's unemployment rate is expected to fall from 11.6 percent to 7 percent. Furthermore, employment prospects for women are expected to expand from 22 percent to 30 percent (Saudi Vision 2030, 2019). E-commerce, which includes s-commerce, will help boost local markets in Saudi Arabia by providing work opportunities to unemployed people. The Saudi government expects that this will help to encourage entrepreneurship and increase business opportunities (S. S. Alotaibi, 2018).

1.4 Research Objectives

This study is conducted to acquire a better understanding of s-commerce and to develop a new holistic social commerce model for SA. Choosing the most relevant factors related to s-commerce is one of the most difficult challenges. Because several factors could potentially influence customers' attitudes to the adoption of s-commerce

in SA, it is important to narrow them down to those that are the most salient. The main aim of this research is to examine the factors related to organizations' characteristics such as design, content, social, psychological and cultural elements, and sustainability (e.g., reputation, website quality, perceived enjoyment, support, and awareness) that will affect the adoption of s-commerce in SA, with a focus on cultural and organizational factors. To achieve this, the following research objectives have been formulated:

- 1. To determine the factors that must be included when developing a holistic social commerce model for Saudi Arabia.**
- 2. To determine the specific cultural, and organizational factors that must be considered when developing a holistic social commerce model for Saudi Arabia.**
- 3. To investigate social networking experts' attitudes regarding the holistic social commerce model developed for Saudi Arabia.**

1.5 Research Questions

A research question is a specific question that the study intends to address and answer. According to the Collis and Hussey (2014), "research questions provide a focus for your endeavours and are not the actual questions you might use in a questionnaire or interview" (p. 103). The formulation of research questions is a very important step in the research because it determines the research design. Figure 1.2 shows the steps taken by the researcher when developing the research questions.

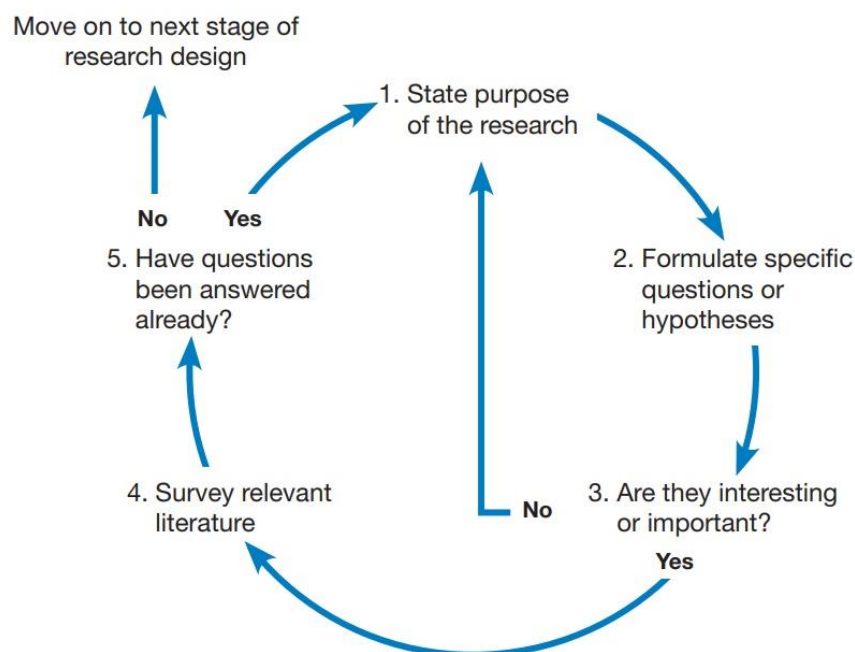


Figure 1.2: Identifying research questions (Adapted from Collis and Hussey (2014, p. 104))

To fulfil the objectives of this research, the following questions were addressed to provide insight critical for developing a holistic s-commerce model and for the successful adoption of s-commerce in Saudi Arabia:

Q1: What are the factors that must be included when developing a holistic s-commerce model for Saudi Arabia?

Q2: What are the specific cultural and organizational factors that must be considered when developing a holistic social commerce model for Saudi Arabia?

Q3: What are the perceptions and attitudes of s-commerce experts in terms of the holistic social commerce model developed for Saudi Arabia?

1.6 Research Design

For this study, a mixed methods research design (“sequential explanatory research design”) was adopted in order to collect and analyse the participants’ opinions of the new initial s-commerce model. Sequential explanatory research design involves two phases of data collection and analysis: a quantitative phase followed by a qualitative phase (Saunders et al., 2016). The main benefit of applying this design is to obtain a comprehensive understanding of a phenomenon by collecting and analysing qualitative data to explore and interpret the statistical outcomes obtained from the quantitative phase.

First, quantitative data was collected first via an online survey to assist the researcher to understand SN users’ reactions to s-commerce and to establish a set of new factors identified in the survey data. This research applied the Statistical Package for Social Sciences (SPSS) version 26 for data analysis. Then, exploratory factor analysis (EFA) was conducted to detect the factors that must be retained in the model after the factor-reduction procedure. The quantitative method was used to address the first and second research questions stated in section 1.5.

In the next phase, the researcher conducted asynchronously semi-structured interviews, with open-ended questions to help clarify and validate the first and second research questions, and to address the third research question from the experts’ perspectives. The researcher analysed the qualitative data results by using NVivo software (version 12), one of the general qualitative analysis tools, and the thematic analysis techniques.

1.7 Research Contributions

It is essential to explain the significance of any research in terms of its theoretical and practical contributions. The theoretical contribution is concerned with exploring new knowledge and the extension of existing knowledge about a particular field. While the practical contribution is concerned with the empirical impact of the research results in real life. It is anticipated that this research makes substantial theoretical and practical

contributions to the s-commerce field, especially in the context of Saudi Arabia.

1.7.1 Theoretical Contributions

This study will present a detailed description and a new perspective on s-commerce adoption in KSA. The seven themes in this study -organization characteristics, design, content, social, psychological, culture, and sustainability- will be explained and summarized. Also, this research will review the current social commerce models.

The main theoretical significance of this research is that it makes new theoretical and academic contributions to the current literature regarding the significant factors required for the successful implementation of social commerce in SA. The study contributes to the understanding of s-commerce adoption by adding information about the factors that affect consumer behaviour in terms of using social commerce in the SA. Given that, to date, there is a lack of theoretical models to guide the implementation of s-commerce in Saudi Arabia, this thesis seeks to contribute new theoretical and academic knowledge regarding the crucial factors needed for the successful adoption of s-commerce in Saudi Arabia. The study result will benefit stakeholders in research centres or institutions and universities in SA, such as scholars, academic staff, PhD and Master students as it will provide a better understanding of s-commerce. Moreover, it will be useful for similar stakeholders in other developing countries, particularly those comprising the Gulf Cooperation Council. Briefly, this research will add new knowledge to the literature in this recent and essential field as it considers all relevant factors more comprehensively by taking an exploratory approach and examining the significant levels of these factors collectively.

1.7.2 Practical Contributions

It is anticipated that the study's outcomes will benefit stakeholders such as companies, organizations and governments as they will provide guidance on how to encourage customers to adopt s-commerce and find practical solutions to improve the use of s-commerce in KSA.

Furthermore, this research is aligned with the objectives of Saudi Vision 2030, a project map for strengthening the Saudi economy by diversifying SA's sources of income. One of the goals of Saudi Vision 2030 is to promote economic growth by empowering Saudi entrepreneurs (Saudi Vision 2030, 2019). Hence, this research contributes to the Vision and has practical implications for Saudi's Internet entrepreneurs by offering recommendations that will encourage consumers to adopt s-commerce in SA. S-commerce adoption will help entrepreneurs achieve their desired financial objectives which, in turn, may help build a stronger economy. In addition, this holistic model could be applied in the Gulf Cooperation Council (GCC) countries as they have many factors in common such as culture, religion, social, languages, and economic and financial systems.

1.8 Overview of the Research Flow

As can be seen in Figure 1.3 below, this study comprises eight major steps. First, an extensive review of the literature on s-commerce is conducted, enabling the research to identify the research gap(s). Subsequently, the research questions and objectives are developed. After that, content analysis of the reviewed literature is conducted to determine the key themes and factors that will form the basis for the initial model.

Then, the initial model is tested through the online survey by using SPSS version 26. The online survey analysis results are used to refine the initial model to accommodate the new survey findings. In order to confirm and validate the refined model, s-commerce experts in Saudi are interviewed. Lastly, the final model is developed, containing a comprehensive set of themes and factors that influence the adoption of s-commerce.

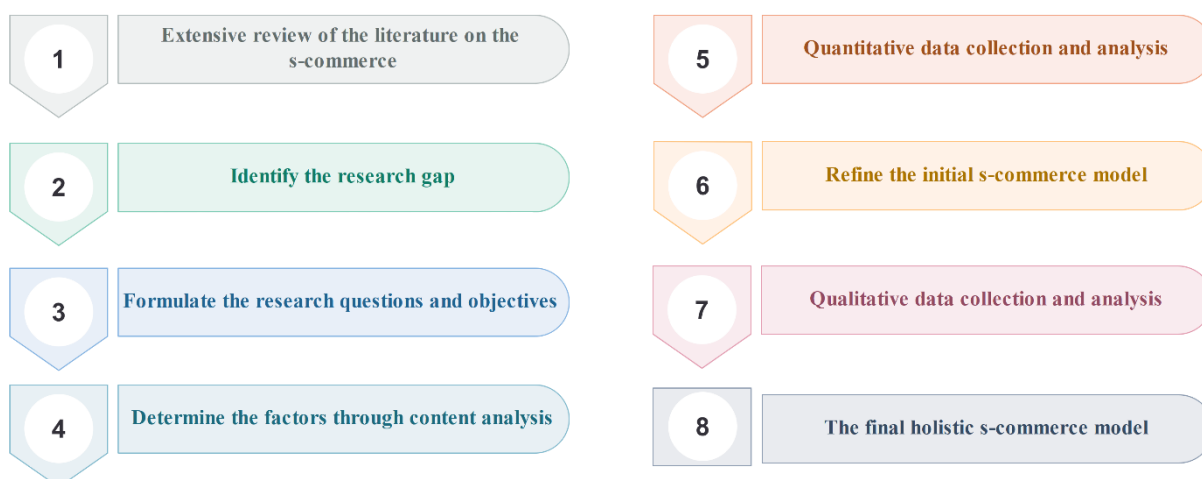


Figure 1.3: Research Flow (Prepared by author)

1.9 Thesis Outline and Structure

This section provides a brief outline of the thesis. The thesis is divided into six chapters, summarised below:

Chapter 1 Introduction: This chapter focused on the research background. This included a description of the research context, in this case, Saudi Arabia. Subsequently, the research objectives and questions were presented. This was followed by a brief discussion on the research contributions and the research design. Finally, an overview of the research flow and the thesis outline were provided.

Chapter 2 Literature Review: This chapter presents a comprehensive and critical review of the current literature review on s-commerce, including the theoretical background and related studies, the research gap, and the initial model developed in this thesis.

Chapter 3 Research Methodology: This chapter describes the research ‘onion’ layers. It includes an overview of the different research philosophies, research approaches, research methods, research strategies, time horizon, and the data collection and analysis processes. This chapter also explains and justifies the research design chosen for this study. Finally, the ethical considerations of the study are

presented.

Chapter 4 Online Survey: This chapter describes the twelve-stage design followed by the researchers when designing the survey questionnaire. This chapter also presents the enhanced s-commerce model for Saudi Arabia, modified according to the new survey analysis findings.

Chapter 5 Interviews: This section discusses the final phase of the research data collection process (qualitative phase) which involves the interviews. It presents the interview findings, the main changes made to the enhanced model, and all the analysis results. The chapter concludes with the final holistic s-commerce model developed for Saudi Arabia.

Chapter 6 Conclusion: This chapter presents the final model and discusses the research results in details. It answers the primary and secondary research questions. Also, various recommendations are given on ways to adopt s-commerce in Saudi Arabia successfully. Moreover, the chapter explains the substantial theoretical and practical contributions made by this research to the s-commerce field. Finally, the study's limitations are acknowledged, and potential future research directions are suggested.

1.10 Conclusion

This chapter outlined the research background. This was followed by a description of the research context, Saudi Arabia, which included its geography, population, history, and Vision 2030. The research objectives and research questions were then presented. This was followed by the research's theoretical and practical contributions. The research design adopted for this study, which included the quantitative followed by qualitative methods, was also discussed. Finally, the outline of the structure of the thesis was presented.

The following chapter will review the s-commerce literature in detail to find and research gap(s) and establishing a basis for the development of an initial s-commerce model for SA.

2 Literature Review

2.1 Introduction

The previous section presented the background of s-commerce and the research context. Also, the research objectives and question, the research significance and the research design were outlined. This was followed by an overview of the research flow and thesis structure.

This chapter seeks to conduct a thorough review of the current literature to comprehend the complexities of s-commerce adoption and determine the factors that may influence such adoption. It started with a brief background about e-commerce, including its definition, benefits, risks and limitations. Subsequently, a review of the present state of e-commerce in SA, along with the limitations found in the current literature, were discussed.

Social media was then reviewed, including a review of the Web 2.0 evolution, definition, advantages, and applications. This is followed by a discussion of the relationship between Web 2.0 and SN, SN business impact, as well as the current state of social media in SA. Moreover, s-commerce was discussed along with its history, definition, and business benefits.

After that, section 2.6 examined several models, highlighting the main aspects of each. It discussed the conceptualisation and theoretical basis of s-commerce by various researchers who have proposed their own frameworks and models.

In section 2.7, an integrated approach and the initial factors required for s-commerce adoption were presented. Sections 2.8 and 2.9 identified the research gaps and proposed an initial s-commerce model based on the current literature, which will be evaluated and modified in subsequent chapters, followed by the conclusion.

2.2 Scope of the Literature Review

Various studies have designed frameworks to categorize literature reviews, such as Cooper (1988), Papier (1972), Torraco (2005), Virgo (1971), and Webster and Watson (2002). Among the most commonly-cited classifications is Cooper (1988) taxonomy of literature reviews, which classifies literature reviews according to six characteristics: focus, goal, perspective, coverage, organisation, and audience. In accordance with this taxonomy, this literature review is categorized as seen in Table 2.1.

Table 2.1: Literature review categorizations (Adopted from Cooper, 1988)

Characteristic	Cooper's definition	Categories			
Focus	What is the primary focus of attention?	Research findings	Research methods	Theories	Practices or applications
Goal	What is the overall goal of the synthesis?	Integration	Criticism	Identification of central issues	
Perspective	What is the perspective on the literature?	Neutral perspective		Espousal of position	
Coverage	How is the coverage of the literature defined?	Exhaustive	Exhaustive With Selective Citation	Representative	Central Or pivotal
Organisation	What is the organization of the perspective?	Historical	Conceptual	Author-Centric	Methodological
Audience	Who is the intended audience?	Specialized scholars	General scholars	Practitioners or policy makers	General public

A systematic review approach and meta-analysis were used in this study to examine social commerce studies conducted in previous works. An effective systematic review can lay the groundwork for furthering knowledge, facilitating theory development, and identifying fields where additional research is required (Webster & Watson, 2002). Since the first paper discussing the concept of s-commerce was published in 2006,

publications of direct relevance to social commerce published from 2006 to 2021 were considered. The collected articles included academic articles from journals, dissertations, theses, book chapters, and conferences papers and proceedings. Furthermore, only those studies published in English were considered. The databases selected for the search were ProQuest, ScienceDirect, Scopus, and SpringerLink. These databases contain publications with a high impact factor and are considered relevant to this study field (Busalim & Hussin, 2016).

As recommended by Webster and Watson (2002), the researcher did not limit the search method to a particular selection of journals; instead, the aforementioned online databases were searched so as to cover a wide range of publications. For a thorough search of appropriate materials for s-commerce, specific keywords in titles were used: “social commerce”, “social shopping”, “collaborative commerce”, “collaborative shopping” and “s-commerce”.

Using the defined databases, keywords, and criteria, the initial search yielded 839 articles. The title, abstract, and conclusion of each study were examined to identify all relevant papers. Any study that was clearly not related to consumer behaviour in the context of social commerce was excluded. A total of 245 studies related to consumer behaviour in social commerce remained, with 165 studies left after the duplicated studies were removed using the EndNote X8 software (See Figure 2.4). After that, full-text scanning was carried out for the remaining articles.

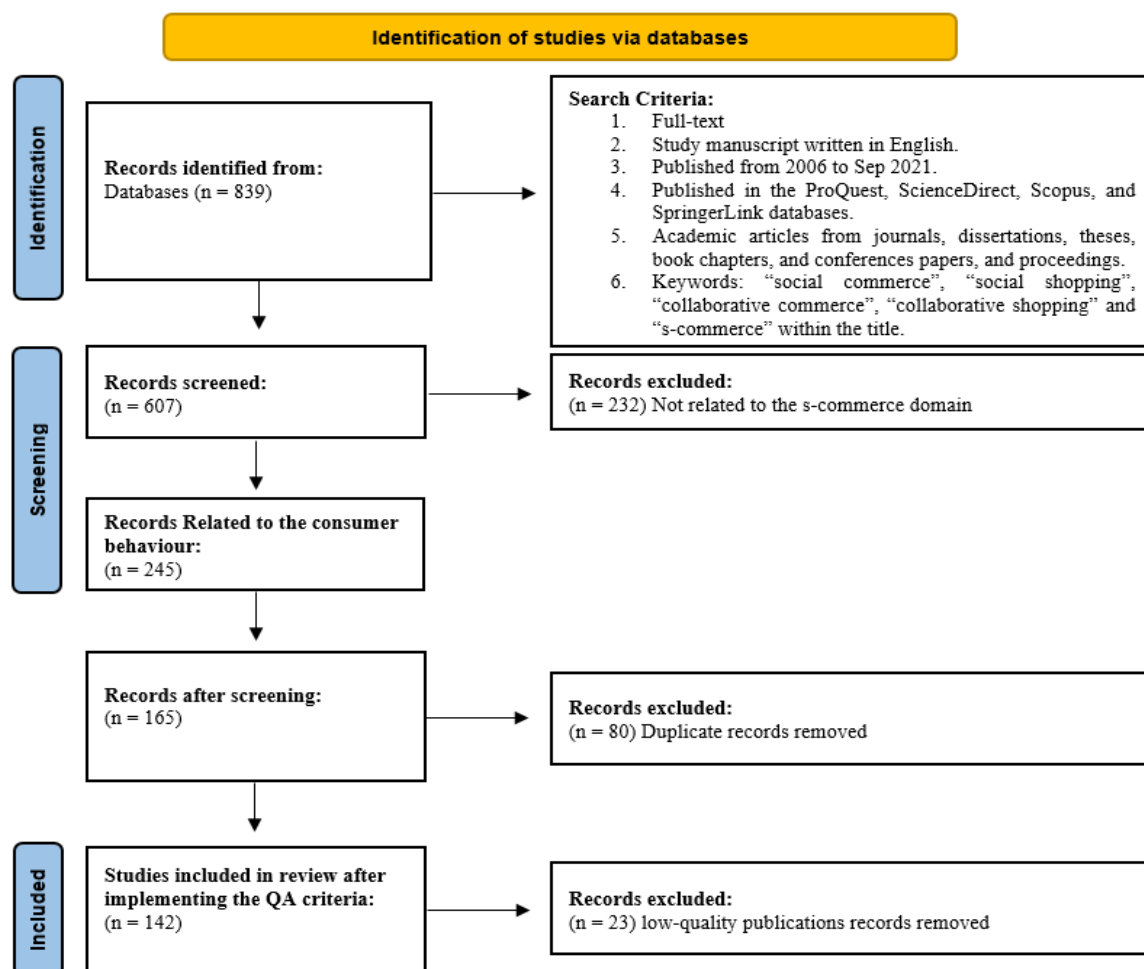


Figure 2.4: Flow diagram depicts the different phases of a systematic review; adopted from (Page et al., 2021)

Table 2.2 lists the 25 journals that contained two or more relevant studies. The journal containing most of the relevant papers is the *International Journal of Information Management* (18 articles), followed by *Information & Management* (eight papers). *Internet Research*, *Journal of Electronic Commerce Research*, *Information Technology & People*, *Journal of Retailing and Consumer Services* (six articles) contained the third-highest numbers of published studies, followed by *Technological Forecasting*, and *Electronic Commerce Research and Applications* (five articles). Furthermore, we observed that several journals have published fewer than five studies.

Table 2.2: List of journals with two or more studies

Journal Name	Number of Papers	Journal Name	Number of Papers
International Journal of Information Management*****	18	Behaviour and Information Technology*****	2
Information & Management*****	8	Electronic Markets*****	2
Internet Research*****	6	International Journal of e-Business Research*	2
Journal of Electronic Commerce Research***	6	Telematics and Informatics**	2
Information Technology & People*****	6	Procedia-Social and Behavioral Sciences*	2
Journal of Retailing and Consumer Services*****	6	International Journal of Electronic Commerce*****	2
Technological Forecasting and Social Change*****	5	Revista Brasileira de Gestão de Negócios*	2
Electronic Commerce Research and Applications**	5	Sustainability*	2
Journal of Theoretical and Applied Electronic Commerce Research***	4	International Review of Management and Marketing*	2
Computers in Human Behavior*****	4	Technology in Society**	2
Pakistan Journal of Commerce and Social Sciences*	3	Journal of Global Information Management*****	2
Electronic Commerce Research*****	3		
Based on the Australian Business Deans Council (2019), * (No Ranking), ** (C ranking), *** (B ranking), **** (A ranking), ***** (A* ranking)			

This research reviewed the current s-commerce literature, in general, and in Saudi Arabia, in particular, to explore which factors might influence the consumers' behaviour regarding the adoption of social commerce in Saudi Arabia, and to develop an initial s-commerce model for Saudi Arabia.

2.3 Electronic Commerce

The technological revolution of online social-content generation has given rise to s-commerce. This is a new type of e-commerce that is based primarily on various business goals, customer connection, and system interaction. This section provides a brief background on e-commerce, including its definition, benefits, risks and limitations.

2.3.1 Definition

Electronic commerce (e-commerce) is a broad concept with various definitions. However, researchers agree on certain features of e-commerce, which can form the basis for the definition. For instance, Jain et al. (2021) give the main components and facilitators of e-commerce as being: the Internet, payment gateways, autonomous vehicles, social media, analytics, and 3D printing. Similarly, Kütz (2016) highlights the Internet and computer technologies as being the basic elements of e-commerce. The technologies that are associated with e-commerce are automated systems of data collection, transaction processing, online inventory management systems, electronic data interchange (EDI), Internet marketing, electronic transfer of funds, and mobile commerce. Based on the key concepts and previous definitions, e-commerce can be described as the use of a worldwide standardised network infrastructure and powerful information technology (ICT) system to facilitate the exchange of goods and services between individuals or organisations (Jain et al., 2021; Kütz, 2016). This definition is based on the key consideration and constituent attributes of e-commerce that facilitate business processes, digitisation of business, and the utilisation of the global networks.

2.3.2 E-commerce Business Benefits

The benefits of e-commerce have been discussed extensively. Both consumers and sellers can benefit from two key attributes of e-commerce: operational efficiency and cost-effectiveness (Jain et al., 2021). From the perspective of consumers, the major advantages of e-commerce are that the business model is more convenient and time-saving (Rahayu & Day, 2017). E-commerce improves convenience on customers' side since they can purchase products and services worldwide. Several studies, including

Chandna and Salimath (2018); Tran (2021), agree on the specific benefits of e-commerce for customers. Some of these benefits, not provided by the conventional business model, are that: customers can easily obtain and provide feedback about products and suppliers, have access to a diverse range of products, can compare products and services to make informed decisions, and can save time. Overall, the various features and benefits of e-commerce lead to increased efficiency and cost-effectiveness. Moreover, better connectivity, and the reduction of business overheads such as those incurred by advertising, play a significant role in reducing product and service costs.

The benefits of e-commerce have also been investigated from the seller's perspective. As Jain et al. (2021) argue, e-commerce's major benefits to sellers are that it improves performance and profitability by decreasing costs while increasing sales. However, there are inconsistent findings regarding the association between e-commerce and the levels of productivity and firm performance. Research by Šaković Jovanović et al. (2020) that involved a survey of small businesses showed that the adoption of e-commerce as a business model in SMEs was negatively associated with the firm's performance. Conversely, Yang et al. (2015) and Octavia et al. (2020) found that there is a positive relationship between a firm's performance and the adoption of e-commerce. Despite this discrepancy, the researchers agree that the impact of e-commerce on a firm's performance is hugely mediated by organisational capabilities and resources. Thus, it can be argued that even though SMEs or MNEs may invest heavily in e-commerce resources, the effect that such investments will have on performance depends on organisational capabilities and resources. However, most e-commerce researchers agree that the business model increases sales, reduces costs of operation, improves customer loyalty, promotes brand image, and increases operational efficiency (Jain et al., 2021; Šaković Jovanović et al., 2020). Arguably, the various benefits of e-commerce can translate into improved performance.

Essentially, e-commerce offers several advantages to consumers and helps them to access insightful and informative product and service information that enables them to make the right purchase decisions (X. Li et al., 2020; T. Zhang et al., 2017). In addition, as Chandna and Salimath (2018) note, platforms such as social media that

are used for e-commerce provide excellent opportunities for virtual interaction. In turn, customers benefit from such interactions by giving and receiving feedback about products and services. On the other hand, as C. Lee (2017) highlights, the features of e-commerce create a valuable opportunity for businesses to increase their sales and overall performance. The features and tools used in e-commerce make it easy for firms to attract new customers, leverage existing markets, improve compatibility, and build social groups that impact sales and profitability.

2.3.3 E-commerce Risks and Limitations

Notwithstanding the benefits and potential of e-commerce, it also has some limitations as it can pose a diverse range of risks to both sellers and consumers. Some literature including (Taher, 2021) and (Kütz, 2016) focus exclusively on discussing the limitations and risks that e-commerce poses to businesses and individuals. In essence, extant theory and researchers acknowledge the existence of two broad categories of disadvantages of e-commerce, which are technical and non-technical (Taher, 2021; Vadwala & Vadwala, 2017).

Technical disadvantages or limitations of risks can range from poor standards, limited reliability, or lack of system security due to the poor execution of commerce. Common occurrences of e-commerce risks and disadvantages that are universally highlighted in the literature include software development challenges, credit card fraud, unreliable Internet connection, and security issues (Taher, 2021). While all the risks have massive implications for business, researchers concur that the risks of cyber-attacks and online security breaches are particularly significant. Chun (2019) emphasizes that unprotected web services, website hacking, and phishing are some of the major online security risks that limit the benefits of e-commerce. However, the diverse range of risks and vulnerabilities can be overcome through the adoption of robust and advanced technology, and by improving the awareness and training of employees and customers. The role of technology is particularly important as discussed by Vadwala and Vadwala (2017) who attribute most of the technical disadvantages to the rapidly-evolving technical landscape. Turban et al. (2015) concur with Vadwala and Vadwala (2017) in

noting that SMEs and MNEs can overcome the disadvantages and risks of e-commerce by adopting the most recent technologies. However, it might not be feasible for some firms (especially SMEs) to update their technology regularly due to issues related to scalability, compatibility and costs. Still, the rapid evolution of technology can help to alleviate the various types of technical disadvantages of e-commerce.

Non-technical disadvantages and risks relate to the reception that various stakeholders have of e-commerce which is a new technology. Taher (2021) lists the non-technical disadvantages of e-commerce as restricted consumer services, delays in delivery, and the absence of personal touch. Vadwala and Vadwala (2017) describes similar non-technical disadvantages of e-commerce, reiterating the lack of feel or the personal touch of products, inconveniences caused by limited Internet access in some parts, as well as mistrust and privacy concerns. Most of the non-technical disadvantages and risks of e-commerce are related to the novelty of the concept and the rapidly-evolving technology. Thus, it can be argued that such limitations can be overcome through training and creation of awareness.

2.3.4 E-commerce in Saudi Arabia

E-commerce has a large market share in the Middle East, with Saudi Arabia constituting the largest share. Studies have documented the trends and contribution of e-commerce to Saudi Arabia's economy, with most of the investigations pointing to the increasing adoption of the business model (R. AlGhamdi et al., 2012; Salem & Nor, 2020). Statistical reports and empirical studies illustrate that Saudi Arabia has achieved significant growth in e-commerce, more so than other countries in the Middle East (Al-Tayyari et al., 2021; Alqahtani, 2018). As Makki and Chang (2014) argue, the increasing usage of social media, mobile phones, and the Internet is a key enabler of e-commerce in Saudi Arabia. Most of the extant research on e-commerce in Saudi Arabia focussed on the perspectives of both businesses and customers.

Overall, the Saudi government has played a crucial role in the growth of e-commerce in the country. In his research, Alabdali (2018) highlights the measures that the

government has taken over the years to promote e-commerce, which include: introducing government commerce, identifying and creating opportunities for education about the Internet, and increasing access to the Internet. Studies by Salem and Nor (2020) and Santa et al. (2019) concur that transitioning to e-government and increasing uptake of e-commerce by SMEs has increased the country's influence in the Middle East. Further, R. AlGhamdi et al. (2012) confirm that the government plays role in supporting the growth of the information technology sector in the country which, in turn, creates an environment conducive to e-commerce. However, some researchers including Alqahtani (2018) and Alabdali (2018) highlight that e-commerce in Saudi Arabia has not reached its full potential since the government focuses mostly on e-government and e-learning while neglecting areas such as e-retailing. R. AlGhamdi et al. (2012) also highlight that the Committee for e-commerce, which was established in 2001 by the Ministry of Commerce has not been active in supporting e-commerce in the country. This Committee was formed to help develop e-commerce in various ways through, for example, education and training, delivery systems, security needs, payment systems, legislation and regulation, as well as an IT infrastructure (A. O. Alotaibi & Bach, 2014). There is little information available about the role and impact played by the Committee in terms of e-commerce and the Saudi Ministry of e-commerce. Therefore, even though Saudi Arabia is a leading country in the Middle East, it has not fulfilled its potential.

2.3.5 E-commerce statistics in Saudi Arabia

Globally, Saudi Arabia is ranked in the 25th position as the largest e-commerce market in the world (ecommerceDB, n.d.). According to numerous statistical data studies (Law, 2021; Coppola, 2021; Vuleta, n.d.; WebAlive, 2019), a growing number of consumers use the Internet to gather information about and purchase online goods and services (Gatautis & Medziausiene, 2014). Over two billion people worldwide purchased goods online in 2021 (Coppola, 2021). Moreover, the global e-retail sales amounted to 4.2 trillion U.S dollars in 2020, and projections indicated an increase of up to 5.4 trillion U.S dollars by 2022 (Chevalier, 2022).

Saudi Arabia reported an annual revenue of \$ 7 billion for the 2020 fiscal year, which was a 34% increase in growth compared to the rate of growth in the previous year (ecommerceDB, n.d.). A report by Mathews (2021) also provides valuable insights into the trends of e-commerce in Saudi Arabia, reporting 279% and 347% increases in value and national debit card transactions. Empirical studies including those of Al-Tayyar et al. (2021) and Salem and Nor (2020) also confirm that e-commerce in Saudi Arabia has been on the increase in the past years. In particular, Salem and Nor (2020) note that the COVID-19 pandemic played a major role in increasing transactions via e-commerce. Other factors such as government support, perceived ease of use, and convenience also explain the increases in the adoption of e-commerce.

Despite the rapid growth in recent years, Al-Tayyar et al. (2021) indicated that only 9.0% of businesses in Saudi Arabia have adopted e-commerce. He believes that there is still a need for more rapid and widespread adoption of e-commerce in order for the country's full potential to be realised. This is supported by Alqahtani (2018) who stated that although Saudi Arabia's online sales are among the highest in the Middle East, the country's full potential has not been achieved due to issues such as customers' preference for paying cash on delivery (COD), users fearing the loss of control, and cultural barriers. Nonetheless, the uptake of e-commerce can be improved by increasing the adoption of ICT services, government support, and willingness to embrace new technologies.

2.3.6 Limitations of E-commerce in Saudi Arabia

The limitations of e-commerce can vary depending on the region and its level of technological development. Makki and Chang (2014) note that despite the favourable environment, the growth of e-commerce in Saudi Arabia has been inconsistent and slow, compared to developed countries. The slow growth is attributable to myriad factors including difficulties with Internet access to some regions, language barriers due to some customers not understanding English, and lack of trust in online purchases and payments.

In the study by Alabdali (2018), several factors are cited as being barriers to the adoption of e-commerce, especially among SMEs. These factors include: products that are not saleable online, lack of profitability, challenges of obtaining competitive advantage from e-commerce, lack of clear regulations or rules on e-commerce in Saudi Arabia, as well as the culture and habits of the citizens not being conducive to e-commerce. Similarly, research by R. AlGhamdi et al. (2012) lists these barriers to e-commerce in Saudi Arabia: lack of trust in online sales, absence of efficient online payment platforms, poor ICT infrastructure, and retailers' and consumers' lack of experience with e-commerce. Most of these challenges such as poor Internet coverage and lack of experience are common in other countries but are fading gradually due to the increasing usage of and familiarity with the Internet and mobile technology. Studies by Taher (2021) cite resistance to change, delivery challenges, and high set-up costs, especially among SMEs, as also being key barriers to e-commerce. As Al-Adwan et al. (2020) argue, the success of online shopping one of the areas of e-commerce, largely depends on eWOM, online satisfaction, and online trust.

The various limitations of e-commerce in Saudi Arabia can still be addressed. Studies by Alabdali (2018) concur that the limitations of e-commerce in Saudi Arabia can be addressed by improving the security and trustworthiness of online payment systems, and by creating awareness through educational programs. The involvement of the government in supporting the development of information technology infrastructure will also be instrumental in overcoming the limitations to e-commerce in Saudi Arabia. The following sections discuss social media technology which is the core of e-commerce and s-commerce activities.

2.4 Social Media

Social media is one of the technologies that has had massive effects on individuals' personal and professional lives (Kaul, 2012). This technology has altered the way that individuals, businesses and industries operate. It has had massive transformative effects on various aspects of business operations including marketing, product promotion, and strengthening relationships between firms and consumers (Aral et al.,

2013). Understanding what social media entails, its inception, and its evolution can help in appreciating the role and effect of the technology.

2.4.1 Evolution of Web 2.0

Over the last few years, Web technology has evolved in terms of how it is used consistent with the introduction of new tools and practices pertinent to users. As Dwivedi et al. (2011) stated, Web 1.0 was the first Web-based application with websites that were providing a basic, limited and static user experience. Aghaei et al. (2012) concurred with Dwivedi et al. (2011) that the “Web 1.0 was static and somewhat mono-directional” (p. 2).

With the evolution of Web 1.0 in tandem with the emergence of digital technology, Web 2.0 was created offering websites with the capacity to provide more interactive and richer user experiences. The term Web 2.0 was first used in October 2004 at a conference by O’Reilly Media company (Delgado Rodríguez, 2019). The emergence of Web 2.0 from Web 1.0 marked an important period in which there was a cultural shift from the time when the pages were designed, developed, and applied in the static form to the dynamic one (C. Lee, 2017). According to Aghaei et al. (2012), Web 2.0 is a the user Web phenomenon characterised by the development and application of SN sites including MySpace, Twitter, Instagram, Facebook and Snapchat platforms that allow users to build individual profiles, share digital content, and interact with other people on a large scale.

The Web 2.0 infrastructure is based on Web communication protocols, which are mainly Representational State Transfer (REST) and Simple Object Access Protocol (SOAP; C. Lee, 2017). The SOAP includes POSTing Extensive Markup Language (XML) messages and making requests to the servers, which may contain complex predefined instructions. On the other hand, the REST element in the Web 2.0 infrastructure enables data to be accessed and manipulated by means of hypertext transfer protocol (HTTP) verbs including delete, put, post, and get (Halili & Ramadani, 2018). As C. Lee (2017) notes, both REST and SOAP elements provide access to

services that are defined by the application programming interface (API). The API is specific to a given server but some communication on the Web also entails the XML.

2.4.2 Definition of Web 2.0

The basic definition of Web 2.0 is that it is the second generation of Web services, characterized by increased online connectivity, collaboration and sharing of digital content with multiple users. According to O'Reilly (2006), Web 2.0 is “the business revolution in the computer industry caused by the move to the Internet as platform, and an attempt to understand the rules for success on that new platform” (p. 3). Delgado Rodríguez (2019) shared this view, describing Web 2.0 as a participatory Web, which associates with wikis and blogs enabling users to share a network and retrieve information through a browser. It points to the perceived transition of the Internet from the basic websites to the more interactive Web applications beyond the initial limitations of HTML (França et al., 2021). In essence, Web 2.0 redefines the open concept of semantic Web, rich Internet applications and social media.

2.4.3 Advantages of Web 2.0

Web 2.0 remains of great interest to business organizations that have continually used it in innovative services and products to better access knowledge and effectively reach the global market. Bughin et al. (2009) explain that successful companies not only firmly integrate Web 2.0 technologies with their staff's workflow, but also create a well-networked company, enabling staff to link with the suppliers and consumers. Duneva (2021) shared the perception of Bughin et al. (2009) in agreeing that when used effectively, Web 2.0 encourages the sharing of ideas and participation in a corporate project, thus widening its scope. Vidili (2020) declares that the ability of Web 2.0 networking has increased the awareness of customers and the consideration of a company's products and its ability to offer consistent satisfaction.

2.4.4 Types of Web 2.0 Applications

There is a diverse range of Web 2.0 applications, which include content hosting services, podcasting, folksonomies, SN, blogs, and wikis. As Alqahtani (2018) highlights, most of the applications take advantage of the Web 2.0 capabilities of enhancing participation and interaction. A number of different types of Web 2.0 applications, including wikis, blogs, and SN, are reviewed below.

2.4.4.1 Wikis

A growing interest in Web-based collaborations have been witnessed in the latest generations with various Web 2.0 applications, such as Wiki, tagging and blogs. Chu et al. (2017) stated that Wiki which is a collaborative Web site has content that is editable by any user who has access to it. In this regard, Wiki is used as a source for generating knowledge and information as a form of virtual collaboration. Alqahtani (2018) added that Wiki has quality features consistent with versioning capabilities, article discussion and easy editing. Moreover, Wiki offers a group editing tool, which is used in the creation, deletion and modification of contents on the Web. These features enable a company to maintain its brand details up-to-date always and ensure that reliable details are given. Usage of Wiki can be restricted to a selected community, network or opened to the global audience.

2.4.4.2 Blogs

Blogs may be used as marketing channels that enable businesses to improve their brand awareness and online visibility, and they can be used to support business growth and increase productivity. According to Rendler-Kaplan (2017), blogs consist of a website with information or discussion that is available on the World Wide Web containing discrete and mostly having entries updated daily. Kahle-Piasecki (2018) notes that posts are, typically displayed using a reverse chronological order whereby the current posts appear first at the top of a web page. J. Kim et al. (2022) mention that blogs were once the work of a single person occasionally for a small group and, in most cases, they covered only a single topic or subject. With the development of technology, multiple bloggers emerged, allowing the participation of multiple authors including

professionals and covering diverse topics and subjects. Blogs are reliable for marketing company brands since businesses are able to display their products' features. Additionally, Q. Liu (2021) suggested that when organizations publish quality content with high relevance to their industry, other related industry websites ought to link back to the blog, thereby attracting a large market share. Dhanda and Kumar (2018) demonstrate that any time a blog is posted, easily-sharable content is created on potential consumers' social medial channels, thus attracting a large market share.

2.4.4.3 Instant Messaging

Yuan and Wu (2020) describe instant messaging (IM) as a form of text-based communication, enabling two or more people to engage in a conversation using their mobile or computer devices in an Internet-based chatroom. Marketing experts see IM as being a tool for reaching customers in an accessible, direct and widespread manner. It restores the techniques of direct sales and reinterprets them in light of the new technology that makes instant communication possible between seller and consumers (Lo Presti et al., 2022). Therefore, social messenger applications are not only used for online sales, but also a place where consumers are actively engaged (Marino & Lo Presti, 2018). Via instant messaging, customers can receive a prompt response to a question, which increases their trust in a company and its products and services (Lo Presti et al., 2022). A key difference between emails and instant messaging is that in IM, conversations take place in real time. Most of the IM applications, sometimes known as chat apps, messaging apps, or social messengers have improved interactivity due to their reliance on push technology (Aggarwal et al., 2018).

2.4.4.4 Tagging

In Web 2.0, 'tagging' relates to a relevant keyword that is assigned to or associated with a particular piece of information, including a video clip, a photo or an article to describe the piece of information, thereby facilitating a classification system based on the keyword (Poole, 2019). Belém et al. (2019) asserted that tagging is a neologism concept with applications in collaborative categorization entailing the use of simple tags with no predetermined hierarchies or affiliations. In addition to being a

categorization system, tagging enables users to share tags and categorizations. Konjengbam et al. (2020) describe tagging as a user-generated taxonomy in Web 2.0 used to categorize, define and retrieve digital content in the Web including Web pages, weblinks, videos and photos via open-ended labels. Building an e-commerce platform necessitates the use of tags to make product and service information easily searchable and discoverable with user-navigation capabilities (V. Sharma & Karnick, 2016).

2.4.4.5 Flickr

In Web 2.0, Flickr is an image hosting service site that enables users to share photos and videos with other linked users to view and make comments on (Stuart, 2019). According to H. Zhang et al. (2019), the well-linked Flickr services exploit the concept of a read-write Web supported by Web 2.0 technologies which transform users from clients to dynamic contributors of the Web content. Van Dijck (2017) maintains that Flickr creates a culture of connectivity and offers endless opportunities for individuals to share their experiences and connect by means of photos. Similarly, Fallon (2021) highlights the significant role played by Flickr and other photo-sharing platforms such as Instagram in creating a culture of connectivity, where people can easily share memories, experiences, and views. Flickr enhances connectivity and content-sharing since the photos uploaded can be used on other RIAs such as social media, blogs, and websites.

2.4.4.6 Podcast

Sullivan (2019) describes podcasting as the use of the Internet to make and share audio and video files that can be downloaded on personal computers and hand-held mobile communication devices. Spinelli and Dann (2019) expanded the view of Sullivan (2019), identifying podcasts as networking sites for sharing audio presentations with algorithms for protecting one's works, such as podcast scripts and/or lecture notes. As Rei-Anderson (2019) notes, sites with podcast services have multiple layered facilities for copyrighting digital content on podcasts. Every digital service on podcast has unique copyright implications that differ with respect to the category of digital content

in terms of its creation, contribution, distribution, and the interaction of users with the content on the website.

2.4.4.7 Social Networking (SN)

According to Kenton (2022), SN encompasses the use of social apps and websites like Twitter and Facebook to offer connections with friends and family who share common interests. The more one interacts with a social network, the more the network of interests and friends will grow. Through SN, businesses are able to increase their social commerce by establishing a positive connection with different people in a larger share of the market. Moreover, SN offers greater market research opportunities, increases revenue through advertising, and can cultivate a superior brand resulting from wide market coverage (Helal, 2017). Currently, SN not only gives users a medium of communication whereby they can share views and news, but new opportunities are generated for online buying and selling of products through SN (Noh et al., 2013).

2.4.5 SN Application of Web 2.0

The interaction between SN and Web 2.0 is that SN uses Web 2.0 technologies to be actuated (Alqahtani, 2018). García-Morales et al. (2020) agreed with the conclusion of Alqahtani (2018) that the technical aspects of Web 2.0 built the foundations of SN for its implementation using interactive environments and standards embedded on the web platform. García-Morales et al. (2020) indicate that through Web 2.0, SN creates an online community that allows users to engage in discussions, collaborations, and criticisms regarding topics of common interest. In this regard, the interaction between SN and Web 2.0 facilitates consumer interaction, redefining how businesses draw and/or establish new clientele through forums, blogs, or social media platforms such as Twitter, Facebook, and Instagram platforms, how to enhance product reputation, and how to increase sales margins through viral marketing campaigns (Alqahtani, 2018). In essence, Web 2.0 and SN influences user interactions through the sharing of digital content.

2.4.6 SN in Different Sectors

Laeq and Memon (2018) note that SN is characterised by the capability of interactive technologies to create, share, and disseminate ideas to different sectors, and especially positively influencing new ways of sourcing health information, sharing learning materials, and marketing products and services. The application and impact of SN across different sectors have been documented in several studies. For instance, the studies by Benson and Morgan (2016) focus on the education sector where SN has been shown to improve communication skills, learning, and timely sharing of information. , Similarly, in the health sector, the benefits of SN that have been reported in the literature include easy access to health information, professional awareness, and improved health outcomes (Alanzi et al., 2018; Ali et al., 2021). In the business sector, SN is correlated to increased profitability, greater levels of customer satisfaction, and enhanced communication between customers, vendors, and businesses (Alqahtani, 2018). In all these sectors, the benefits of SN are linked to its impact on interactivity and sharing of information.

2.4.7 Impacts of SN on Business

The rapid growth of SN has created many positive business advantages. According to Langaro et al. (2018), there has been an increase in SN technologies in Saudi Arabia in the recent past with many businesses adopting them, significantly raising awareness and brand building. Sundararaj and Rejeesh (2021) supported the view of Langaro et al. (2018), noting that SN is helping businesses to market their brands, thereby improving their visibility to potential clients in the online market.

Additionally, SN provides a platform where businesses can interact with their customers and obtain first-hand customer feedback. According to Naeem (2019), SN is built with technologies to facilitate IM, video conferencing, and sharing of digital content. S. Sharma et al. (2020) assert that through SN, clients can interact with business organisations and with other customers, giving their feedback on their experiences with products and services. Tien et al. (2019) note that when companies provide clients with the opportunity to air their views, they feel trusted, valued, and

happy. The consequence is that companies are able to know what to improve in order to meet the demands and preferences of their clients.

Further, SN platforms have resulted in the dynamic evolution of technology, which has led to the building and sharing of information relevant to businesses (Alayis et al., 2018). S. Sharma et al. (2020) indicate that these technologies are a source of vital information companies use to improve productivity. SN, for instance, provides information in the form of customer comments and reviews that help businesses work on the positives and remedying the negatives in order to thrive. Harb et al. (2019) state that SN is a tool can reduce the operational costs for Webs businesses, allowing companies to maximise their profits with minimum prices. Sundararaj and Rejeesh (2021) agreed with Harb et al. (2019), proposing that through social networks, business organisations can reach many clients with minimal costs compared to face-to-face meetings and other advertising strategies where these businesses need to use many resources, including transportation and its associated cost. Evidently, social networks offer businesses and customers greater convenience whilst reducing operational and marketing costs.

2.4.8 SN statistics for Saudi Arabia

In this digital age, SN has become increasingly important, as it enables users to share their views easily and assists companies to reach new customers. Today, SN applications are used by more than 82% of the Saudi population in their everyday activities (GMI Blogger, 2022). While the family is the most critical institution in Saudi Arabia that affects both their social lives and businesses, Radcliffe and Abuhmaid (2021) point to social relations as the key motivator for KSA people to use SN platforms to maintain ties with their families. Hence, many people are using SN platforms for personal as well as professional and business purposes.

In 2022, Saudi Arabia had 29.5 million active SN users, representing 82% of the total population. Further, with a 116% mobile technology penetration, the country has the largest social media presence across the globe. One of the factors contributing to the

high social media presence in Saudi Arabia is that the largest proportion of the population live in urban areas and have fast Internet access (GMI Blogger, 2022). A study by Alshehri and Meziane (2017) also highlighted that the readiness of individuals to accept modern technologies is also a major reason for the growth of SN in Saudi Arabia, which increases the opportunities for e-commerce in the country. Key statistics for SN in Saudi Arabia are given in Table 2.3 below.

Table 2.3: Key statistics for SN in Saudi Arabia (GMI Blogger, 2022)

Category	Million
Population	35.84
Internet users	35.09
SN users (active)	29.50

Radcliffe and Abuhmaid (2021) shared the perspective of the GMI Blogger (2022) report affirming that KSA leads other Middle East countries in the usage of using Instagram, Twitter, and Snapchat. According to the GMI Blogger (2022) survey, SN in Saudi Arabia accounts for 30.67 million WhatsApp users, 27.40 million Instagram users, 25.23 million Twitter users, 24.14 million Snapchat users, 22.32 million TikTok users, and 22.25 million Facebook users. Table 2.4 gives a summary of the active users of the various social network platforms in Saudi Arabia.

Table 2.4: Number of active SN users in Saudi Arabia (GMI Blogger, 2022)

Social network platform	Active users (million)
WhatsApp	30.67
Instagram	27.40
Twitter	25.23
Snapchat	24.14

TikTok	22.32
Facebook	22.25

2.4.9 The State of SN in Saudi Arabia

SN platforms are used not only for entertainment purposes, but also for the exchange and sharing of information, learning, teaching, and collaboration. In Saudi Arabia, as Benson and Morgan (2016) report, there has been a steady growth in the use of the Internet and SN, especially in the education and business sectors. According to World Bank (n.d.-a) data, the percentage of Saudi Arabia's population using the Internet had grown from 0.011% in 1995 to more than 97% in 2020. In 2021, there were 39.53 million mobile connections in the country, which is 112.7% compared to the total population. Similar trends in SN usage have been observed, with 79.3% of the population (27.80 million people) being active on SN platforms (GMI Blogger, 2021).

Although the entire population benefits from SN, the use and benefits of the technology have been highlighted in the areas of entrepreneurship and start-ups (Trad & Al Dabbagh, 2020), university education (Alqahtani, 2018; Benson & Morgan, 2016), and healthcare (Alanzi et al., 2018; Albaalharith et al., 2021) in particular. Trad and Al Dabbagh (2020) show that start-ups in Saudi Arabia now rely heavily on social media to build brand relationships and to achieve growth. The same case is with healthcare and education in which SN is increasingly being embraced, and is viewed as a tool that not only improves interaction but also strengthens problem-solving abilities, critical thinking skills, decision-making, and creativity (Alanzi & Al-Habib, 2020). Despite the growth, there have also been obstacles to SN and the adoption of Web 2.0 technologies in Saudi Arabia. For instance, Albaalharith et al. (2021) acknowledge that negative attitudes, the dissemination of inaccurate information or fake news, ethical reasons, and lack of clear policies are some of the barriers facing SN in Saudi Arabia. Despite the various challenges, SN in Saudi Arabia has consistently been on an upward trajectory.

2.5 Social Commerce

In recent years, the rapid advancement of modern technology, particularly of Web 2.0, has given a large number of people an opportunity to use social networking sites (SNSs) such as Instagram, Facebook, Twitter and LinkedIn (Sheikh et al., 2019). The evolution of Web 2.0 technologies and the emergence of SNSs associated with it are continually encouraging people worldwide to share their interests in business-related activities with/without real-world communications. The primary objective of SNSs is to build a conducive online environment in which parties can pursue and share common activities, interests and experiences (Zeng et al., 2009). According to Carnoy (2015), many people depend on SNSs for online shopping. In addition, SNSs have provided avenues through which many small and medium enterprises have obtained new customers.

SNSs' interaction features—such as communications, content sharing and connections—introduced a new type of e-commerce called social commerce (D. Kim, 2013; Liang & Turban, 2011; Marsden & Chaney, 2012; C. Wang & Zhang, 2012; L. Zhou et al., 2013). Social commerce is a new phenomenon stemming from SN usage and Web 2.0 technological development, which have become popular tools for socialising and sharing commercial-related information. Because of the continual growth and popularity of SNSs, customers are now able to communicate actively with each other, which can improve their evaluations of items and assist them to make appropriate decisions (C. Wang & Zhang, 2012).

2.5.1 The Evolution of Social Commerce

The emphasis on the social aspect of e-commerce can be traced back to the late 1990s when Amazon and eBay were early adopters of social features that enable consumers to rate sellers' products and performance, and write reviews of products on their sites (Curty & Zhang, 2011). Amazon and eBay introduced four significant social features in 1999: eBay Café, Amazon's Listmania, Feedback Forum, and Purchase Circles. All

of these shared the common goal of strengthening community interaction (Curty & Zhang, 2013).

Yahoo coined the term “social commerce” in 2005 when it combined e-commerce with social functions through the “Yahoo Shoppisphere” to provide a new social shopping feature on its site (Rubel, 2006; C. Wang & Zhang, 2012). With the emergence of Web 2.0 and SN, e-commerce businesses sought to incorporate new technologies in their sites in order to provide consumers with a more interactive and social shopping experience (Curty & Zhang, 2011; Friedrich, 2015).

Social commerce has become an important area of study for industry and academia, especially for those interested in online technologies and their effects on consumers and businesses (Akman & Mishra, 2017). The first paper to discuss the concept of social commerce was published in 2006 (Beisel, 2006; Han et al., 2018). In practice, the first formal beginning of social commerce was in 2009 with the opening of the flowers.com Facebook store (Busalim & Hussin, 2016). Figure 2.5 illustrates the evolution of social commerce.

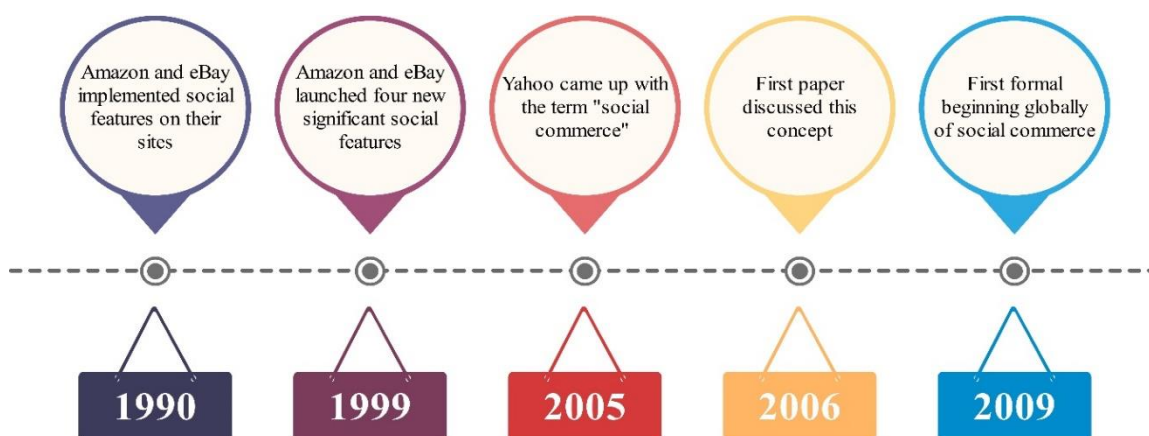


Figure 2.5: Development of social commerce

2.5.2 Definition of Social Commerce

The definition of social commerce has remained a controversial issue among many researchers interested in the topic (Baethge et al., 2016). Social commerce is generally defined as the usage of Internet media for commercial activities such as buying, selling, and sharing information about items in online communities and the marketplace (L. Zhou et al., 2013).

Marsden (2010) defines social commerce as “the monetisation of social media with e-commerce” (p. 4). This definition implies that social commerce is a subset of e-commerce that uses social media to foster socialising and to encourage commerce. On the other hand, Shen (2012) indicates that social commerce is “a technology-enabled shopping experience where online consumer interactions while shopping provides the main mechanism for conducting social shopping activities” (p. 199). Liang and Turban (2011) posit that social commerce is “the delivery of e-commerce activities and transactions via the social media environment, mostly in social networks and by using Web 2.0 software” (p. 6). Other researchers describe social commerce as a “more social and interactive form of e-commerce” (Afrasiabi Rad & Benyoucef, 2011, p. 64), highlighting the fact that social commerce sites can be sophisticated e-commerce sites with SN functions (C. Wang, 2011). Table 2.5 below presents the various definitions of social commerce offered in previous studies.

Table 2.5: Various definitions of social commerce from the literature

No.	Definition	Reference
1	"The monetization of social media with E-Commerce."	(Marsden, 2010, p. 4)
2	"The delivery of e-commerce activities and transactions via the social media environment, mostly in social networks and by using Web 2.0 software."	(Liang & Turban, 2011, p. 6)
3	"A technology-enabled shopping experience where online consumer interactions while shopping provide the main mechanism for conducting social shopping activities."	(Shen, 2012, p. 199)
4	"A form of online business that combines ecommerce with social media (e.g., SNSs) to provide consumers with daily deals from local establishments."	(S. Kim & Park, 2013, p. 319)
5	"The use of Internet-based media that allow people to participate in the marketing, selling, comparing, curating, buying, and sharing of products and services in both online and offline marketplaces, and in communities."	(L. Zhou et al., 2013, p. 61)
6	"Emerged from the advancements in information and communication technologies (ICTs) and Web 2.0 applications, where consumers are empowered to generate content and also interact with businesses."	(M. N. Hajli, 2014, p. 18)
7	"A new development in ecommerce with the popularity of SNSs and social media that enable consumers to be active content creators on the Internet."	(N. Hajli, 2015, p. 184)
8	"Business activities conducted through social media."	(Bai, Yao, & Dou, 2015, p. 538)

9	"An evolution of electronic commerce (e-commerce) that highlights the role of online SN in facilitating business."	(Hu et al., 2016, p. 1218)
10	"A new form of electronic commerce that employs social media features in addition to the traditional commerce facilities."	(Farivar et al., 2017, p. 586)
11	"A form of commerce mediated by social media involving convergence between the online and offline environments."	(Farivar et al., 2017, p. 586)
12	"A subset of e-commerce that supports social interactions and user-generated content, combining commercial and social activities."	(Abed, 2018, p. 147)
13	"The use of social media platforms to deliver the various transactions and activities of e-commerce."	(Al-Adwan & Kokash, 2019, p. 17)

Beyond the debate over whether similar terms are interchangeable, it is widely assumed that social commerce is a synthesis of SNSs and e-commerce. Hence, e-commerce technologies are primarily concerned with providing an efficient transactional process, and facilitating purchasing procedures and product search. On the other hand, SNSs improve the shopping experience by offering users the opportunity to interact with others in the community.

2.5.3 Distinctions between traditional e-commerce and s-commerce

Some studies define s-commerce as a subset of e-commerce, and refer to the use of SN to facilitate e-commerce transactions (Stephen & Toubia, 2010), even though there are significant distinctions between the two concepts. E-commerce and s-commerce have differences in terms of business goals, customer connection and system interaction (Alshibly, 2014; Huang & Benyoucef, 2013).

E-commerce concentrates on enhancing the efficiency of product searches, single-click procurement and recommendations based on customers' past online shopping behaviour (Carroll, 2008). S-commerce' primary focus, in contrast, is on social goals such as collaboration and sharing of information, with a secondary focus on online shopping (C. Wang & Zhang, 2012).

E-commerce involves interactions between customers and platforms on an individual level, independent of other customers. This is because e-commerce is supported by Web 1.0 which enables only one-directional communication (Afrasiabi Rad & Benyoucef, 2011; Y. A. Kim & Srivastava, 2007). S-commerce includes online communities that promote social connections to boost customer-to-customer engagement through Web 2.0, in which communication is multidirectional (G. Jiang et al., 2014). S-commerce is supported by Web 2.0 which allows customers to share information about their online shopping experiences and interact during purchase procedures. These s-commerce platforms differ from traditional e-commerce platforms since they possess capabilities for SN (C. Liu et al., 2019). For instance, Instagram is one of the most famous s-commerce platforms and it enables users to

create personal profiles, share information about shopping experiences, carry out reviews of products and services, and develop social relationships with other online shoppers. As such, social interaction is a key component of s-commerce (Bai, Yao, Cong, et al., 2015).

In s-commerce, consumers can act as sellers via sustained communication with the sellers. An example of such a case can be observed in group buying where customers promote products to their friends to achieve a specific amount of sales volume which is beneficial to them through giving them a significant discount (Jang et al., 2013). Furthermore, group buying sites motivate consumers to introduce and market their items and services virtually to their friends by using SNSs. This reaps rewards if the procuring is successfully done (Hwang et al., 2014). According to Bansal and Chen (2011), s-commerce uses SN to develop personal relationships by building a sense of community and shared values between customers and marketplaces. Thus, social commerce can be considered as a classic collaborative commerce (G. Jiang et al., 2013).

In terms of system interaction, e-commerce involves a one-way direction where customer information is received but seldom shared with other customers or businesses (Baghdadi, 2016). S-commerce; on the other hand, creates socially interactive platforms that facilitate free expression and sharing of information among customers as well as with firms (Parise & Guinan, 2008).

In conclusion, s-commerce reflects the evolution of online business as a result of Web 2.0 and social computing tools that represent the social side of s-commerce. Sociability is one of the primary technological advantages of s-commerce that allows customers to interact socially (H. Zhang et al., 2014). Interaction in the social computing era comprises both computer activities and human social behaviour. The rise of social computing has given internet users more power by providing the tools and platforms for individuals to develop and share content. H. Zhang et al. (2014) indicate that the sociability of the s-commerce field enhances customer-to-customer engagement by offering social affordances provided by SN technologies. This new technological

revolution of the online social content generation has given rise to s-commerce as a new type of e-commerce that is based primarily on various business goals, customer connection, and system interaction.

2.5.4 Benefits of S-commerce for Business

The benefits of social commerce are similar to those of e-commerce since s-commerce is considered an element of electronic commerce, which has emerged as a result of the increasing growth of SNSs. One of the benefits of social commerce is that a customer can get the best prices and make the best purchase decisions based on the recommendations from peers (Zheng et al., 2017). Further, as Algharabat and Rana (2021) note, social commerce plays a vital role in enhancing the experiences of customers and improving the competitive advantage of a business. The business also benefits from s-commerce through spontaneous promotions that happen through SNSs (C.-H. Lee & Chen, 2020).

Businesses that use s-commerce to market their brand keep adding new functionalities and experiences with the aim of making the shoppers' experience easier than before. Beyari and Abareshi (2018) asserted that using chatbots, product features that are user-friendly through endorsement by social celebrities, broadcasting, and live-selling on s-commerce can increase sales significantly. Chantasombut (2020) added that improved customer engagement is attained via s-commerce with social networks developing a two-sided interaction between the customer and the business. Al-Adwan and Kokash (2019) indicated that s-commerce improves customer insights since s-commerce algorithms are designed to provide automated metrics for reaching, engaging, and impressing clients.

2.6 Review of Current S-commerce Theories, Frameworks and Models

This section will discuss several models, highlighting the main aspects of each model. It discusses the conceptualisation and theoretical basis of s-commerce by various researchers who have proposed their own frameworks and models.

This study adopted a comprehensive strategy for developing a holistic s-commerce model by combining factors from various theories, models, and frameworks. A summary of considered factors derived from models and frameworks is presented in Table 2.6 at the end of this section. S-commerce theories, frameworks, and models that are related to this study area are given below.

2.6.1 Wijaya, Rai and Hariguna Framework

Wijaya et al. (2019) developed their framework based on the concepts of customer experience (CE) and the expectation confirmation model (ECM). ECM is a model that scholars use to study and explain consumer satisfaction, trust, and sustainability when purchasing or using a service (Fan & Suh, 2014; D. J. Kim et al., 2009). Furthermore, ECM has also been used by researchers to explain technology acceptance, its usage, or adoption (Bhattacharjee, 2001; Bhattacharjee & Premkumar, 2004; Halilovic & Cicic, 2013; Stone & Baker-Eveleth, 2013). The paper's findings indicate that customer experience is a significant factor in influencing perceived usefulness, expectations, and satisfaction, while perceived usefulness and expectations impact consumer satisfaction simultaneously. Also, perceived usefulness is significantly influenced by expectations. In addition, s-commerce behaviour intentions are directly affected by perceived usefulness and satisfaction (Wijaya et al., 2019).

2.6.2 Akman and Mishra Model

Akman and Mishra (2017) propose a model to explain factors influencing consumer behaviour in social commerce. In particular, Akman and Mishra (2017) show that

social pressure, perceived trust, enjoyment, awareness, perceived satisfaction, and ethics factors can influence consumer intention to adopt s-commerce (please see Figure 2.6). Osatuyi and Qin (2018) proposed that the behaviours of online customers are strongly impacted by people surrounding them whom they trust, implying that social pressure is an essential factor in the application of social commerce.

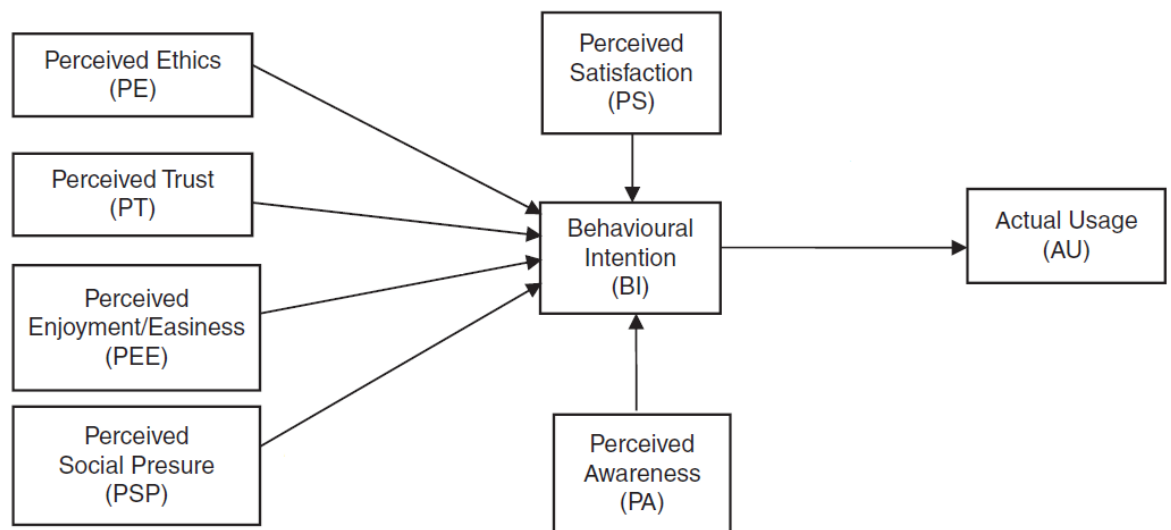


Figure 2.6: Akman and Mishra (2017) Model

Akman and Mishra (2017) examined the factors that influence customer intention to adopt s-commerce. Their results show that consumer intention is significantly correlated with trust, enjoyment/ease-of-use, social pressure, satisfaction, and awareness. Furthermore, intention was identified as a substantial mediating factor for actual usage.

2.6.3 Gatautis and Medziausiene Model

Gatautis and Medziausiene (2014) based their research on the unified theory of acceptance and use of technology (UTAUT) to explain factors that influence s-commerce (please see Figure 2.7). These researchers discussed UTAUT

comprehensively, and a number of complementary propositions were suggested, such as online perceived playfulness and self-management of learning (Y.-S. Wang et al., 2009), peer support (Sykes et al., 2009), or social support (C.-P. Lin & Anol, 2008). According to UTAUT theory, key factors that influence the acceptance of a technology are: the facilitating conditions, social influence, effort expectancy, and performance expectancy.

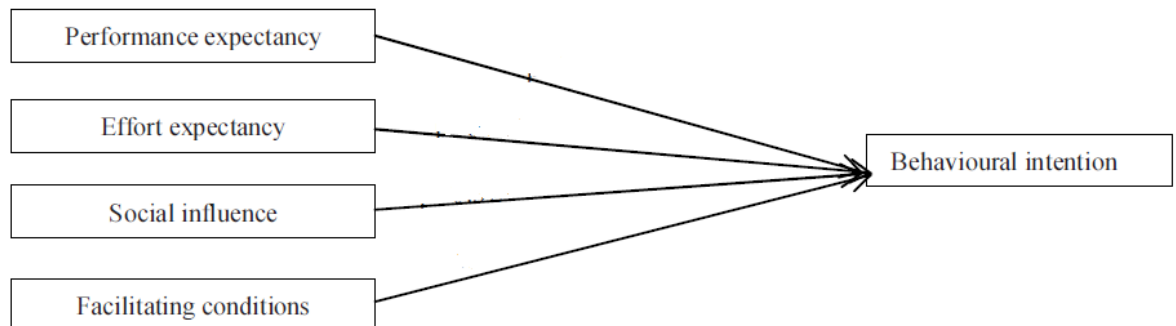


Figure 2.7: Gatautis and Medziausiene (2014) Model

Gatautis and Medziausiene (2014) found that social influence has the most impact on consumers' behavioural intention to adopt s-commerce. However, effort expectation has a medium effect, expectation and facilitating condition have the least impact on consumers' behavioural intention to adopt s-commerce.

2.6.4 Noh et al. Model

Noh et al. (2013) used the technology acceptance model (TAM) as the theoretical basis for determining whether price consciousness and collectivism influenced s-commerce. Overall, according to Noh et al. (2013), the key variables that have a significant positive impact on perceived usefulness is goal priority, norm acceptance, reliance, and preference, which are the dimensions of collectivism.

The relationship between consumers' intention to use s-commerce and perceived usefulness/ perceived ease-of-use was mediated by price consciousness. Noh et al. (2013) defined price consciousness as "the extent to which a consumer focuses

exclusively on obtaining low-priced products or services” (p. 250). Oh et al. (2006) mentioned that one of the significant advantages of online shopping is the offering of low-priced services or products. Bakos (1997) examined the effect of customers’ price consciousness on their behaviours in online environments and found that online consumers prefer online shopping to traditional brick-and-mortar due to the perception that online products and services are offered at lower prices. Noh et al. (2013) results show that consumers who are sensitive to price and collective goals are more inclined to indulge in s-commerce.

2.6.5 Social Commerce Adoption Model

According to the M. Hajli (2013) model (Figure 2.8), trust is the main factor that influences customers’ purchase intentions in the s-commerce context. Thus, for successful s-commerce, there is a need for firms to build social trust, which is linked to improved efficiency, reduction in transaction costs, and overall economic growth. Further, according to M. Hajli (2013), three social commerce constructs (recommendations and referrals, forums and communities, as well as rating and reviews) are the major factors that influence social trust. Similar to other models by other scholars such as Noh et al. (2013) and Saprikis and Markos (2018), which were based on the TAM, M. Hajli (2013) also highlights the significant role that perceived usefulness plays in influencing customers’ purchase intentions in s-commerce.

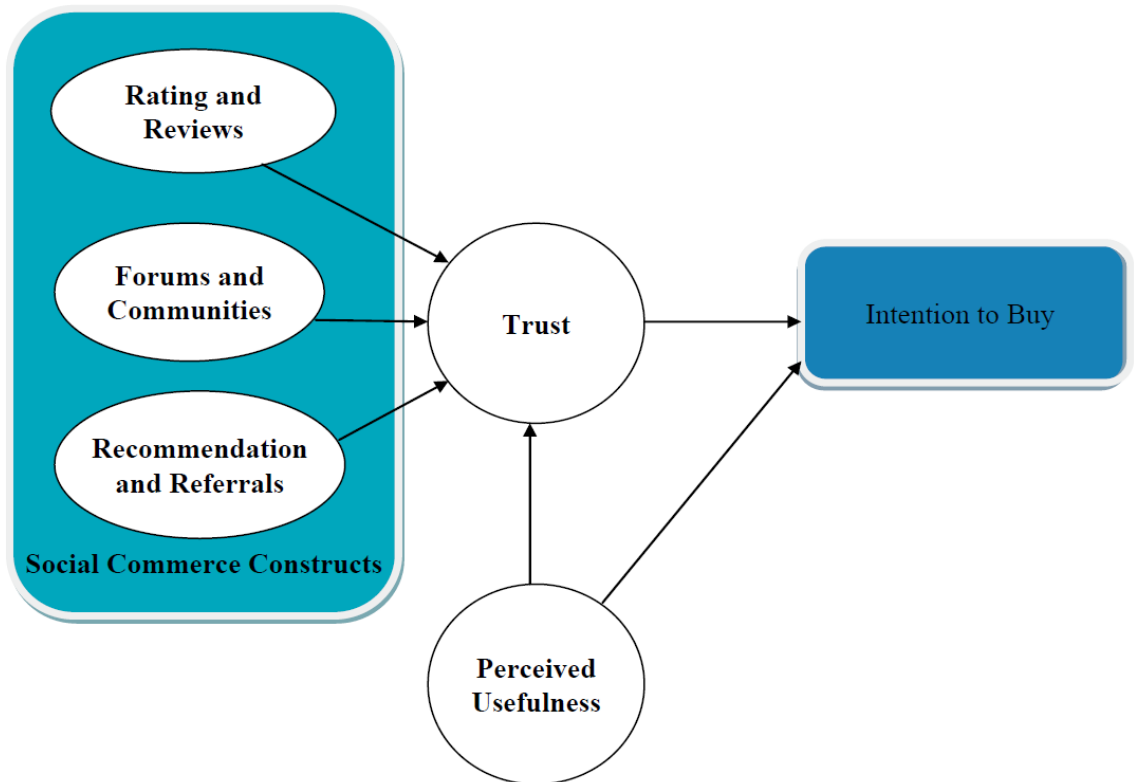


Figure 2.8: Social Commerce Adoption Model (Hajli, 2013)

2.6.6 Kim and Park Model

The model proposed by S. Kim and Park (2013) hypothesises that the relationship between purchase intentions and word-of-mouth intentions (trust performance) and s-commerce characteristics is mediated by trust. Thus, similar to the M. Hajli (2013), S. Kim and Park (2013) indicates that the intention to buy in the s-commerce space is largely mediated by trust. Moreover, S. Kim and Park (2013) list seven characteristics of s-commerce (word-of-mouth, economic feasibility, communication, transaction safety, information quality, size, and reputation) that influence consumers' trust in this technology. The study results show that the characteristics of s-commerce strongly affect trust and that trust significantly influenced purchase and word-of-mouth intentions.

2.6.7 Ng Model

Ng (2013) proposed the model seen in Figure 2.9 with consisting of five constructs: intention to purchase, culture, trust in the social network community (TCO), familiarity, and closeness. Similar to Gatautis and Medziausiene (2014) and Noh et al. (2013), Ng (2013) model holds that the level of trust that individuals have in their social network community is the main predictor of their purchase intention in the s-commerce context. Trust in TCO is determined by the constructs of culture, familiarity, and closeness (Ng, 2013). Users who have a feeling of familiarity and closeness (individuals who have a higher level of interaction with others) are more likely to develop trust, which, in turn, enhances their purchase intentions. In addition, Dao (2021) established that consumers with more social relationships with other users in the community develop a strong feeling of unity; hence, their intention to purchase is highly influenced by that community.

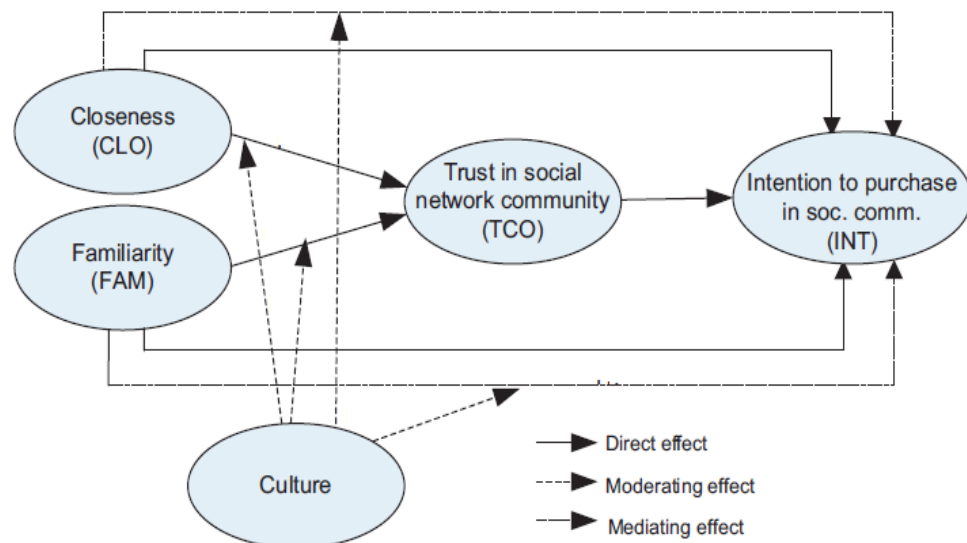


Figure 2.9: Ng (2013) Model

2.6.8 Hajli et al. Model

Similar to M. Hajli (2013) and Ng (2013), N. Hajli, Sims, et al. (2017) believe that trust is a critical aspect in s-commerce. These researchers developed a conceptual model in which purchase intention is hugely influenced by the customers' levels of trust. Unlike previous models proposed by researchers, including Ng (2013), N. Hajli, Sims, et al. (2017) suggested four constructs (trust, familiarity, social presence, and social commerce information seeking) that influence behavioural intentions on s-commerce platforms. According to the study, trust was a main predictor of intentions to buy from e-vendors on an s-commerce platform. Trust in a social network site increases the likelihood of users seeking information on that site through reviews, ratings, and recommendations. Information acquisition from the SNS increases familiarity with the platform and the sense of social presence which leads to increased intentions to purchase from e-vendors (N. Hajli, Sims, et al., 2017).

2.6.9 Aladwan Model

E-commerce's social presence in the online environment is enhanced by social commerce, which introduces a social side to shopping via e-commerce. Thus, based on social presence theory (SPT), Al-Adwan (2018) proposes a framework that considers *various concepts and constructs related to social presence*. *The SPT theory was developed to "help understand the impacts of social shopping features in online SC marketplaces"* (Lu et al., 2016, p. 2).

There has been a significant amount of literature on both e-commerce and social commerce that discusses the concept of trust as a fundamental element in commercial transactions (N. Hajli, Sims, et al., 2017). Many different definitions of trust have been offered in the literature. For example, Ng (2013) defines trust as "the degree of one's willingness to be vulnerable to others' actions" (p. 612). Ou et al. (2014) point out "that trust is the belief in a person's integrity, benevolence, and ability" (p. 217). Moreover, Lu et al. (2015) and Lu et al. (2016) suggest two different types of buyers' trust: trust in marketplace and trust in sellers. Similar to other scholars (Lu et al., 2016; Ng, 2013; Noh et al., 2013), Al-Adwan (2018) believes that trust in sellers is the main

factor that influences the intention to purchase. The study's results indicate that the social presence of: Web, others and sellers have a significant impact on trust in sellers, and the subsequent intention to purchase.

2.6.10 Sheikh et al. Model

Sheikh et al. (2017) model extended the unified theory of acceptance and usage of technology (UTAUT2). The UTAUT2 has as its main constructs: performance expectancy, effort expectancy, social influence, effort expectancy, facilitating conditions, hedonic motivation, habit, and price saving, which are associated with behavioural intentions (Nordhoff et al., 2020). Sheikh et al. (2017) extended the UTAUT2 theory to accommodate s-commerce by adding social support, social commerce constructs, and cultural moderators. The study results confirm that facilitating conditions, habit, and behavioural intentions are positively correlated with user behaviour. Moreover, the results for cultural moderators show that they have a significant impact on the behavioural intentions of users.

2.6.11 Alotaibi Model

Sheikh et al. (2017) study added social commerce constructs and social support factors to the UTAUT2 theory. Similar to Sheikh et al. (2017), S. S. Alotaibi (2018) used the UTAUT2 theory to explore the adoption of s-commerce. In particular, the extensions that S. S. Alotaibi (2018) made to the Sheikh et al. (2017) model include the quality of the information which affects behavioural intentions, and the impact of the moderator factor gender on the developed model (see Figure 2.10). Study findings suggest that information quality is positively related to behavioural intention to adopt social commerce, while the gender factor has no statistically substantial effect on the UTAUT2 constructs.

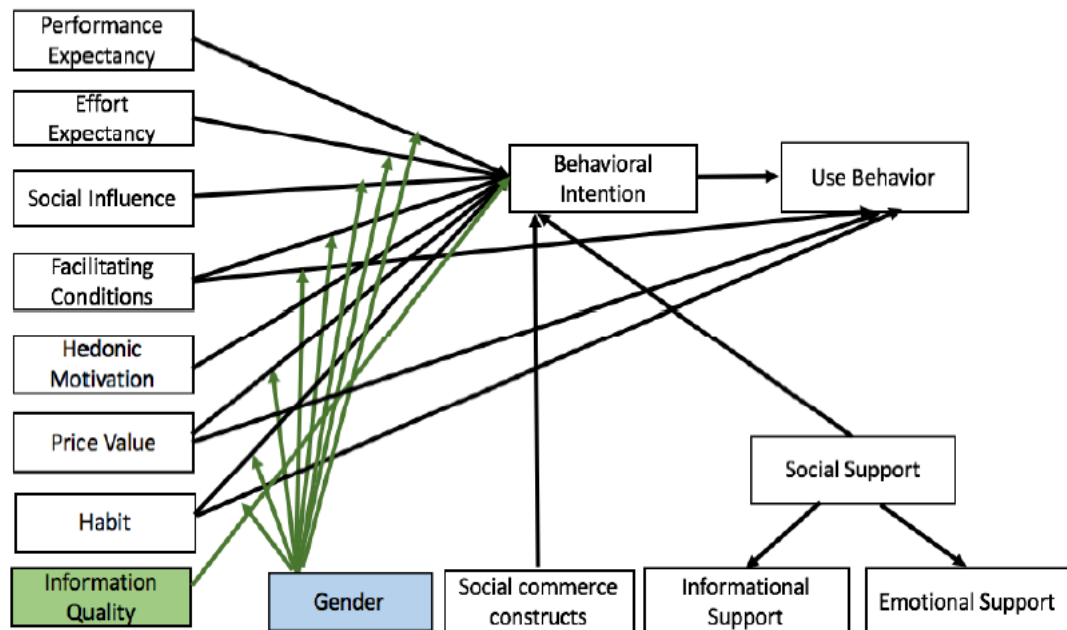


Figure 2.10: S. S. Alotaibi (2018) Model

2.6.12 Saprikis and Markos Model

Saprikis and Markos (2018) constructed a model that explains several factors that influence customers' purchase intentions in the s-commerce context. Their model is based on a new theoretical construct that extends the TAM which was espoused by other researchers including Noh et al. (2013). Specifically, the model consists of reward, familiarity, closeness, enjoyment, trust, perceived usefulness, and perceived ease of use, which are associated with consumers' purchase intentions in the s-commerce context. The study examined consumers' reactions to different parameters that could affect their intention to engage in s-commerce. The research results show that all examined constructs were identified as critical factors for the adoption of s-commerce because they influence behavioural intention.

2.6.13 Shen Model

As seen in Figure 2.11, Shen (2013) investigated factors that influence s-commerce acceptance in China. Similar to Saprikis and Markos (2018) and Noh et al. (2013), Shen (2013) extends TAM by adding enjoyment, social presence, and social

comparison as factors that influence behavioural intention. In particular, behaviour intention is directly influenced by perceived enjoyment and perceived usefulness. Both perceived enjoyment and usefulness are affected by social presence, social comparison online, and perceived ease of use (Shen, 2013).

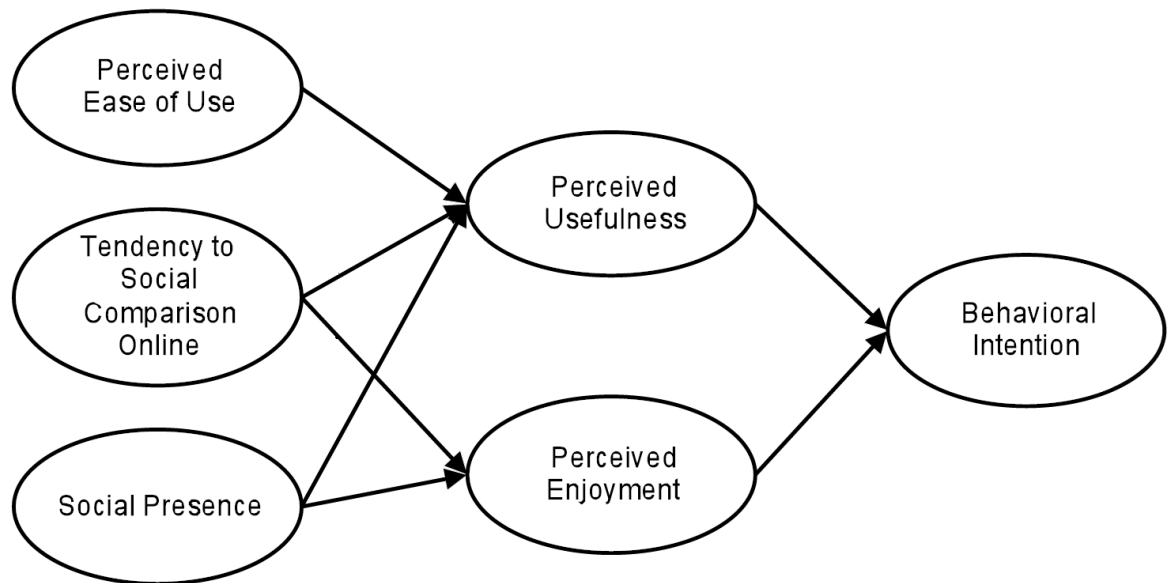


Figure 2.11: Shen (2013) Model

2.6.14 Lal Model

According to Lal (2017), an individual's s-commerce behaviour intentions are influenced by six factors which can be grouped into three: website quality (service quality and ease of navigation), trust (trust towards members and trust towards communities), and social factors which include community commitment and informational support (see Figure 2.12). Unlike other studies where models were based on other extant theories and models such as TAM (Noh et al., 2013; Shen, 2013) and UTAUT (S. S. Alotaibi, 2018; Sheikh et al., 2017), Lal (2017) relied on an extensive literature review. According to this study, all the six factors were positively correlated with the intention to use s-commerce platforms. Furthermore, informational support was found to be the most significant factor influencing a customer's intention to adopt s-commerce.

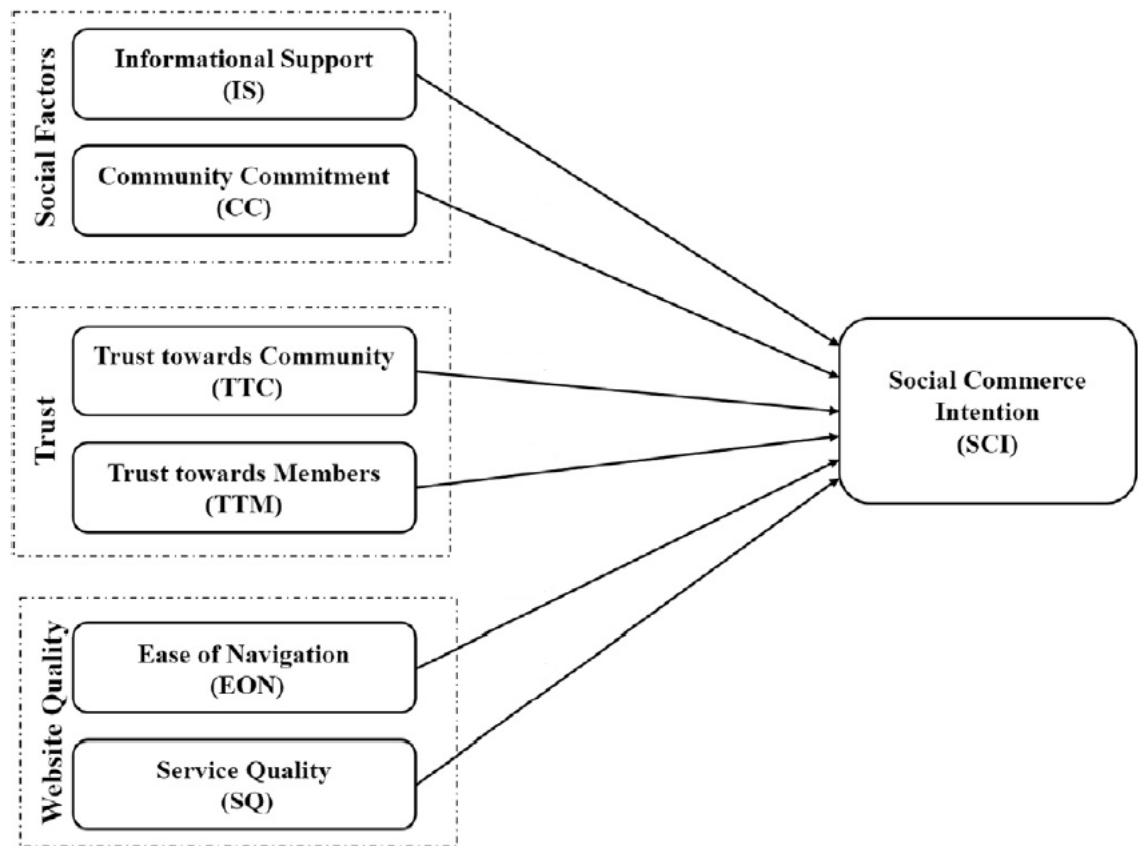


Figure 2.12: Lal (2017) Model

2.6.15 Hajli et al. Model

Based on the socio-technical theory, N. Hajli, Wang, et al. (2017) developed the model to identify the social and technical factors influencing customers' intention to use s-commerce (see Figure 2.13). The socio-technical theory is based on the notion that the operations and performance of a firm can be improved substantially only when both technical and social aspects are integrated and considered as interdependent parts of complex systems (Emery, 2016). Similar to Saprikis and Markos (2018), N. Hajli, Wang, et al. (2017) also basically extends the TAM model in which trust, perceived usefulness, and perceived ease of use are shown to influence intention to buy. This study concludes that customers' purchase intentions are more likely to be strengthened

if they are proficient with the use of the Internet and are familiar with online shopping. Also, the results show that s-commerce constructs influence perceived usefulness which has a significant effect on the perception of trust (N. Hajli, Wang, et al., 2017).

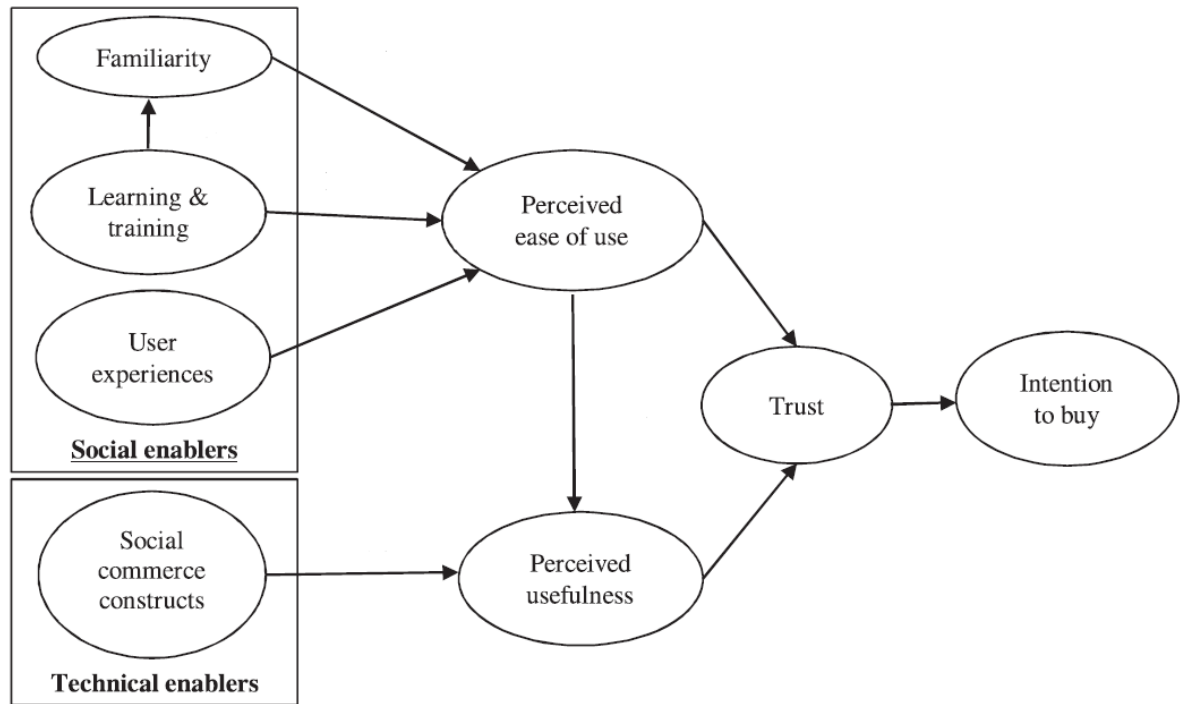


Figure 2.13: Hajli, Wang, et al. (2017) Model

2.6.16 Gan and Wang Model

Gan and Wang (2017) examined how customers' purchase intentions are influenced by perceived benefits, perceived risk, and satisfaction. Similar to N. Hajli (2015) and Lal (2017), the proposed model is based solely on evidence from the literature, and is not an extension of existing theoretical models. Gan and Wang (2017) investigated the relationship between non-functional advantages such as enjoyment and emotional happiness on satisfaction, concluding that the higher status of anticipated utility and ideological values, the more the satisfaction and the stronger the intention to use s-commerce. Based on the evidence, Gan and Wang (2017) hypothesises and confirms that perceived risks and perceived benefits (social value, hedonic value, and utilitarian

value) affect customers' purchase intention directly or by impacting the levels of customer satisfaction in the s-commerce context.

2.6.17 Chen et al. Model

According to J. Chen et al. (2014), social sharing intention and social shopping are influenced substantially by trust and levels of commitment to the community. Community commitment can result from the levels of trust that consumers have in the community, which also depends on the levels of trust of the individual members (J. Chen et al., 2014). The model that J. Chen et al. (2014) developed is largely based on the commitment-trust theory and trust transfer theory (See Figure 2.14). The study's findings show that both social shopping and social sharing intention were significantly influenced by community commitment and trust in the community. J. Chen et al. (2014) conclude that the trust that members of a community have in each other has a direct influence on social shopping and an indirect influence on social sharing.

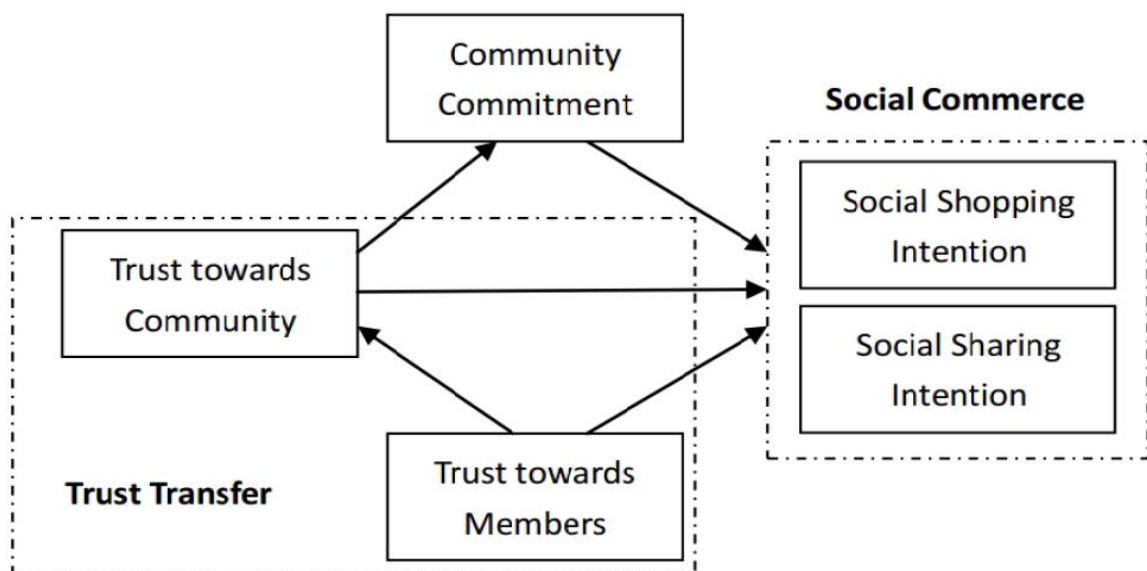


Figure 2.14: J. Chen et al. (2014) Model

2.6.18 Liang et al. Model

As seen in Figure 2.15, Liang et al. (2011) investigated the indirect and direct impact of social support and the quality of Web sites. Essentially, Liang et al. (2011) showed that the customers' intention to buy in the s-commerce context is influenced by website quality and social support. Further, the quality of the website and social support contribute to enhancing relationship quality, which in turn strengthens intent to conduct s-commerce and intent to continue. Website quality is determined by the system and service quality while informational and emotional support constitute social support (Liang et al., 2011). According to Liang et al. (2011), both the quality of the website and social support influence the continuance and s-commerce intention by defining the quality of the relationship.

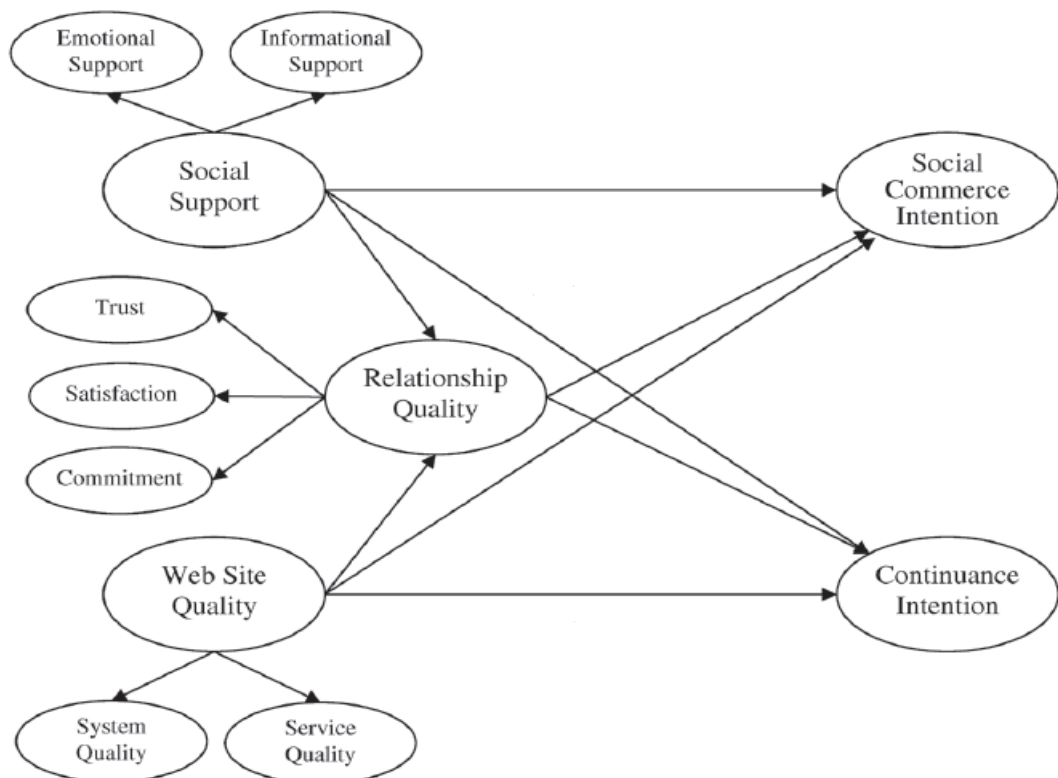


Figure 2.15: Liang et al. (2011) Model

2.6.19 Technology Adoption Theories and Models

Despite the important role played by emerging technologies, many businesses might not obtain the advantages due to challenges associated with technology adoption and successful implementation. As Basyal and Seo (2020) argue, any change, which includes the adoption of modern technologies, may have adverse implications for employees, leading to resistance. Laumer and Eckhardt (2012) concur that myriad factors may lead to people rejecting the technology, but highlight the role played by the effect of technology on staff including the ease of use. An understanding of the factors that lead to resistance to change can play a vital role in ensuring the successful acceptance and introduction of modern technologies such as e-commerce. Thus, over the years, several theoretical models and theories have been developed to explain factors that enable or hinder technology acceptance. The Theory of Reasoned Action, Theory of Planned Behaviour, Technology Acceptance Model, and Unified Theory of Acceptance and Use of Technology are the most well-known, influential and important IT-adoption theories (Min et al., 2008). The literature on these technology adoption theories is reviewed in the following subsections.

2.6.19.1 Theory of Reasoned Action (TRA)

In the 1960s, Martin Fishbein, an Illinois university social psychologist, suggested a relationship between beliefs and attitudes. Later, he published a book with Icek Ajzen, titled "Belief, attitude, intention and behaviour: An introduction to theory and research". Another book by Ajzen and Fishbein was published in 1980, titled "Understanding attitudes and predicting social behaviour". This simplified the TRA, and made it practical for adoption in different fields (M. Sharma & Kanekar, 2007).

The TRA is regarded as the backbone of investigations that seek to explore behaviour and attitudes, and is widely applied in business and academic research (Fishbein & Ajzen, 1975). TRA aims to explain behavioural intentions to adopt new technologies. According to this theory, behavioural intention is directly affected by subjective norms and attitudes. Furthermore, behavioural intention is identified as a significant factor that directly influences actual usage. Figure 2.16 summarises TRA.

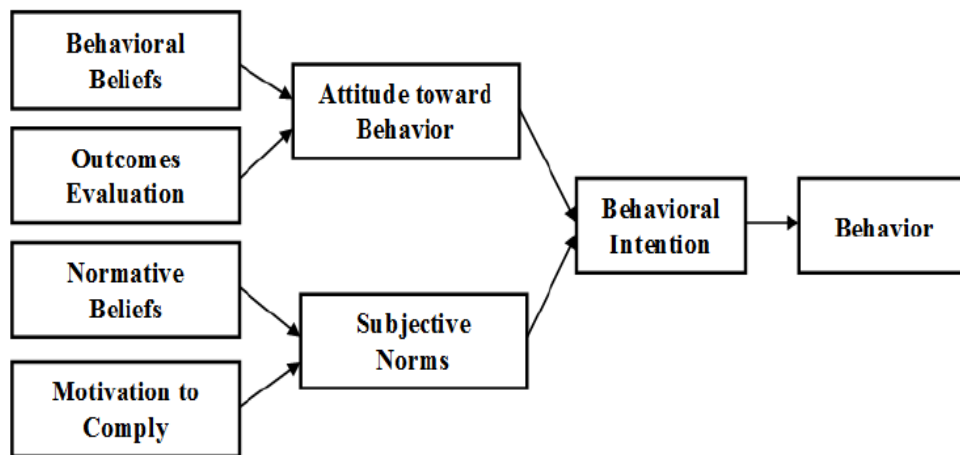


Figure 2.16: Theory of Reasoned Action (Fishbein & Ajzen, 1975)

2.6.19.2 Theory of Planned Behaviour (TPB)

TPB was originally developed in accordance with the TRA (Ajzen, 1991), which is intended to clarify almost any individual behaviour and has been proven successful in predicting and describing human behaviour in various contexts (Liao et al., 2007). TRA proposes that an individual's actual behaviour is influenced directly by his/her behavioural intentions, which in turn is jointly influenced by attitudes and subjective norms (Ajzen, 1991).

As an extension of TRA efforts, TPB is intended to overcome the constraints of the original model when dealing with behaviour over which persons have only limited volitional control (Liao et al., 2007). In brief, TPB differs from TRA in that it includes perceived behaviour control, as seen in Figure 2.17, which may directly influence behavioural intention (Ajzen, 1991). "Perceived behavioural control refers to either the ease or the difficulty to adopt a certain behaviour, and it is determined both by past experience and anticipated impediments or obstacles" (Macovei, 2015, p. 18). Subjective norms and attitudes form TPB's foundation, while the third factor (perceived behaviour control) was introduced to address the issue of incomplete volition control over behaviours (AbdulMohsin Sulaiman, 2015). A. Alghamdi et al. (2017) applied the TPB model when examining behavioural intentions in Saudi Arabia's s-commerce context.

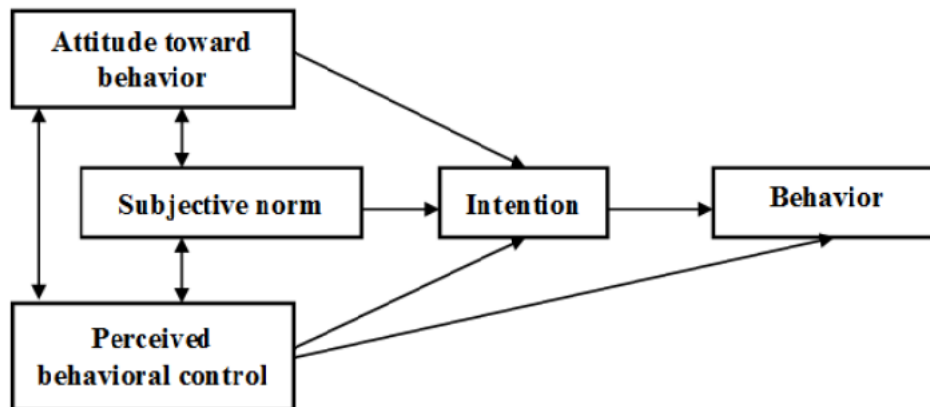


Figure 2.17: Theory of Planned Behaviour (Ajzen, 1991)

2.6.19.3 Technology Acceptance Model (TAM)

Among the most influential models of technology acceptance is the TAM that identifies two primary factors that influence individuals' willingness to adopt new technology: perceived ease-of-use and perceived usefulness (Davis, 1989).

The TAM model has proven to be a popular model because of its flexibility and ability to adapt to different types of technologies (Hong et al., 2006). TAM is a conceptual model developed to explain the actual behaviour of IT users and anticipate their behavioural intentions based on their acceptance and usage of IT (Kuo & Yen, 2009). Figure 2.18 summarises TAM.

Various studies in different areas including e-banking (Hanafizadeh et al., 2014), s-commerce (Shin, 2013; Torki Biucky et al., 2017), e-shopping (Al-Maghrabi et al., 2011), and online gaming (Ha et al., 2007), have validated TAM as a robust model,

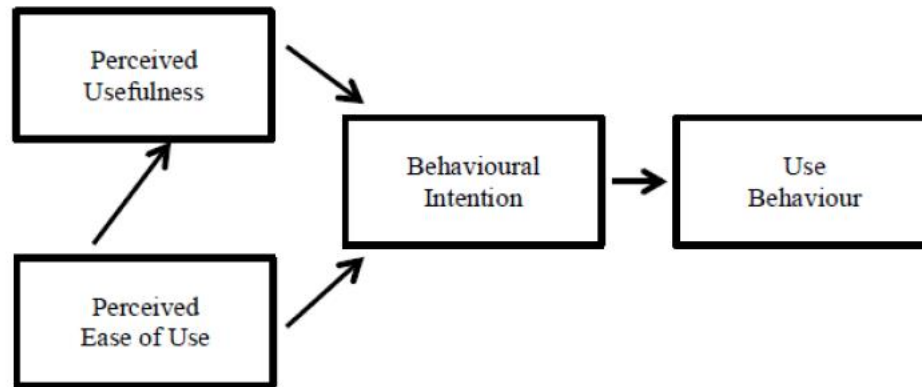


Figure 2.18: Technology Acceptance Model (Davis, 1989)

2.6.19.4 Unified Theory of Acceptance and Use of Technology (UTAUT) and (UTAUT2)

The establishment of the unified theory of acceptance and use of technology was guided by the eight standard technology adoption models (TRA, TPB, TAM, the model of PC utilisation, the innovation diffusion theory, the motivational model, the integrated model of technology acceptance and planned behaviour, and social cognitive theory) comprising four main factors: performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003). The critical goal of UTAUT is to determine customers' intention to adopt information technology as well as their effective usage behaviour. As seen in Figure 2.19, gender, age experience, and voluntariness of usage are the four essential mediators that developers added to the UTAUT model (S. S. Alotaibi, 2018). A moderator is an element that influences the strength or direction of the relationship between dependent and independent factors (Saunders et al., 2016).

UTAUT2 is an extension of UTAUT, with an additional three factors (hedonic motivation, habit, and price value) also being shown to influence behavioural intention alongside facilitating conditions, social influence, effort expectancy, and performance expectancy (Nordhoff et al., 2020). However, the mediating factor of voluntariness of use is excluded. The studies by Abed (2018), Nadeem et al. (2017), and Sheikh et al. (2017) applied UTAUT and UTAUT2 in the s-commerce context.

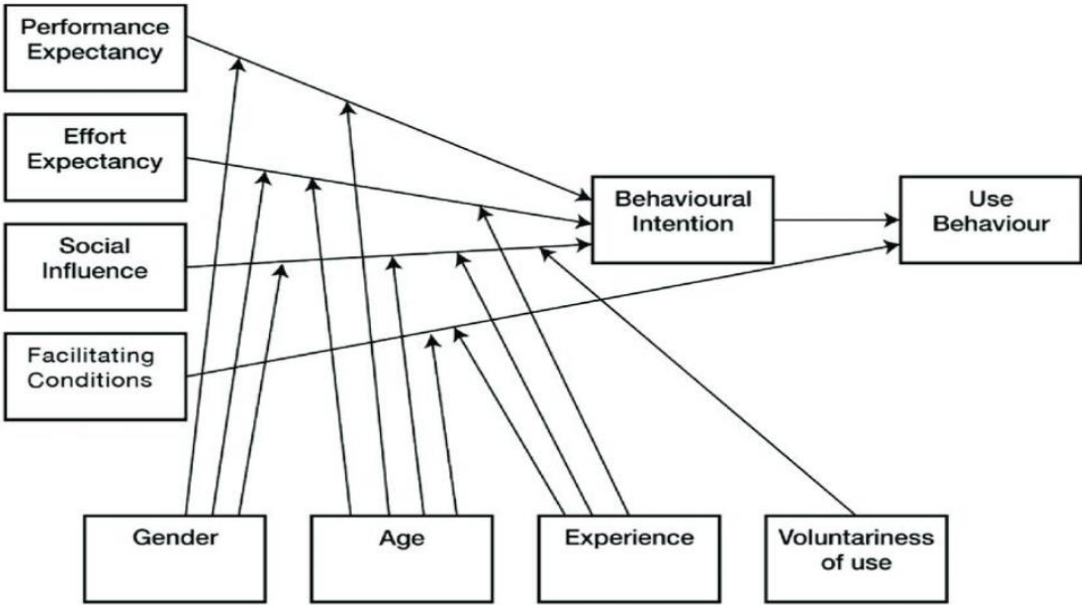


Figure 2.19: Unified Theory of Acceptance and Use of Technology

Table 2.6: Factors discussed and suggested in related s-commerce studies ('√' means this factor is addressed in this model or framework)

Factors discussed and suggested in related Social Commerce Studies (prepared by the author)																																							
Authors	Factors	Organization Characteristics Factors			HCI Factors				Social Factors						Psychological Factors					Content Factors		Cultural Factors				Sustainability Factors													
		Paper Number	Reputation	Facilitating Conditions	Size	Information Quality	System Quality	Service Quality	PEOU	Perceived Usefulness	Social Presence			Social Support			Social Effect	Monetary	Trustworthiness				Nonmonetary	Perceived Enjoyment	Perceived Awareness	Perceived Ethics	Individualism / Collectivism	Learning and Training	Uncertainty Avoidance	Habit	Environmental	Economic							
											Social Presence of Sellers	Social Presence of Other	Social Presence of Web	Informational Support	Emotional Support	Social Influence			Social Commerce Constructs	Community Commitment	Trust in Marketplace	Trust Towards Members											Trust in Sellers	Transaction Safety					
(Wijaya et al., 2019)	1								√																														
(Akman & Mishra, 2017)	2							√	√							√						√	√	√															
(Gatautis & Medziausiene, 2014)	3		√					√	√							√																							
(Noh et al., 2013)	4							√	√							√									√														
(M. Hajli, 2013)	5								√							√		√	√																				
(S. Kim & Park, 2013)	6	√		√	√					√	√					√	√	√	√	√	√	√																	
(Ng, 2013)	7																		√						√			√											
(N. Hajli, Sims, et al., 2017)	8																	√	√																				
(Al-Adwan, 2018)	9									√	√	√						√	√	√	√	√																	

(Sheikh et al., 2017)	10	✓																																				✓			✓			✓								
(S. S. Alotaibi, 2018)	11	✓						✓																																			✓									
(Saprikis & Markos, 2018)	12																																														✓					
(Shen, 2013)	13																					✓																								✓						
(Lal, 2017)	14																																															✓				
(Momani et al., 2018)	15		✓																																															✓		
(N. Hajli, Wang, et al., 2017)	16																																																	✓		
(N. Hajli, 2015)	17																																																			
(Gan & Wang, 2017)	18																																																	✓		
(J. Chen et al., 2014)	19																																																			
(Liang et al., 2011)	20																																																		✓	

2.7 An Integrated Approach and the Initial Factors

When considered individually in an investigation, models and theories might not provide sufficient information (Straub, 2009). Therefore, we developed a hybrid model by combining constructions of different models and frameworks in order to acquire a comprehensive understanding. To determine the factors that must be included in the initial model, a comprehensive literature review was conducted on s-commerce. The initial model adopted for this research was then subjected to additional evaluation and examination via stakeholder feedback and includes a range of themes and factors that are believed to be critical to the success of s-commerce adoption in Saudi Arabia.

We adopted content analysis in the current literature review as it is a popular tool used for determining, analysing and reporting patterns in the form of themes emerging from the content (Braun & Clarke, 2006). It is commonly used to analyse qualitative data (Y. Zhang & Wildemuth, 2009a). Hsieh and Shannon (2005) defined qualitative content analysis as “a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns” (p. 1278). There are two types of content analysis: deductive and inductive (Elo & Kyngäs, 2008). The deductive technique utilizes variables or principles derived from the theory (Berg et al., 2004; Patton, 2014). Moreover, it is used when the purpose of the research is to test a theory (Kyngäs & Vanhanen, 1999). On the other hand, investigating the research data and developing theories based on the is data is an inductive technique (Saunders et al., 2016) used when there is lack of knowledge about the phenomenon, or limited theories (Elo & Kyngäs, 2008; Lauri & Kyngäs, 2005).

The inductive approach has been adopted in this current research. With this technique, the researcher’s mind is not completely blank at the beginning of the research; instead, he has established the research aims and research questions (Harding, 2018). An inductive content analysis technique was adopted to examine the most relevant and important factors related to social commerce in order to develop an initial model.

Following a review of each model and framework, the research determined the factors for a foundation facilitating the successful adoption of s-commerce in Saudi Arabia. The following themes and factors were identified.

2.7.1 Organization Characteristics Theme

This theme includes aspects of an organization that could influence the customer's attitude toward the company, specifically in relation to its capabilities, size, and reputation. This section discusses the factors under the organization characteristics theme and how they are important for the adoption of s-commerce in Saudi Arabia. The organization characteristics theme and its factors were confirmed by the previous literature review. This theme comprises three factors: reputation, facilitating conditions, and size. These three factors are discussed below.

2.7.1.1 Reputation

In this study, the term 'reputation' refers to the reputation of the social commerce company. Doney and Cannon (1997) defined the firm reputation as the degree to which consumers perceive that an organization is reliable and concerned about its clients. S-commerce customers consider an organization's reputation as a significant factor when determining their trust in the organization when buying items or services (S. Kim & Park, 2013). Many e-retailers believe that an excellent reputation is an important factor that inspires trust in consumers (Beyari & Abareshi, 2018). An enterprise's outstanding reputation builds a solid relationship between customers and s-commerce businesses by giving customers a high standard of care and service quality. Thus, a favourable reputation is considered a significant factor that encourages consumers to adopt s-commerce.

2.7.1.2 Facilitating Conditions

Based on the UTAUT theory, the facilitating conditions are defined as the extent to which a person perceives that an organizational structure and technical infrastructure are available to facilitate system use (Venkatesh et al., 2012). According to Choi

(2019), s-commerce enterprises should provide facilitating conditions and self-efficacy to encourage the customers' purchase intentions. Hence, this factor is considered to have a direct effect on consumers' intention to adopt s-commerce.

2.7.1.3 Size

The size of an s-commerce organization in terms of its market share is the last variable, and is a factor that is considered by potential consumers. The large size of online organizations that offer online transactions will increase users' confidence because they expect to encounter only minor risks from their operations (Yao-bin et al., 2006). It is an indication that users' trust in the s-commerce firm is affected by its size (S. Kim & Park, 2013). Thus, this is a vital factor that can increase consumers' intention to use s-commerce, and should be included in the initial model.

2.7.2 Human Computer Interaction (HCI) Theme

This theme relates to the factors that influence customers' attitudes to s-commerce adoption, and are associated with website usability and quality. There are five factors under this theme that will be included in the initial model for Saudi Arabia: system quality, information quality, service quality, perceived ease-of-use (PEOU), and perceived usefulness. These five factors will be discussed next.

2.7.2.1 System, Information, and Service Quality

The quality of a website is a significant factor in determining the success of a social networking site (SNS) and user behaviour. The quality of a website can be measured by three factors: information quality, system quality, and service quality. Information quality determines the accuracy, completeness, and timeliness of the website content (S. Kim & Park, 2013; Liang et al., 2011). On the other hand, the system quality is associated with the desired and essential capabilities of a website such as its reliability, availability, and response time (Liang et al., 2011). The final factor is service quality, which is indicated by the rating that consumers give when evaluating the services and supports provided through the website (Liang et al., 2011). The website quality plays

a crucial role in increasing customers' purchase intention in the s-commerce sphere (C.-Y. Li, 2019). Hence, it can be concluded that website quality is another vital factor as it has a significant effect on the consumers' intention to engage in s-commerce.

2.7.2.2 PEOU and Perceived Usefulness

Another HCI factor is perceived usefulness which is the degree to which consumers perceive that a new technology could improve performance (Davis, 1989). It is considered as a basic and valuable construct in TAM. It has been claimed in numerous studies (Jayasingh & Eze, 2009; Kalinic & Marinkovic, 2016; Moorthy et al., 2014) that perceived usefulness has a positive impact on behavioural intention to use e-commerce. In terms of s-commerce, M. Hajli (2013); Teh and Ahmed (2012) claimed that perceived usefulness has a positive impact on consumers' behavioural intention to adopt s-commerce. Like the perceived usefulness factor, the PEOU is considered to be another vital factor in a variety of innovative technology researches where TAM theory was applied. PEOU refers to the extent to which an individual perceives that using a specific system will require little effort (Davis, 1989). The positive influence of this PEOU on behavioural intention has been demonstrated by numerous studies on the new technologies (Polančič et al., 2010; C.-C. Wang et al., 2008).

2.7.3 Content Theme

The content factors in this study comprise two elements: perceived enjoyment and non-monetary elements. Non-monetary elements refer to the emotional efforts required, and amount of time spent on a transaction. The non-monetary element is considered by s-commerce to be equally as important as the monetary factor (S. Kim & Park, 2013). In addition, the element of enjoyment influences the decision to adopt online commerce (Mikalef et al., 2013) and is one of the three most common factors determining attitude/intention in web-based activities (Hassanein et al., 2009). Thus, it is counted as an important factor in online shopping as it has a strong influences on online users' attitudes (Akman & Mishra, 2017).

2.7.4 Social Theme

Social commerce mainly concerns the usage of social networks. Thus, a person's behaviour is influenced by the social factors that encourage collaboration and communication between individuals (Lal, 2017). This theme focuses mainly on the experiences, communications, and relationships that influence customers' attitudes, lifestyles, and personalities. It includes five factors: social presence, informational support, emotional support, social influence and social commerce construct.

2.7.4.1 Social Presence

The first factor of the social theme is social presence, which is associated with the ability of a social networking site to elicit a feeling of warmth and sociability (Hassanein & Head, 2005). Social presence can increase social information and knowledge richness, which makes e-customers more informed and therefore enables them to make the right purchasing decisions (Al-Adwan & Kokash, 2019). Thus, social presence is considered to be an important factor in the initial model.

2.7.4.2 Informational Support and Emotional Support

There are two types of social support: informational and emotional (J. Lin et al., 2018). Informational support refers to delivering messages which can be useful for problem-solving in the form of advice, knowledge, or recommendation. While emotional support is defined as delivering messages which can include passionate interests such as caring (Liang et al., 2011). In social commerce, these two types are the primary support mechanisms for social interactions (J. Lin et al., 2018). Like the social presence factor, social support is considered to be another vital factor that has been included in the initial model.

2.7.4.3 Social Influence

Social influence "refers to the changes that occur in an individual's attitudes, thoughts, actions, feelings and behaviours, resulting from interactions with a group or another individual" (Beyari & Abareshi, 2018, p. 56). In s-commerce social influence is

defined as the extent to which a user considers that others believe s/he should purchase via s-commerce sites (Gatautis & Medziausiene, 2014). Social influence is a vital factor in social commerce, and the greater the strength of this influence, the greater the likelihood of a favourable reaction (purchase; Beyari & Abareshi, 2018). Goldsmith and Horowitz (2006) and Shin (2013) claimed that online customers' behaviour is strongly affected by those individuals whom they know and trust. This implies that social influence is a vital behavioural antecedent to the adoption of s-commerce (Akman & Mishra, 2017).

2.7.4.4 Social Commerce Construct

The social commerce construct is defined by Maia et al. (2018) as “the presence of comments, ratings, and reviews about products” (p. 197). Customers' sharing behaviours and interactions can influence other customers' purchasing intentions on s-commerce. Soleimani et al. (2016) indicated that the social commerce construct can make a positive impact on customer's intention to buy via s-commerce. Thus, the social commerce construct is a significant factor to be included in the initial model.

2.7.5 Psychological Theme

When purchasing products using SN apps, a consumer is influenced by various factors such as motivation, privacy, and lack of security, which greatly affect the ultimate purchasing decision. In this current study, these are taken as psychological factors. Monetary, community commitment, trust, and transaction safety have been identified as psychological factors that influence the adoption of s-commerce in this study and are included in the initial model.

2.7.5.1 Monetary

The monetary factor refers to the degree to which a customer wants to acquire low-priced services or products (Noh et al., 2013). One of the most important factors influencing an individual's purchasing decisions is the monetary issue (S. Kim & Park,

2013). Oh et al. (2006) have mentioned that one of the significant advantages of online shopping is the offering of less expensive services or products.

2.7.5.2 Community Commitment

Community commitment refers to a psychological bond that depicts a consumer's connection with a company (Lal, 2017). Previous studies indicated that individuals in an online community can be more engaged if they have a higher level of commitment (Bateman et al., 2011; Wu et al., 2010). In terms of s-commerce, SNSs provide a shared space for their customers in which they can communicate with each other, sharing their purchasing or service experiences on SN platforms. Therefore, individuals experience a feeling of belonging when they find an online community that shares their interests, and believe that other community members value their reviews or recommendations. In turn, this influences their determination to make an additional effort to be a part of that community and remain a member for in the long term (Lal, 2017). Hence, community commitment has been identified as a significant factor that could influence an individual's decision to use s-commerce.

2.7.5.3 Trust

Trust is considered to be the key to the successful establishment of a long-term relationship and it becomes even more important in the context of online platforms because much uncertainty surrounds the online environment (Zhao et al., 2019). Numerous researchers (Al-Adwan, 2019; J. B. Kim, 2012; J. Lin et al., 2018; S. Sharma et al., 2019) have conducted extensive studies on trust in order to explore its effect on consumer's online purchasing intention. In s-commerce, the users seek advice and reliable information from SNSs and members whom they can trust regarding their online experiences of purchasing a product or using a service (J. Chen & Shen, 2015). Providing as much data as possible to the user to make the buying process and product tangible can increase trust in the platforms (Maia et al., 2019). Hence, it can be concluded that trust is a vital effect factor that has a significant on the consumers' intention to engage in s-commerce.

2.7.5.4 Transaction safety

The last psychological factor is transaction safety which refers to the ability of a social commerce to protect its consumers before and after a purchase (Beyari & Abareshi, 2018). Because the majority of social commerce transactions take place online, it is critical that s-commerce firms, as well as users who use these sites, place a high priority on transaction safety, as online transactions carry a significant level of risk of fraud. Therefore, transaction safety is considered a key factor in the initial model.

2.7.6 Culture Theme

Globalization in the business world has increased dramatically; therefore, culture now plays a considerable role in all business operations (Straub et al., 1997) and it directly impacts the consumers' adoption of technologies (Sheikh et al., 2017). As suggested by (Hassanein et al., 2009), the acceptance and adoption of information technologies are influenced by cultural factors. The culture theme and its factors were confirmed by the literature review. This study reviews the cultural factors from six perspectives which affect the consumers' behaviour in regard to the adoption of social commerce: perceived awareness, learning and training, individualism/collectivism, perceived ethics, uncertainty avoidance, and habit. These six factors are discussed below.

2.7.6.1 Perceived Awareness

Prior research confirms the presence of the crucial role of awareness in utilising ICT by studying social network interactions and the influence of peer factors. As an example, Michaelidou et al. (2011) indicated that awareness is the most important reason for enterprises adopting ICT, and that insufficient usage of this technology is primarily due to employees' lack of awareness of its potential. Todri and Adamopoulos (2014) demonstrated that peer effects in adopting s-commerce might produce extensive awareness, indicating that any misperception or lack of understanding of technology can severely influence enterprises. This is especially important for small enterprises, which have limited resources (Dahnil et al., 2014).

2.7.6.2 Learning and Training

This factor is related to the acquisition of more knowledge and technical skills through formal learning and experiences. Technical skills are the practical abilities that customers possess that assist them to use s-commerce. Customers' adoption of social commerce is influenced by their technical skills and understanding of IT (N. Hajli, Wang, et al., 2017). Specifically, this view contends that lack of knowledge and technological skills prevent users from using e-commerce. In contrast, appropriate learning and training could enhance the effectiveness of the consumer's interactions with e-vendors and increase e-commerce adoption (Darch & Lucas, 2002). Thus, it can be concluded that learning and training is an important factor that has a vital effect on the consumers' intention to engage in s-commerce.

2.7.6.3 Individualism / Collectivism

This factor refers to the extent to which individuals in a community or an organization desire to be active as an individual or a part of a group. Customers in an individualistic society care more about their own interests and place a higher emphasis on diversity, autonomy, and security (Mazaheri et al., 2011). In contrast, consumers in a collectivist culture see themselves as part of a group that allows them to trust other people (Baptista & Oliveira, 2015; Yoon, 2009). According to Sheikh et al. (2017), Saudi Arabia is classified as a collectivist society because people see themselves as members of a group. Individuals in collectivist cultures are more impacted by other individuals' opinions and are more concerned with others' lives (X. Yin et al., 2019). Hence, it is crucial to explore the effect of individualism/collectivism on s-commerce adoption.

2.7.6.4 Perceived Ethics

Academic communities have become interested in information system (IS) ethics, particularly during the past two decades (Akman & Mishra, 2017). In the IS literature, some studies investigate what constitutes right and wrong as well as what constitutes moral and immoral behaviour because ethical attitude plays a critical role in the acceptance of IS technologies (Stahl et al., 2014). The use of SN for commercial

activities and businesses has skyrocketed in the past few years, forcing companies to face ethical challenges as they enter the SN area. With today's lifestyle, social network technology poses some ethical difficulties (Taherdoost et al., 2010), and ethics domain has not been studied on a large scale (Guo et al., 2011). Therefore, ethics is included as a key factor in the initial model.

2.7.6.5 Uncertainty Avoidance

According to Hofstede (1984), uncertainty avoidance is defined as the degree to which individuals in a community worry about unpredictable cases. Previous research has indicated that nations with a high level of uncertainty avoidance may limit their use of online platforms unless they feel that the online activity is secure and that they can trust it (Ng, 2013). The dimension of uncertainty avoidance in Saudi Arabia scores 80, implying that it has a preference for avoiding uncertainty (Hofstede Insights, n.d.). Therefore, to minimize the degree of uncertainty and risk associated with future purchases made through online platforms, consumers attempt to obtain as many details and concise information as possible (Im et al., 2011; Mazaheri et al., 2011). Consequently, the acceptance and adoption of s-commerce in Saudi Arabia could be influenced by the uncertainty avoidance factor.

2.7.6.6 Habit

According to Limayem et al. (2007), habit is “the extent to which people tend to perform behaviours (use IS) automatically because of learning” (p. 705). Furthermore, Liao et al. (2006) examined habit as a critical construct to anticipate and justify customers' continued intention to use a B2C website. Thus, habit is considered as a factor in the initial model in this study.

2.7.7 Sustainability Theme

This theme focuses mainly on examining the extent to which environmental and economic sustainability could affect customers' willingness to adopt s-commerce in Saudi Arabia. The sustainability theme consists of two factors: environmental

sustainability and economic sustainability. A sustainable environment is associated with issues involving energy and transportation (e.g., oil, electricity, gas, solar, and wind and thermal energy), as well as other resources such as computer hardware and paper (Alahmari et al., 2019). Sustainability promotes the reduction of the use of these resources and thinking carefully about how to dispose of any resulting waste (Tilbury, 2011). The green trend is growing, and customers are becoming increasingly aware of the environmental and economic sustainability required to save the world. This theme is aligned with one of the objectives of Saudi Vision 2030, a project map for strengthening the Saudi economy by diversifying income resources. One of the goals of Saudi Vision 2030 is to promote economic growth by empowering Saudi entrepreneurs (Saudi Vision 2030, 2019). Therefore, the sustainability theme is considered an important theme to be included in the initial model.

2.8 Research Gap

As indicated in section 2.6, several studies (Akman & Mishra, 2017; Gan & Wang, 2017; Gatautis & Medziausiene, 2014; N. Hajli, Wang, et al., 2017; Momani et al., 2018; Saprikis & Markos, 2018; Shen, 2013) have examined s-commerce and attempted to investigate customers' acceptance of this technology by identifying different factors influencing customers' attitudes to this phenomenon. Despite the rapid growth of s-commerce in practice, the theoretical foundation of s-commerce studies is still limited and disjointed (M. N. Hajli, 2014; C. Wang & Zhang, 2012). Hence, more research is needed to analyse and evaluate s-commerce theoretically and empirically to increase our knowledge of this significant and growing area of research.

A comprehensive review of the literature in relation to the factors that affect the adoption of social commerce was conducted in the first stage of this current research. Various resources such as journal articles, conference proceedings, published reports, and books on social commerce have been reviewed to ensure that the various factors associated with social commerce are covered. After comparing the studies with the identified factors, discussed in section 2.6, some factors, such as sustainability, were found to be missing in several models. Also, to the best of this researcher's knowledge, none of the previous research which have been listed in Table 2.6 has covered all these

factors comprehensively. Therefore, a comprehensive model is required combine these factors with a justification for the inclusion of each factor in order to understand better the significant factors that affect the consumers' online behaviour.

This study aims to identify all the factors necessary for implementing s-commerce in Saudi Arabia successfully, by developing and evaluating a holistic model for s-commerce in Saudi Arabia to match the 2030 Saudi Arabia vision.

2.9 Initial Model

An extensive review of the literature was conducted to determine factors that have been confirmed or indicated by previous researches related to s-commerce. An initial model was gradually developed by integrating all the factors that were obtained from the previous resources indicated in the section 2.6. Saunders et al. (2016) indicated that the integrative review “critiques and synthesises the representative literature on a topic in an integrative way to generate new frameworks and perspectives on a topic” (p. 74).

An inductive content analysis technique was adopted to examine the most relevant and important factors related to the social commerce to develop an initial model. After determining a set of factors for adopting social commerce from the literature, the researcher labelled and categorised them into themes which include Organization's Characteristics, Human Computer Interaction (HCI), Content, Social, Psychological, Culture, and Sustainability themes. These themes formulate the initial social commerce model, as presented in Figure 2.20.

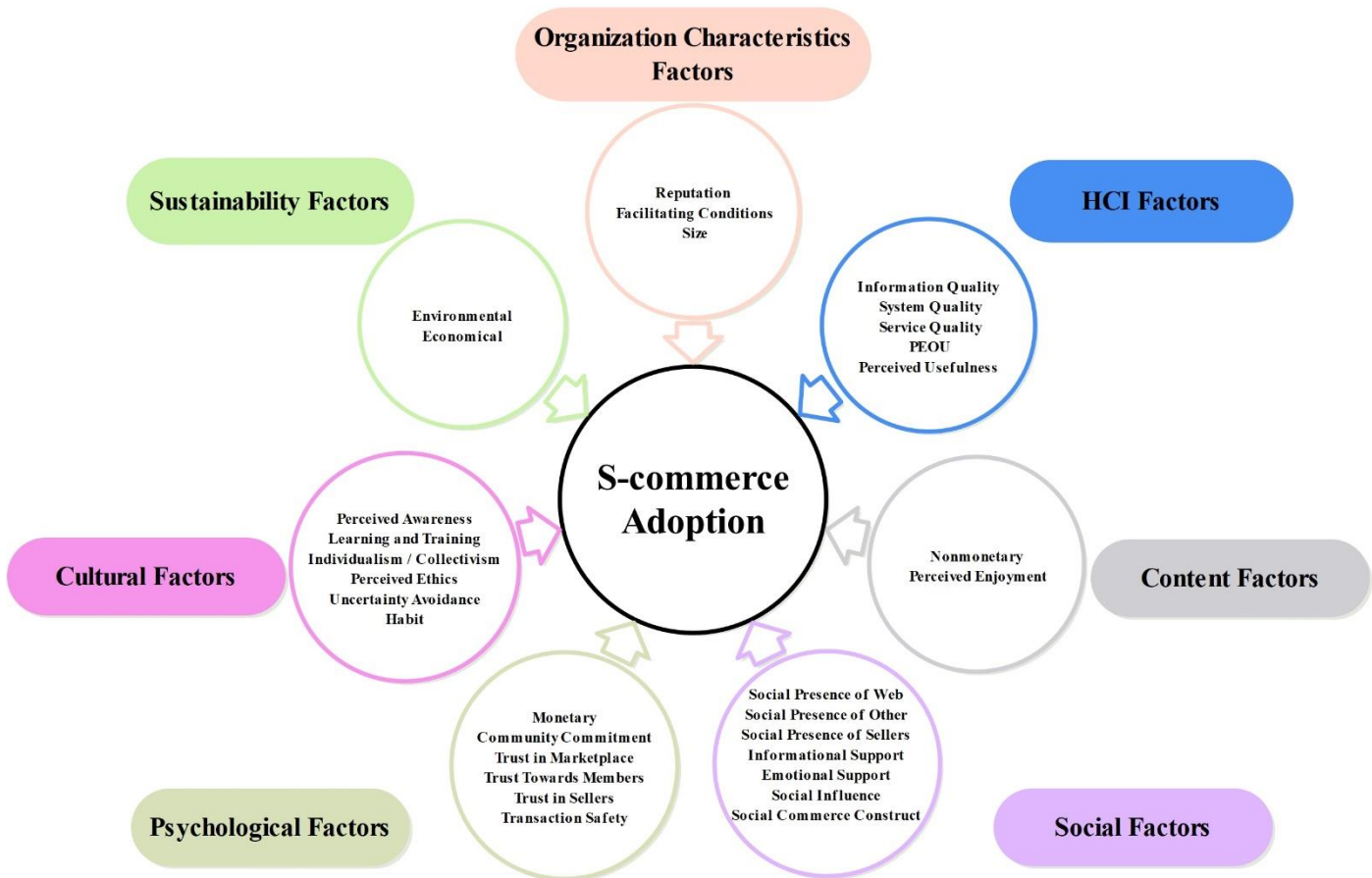


Figure 2.20: Initial social commerce model (prepared by the author)

2.10 The Impact of COVID-19 Influences on S-commerce

During the COVID-19 pandemic, economies and financial markets around the world have been affected more so than by previous pandemics because governments have severely curtailed economic activity and social life. To combat COVID-19, all economic activities that need close physical contact have been restricted. In this context, s-commerce has emerged as a critical pillar of the economy. The COVID-19 pandemic has caused social distancing among consumers, which has led many to shop online. Also, concerns about personal hygiene and pandemic risk have fuelled the demand for s-commerce.

The rapid rise of s-commerce could threaten brick-and-mortar stores as the trends established during the crisis persist into the future. A crisis can profoundly impact the economy and society, so companies must be aware of consumer behaviour at this critical time so as to maintain a competitive edge. They must devote significant time and resources to developing or improving their s-commerce strategies. In addition, companies must invest in new technical solutions that improve the platform's performance and allow business partners to manage their operations more efficiently.

2.11 Conclusion

This chapter provided an in-depth discussion of the literature on s-commerce. Firstly, a literature review was conducted of studies on e-commerce, encompassing its definition, benefits, and e-commerce risks and limitations. Following this, a review of the current state of e-commerce in Saudi Arabia, along with constraints, was discussed. Following that, social media was reviewed, including its evolution, definition, web 2.0 applications, and social media present state in Saudi Arabia. Moreover, s-commerce was discussed along with its definition, evolution, and benefits. The findings from the literature review were used to frame this research.

Additionally, this chapter includes the analysis of several proposed s-commerce frameworks and models. It was found that none of the previous researches has covered all these factors comprehensively, and some of the factors were found to be missing in some models. Therefore, the researcher developed a hybrid model by combining constructions of different models and frameworks in order to gain a comprehensive understanding of s-commerce and its associated factors. This model will be evaluated and assessed using data obtained from the quantitative and qualitative phases.

Finally, it is important to determine suitable methods for developing a holistic model for s-commerce in Saudi Arabia. Accordingly, the next chapter discusses the research approach before describing the data collection process.

3 Research Methodology

3.1 Introduction

In the previous chapter, the researcher reviewed the literature related to the adoption of s-commerce, and investigated all s-commerce frameworks, models, and significant factors influencing s-commerce adoption. The research gap was identified and a new initial model was developed for s-commerce in Saudi Arabia derived from all factors that emerge from the literature review in 2.2. It is important to determine a suitable method for identifying the major factors that influence customers' attitudes to the adoption of s-commerce in Saudi Arabia, and to develop the holistic model for this commerce. Accordingly, this chapter discusses the research methodology that was chosen for this study.

Firstly, various paradigms are explored to determine the most suitable philosophy to be adopted for this study. This is followed by clarifications of various research approaches including the inductive, and deductive approaches. In addition, the researcher examines several potential research methods and strategies. This involves a justification for the chosen research methods and strategy. Then, the chapter discusses the time horizon selected for the data collection. Next, the data collection techniques are described in detail, that is, the online survey and the interviews. Finally, the researcher describes several tests that are conducted on the data to ensure rigour and to verify the results obtained from the quantitative and qualitative phases.

3.2 Purpose of Research

As noted earlier, this research is intended to develop, understand, and assess a holistic s-commerce model for Saudi Arabia that includes all the necessary factors that will benefit stakeholders such as companies, organizations and governments by suggesting ways to encourage customers to adopt s-commerce in alignment with Saudi Vision 2030. Also, the research examines the factors that affect the adoption of s-commerce in Saudi Arabia with a focus on cultural

and organizational factors. Furthermore, this study evaluates the s-commerce experts' perceptions of the developed s-commerce model. To achieve this, the research questions and objectives have been formulated as shown in Table 3.7.

Table 3.7: Research questions and objectives

Research Questions	Research Objectives	Discussions
Q1: What are the factors that must be included when developing a holistic s-commerce model for Saudi Arabia?	To determine the factors that must be included when developing a holistic s-commerce model for Saudi Arabia.	The first research question is crucial to ascertain the factors that support or prevent the adoption of s-commerce in Saudi Arabia. This is particularly significant at this time since s-commerce is a relatively new concept that has evolved rapidly, and has not been studied and tested as extensively as e-commerce and SN (C.-Y. Li, 2019; Stephen & Toubia, 2010).
Q2: What are the specific cultural, and organizational factors that must be considered when developing a holistic s-commerce model for Saudi Arabia?	To determine the specific cultural, and organizational factors that must be considered when developing a holistic s-commerce model for Saudi Arabia.	The second research question relates to the specific cultural and organizational factors that influence the customers' attitude to the adoption of s-commerce in Saudi Arabia. Globalization in the business world has increased dramatically; therefore, culture plays a significant role in all business operations (Straub et al., 1997) and it directly influences the consumers' adoption of technologies (Sheikh et al., 2017). As suggested by (Hassanein et al., 2009), the acceptance and adoption of information technologies are influenced by cultural factors. Moreover, organizational factors can be determinants of s-commerce customers' trust in a firm when considering the purchase of products or services.
Q3: What are the perceptions and attitudes of s-commerce experts in terms of the holistic s-commerce model for Saudi Arabia?	To investigate SN experts' attitudes regarding the holistic s-commerce model	The third research question is essential to assess the s-commerce experts' perceptions of the s-commerce factors and their evaluation of the developed s-commerce model. Experts who are most closely linked to this technology can help the researcher to explore and interpret the statistical outcomes obtained from the quantitative study to obtain more explanation of the

	developed for Saudi Arabia.	constructed factors. Therefore, experts' perceptions were examined to reveal additional factors and validate the final s-commerce model.
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3.3 Research ‘Onion’

With a wealth of information being accessible over the Internet, it may seem relatively simple for organizations to obtain the data required for a deeper understanding of a certain phenomenon. Despite the greater accessibility, this is not always true for two reasons. Firstly, it is not necessarily easy to find relevant information and distinguish it from the enormous amount of often irrelevant data on the Internet. Secondly, the relevant information generally requires interpretation which is quite difficult and needs specific techniques (Firth & Swanson, 2005).

The IS domain has attracted a great deal of research comprising a variety of approaches (Becker & Niehaves, 2007). It is essential to examine these approaches before collecting and analysing the data for this research. As illustrated in Figure 3.21, Saunders et al. (2016) depicted the research process as a ‘research onion’ that specifies the essential steps and key progressions in the design of an effective research methodology. Today, this model is widely used for its adaptability and flexibility as a methodology for any type of research.

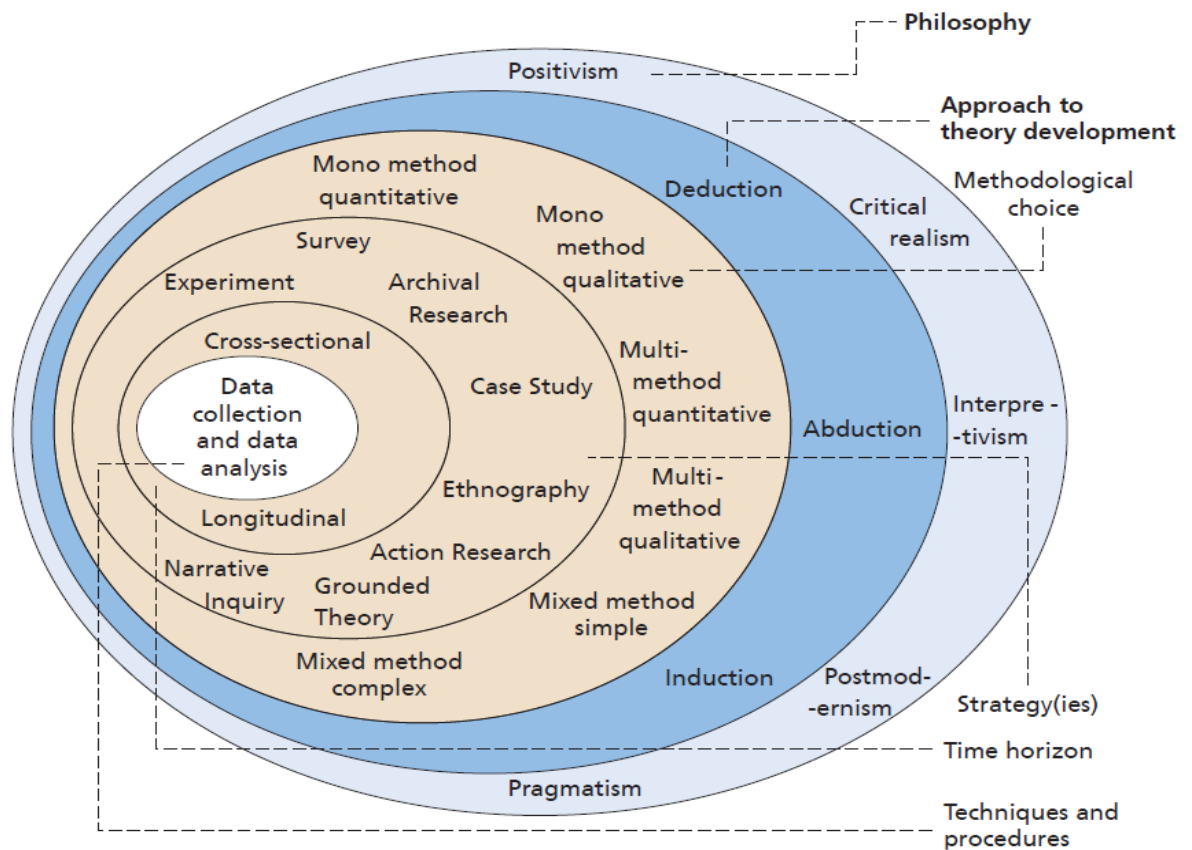


Figure 3.21: The 'research onion'; adopted from Saunders et al. (2016, p. 124)

The research onion indicates the phases that must be included when undertaking a research design. As shown in Figure 3.21, the research onion comprises six layers with each layer depicting a detailed phase of the research process when viewed from the outside. Thus, the outer or first layer of the onion is significant. The researcher must implement this layer in order to acquire a better understanding of the process and reflect on important assumptions rather than simply peeling and throwing it away (Saunders et al., 2016).

In the context of (IS, different possibilities are identified and analysed for each 'peel' before choosing and justifying the most appropriate one. 'Research Philosophy' is the first layer of the research onion layer. The second layer is the 'Research Approach' including the deductive approach and the inductive approach. The third layer is concerned with the 'Methodological Choice' which includes qualitative and quantitative methodologies categorized as mono-method, multi-method, and mixed-

method. 'Research Strategy' makes up the fourth layer which relates to the purpose of collecting data through experiment, survey, case study, ethnography, action research, archival research, grounded theory, and narrative inquiry. The fifth layer of is 'Time Horizon' divided into cross-sectional and longitudinal. The final peel comprises 'Techniques and Procedures' involve data collection and analysis. The following sections will discuss each layer separately and identify the appropriate option from each layer based on the requirements of this research.

3.3.1 Research Philosophy

According to Saunders et al. (2016), the labels 'philosophies' and 'paradigms'—contributing to the first layer of the research onion—are sometimes used interchangeably. Collis and Hussey (2009) defined a research philosophy or paradigm as “a framework that guides how research should be conducted, based on people’s philosophies and their assumptions about the world and the nature of knowledge” (p. 55). Easterby-Smith et al. (2018) stated that understanding a research paradigm is very valuable and important in shaping a study from the initial design to its conclusion.

In practice, there has been a debate on the kinds of philosophies that form the philosophical perspective of an academic study. According to Burrell and Morgan (1979), philosophical perspectives can be classified into four paradigms; functionalism, interpretivism, radical structuralism, and radical humanism. Additionally, Guba and Lincoln (1994) introduced four different kinds of research philosophies which are: positivism, post-positivism, critical theory and constructivism. On the other hand, another set of research philosophical paradigms was introduced by Chua (1986) comprising positivism, interpretivism and critical research. Furthermore, Saunders et al. (2016) listed five other research paradigms: positivism, realism, interpretivism, postmodernism, and pragmatism.

It was important to compare the research philosophies with respect to their research beliefs in order to select the most suitable philosophy for this study. There are four different views in research philosophy: (1) ontology or the claims about the nature of reality, (2) epistemology or what is considered acceptable knowledge, (3) axiology or

the role of values in research, and (4) methodology or the procedures leading to the knowledge (Mertens, 2007).

In the next section, the researcher illustrates and compares five paradigms - positivism, realism, interpretivism, postmodernism, and pragmatism - in detail prior to choosing and justifying the most appropriate one for this research.

3.3.1.1 Positivism

The positivist approach was formulated in the nineteenth century by the French philosopher Auguste Comte (Cohen et al., 2011). Positivism has two key characteristics: it views the world in an ordered manner, and it investigates everything objectively (Oates, 2005). Typically, scholars who adopt this research philosophy test a theory in order to improve their understanding of a particular phenomenon (Orlikowski & Baroudi, 1991). This paradigm focuses on viewing the world from a perspective independent of human interpretations. Moreover, this philosophy seeks to discover the world through a series of observations and measurements in order to arrive at general laws and regulations (Myers, 1997). Moreover, positivist researchers are supposed to be impartial and their study ought to be independent of their beliefs and values. Hence, positivist research usually involves the scientific testing of theories and/or hypotheses. Positivist research is generally intended to either prove or refute the suggested hypotheses and theories (Ormston et al., 2014).

As reported by Kanellis and Papadopoulos (2009), IS should be considered as a sociotechnical system where the interpretations vary from one user to another. This concept helps extend the research to the social dimension of the system. However, it is imperative to note that a positivist study appears to preclude research from the analysis of the social dimension of such systems. Along with the positivist approach viewpoint “one has to believe that the relationships underlining his phenomena of interest are determinate and one-dimensionally causal; that research is value-free; and that people are not active makers of their social reality” (Kanellis & Papadopoulos, 2009, p. 12).

3.3.1.2 Critical Realism

Bryman (2012) indicated that “positivists take the view that the scientist’s conceptualization of reality actually directly reflects that reality. Unlike positivists, critical realists are perfectly content to admit into their explanations theoretical terms that are not directly amenable to observation” (p. 29). Somerville (2012) defines critical realism as a philosophy that clarifies conceptual disarray, removes barriers to clear discernment, and indicates the way of scientific advancements to develop logical knowledge. Additionally, Saunders et al. (2016) reported that critical realism is aimed at illuminating people’s experience of the underlying structures of reality which form perceived events.

Critical realism in IS study seeks to challenge “regimes of truth” and study transitions brought on by IS in the sense of historical examinations of organizational information systems (Cecez-Kecmanovic, 2011). As a result, this philosophy prefers longitudinal explorations with respect to historical studies and ethnography, which could be relatively time-consuming (Orlikowski & Baroudi, 1991; Saunders et al., 2016).

3.3.1.3 Interpretivism

Unlike the positivist approach, interpretive research develops meaning by subjectively attempting to understand individual social interactions (Walsham, 1995). In order to obtain greater awareness of a certain phenomenon, interpretivism is intended to investigate human perceptions of the world. It notes that human beings are capable of subjectively voicing their perceptions of the world around them (Kaplan & Maxwell, 2005). Consequently, it remains centred on investigating a certain phenomenon based on a participant’s understanding, interpretation, and explanation of the phenomenon under study (Orlikowski & Baroudi, 1991). The consideration of social contexts, and their interactions with humans are therefore considered as the strength of the interpretive research. Simultaneously, this is likely to be a weakness, as the knowledge is often derived from the participant’s subjective perceptions and interpretations (Orlikowski & Baroudi, 1991).

3.3.1.4 Postmodernism

Postmodernism emerged in the late twentieth century, and has been most commonly associated with the French philosophers such as Gilles Deleuze, Jean-François Lyotard, and Michel Foucault. Philosophical postmodernism “emphasises the role of language and of power relations, seeking to question accepted ways of thinking and give voice to alternative marginalised views” (Saunders et al., 2016, p. 141). Postmodernists believe that there could be no single fact of what reality is, because there is no single objective or truthful way of confirming any claims about a singular phenomenon to be called "reality" (Hicks, 2004).

3.3.1.5 Pragmatism

In IS research, there has been a long-standing debate on the choice of positivism or interpretivism (W. Chen & Hirschheim, 2004; Dubé & Paré, 2003; Goldkuhl, 2012; Walsham, 1995). While positivists have a predilection of the objective validity of their research outcomes, interpretivists consider one’s opinions, values, or subjective perspectives as the key to gather knowledge (Becker & Niehaves, 2007). On the other hand, critical realism provides an objective view and critique of reality within a social realm as an alternative to the two conflicting approaches (M. L. Smith, 2006). But, if the research does not challenge the status quo and/or when historical studies are not under consideration, critical realism is treated as unsuitable.

Now, the query emerges whether a scholar is restricted to only one paradigm. ‘Pragmatism’ is the key solution to this dilemma, as it takes into account appropriate perspectives from various philosophies (Goles & Hirschheim, 2000; Mackenzie & Knipe, 2006). This paradigm “strives to reconcile both objectivism and subjectivism, facts and values, accurate and rigorous knowledge and different contextualised experiences” (Saunders et al., 2016, p. 143). Thus, the pragmatist embraces pluralism, as some phases of the study necessitate social interactions between the researcher and study participants while other phases may require greater objectivity (Teddlie & Tashakkori, 2009).

Table 3.8 below allows a comparison to be made between the various philosophies and their perspectives. The following section will justify the chosen paradigm.

Table 3.8: Summary of four research paradigms: Adapted from (W. Chen & Hirschheim, 2004; Collis & Hussey, 2014; Saunders et al., 2016)

	Ontological assumption (Researcher view on the nature of reality)	Epistemological assumption (Researcher view on what is considered acceptable knowledge)	Axiological assumption (Researcher view on role of values in research)	Methodological assumption (Researcher view on what is the typical methods led to the research result)
Positivism	Only one reality.	It is scientific, as it measures facts through statistical analysis or scientific laws.	Value-free research.	Typically deductive, uses quantitative methods (e.g., surveys), but can also be qualitative.
	The phenomenon is objective, and independent of the external actor.	Focus on discovering observable and measurable facts and regularities.	The researcher is independent of the data and maintains an objective stance.	
Critical realism	The reality is objective structures, external, and independent of other thoughts.	Knowledge is gained by understanding society and the history of that society.	Value-laden research.	Methods chosen must fit the subject matter, quantitative or qualitative.
		Facts are social Constructions.	The researcher is biased by worldviews, cultural experiences and upbringing.	
Interpretivism	Multiple realities.	Knowledge is gained through understanding the phenomenon in natural settings (cultural and contextual)	Value-bound research.	Typically inductive, small samples, in-depth investigations, and working with qualitative data.
	The reality is subjective, and socially constructed.	Focus on narratives, stories, situations details, a fact behind these details, and interpretations.	The researcher is part of what is being researched, cannot be separated and so will be subjective.	

Postmodernism	Multiple realities.	What counts as 'reality' and 'knowledge' is dictated by dominant ideologies.	Value-constituted research	Typically working with qualitative research approach
Pragmatism	There are multiple realities.	Different views are explored to derive knowledge.	Value-driven research.	Following research problem and research question.
	Subjective, and objective perspectives can be considered.	Focus on problems, practices and relevance.	Values play a large role in interpreting result, the researcher adopting both objective and subjective points of view.	Mixed or multiple method designs, quantitative and qualitative.

3.3.1.6 The Selected Paradigm

This study investigates the major factors that influence customers' attitudes to the adoption of s-commerce in Saudi Arabia. In particular, it examines a new social phenomenon in its real context concerning the experiences and interpretations of social network users. The criteria for various research philosophies provided in Table 3.8 give an obvious explanation of the building blocks of the research philosophy, although the researcher has to carefully choose the suitable paradigm for his study.

It is pertinent to note that a single paradigm is more likely to have limitations and weaknesses. For instance, a positivist philosophical perspective may limit the research result, as it attempts to find universal laws, which ultimately ignores the social context of this study, and interpretivism philosophy tends to be more appropriate for qualitative research.

Pragmatism seems to be the best philosophy for this research to maximise the strengths and minimise the limitations associated with different philosophies. The core feature of pragmatism is that a scholar can use a variety of paradigms to answer the research questions. Thus, the pragmatism paradigm was chosen since a single paradigm is not suitable for this study.

In addition, pragmatic research philosophy has been proposed for IS researchers and advocated by mixed methodologists as one of the alternative paradigms for the adjustment of the use of mixed-method research (Venkatesh et al., 2013). A pragmatism paradigm has several principles, and encourages scholars to pursue their investigation by means of long-term engagement and triangulation (Onwuegbuzie & Leech, 2005). A pragmatist approach is taken in this research to avoid methodological bias and to better explore the phenomenon being studied (Subedi, 2016). Besides, the qualitative or quantitative methods alone will not wholly answer the research questions, and address the research objectives, whereas a combination of approaches will (Creswell & Plano Clark, 2017). Therefore, based on the requirements and objectives of this study, the pragmatic research paradigm is chosen to support the

phases of this study. The green square in Figure 3.22 indicates the selected paradigm of this research.

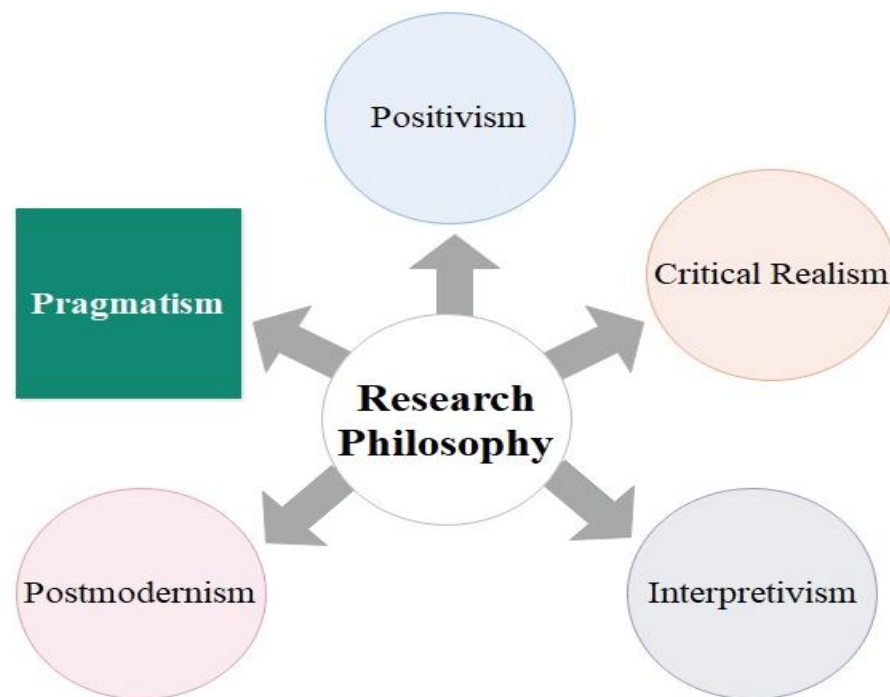


Figure 3.22: Selected philosophy of this research (prepared by author)

3.3.2 Research Approach

The choosing of the appropriate research approach is a crucial decision after the recognition of the philosophical perspectives of the research. Research can involve a deductive, inductive, or abductive approach to obtain insight into the subject under investigation. The deductive approach is “a study in which a conceptual and theoretical structure is developed and then tested by empirical observation. For this reason, the deductive method is referred to as moving from the general to the particular” (Collis & Hussey, 2014, p. 7). Therefore, if the study starts with a theory generated from the literature, and the scholar develops a strategy for testing the theory, it is a deductive method (Saunders et al., 2016).

In contrast, Collis and Hussey (2014) define the inductive approach as “a study in which theory is developed from the observation of empirical reality” (p. 7). The inductive method gives greater attention to the understanding of individuals and their view of their social environment. Instead of beginning with a theory, a study that applies an inductive method begins by gathering data, analysing it, and then building a theory from it (Bryman, 2016). In other words, if the scholar starts by gathering data to investigate a phenomenon in an attempt to develop or formulate a theory, it is an inductive method (Saunders et al., 2016).

With the abductive approach, the researcher is “collecting data to explore a phenomenon, identify themes and explain patterns, to generate a new or modify an existing theory” which the researcher can subsequently assess by additional data collection (Saunders et al., 2016, p. 145).

3.3.2.1 The Selected Research Approach

Any of these approaches can be based on current literature as a beginning point. However, the deductive method indicates that the theory is right or incorrect by forming, evaluating and testing hypotheses, but the inductive approach is dependent on the data set from which the researcher extracts patterns and interpretations (Gray, 2014).

Since this study is intended to develop a holistic s-commerce model for the KSA, and examines the factors that affect the adoption of s-commerce in Saudi Arabia, it is exploratory in nature and therefore has no starting hypotheses. Therefore, it must begin by recognizing the related phenomena of the study subject as a guidance for finding a problem, gap, and weakness in previous research, which has not been completely addressed, thereby allowing the researcher to design an initial model. After that, the initial model is evaluated after obtaining the online survey data from the quantitative phase. Then, to generate the final model, the enhanced model is tested via interviews during the qualitative phase. Thus, the inductive approach was chosen for this study. The green square in Figure 3.23 indicates the approach selected for this research.

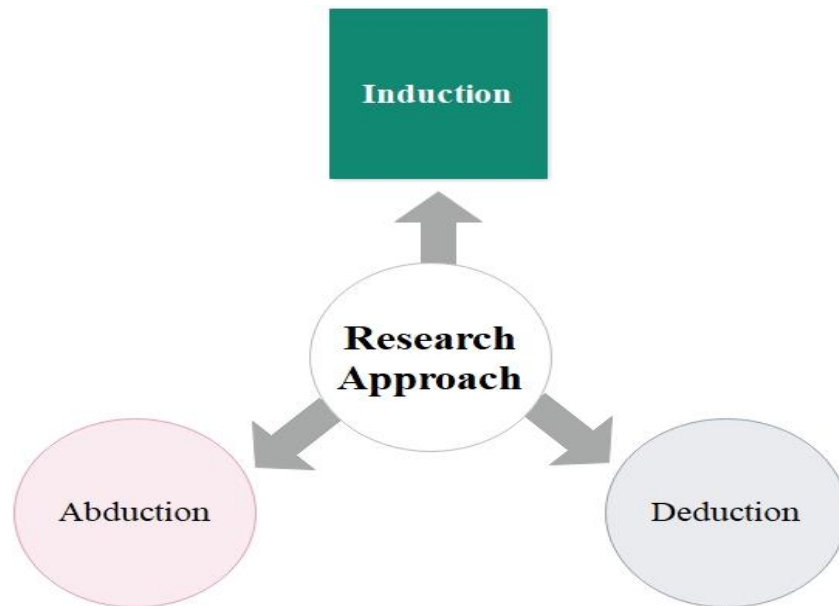


Figure 3.23: Approach selected for this research (prepared by author)

3.3.3 Methodological Choice

The next layer of the research 'onion' as shown in Figure 3.21 involves examining potential research methods. Before conducting a study, it is important to make a methodological choice in terms of selecting a suitable research design: quantitative, qualitative or mixed methods. The difference between quantitative, and qualitative research is that the first one produces numeric data, and the second generates non-numeric data. Numeric data contains numbers, and non-numeric data includes videos, words, images, and other related materials. A research design may also use a mixed-methods (quantitative, and qualitative) approach in a number of ways, which will be discussed in the following sections (Saunders et al., 2016). Figure 3.24 shows the various methodological choices.

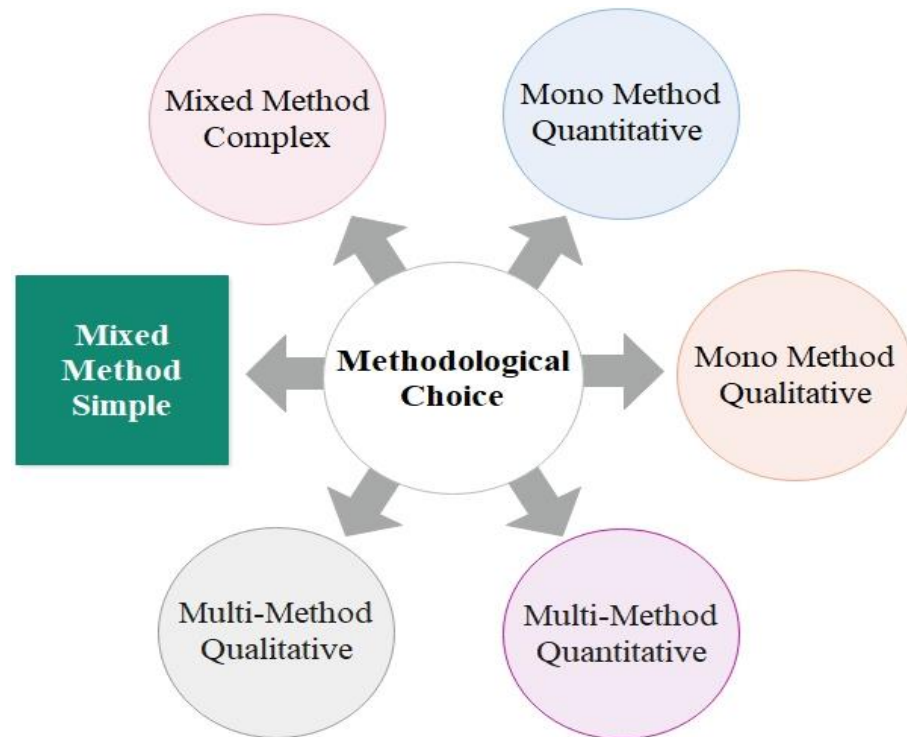


Figure 3.24: Methodological choice (prepared by author)

3.3.3.1 Quantitative Research Design

A single data collection method, such as a questionnaire, may be used in a quantitative study design; this is known as a mono-method quantitative study. Moreover, a multiple quantitative data collection technique may be used for a quantitative research design, and is called a multi-method quantitative study as shown in Figure 3.24 (Saunders et al., 2016).

A quantitative researcher collects numerical outputs and attempts to draw significance from them. The quantitative research design can be used to analyse a wide variety of social phenomenon. It can be more effectively applied in situations where a sufficient number of prospective participants are accessible, and the data obtained can be accurately measured using quantitative data analysis methods (May, 2011).

3.3.3.2 Qualitative Research Design

As stated by Saunders et al. (2016), a single data collection method, such as semi-structured interviews, may be used in a qualitative research design (a mono-method qualitative study). Moreover, more than one qualitative data collection technique may be used for a qualitative research design (multi-method qualitative study) as shown in Figure 3.24.

Qualitative studies are used in the social science domains to allow scholars to examine social and cultural phenomena (Feilzer, 2010; Myers, 1997). Moreover, this approach gives in-depth knowledge about several traits that are appropriate for exploring latent beliefs and motives (Abed, 2016).

3.3.3.3 Mixed Methods

A mixed-methods approach involves quantitative and qualitative research techniques combined into a single research design (Johnson & Onwuegbuzie, 2004; Saunders et al., 2016). The combination can be either simple or complex as indicated in Figure 3.24.

Concurrent mixed-methods research comprises the independent use of quantitative and qualitative approaches within a single phase of data gathering and analysis. This enables all sets of results to be interpreted together to give a stronger and more comprehensive answer to the research question, more so than the use of a single data collection method.

On the other hand, in sequential mixed-methods research, the scholar uses one approach and then follows it with the other in order to confirm the initial set of results. This method comprises three different mixed methods research strategies: a sequential explanatory research design (qualitative come after quantitative), a sequential exploratory research design (quantitative come after qualitative), and a sequential multi-phase design which include multiple methods of data collection and analysis (e.g. quantitative follows qualitative, then by another phase of qualitative; Saunders et al., 2016).

3.3.3.4 The Selected Research Method

Based on the previous discussion, the “sequential explanatory research design” was adopted for this study (Figure 3.25) to answer the research questions and fulfil the research objectives. This strategy involves two phases of data collection and analysis: a quantitative phase followed by a qualitative phase (Saunders et al., 2016). Morgan (1998) mentioned that “A simple way to decide which method should be used first is to build on the decision about which method will be principal” (p. 367). Moreover, Venkatesh et al. (2013) indicated that: “if IS researchers plan to conduct a study for which a strong theoretical foundation already exists, but the context of the research is novel or previous findings were fragmented and/or inconclusive, they may consider conducting a quantitative study first followed by a qualitative study to offer additional insights based on the context-specific findings or reasons for fragmented and/or inconclusive results in previous studies” (p. 118).

The purpose of applying a sequential explanatory design is to obtain a comprehensive image of a phenomenon by collecting and analysing qualitative data to explore and interpret the statistical outcomes obtained from the quantitative study (Bryman, 2006; Venkatesh et al., 2013). Also, this sequential explanatory design is good for the triangulation validation technique. “Triangulation involves using more than one source of data and method of collection to confirm the validity/credibility/authenticity of research data, analysis and interpretation” (Saunders et al., 2016, p. 207). In the sequential explanatory design, the quantitative approach is often considered to be the most important part of the mixed-methods data collection process, so it should be given priority (Ivankova et al., 2006).

In this study, the quantitative data was collected first via an online survey to assist the researcher to understand SN users’ reactions to s-commerce and to identify the factors which should be added to the initial s-commerce adoption model. After that, the qualitative method was applied to explore the quantitative results from the survey to obtain more explanation of the constructed factors. This involved conducting semi-structured interviews to validate the improvement of the holistic s-commerce adoption

model and to ensure that was comprehensive (Figure 3.25). The combination of survey and interview methods aligns with the pragmatic philosophy of this study, which advocates a mixed-methods perspective (Teddlie & Tashakkori, 2009). The green square in Figure 3.24 indicates the methodological approach chosen for this research.

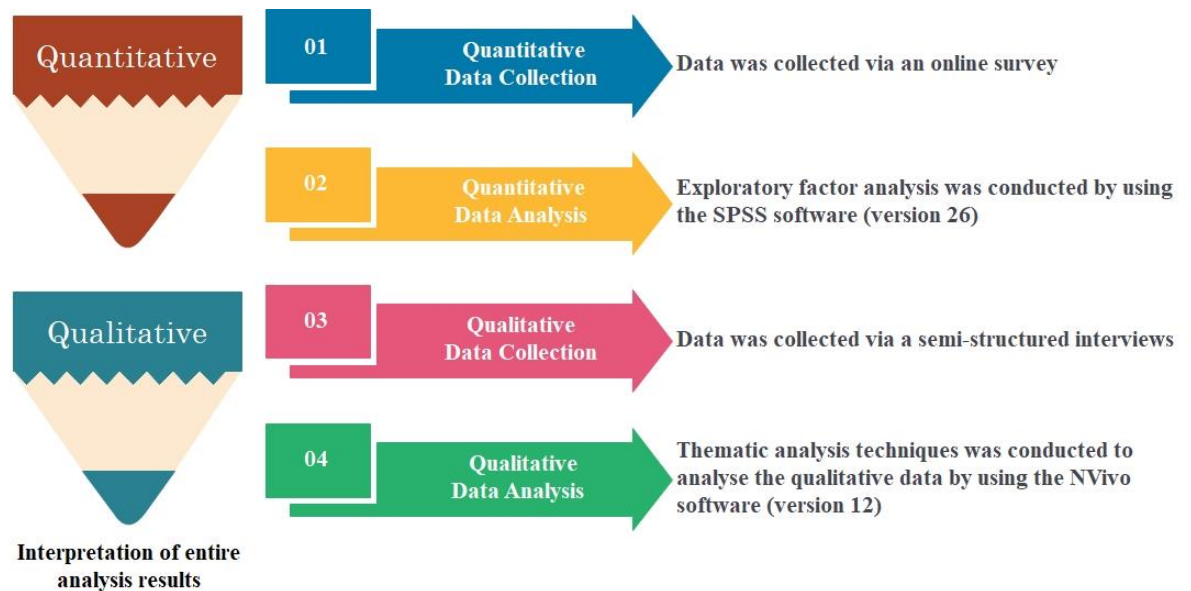


Figure 3.25: Sequential explanatory design (prepared by author)

3.3.4 Choosing a Research Strategy

The next layer of the research 'onion' as shown in Figure 3.21 involves the examination of potential research strategies. A research strategy is the methodological relationship between the paradigm and the subsequent selection of data collection and analysis methods (Denzin & Lincoln, 2011). It is a plan of how a researcher will answer the research questions and meet the research objectives. As there are various philosophic viewpoints and approaches in IS studies, there are also various research strategies that can be implemented as shown in Figure 3.26: experiment, survey, archival research, case study, ethnography, action research, grounded theory, and narrative ground.

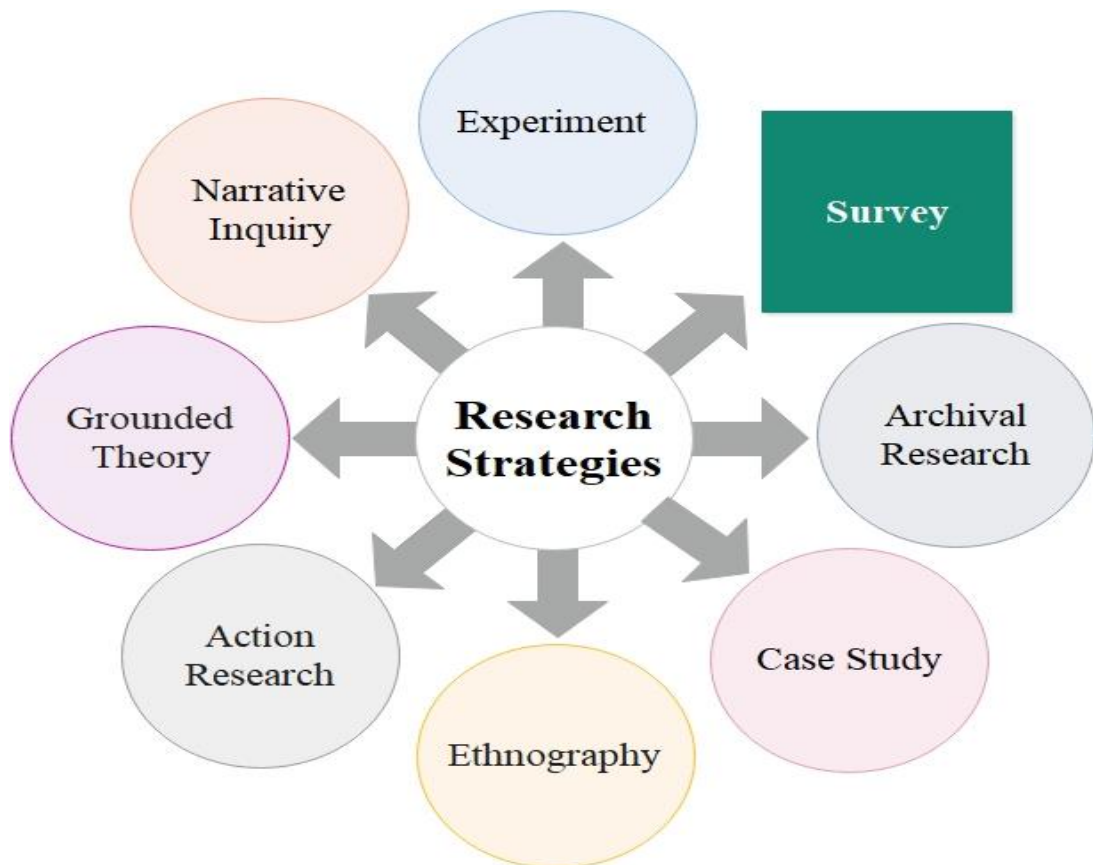


Figure 3.26: Research strategies (prepared by author)

- **Experiment**

The experiment is a research strategy generally related to the natural sciences, which can also be used in psychological and social science studies (Saunders et al., 2016). An experimental is sufficient for examining “the relationship between variables, where the independent variable is deliberately manipulated to observe the effect on the dependent variable” (Collis & Hussey, 2009, p. 74).

- **Survey**

The survey is a methodology designed to “collect primary or secondary data from a sample, with a view to generalizing the results to a

population” (Collis & Hussey, 2009, p. 77). It is mainly used in exploratory and descriptive research (Bryman, 2016).

- **Archival Research**

The archival research strategy involves utilizing archival records and documents as secondary sources for data collection. The researcher can access different types of archival and documentary sources online (Saunders et al., 2016).

- **Case Study**

As stated by R. K. Yin (2017), the case study examines a circumstance in detail within its actual life context. It is important that the case being researched should exist regardless of the involvement of the researcher (Oates, 2005).

- **Ethnography**

Ethnographic research concentrates on understanding the culture of a particular phenomenon and the various interpretations that individuals have of the same situation (N. Lee et al., 2005). The key point in this strategy is that “the researcher uses socially acquired and shared knowledge to understand the observed patterns of human activity” (Collis & Hussey, 2009, p. 79).

- **Action Research**

Different definitions of action research have been proposed. Coghlan (2011, 2019) defined action research as an emerging and iterative procedure of inquiry which focuses on developing solutions to real organizational challenges in a participatory and inclusive approach that uses different forms of knowledge, and will have implications for participants and the organization beyond the study project. Moreover, Rapoport (1970) reported that “action research aims to contribute both to the practical concerns of people in an immediate problematic

situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework” (p. 499).

- **Grounded Theory**

According to Martin and Turner (1986) grounded theory is “an inductive theory discovery methodology that allows the researcher to develop a theoretical account of the general features of a topic while simultaneously grounding the account in empirical observations or data” (p. 141). It is concerned primarily with developing a new theory.

- **Narrative Ground**

Saunders et al. (2016) indicates that narrative is “defined as an account of an experience that is told in a sequenced way, indicating a flow of related events that, taken together, are significant for the narrator and which convey meaning to the researcher” (p. 198).

3.3.4.1 Adopted Research Strategy

Saunders et al. (2016) stated that the survey technique is the most widespread research strategy in business and management study, and is widely used to address 'when,' 'who,' 'when,' 'how many' and 'how much' questions. He also mentioned that the questionnaire is not the only technique for gathering data as a part of the survey strategy. This strategy also involves the structured interview, where interviewees are asked structured or semi-structured questions. Thus, the survey research strategy is an appropriate strategy for this study. The green square in Figure 3.26 indicates the research strategy selected for this study.

3.3.5 Time Horizon

The selected research method and adopted research strategy influence the choice of a suitable time horizon. The next portion of the research 'onion' as shown in Figure 3.21 is the time horizon and includes cross-sectional studies and longitudinal studies. Cross-sectional data collection takes place at only one particular time, while a longitudinal

study collects data at different points in time from the same respondents (Bhattacharjee, 2012). One main advantage of longitudinal research is that it provides a rich insight into the phenomenon of interest as changes can be observed over time. On the other hand, cross-sectional research often applies the survey strategy, and the data can be collected over a short period of time (Saunders et al., 2016).

This research adopts the cross-sectional study for the collection of both survey and interview data because of time constraints, less cost and the data gathering process requires less effort. The green square in Figure 3.27 indicates the time horizon selected for this study.

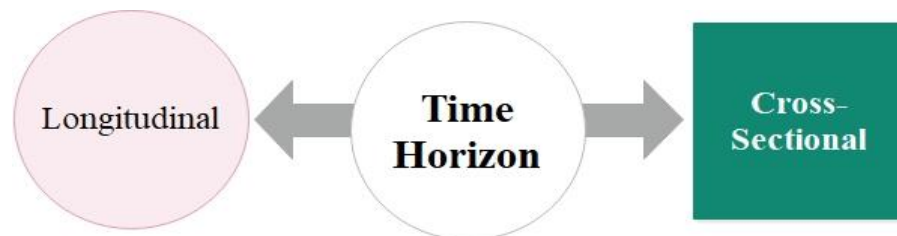


Figure 3.27: The selected time horizon (prepared by author)

3.3.6 Data collection and analysis

The last layer of the research ‘onion’ (Figure 3.21) comprises the data collection and analysis processes. Planning for the data collection and analysis is important when designing the research (Creswell & Plano Clark, 2017). The design of this study includes the verification of the analysis unit, the choice of a mixed-methods approach, and a description of how the data were obtained and analysed by the researcher. Therefore, this study was divided into two phases as illustrated in Figure 3.28. In the first stage, quantitative data collection was conducted to evaluate and examine the initial model, and enhance the initial model with additional factors. In the second phase, a qualitative method was applied to validate the results from the earlier stages.

Stages one and two developed the holistic s-commerce model, and answered all three research questions. The subsections below explain these two phases.

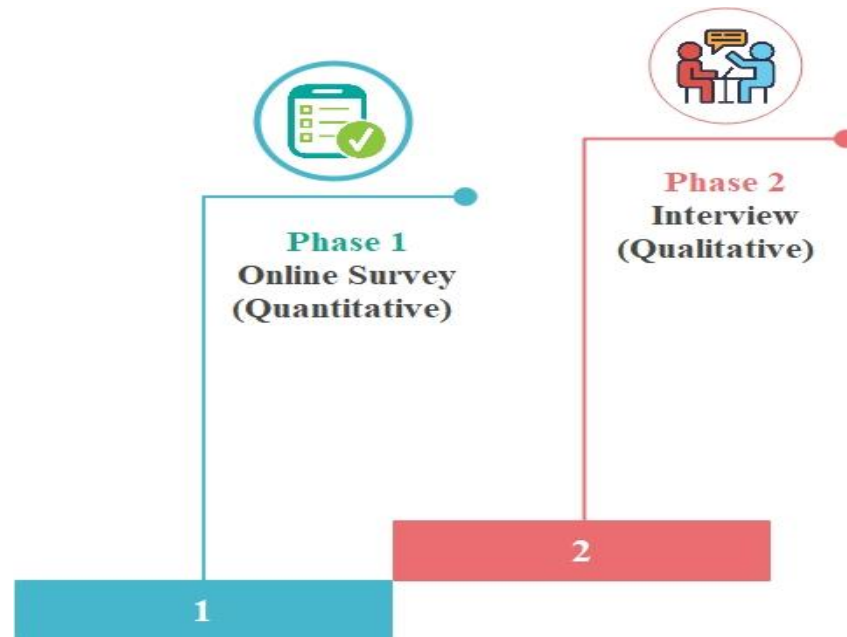


Figure 3.28: Research process flow chart (prepared by author)

3.3.6.1 Phase 1: Online Survey (Quantitative)

In the online survey phase, the initial s-commerce model was evaluated to validate the identified factors. A quantitative method involves “deduction, confirmation, theory/hypothesis testing, explanation, prediction, standardised data collection, and statistical analysis” (Johnson & Onwuegbuzie, 2004, p. 18). The survey phase commenced with the design of the online questionnaire which contained items derived from the review of several works (Akman & Mishra, 2017; S. S. Alotaibi, 2018; J. Chen et al., 2014; N. Hajli, 2015; N. Hajli, Sims, et al., 2017; N. Hajli, Wang, et al., 2017; Issa, 2017; Issa et al., 2020; S. Kim & Park, 2013; Lal, 2017; Liang et al., 2011; Limbu et al., 2012; Lu et al., 2016; Momani et al., 2018; Ng, 2013; Noh et al., 2013; Saprikis & Markos, 2018; Sheikh et al., 2017).

The survey is one of the most popular data collection approaches in quantitative research (Creswell & Creswell, 2018; Myers, 1997). Saunders et al. (2016) indicated

that the questionnaire is a common technique used for gathering data for a survey. Due to the remarkable growth and popularity of the Internet, online questionnaires have become a widely-accepted and indispensable tool for the administration of surveys (Abed, 2016). Moreover, because this research focuses on one aspect of technology adoption, it was appropriate to apply the online survey approach. The survey has various advantages such as the flexibility of the design, being less expensive and generally more confidential than other approaches, and representing an efficient large population (Cavana et al., 2001; Creswell & Creswell, 2018).

According to Fink (2017) surveys could be used “in deciding policy or in planning and evaluating programs and conducting research when the information you need should come directly from people. The data they provide are descriptions of feelings and perceptions, values, habits, and personal background or demographic characteristics such as age, health, education, and income” (p. 5). There are two ways in which data can be collected through the survey: directly and indirectly. The direct way is by asking individual questions to be answered, while the indirect way could involve recording oral or written opinions (Fink, 2019).

For this research, the quantitative method was used to address the first and second research questions stated at the beginning of this thesis. Since the research questions for this study are concerned with investigating the SN users’ attitude regarding the factors that influence the adoption of s-commerce in Saudi Arabia, an online survey was adopted to gather the data from the respondents directly. Starting with an online survey assisted the researcher to obtain an overview of the customers’ ideas about and attitudes to the adoption of s-commerce in Saudi Arabia.

Validating the s-commerce model required a suitable research method. This included a variety of procedures, such as reviewing the literature comprehensively to identify the existing approaches, determining the target population, and identifying an appropriate way to interact with them. Consequently, the online survey approach was considered to be the most useful and appropriate method for validating the s-commerce model. The online survey has various benefits for both researchers and participants. It

saves money and time, can be distributed easily, and is a convenient way for participants to complete the questionnaire. Furthermore, the researcher can easily control the online process and remind the respondents to submit their questionnaire, then thank them for their cooperation. Moreover, it provides several choices of formats for downloading (Issa, 2013). Also, it allows researchers to gather a large quantities of data within a short period of time because it is accessible and fairly cheap (Fink, 2017; Gordon & McNew, 2008). This online survey measured the participants' attitudes, thoughts, and knowledge of s-commerce adoption in Saudi Arabia as well as obtaining demographics data to explore more factors for the initial model.

The five-point Likert scale ranging from "strongly agree" to "strongly disagree" was chosen to ensure the accuracy of responses and prevent participants from being confused by the amount of information in the online questionnaire (Devlin et al., 1993; Revilla et al., 2014) Also, this kind of format was selected because it is frequently used, familiar to participants, and an appropriate format for measuring constructs such as attitudes (Passmore et al., 2002).

The Web-based survey was elected to gather the data for this study. According to Boas and Hidalgo (2013), the online survey sites commonly used by researchers include SurveyGizmo, SurveyMonkey or Qualtrics XM to enable researcher to design, manage and monitor the online survey. The online survey was disseminated to the respondents via the Qualtrics XM platform (www.qualtrics.com) after receiving ethics approval from Curtin University Human Research Ethics Committee (HREC: HRE2020-0163). Boas and Hidalgo (2013) indicated that the Qualtrics XM platform is considered a reliable instrument for developing survey questionnaires, and enables researchers to execute online data collection and analysis.

The online questionnaire for this research was designed based on the initial model and distributed in both English and Arabic languages. A third-party professional authorised translator translated it to address any linguistic differences.

For this research, the questionnaire was tested and validated by research supervisors, academic staff (senior lecturers from a top university in Saudi Arabia) who are IS

specialists, and undergraduate students who had at least one SN account. This was followed by a pilot study conducted to find and correct any issues before distributing the online survey. Saunders et al. (2016) reported that a pilot study helps to refine the online survey questions and provides the validity and the likely reliability of the survey questions. The items in the online survey questionnaire are discussed in Chapter 4.

3.3.6.1.1 Sampling Procedure (Quantitative)

Sampling techniques allow the researcher to decrease the amount of data required by looking only at data from a small group instead of the overall population (Saunders et al., 2016). The sampling technique selected for this research was based on three criteria: (1) the type of research being conducted; (2) the research questions and objectives, and (3) the time and budget available (Hair et al., 2003). Sampling techniques are divided into two types: probability sampling and non-probability sampling. The most widespread probability sampling methods used are systematic, cluster, simple random, and stratified sampling. On the other hand, the most widespread non-probability sampling methods used are judgement, quota, convenience, and snowball sampling. Probability sampling techniques were found to be inappropriate for this research because it is impossible to construct a sampling frame for this study.

Thus, the researcher used non-probability sampling techniques (Saunders et al., 2016). The study sample consisted of a convenience sample of social network users in Saudi Arabia. After that, the snowball sampling technique was applied to facilitate the access to a “hard to reach” population. Snowball sampling of a hidden population starts with a convenience sample of initial subject known as “seeds” (Etikan et al., 2016). Snowball sampling is a helpful technique in exploratory study and reduce costs and time (Baltar & Brunet, 2012). This technique is not as uncontrolled as its name implies. The researcher was involved in controlling and organizing the origination and progress of the sample and ensuring that the chain of referrals remained within the scope of the research. One of the risks with the snowball method is that initial sample known as "seeds" often indicate others who could share similar characteristics. Hence, the

researcher ensured that the seeds were sufficiently varied to not produce a biased sample (Etikan et al., 2016).

3.3.6.1.2 Target Population

The aim of the questionnaire was to assess the appropriateness of the initial s-commerce model proposed for the Saudi context. Participants' responses were used to determine the factors that should be retained in the initial model, and to identify other factors that should be included. In order to achieve optimal results from the online survey, the target population of a study must be accurately identified. Saunders et al. (2016) advised that researchers must determine an accurate population, even if it requires combining information from different sources. Moreover, an obvious sample is more likely to produce statistically true and impartial results. The target population for the online survey comprised any social network users in Saudi Arabia who have at least one SN account (Twitter, Instagram, Facebook, Snapchat or any other). These respondents know and understand the characteristics of s-commerce, which is the subject of interest in this research. According to Ritchie et al. (2013) reported that the two aims of choosing a sample are "to ensure that all the key constituencies of relevance to the subject matter are covered, and within each of the criteria there is enough diversity is included so that the impact of the characters concerned can be explored" (p. 113). Thus, in order to obtain a range of views and adequately answer research questions one and two, and to allow a more thorough exploration and understanding of the research subject, a variety of information was sought from the respondents.

3.3.6.1.3 Sample Size

In determining the sample size for the online survey of this study, the researcher identified a confidence level of 95% in the data with 0.5 standard deviation, and a margin of error of 5% (S. Smith, 2013). As the total target population is 23,000,000 (GMI Blogger, 2021), and based on the number that are provided in the Sample Size Calculator (see Figure 3.29), the required sample size is 384 participants (Creative Research Systems, n.d.). Allen et al. (2014) reports that the sample sizes should be 100 or higher, while Coakes and Ong (2011) indicate that a minimum sample size of

200 is recommended. Comrey and Lee (2013) and MacCallum et al. (1999) supported this view and stated that if the sample size is less than 200, it is insufficient for the factor analysis, and the overall acceptable sample size is estimated to be approximately 300. Thus, for this research, the minimum sample size needed for factor analysis was 384 respondents.

As will be illustrated in the section 4.2.4, the researcher distributed the online survey link to potential participants through emails and various SN applications such as WhatsApp, Twitter, Facebook, and Instagram. More details about the data collection process are given in Chapter 4.

The image shows a web-based calculator titled "Determine Sample Size". It has the following elements:

- Confidence Level:** Two radio buttons, with "95%" selected and "99%" unselected.
- Confidence Interval:** A text input field containing the number "5".
- Population:** A text input field containing the number "23000000".
- Buttons:** Two buttons labeled "Calculate" and "Clear".
- Output:** A text input field labeled "Sample size needed:" containing the number "384".

Figure 3.29: Sample size calculator (Creative Research Systems, n.d.)

3.3.6.1.4 Analysing Survey Data

Raw data obtained from the questionnaires needs analytics software to clean data and identify errors (Creswell & Plano Clark, 2017). This research adopted the Statistical Package for Social Sciences (SPSS) version 26 for data analysis. The factor analysis is used in this research to reduce the number of factors and to identify the most important ones. Factor analysis is a statistical method used to reduce the total of variables by using the differences among the observed variables (Williams et al., 2010). There are two main types of factor analysis: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA; Thompson, 2004). In this study, EFA was applied to determine factors and their grouped items to be considered for the proposed model.

EFA is generally used to discover and analyse the factors that influence the variables (Yong & Pearce, 2013). According to Alhija (2010), EFA “explore the underlying dimensions of a construct. The primary considerations inherent in the use of factor analysis include conceptual/theoretical considerations, design considerations, statistical considerations, and reporting considerations; it is exploratory in nature” (p. 162). The factor analysis is explained in more detail in Chapter 4.

3.3.6.1.5 Ensuring Rigor in Quantitative Phase

Rigour is defined as the degree to which scholars have sought to improve the quality of the research. In the quantitative phase, this has been accomplished by the assessment of the validity and reliability of the research instrument (Heale & Twycross, 2015).

3.3.6.1.5.1 Validity

According to Paler-Calmorin and Calmorin (2007), validity is defined as how accurately research measurement instrument can measure what it is supposed to measure. Gray (2014) stated that “to ensure validity, a research instrument must measure what it was intended to measure” (p. 150). Validity is an important criterion for assessing a quantitative instrument (in this case, the survey) that measures the actual issue that the study seeks to explore.

In this study, validity was assessed by research supervisors and academic staff (senior lecturers from a top university in Saudi Arabia) who are IS specialists who reviewed and pre-tested the online survey. The suitability and validity of the survey questions were also confirmed via a pilot study.

3.3.6.1.5.2 Reliability

According to Srinivasan and Lohith (2017), “the reliability of a measure indicates the stability and consistency with which the instrument measures the concept and helps to

assess the goodness of a measure” (p. 48). There are two main types of reliability tests: test-retest and internal consistency, the latter being the most popular (Hair et al., 2014).

In this research, the internal consistency approach was adopted to test the reliability of inter-variable consistency. As explained by Fink (2010), a survey’s internal consistency “refers to the extent to which all the items or questions assess the same skill, characteristic, or quality” (p. 158). One of the most common tests conducted to determine the internal consistency of survey items is the alpha coefficient which was introduced by Cronbach (1951). The Cronbach’s alpha values obtained for this online survey were around 0.8 and greater which are considered to be good and acceptable values, indicating that the variables under each theme were consistent in measuring the same domain.

3.3.6.2 Phase 2: Interview (Qualitative)

Although online surveys can be used as the only method of data collection, Saunders et al. (2016) encourages linking them to other methods in a mixed- or multi-methods research design. In the second phase of this study, the qualitative method is applied to explore the quantitative results from the survey in order to validate and confirm the first and second research questions, and address the third question. Also, the qualitative phase was conducted to ensure that the final holistic s-commerce model for Saudi Arabia is comprehensive, and to explore why the factors in the model were included. The questions for the qualitative phase were derived from the analysis of data obtained from the quantitative phase, i.e., the survey results.

Kaplan and Maxwell (2005) indicated that there are five major reasons for using the qualitative approach to evaluate computer IS:

- *Understanding how a system’s users perceive and evaluate that system and what meanings the system has for them.*
- *Understanding the influence of the social and organisational context on systems use.*

- *Investigating causal processes.*
- *Providing formative evaluation that is aimed at improving a program under development, rather than assessing an existing one.*
- *Increasing the utilisation of evaluation results.* (pp. 32–33)

Qualitative data can be obtained mainly from observations, interviews, and documents, and the variety of these systematic methods is utilized to improve the data. Schultze and Avital (2011) indicated that interviews are one of the most commonly-utilized research techniques in IS studies. Interviews can obtain more comprehensive data through the participants' sharing of their individual stories (Denscombe, 2014). Personal interaction between the participants and the researcher can contribute to the gathering of more valid data to ensure that the questions are understood by the participants (Thomas et al., 2015). According to Monette et al. (2013) and Wilkinson and Birmingham (2003), interviews are developed to meet the needs of the respondents, so that more honest and meaningful responses can be obtained.

Most interviews are conducted face-to-face. However, to gather data, interviews can also be conducted via the Internet. Such interviews can be either synchronous or asynchronous. Synchronous online interviews are those conducted in real time, while asynchronous online interviews are conducted without the interviewer interacting directly with interviewee, and at a time of the interviewee's choosing as shown in Figure 3.30 (Saunders et al., 2016).

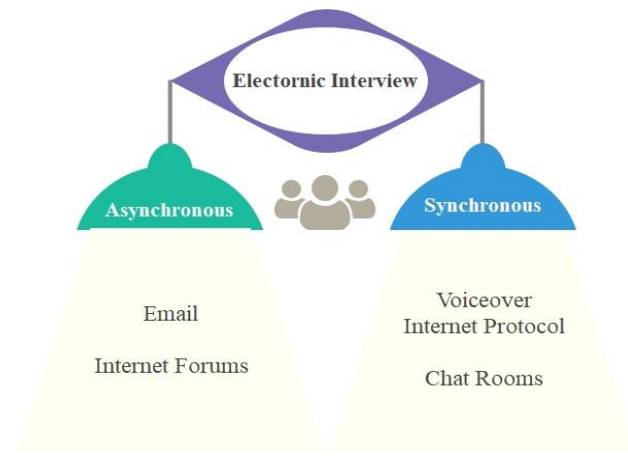


Figure 3.30: Electronic interview (prepared by author)

In the asynchronous interview, the scholar can conduct interviews by sharing a web link with the interviewees. This type of interview can assist the researchers to interview the participants regardless of time and location. Another benefit of using this electronic form of interview is that data are recorded in typed form, thereby avoiding challenges associated with other methods of recording and transcription such as expense, accuracy and anxiety of the participants (Saunders et al., 2016). O'Connor et al. (2008) indicate that “a distinct advantage of the email interview is that interviewees can answer the interview questions entirely at their convenience. There are no time restrictions, and this can be particularly valuable when participants are located in different time zones. The lack of temporal restrictions also enables both the interviewer and interviewee to spend time considering their questions and answers, and perhaps composing, recomposing and editing responses to questions” (p. 8). Moreover, asynchronous electronic interviews are one of the fastest-growing Internet-mediated methods to date (O'Connor et al., 2008).

The researcher developed semi-structured interview questions based on the online survey results. Semi-structured Interviews (SSI) are defined as “the verbal interchanges where one person, the interviewer, attempts to obtain information from another person by asking questions” (Longhurst, 2009, p. 580). The benefit of SSI is that a series of questions is pre-established by the interviewer as a guideline and further interview questions may be posed to further investigate the responses (Saunders et al., 2016). Teddlie and Tashakkori (2009) proposed the use of SSI in a mixed-methods

design to investigate and illustrate and/or verify themes that arose from the survey stage. SSI was used in this study for three main reasons: (1) they are useful for the collection of qualitative data (Harrell & Bradley, 2009); (2) they are better able to establish a clear understanding between the participant and the interviewer (Wengraf, 2001); and (3) they increase the validity of data by enabling participants to give more detailed information and state what they perceive to be significant factors related to the research issue (Denscombe, 2014; Harrell & Bradley, 2009).

In the interview stage, the researcher conducted asynchronously semi-structured interviews, with open-ended questions, and a specific number of subjects to gather the required data to meet the research objectives and validate the quantitative phase results. The use of open-ended questions allows more flexibility (Seidman, 2006). Creswell and Plano Clark (2017) consider the interview to be a tool that gives an understanding of topics beyond the survey, and a space for more detailed information from the participants.

Therefore, the asynchronous interviews were conducted to collect a holistic data about the adoption of s-commerce in Saudi Arabia. The researcher sent a message that included the interview questions as a web link to the experts, asking them to answer the questions and submit the responses to the researcher. The Qualtrics XM platform was used to distribute the interview questions.

In this research, a list of factors that have been omitted, emerged, or added from the quantitative stage has been examined and assessed through the qualitative phase involving s-commerce experts. SSI were implemented to help clarify and validate the results obtained from quantitative data, and to address the third research question from the experts' perspectives. The interview questions were developed by the researcher using the survey findings as a guideline, as illustrated in Chapter 5. These questions formulated to validate, refine, and confirm each factor in the enhanced model from the survey phase results, explore more factors, and assess the model.

3.3.6.2.1 Sampling Procedure (Qualitative)

The purposive sampling technique was used in this study to address the research questions and objectives. Dudwick et al. (2006) indicated that “qualitative methods typically refer to a range of data collection and analysis techniques that use purposive sampling and semi-structured, open-ended interviews” (p. 3). The purposive sampling technique involves selecting non-probability samples on the basis of population characteristics and the aim of the research. It consists of a small number of participants who have experience or knowledge about the field being explored.

3.3.6.2.2 Target Population

In this research, the choice of potential interviewees was determined by their knowledge and experience of s-commerce. People who are very familiar with s-commerce can provide the researcher with valuable information and diverse viewpoints on the factors that could affect the adoption of s-commerce in Saudi Arabia. Eliciting the experts’ viewpoints on s-commerce is important to cover all crucial factors and determine their significance. The targeted population for this phase of the study could be any one of the e-commerce or s-commerce companies’ owners or employees, e-commerce and SN researchers, and academic staff (i.e., assistant professors, associate professors, and full professors) who have experience in the field of s-commerce.

3.3.6.2.3 Sample Size

In determining the sample size for the interview of this study, Creswell and Creswell (2018) recommend that the sample size of the semi-structured interview should be between five and 30, while a minimum of six is suggested by Morse (1994). Moreover, Spradley (2016) recommends that the number of interviewees for any study ought to be between 25 and 30 participants. Warren (2001) mentioned that 20 to 25 interviewees are normally appropriate for a qualitative sample. Other researchers Guest et al. (2006) have suggested that as long as the state of theoretical saturation is reached, there is no recommended number of interviewees. The determined sample number for this study was between 20 to 25 participants, based on the above studies.

More details about the SSI questions, the data collection period and the administration are given in Chapter 5.

3.3.6.2.4 Analysing Interview Data

The researcher analysed the qualitative data results by using one of the general qualitative analysis tools which is NVivo software (version 12), and the thematic analysis techniques. Braun and Clarke (2006) refer to thematic analysis as a “foundational method for qualitative analysis” (p. 78). This technique was adopted to analyse the qualitative research data to identify themes, patterns, and relationships from the data set for further analysis and exploration. According to Braun and Clarke (2006), thematic analysis is a “method for identifying, analysing, and reporting patterns (themes) within data” (p. 6). Emerging themes were identified via thematic analysis, and relevant meanings were extracted from a thorough interpretation of the participants’ experiences. In this study, the researcher combined inductive and deductive thematic analysis approaches. This means that the themes were extracted from the online survey results, and other were developed based on the data. In this research, the six steps of thematic analysis, proposed by Braun and Clarke (2006), were followed to analyse the data. These steps are: familiarization, coding, generating themes, reviewing themes, defining and naming themes, and writing up. The interview data analysis technique and the six steps of thematic analysis are described in more detail in Chapter 5.

3.3.6.2.5 Ensuring Rigor in Qualitative Phase

Several tests are required to ensure rigour and to verify the qualitative phase. The scholar applied the four criteria (credibility, transferability, dependability, and confirmability) proposed by Lincoln and Guba (1985) to determine the trustworthiness of the data obtained from the qualitative phase.

3.3.6.2.5.1 Credibility

Credibility is about the confidence in the reliability of the research and its results (Polit & Beck, 2018). It is a significant issue in research, and similar to internal validity in

terms of importance (Connelly, 2016). Triangulation is one of the methods that can be used by the researcher to ensure the credibility of the research (Saunders et al., 2016; Shenton, 2004). Daytner (2006) stated that triangulation entails using several data sources, investigators, theories, or methods in a study. Denzin (2017) indicates four forms of triangulation to ensure the credibility of qualitative study: methodological triangulation, source or data triangulation, theory triangulation, and investigator triangulation.

According to Silverman (2015), data triangulation is the most common form of triangulation in qualitative research. He indicates that if the data from various sources lead to the same findings, the researcher can strongly argue the validity of these results.

In this research, methodological triangulation (mixed-methods strategy known as ‘sequential explanatory research design’) was applied to strengthen the validity and obtain a comprehensive view of the phenomenon that would not have been possible if only a single data collection method were used (Risjord et al., 2001). Moreover, source triangulation was also applied to enhance the credibility and strengthen the data. As aforementioned, the researcher collected the qualitative data from three different sources during interviews.

3.3.6.2.5.2 Transferability

Connelly (2016) points out: “the nature of transferability, the extent to which findings are useful to persons in other settings, is different from other aspects of research in that readers actually determine how applicable the findings are to their situations” (p. 435). In other words, it is associated with how this study’s finding might be generalized to other contexts, and is considered similar to external validity (Shenton, 2004).

In this study, the researcher endeavoured to provide a detailed description of the process, context, location, and study participants to ensure the transferability of the study’s findings.

3.3.6.2.5.3 Dependability

The third criterion is dependability which refers to “the stability of data over time and under different conditions” (Elo et al., 2014, p. 2). This term is analogous to reliability (Connelly, 2016). The dependability of a research is high when the results are consistent with the data collected, and other scholars can easily follow the decision route used by the original researcher (Elo et al., 2014).

In this thesis, all the phases of data collection and analysis, and the findings of the study have been examined by the research supervisors. This was done to verify the accuracy of the results and to ensure the results were supported by the collected data.

3.3.6.2.5.4 Confirmability

The last criterion is confirmability which ensures that “the neutrality or the degree findings are consistent and could be repeated” (Connelly, 2016, p. 435). According to (Y. Zhang & Wildemuth, 2009a), the confirmability can be determined by checking the consistency of the study data, results, conclusions and recommendations.

In this study, the research supervisors confirmed the internal coherence of the results, discussion, conclusion, and recommendations. Moreover, all of the credibility, transferability, and dependability were achieved, thereby establishing the confirmability (Guba & Lincoln, 1989).

3.3.7 The Research Design Choices Adopted for this Research

To sum up, this section illustrates the overall research design choices adopted for this study as shown in Figure 3.31.

- **Philosophy: Pragmatism**

As mentioned in Section 3.3.1, pragmatism is the best philosophy to adopt for this research to maximise the strengths and minimise the limitations associated with different philosophies. The core feature of pragmatism is

that a scholar can use a variety of paradigms to answer the research questions. Thus, pragmatism paradigm is chosen for this study since a single paradigm is not suitable for this study.

- **Approach: Inductive**

As explained in Section 3.3.2, the inductive approach gives greater attention to the understanding of individuals, and their views of their social environment. The inductive method begins with the researcher gathering data, analysing it, and then trying to establish a theory from it. Thus, the inductive approach was chosen for this study.

- **Methodological Choice: Mixed Method**

As indicated in Section 3.3.3, the “sequential explanatory research design” was adopted for this research. This approach enabled the researcher to obtain a comprehensive understanding of the phenomenon being studied by collecting and analysing quantitative data, then exploring and interpreting the statistical outcomes obtained from the quantitative study by applying a qualitative phase. 113

- **Strategy: Survey**

Following the previous discussion in Section 3.3.4, the survey research strategy was considered appropriate for this study. It is a popular research strategy in business and management studies, and is widely used to address 'when', 'who', 'when', 'how many' and 'how much' questions. This strategy also involves the questionnaire and interview techniques used for gathering data.

- **Time Horizon: Cross-Sectional**

Based on the discussion in Section 3.3.5, this research adopts the cross-sectional study for the collection of both the survey and interview data because of time constraints and cost-effectiveness, and the data gathering process requires less effort.

- **Techniques: Interview and Online Survey**

As explained in Section 3.3.6, this study was divided into two phases to provide in-depth knowledge about this study. The online survey was conducted first to evaluate and examine the initial model and enhance the initial model with additional factors. After that, the interviews were conducted to validate the results from the earlier phase and develop the holistic s-commerce model.

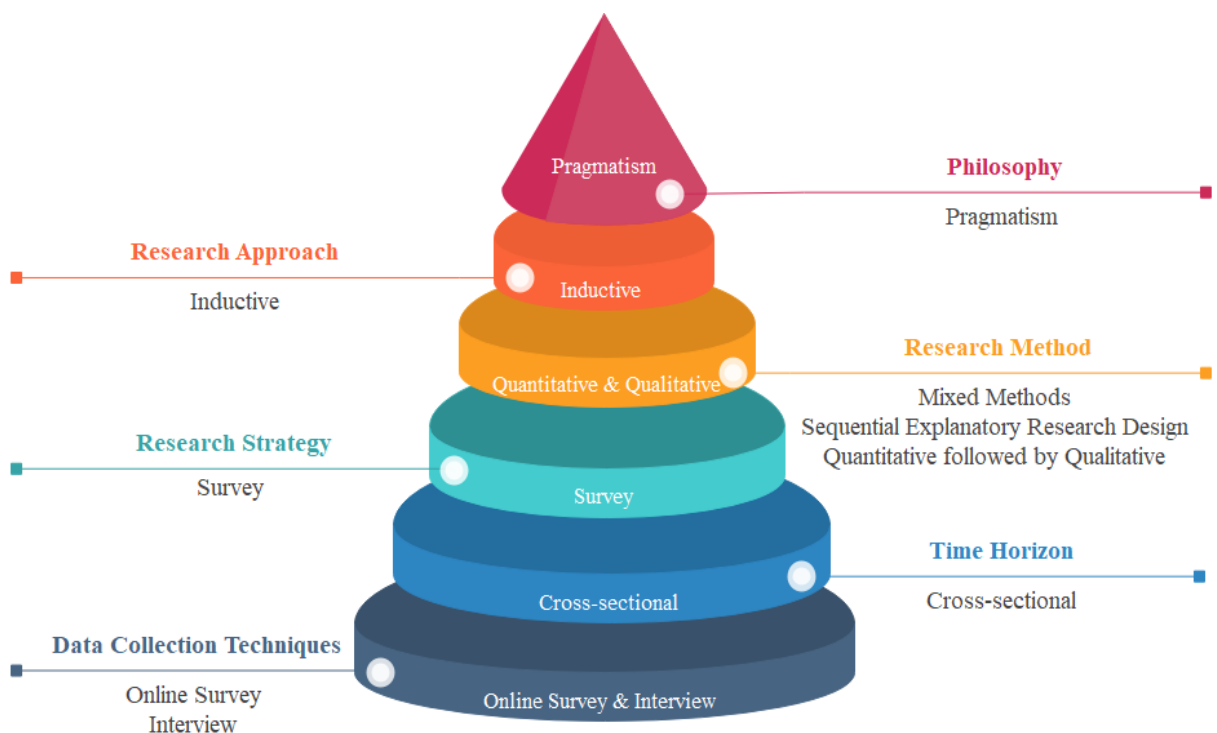


Figure 3.31: Research onion choices adopted for this study

3.4 Ethical Considerations

Prior to conducting the data collection phases (the online survey, and interviews), the researcher obtained ethical approval according to Curtin University policy to ensure that the research process posed no risk to participants. The researcher received ethics approval for the first phase (number: HRE2020-0163, which was approved on 6-April-2020) after submitting the standard “Application for recognition of ethics approval from another institution” form. Later, the scholar submitted an amended request form

for the interview phase. Because data was being collected from participants, ethical considerations were relevant to both of the data collection phases.

All the online survey participants were given a concise overview explaining the concept of s-commerce, the research objectives, the data ethics, welcome statement and thanks for their participation in the survey. Also, the interview participants received an official letter prior to the interview phase explaining the study's requirements and participants' roles as interviewees, and to obtain their consent to participate in the study. Moreover, all the participants were informed that participation was optional, and they had the right to withdraw from the study at any time.

Additionally, the researcher followed the Curtin University research data management plan. Hence, the anonymity and confidentiality of all participants' data was assured. It will not be shared with any outside party other than the researcher and the researcher's supervisors. Moreover, all the collected data from this research is stored in electronic format (Drive R), and only the researcher, supervisors, and Curtin Business School can access the data. A password will be requested in order to access the data.

All the interviews with the participants were conducted in the English language, except those who chose it to be in Arabic, in which case the data were translated by a professional translator. The survey questionnaire was available in both English and Arabic. Finally, all of the research activities complied with the "Australian Code for the Responsible Conduct of Research" and "National Statement on Ethical Conduct in Research 2007".

3.5 Conclusion

This chapter described and explained all of the research 'onion' layers. The overall research design choices adopted for this research were explained and justified (Figure 3.31). In this study, the pragmatist paradigm was the most suitable one to guide this study because of its plurality. An inductive approach and survey strategy were chosen

in this study, and a justification for the chosen research approach and strategy were given in Sections 3.3.2, and 3.3.4.

This research aims to determine the major factors that influence the customers' attitudes to the adoption of s-commerce in Saudi Arabia, and to develop a holistic s-commerce model for Saudi Arabia. Therefore, a mixed-methods strategy known as "sequential explanatory research design" was applied in this study to answer the research questions and meet the research objectives. This strategy involves two phases of data collection and analysis: a quantitative phase, followed by a qualitative phase. Moreover, Section 3.3.5 reviewed the time horizon including cross-sectional studies and longitudinal studies, and the cross-sectional study was adopted in this study. Also, the two main phases in Figure 3.28: (1) online survey (quantitative), and (2) interview (qualitative) were discussed in detail. Finally, the ethical considerations were reviewed at the end of this chapter.

The next chapter discusses the analysis and results of phase one: an examination of the initial s-commerce model using quantitative data collection.

4 Online Survey

4.1 Introduction

In this study, several factors were derived from the literature review and used to create the initial s-commerce model. This chapter discusses the first stage of the quantitative data collection method which was an online survey. In this chapter, the model is refined by either deleting some of the existing factors or adding new factors to the initial s-commerce model (see Figure 4.32).

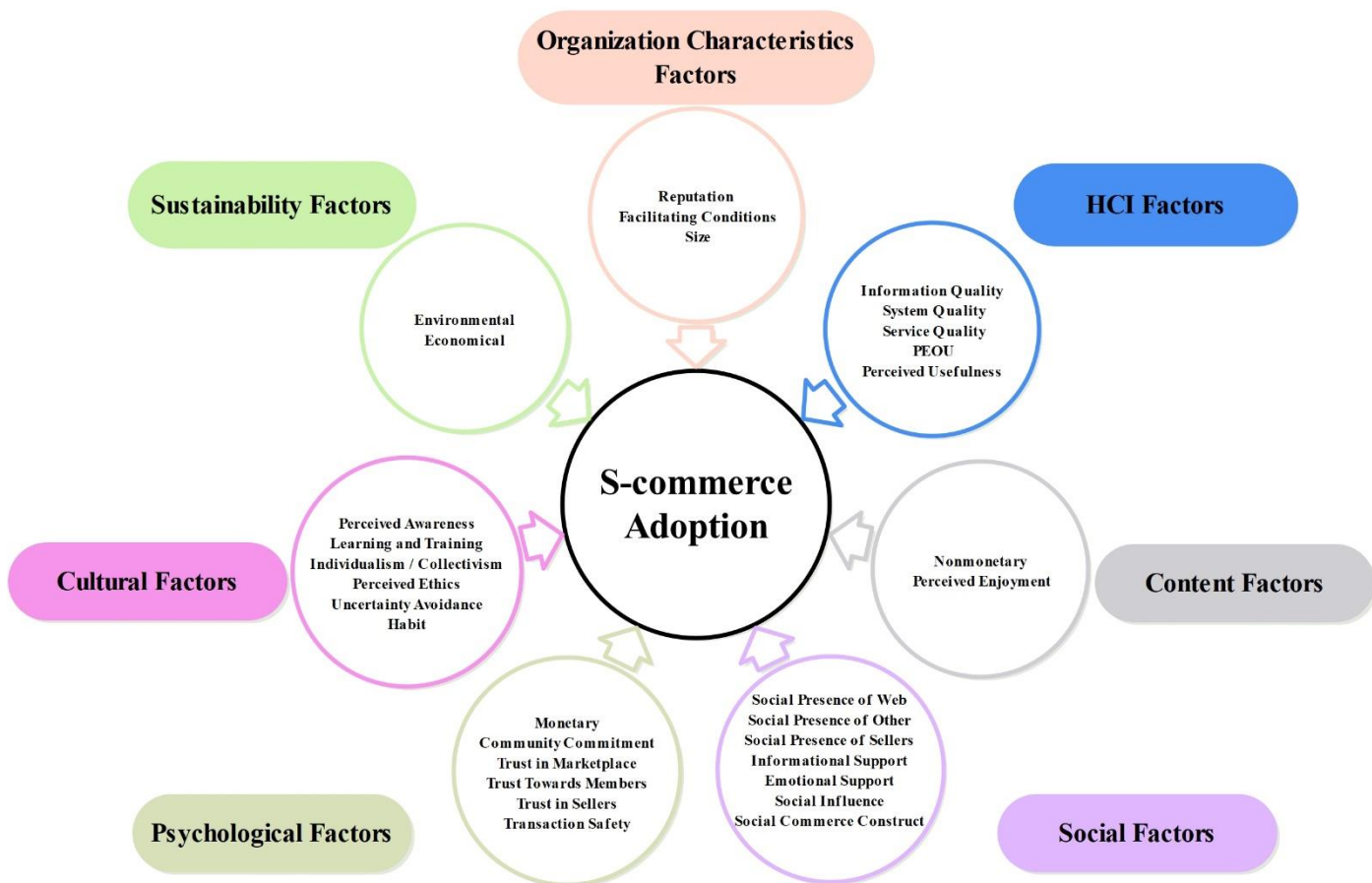


Figure 4.32: Initial s-commerce model (prepared by the author)

This chapter commences with the design of the online survey questions and the pilot study (sections 00 and 4.3). After that, this chapter covers the demographic

characteristics of and general information about the participants (section 4.4). The survey respondents' data was analysed using SPSS 26 software (section 4.5). Exploratory factor analysis (EFA) was applied to analyse all the factors drawn from the literature review. EFA resulted in seven themes, each one comprising a number of factors that were labelled based on the items grouped under each factor. Moreover, the participants' comments from the online survey have been analysed (section 4.5). Furthermore, this section presents the survey findings and the main changes made to the initial model, and all results. Finally, section 4.6 presents the chapter summary and the enhanced s-commerce model for Saudi Arabia.

4.2 Survey Design

The main reason for conducting the online survey was to verify the main themes and to identify the factors that must be retained in the model by using the Exploratory Factor Analysis (EFA) in order to refine the initial version of the s-commerce model. The factors under each theme were selected based on an extensive literature review. The following subsections describe the survey structure, questionnaire items, the development of the survey instrument, and the survey administration process.

4.2.1 Survey Structure

To ensure the quality of the survey, it was important to develop an excellent and effective questionnaire structure before designing the online survey questions. Figure 4.33 shows in detail the three sections (A, B and C) comprising the online survey. Section (A) was intended to obtain demographic and general information about the participants such as their gender, age, education level, occupation status and monthly income. Items in Section (B) were intended to examine the core factors influencing the customers' attitudes toward the adoption of s-commerce in Saudi Arabia. Section (C) was intended to determine how sustainability is being affected by s-commerce in Saudi Arabia from two perspectives: economic and environmental.

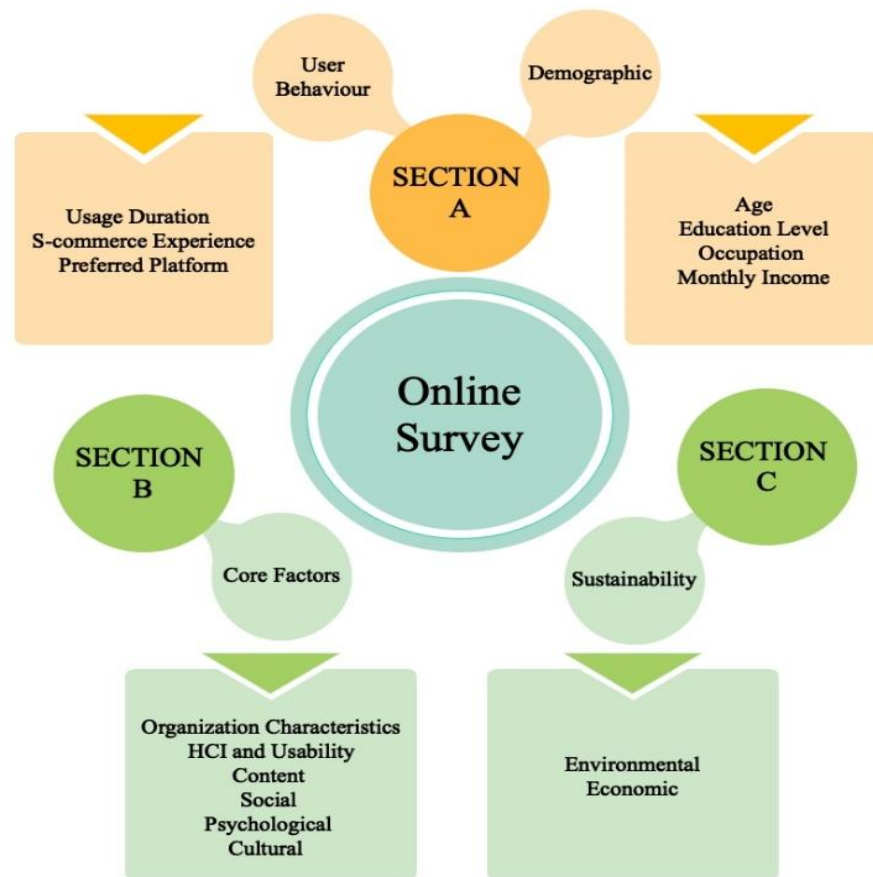


Figure 4.33: Structure of the online survey (prepared by the author)

4.2.2 Questionnaire Variables

The next step was to develop the questionnaire variables. Figure 4.33 illustrates the survey structure which provided the basis for the validity of the content, and the variables that had to be considered to address all the main aspects of the initial s-commerce model for Saudi Arabia. Some of the online survey questions, with the exception of those in Section (A), were derived from the review of several works (Akman & Mishra, 2017; S. S. Alotaibi, 2018; J. Chen et al., 2014; N. Hajli, 2015; N. Hajli, Sims, et al., 2017; N. Hajli, Wang, et al., 2017; Issa, 2017; Issa et al., 2020; S. Kim & Park, 2013; Lal, 2017; Liang et al., 2011; Limbu et al., 2012; Lu et al., 2016; Momani et al., 2018; Ng, 2013; Noh et al., 2013; Saprikis & Markos, 2018; Sheikh et al., 2017). To confirm the validity of the content, participants were encouraged to offer their opinions in the free text boxes at the end of sections (B) and (C), where they could add relevant anecdotal information and perspectives not elicited by the survey

questions. Table 4.9 illustrates the relevance of the research questions and objectives to the items in the survey.

Table 4.9: Mapping of research questions, and objectives to questions in the questionnaire

Survey Themes	Factors	Number of the Questions in the Survey	Research Questions			Research Objectives		
			RQ1	RQ2	RQ3	RO1	RO2	RO3
Organization Characteristics Factors	Reputation	6	✓	✓		✓	✓	
	Size	5	✓	✓		✓	✓	
	Facilitating Conditions	5	✓	✓		✓	✓	
HCI and Usability	Information Quality	5	✓			✓		
	System Quality	5	✓			✓		
	Service Quality	6	✓			✓		
	PEOU	9	✓			✓		
	Perceived Usefulness	6	✓			✓		
Content Factors	Nonmonetary	4	✓			✓		
	Perceived Enjoyment	4	✓			✓		
Social Factors	Social Presence of Sellers	5	✓			✓		
	Social Presence of Other	6	✓			✓		
	Social Presence of Web	4	✓			✓		
	Informational Support	6	✓			✓		
	Emotional Support	5	✓			✓		
	Social Influence	4	✓			✓		
	S-commerce Constructs	6	✓			✓		
Psychological Factors	Monetary	5	✓			✓		
	Community Commitment	5	✓			✓		
	Trust in Marketplace	6	✓			✓		
	Trust Towards Members	5	✓			✓		
	Trust in Sellers	5	✓			✓		
	Transaction Safety	6	✓			✓		

Cultural Factors	Perceived Awareness	4	✓	✓		✓	✓	
	Perceived Ethics	5	✓	✓		✓	✓	
	Individualism / Collectivism	4	✓	✓		✓	✓	
	Learning and Training	5	✓	✓		✓	✓	
	Uncertainty Avoidance	6	✓	✓		✓	✓	
	Habit	5	✓	✓		✓	✓	
Sustainability	Environmental	10	✓			✓		
	Economical	6	✓			✓		

4.2.3 Developing the Survey Questionnaire

The Qualtrics XM platform was used for designing the online survey. The types of questions used in this survey were: Multiple Choice (single answer and multiple answer), Matrix Table (five-point Likert scale) and Text Box to allow participants to provide additional information about their choice and to express their views. A Likert scale can be used to obtain respondents' opinions about and attitudes toward a specific topic (Muthén & Kaplan, 1985), while enabling respondents to express their level of agreement with a statement in a manner that is quick and simple (LaMarca, 2011). The five-point Likert scale is anchored by values corresponding to: strongly agree, agree, neutral, disagree, and strongly disagree (Likert, 1932). Although the number of points on the scale can be more or less, five is generally considered sufficient. It has been used in every part of this online survey to "examine how strongly subjects agree or disagree with statements" (Sekaran, 2003, p. 197). Also, this kind of format was selected because it is frequently used, familiar to participants, and an appropriate format for measuring constructs such as attitudes (Passmore et al., 2002).

Section (A) consisted of multiple-choice questions (single answer and multiple answers). This section contained items related to participants' personal details such as gender, age, education level, etc. Section (B) consisted of a matrix table (five-point Likert scale statements) and text entry feature. This section contained a number of questions related to the factors associated with an organization's characteristics, Human Computer Interaction (HCI) and usability, content, social, psychological, and culture themes. Similarly, section (C) used the five-point Likert scale statements to examine a number of factors associated with the sustainability theme.

To ensure the validity of the questions, an initial version of the survey was designed and presented to PhD supervisors and candidates. Based on their reviews and recommendations, several statements were re-worded or broken into two or more statements for clarity.

After all the recommended changes had been made, the final version of the survey was submitted to the Human Research Ethics Committee of Curtin University for approval.

The researcher received the approval letter within a few days. Then, the survey was uploaded to the Qualtrics XM platform (see Appendix 2). Figure 4.34 shows the twelve-stage design process of the survey.

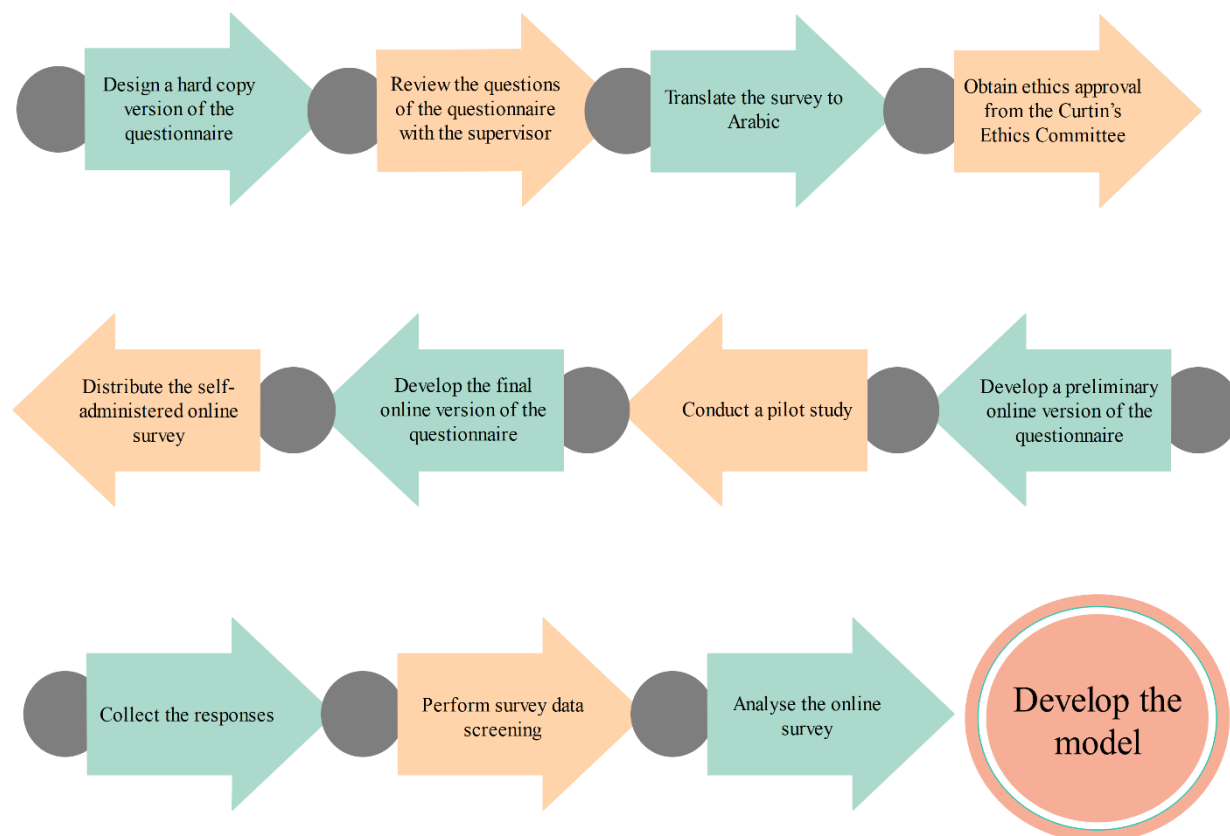


Figure 4.34: Design process of the survey (prepared by the author)

4.2.4 Administering the Survey

Due to the significant growth and popularity of the Internet, online questionnaires have become a widely-accepted and indispensable tool for the administration of surveys (Abed, 2016). Moreover, because this research focuses on one aspect of technology adoption, it was appropriate to apply the online survey approach.

The target population received a message informing them of the purpose of the survey, the survey procedures, estimated time required to complete the survey, and the Web link to the survey. The message that included the Web link to the survey was

disseminated to potential participants through emails and various SN applications such as WhatsApp, Twitter, Facebook, and Instagram. The average time needed to complete the online survey was estimated to be 20 minutes. A cover letter was attached which stated the purpose of the research, described the procedures, and clarified the issues of confidentiality and participant rights. The participants were asked to click “Agree” if they voluntarily consented to participate in the study. Respondents proceeded to the next section by tapping the “Next” button at the bottom of the screen. They were given up to seven days to complete the survey. Prior to beginning the survey, respondents were asked two eligibility screening questions to verify and ensure their acceptability as Saudi participants. Those targeted and eligible to participate were Saudi consumers who have a SN account for any applications or sites. Because s-commerce is still a new concept with which many people in Saudi Arabia are not familiar, at the beginning of the survey, the researcher added a short video to assist the online survey participants to have a better understanding of the term ‘s-commerce’ ([The short video link](#)).

The online survey link was distributed on April 20th, 2020 after approval had been received from the Human Research Ethics Committee of Curtin University, during the COVID-19 (coronavirus) pandemic. The researcher expected to encounter several challenges when collecting the data during this time since many people were panicked by COVID-19 and its implications. Fortunately, the timing was perfect, and sufficient data was collected within a short period of time, possibly because many people were forced to stay home and were spending more time on SN applications. In fact, the Facebook Company which owns various platforms (Facebook, WhatsApp, and Instagram) in relation to the pandemic updates reports that "the usage growth from COVID-19 is unprecedented across the industry, and we are experiencing new records in usage almost every day" (Schultz & Parikh, 2020). The online survey was conducted over the duration of only one month, starting on April 20th, 2020 and ending on May 23rd, 2020.

A Qualtrics XM platform feature showed the number of participants who began the online survey but did not complete it (1,026). Of these received responses, 504 were valid (49.15).

4.3 Pilot Study

According to Saunders et al. (2016), a pilot study helps to refine the online survey questions and provides the validity and the likely reliability of the survey questions. The degree to which participants understand the questionnaire will determine the quality of the survey. Bell (2014) indicated that a pilot study has various advantages since it gives the researcher an indication of the clarity of instructions, and the length of time required to complete the questionnaire. Moreover, it helps to identify weak, ambiguous or redundant questions (Kitchenham & Pfleeger, 2002; Passmore et al., 2002). Hence, it assists the researcher to determine whether participants understand the online survey's questions and respond as expected. Fink (2017) states that ten is the minimum number of participants required for a pilot study.

The pilot study was conducted using the Qualtrics XM platform to ensure that the overall design of the survey was free of defects, acceptable and useful for the collection of data. Because the data was collected from participants in Saudi Arabia, the online questionnaire written in English was translated to Arabic by a third-party translator to address any linguistic differences. This was followed by a pilot study conducted with a total of 10 participants. Four of them were academic staff (senior lecturers from a top university in Saudi Arabia) who are IS specialists, and six were undergraduate students who owned at least one SN account. Feedback from the pilot study participants was used to ensure that the instructions were clear, the wording of the questionnaire items was appropriate, clear and unambiguous, the contents measured what they were intended to measure, and the questions were sequenced logically. This feedback led to the refinement of the survey instrument prior to its wider distribution among the target population. All participants represented a small sample of the population targeted for this research. The pilot study participant did not experience any significant issues with the survey and the survey was subsequently distributed among SN users in Saudi Arabia.

4.4 Descriptive Statistics

A total of 1,026 responses were received. The Filtering Responses tool in the Qualtrics XM platform was used to filter the dataset so that the responses of only those participants who completed the entire questionnaire were retained for analysis. This resulted in a final set of 504 (49.1%) valid responses. Then, the researcher downloaded and exported the retained data in SPSS (version 26) file format. Several reasons could account for the high number of invalid responses: first, the survey examined too many factors and was therefore too long; second, participants experienced technical difficulties such as Internet speed and availability. Feedback from various participants suggested that these issues were problematic.

To obtain demographic characteristics, the first section of the questionnaire elicited information on participants' gender, age, education, occupation, and income. The majority of the valid participants as shown in Figure 4.35 were male, constituting 64.3% of the whole sample.

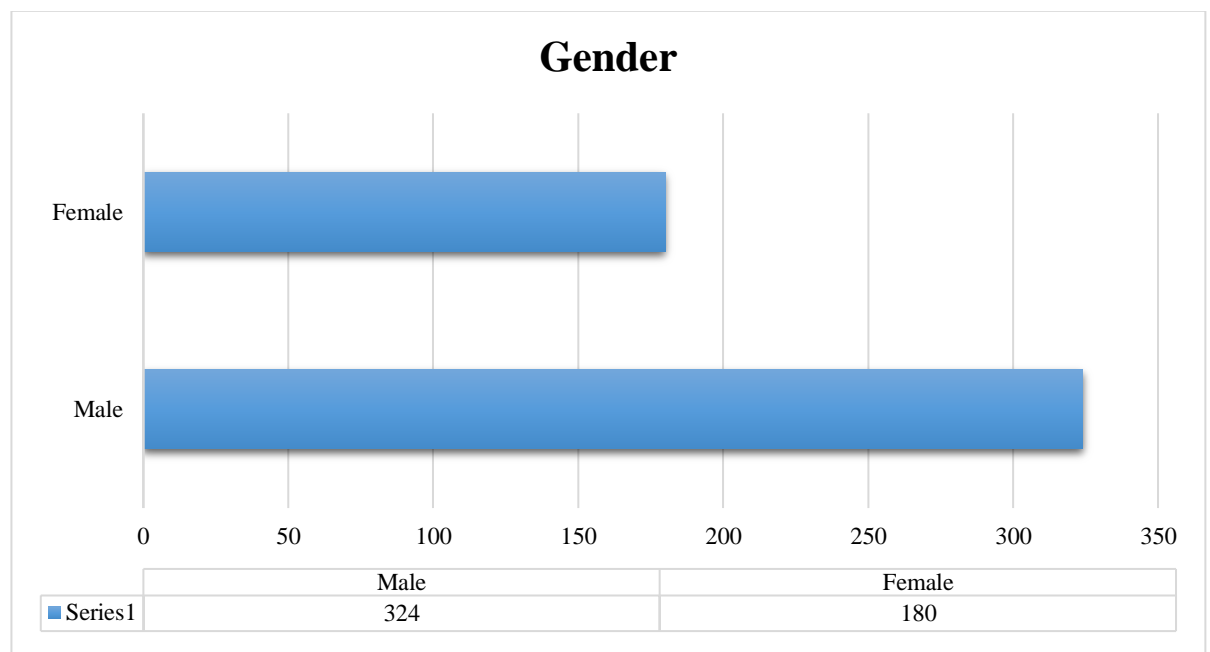


Figure 4.35: Gender breakdown of the full sample

The descriptive statistics in Figure 4.36 indicate that the highest number of participants was in the 18 to 25 years age bracket (30.9%). On the other hand, only 12.2% of the respondents are aged between 34 and 38.

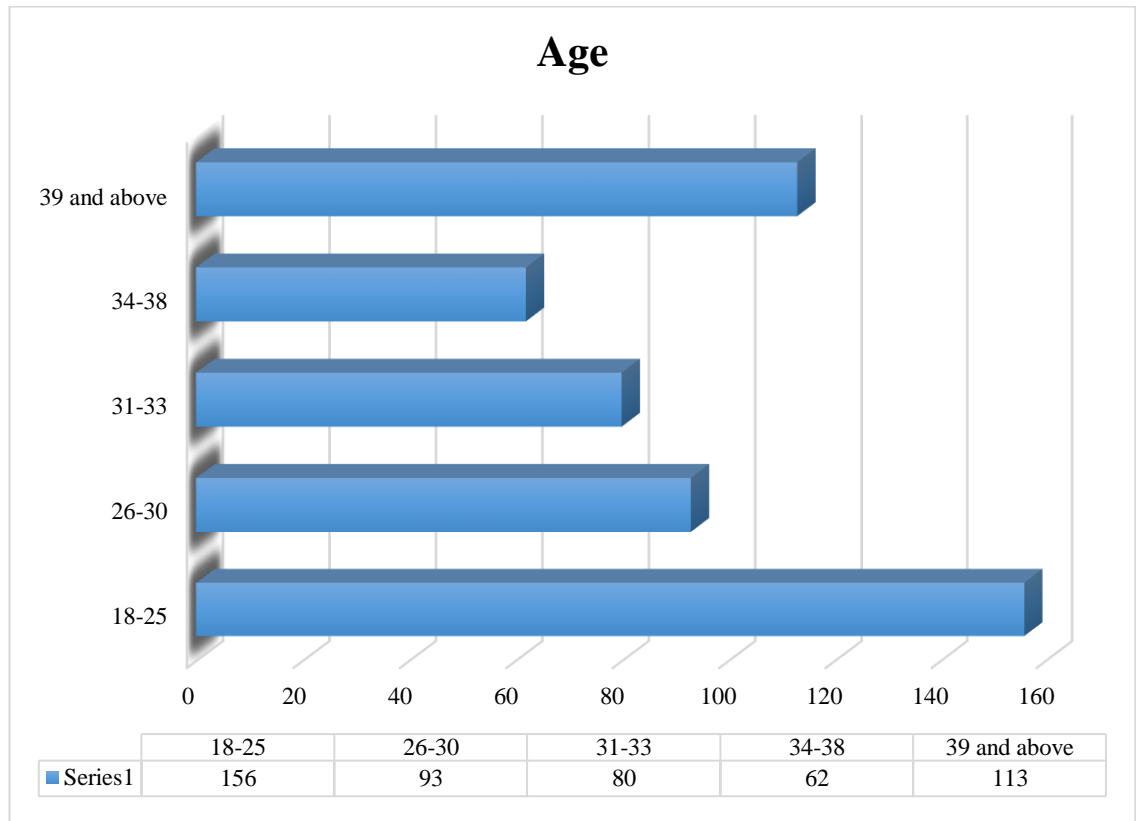


Figure 4.36: Age breakdown of the full sample

In terms of the participants' highest-level education, Figure 4.37 indicates that the largest proportion of participants (49%) hold a Post Graduate Diploma, followed by 19.4% with a Master's degree. However, a very small percentage of participants hold a professional certificate or have attained another education level (1%).

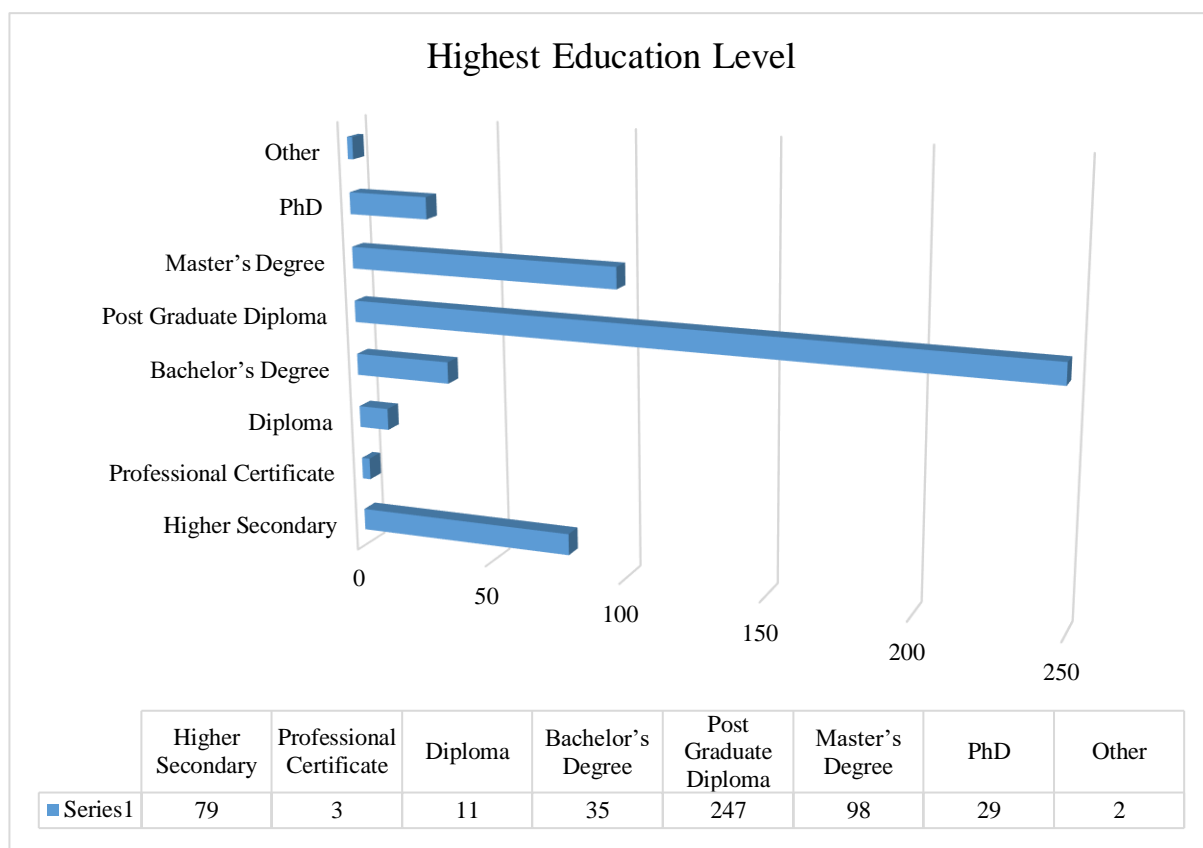


Figure 4.37: Highest Education Level breakdown of the full sample

In terms of occupation status (see Figure 4.38), 27% of participants were students, 8.3% were unemployed, 12.5% were employed in a private sector, 43.2% were employed in a government sector, 1.8% were self-employed, 5.8% were retired, and 1.4% had other occupations.

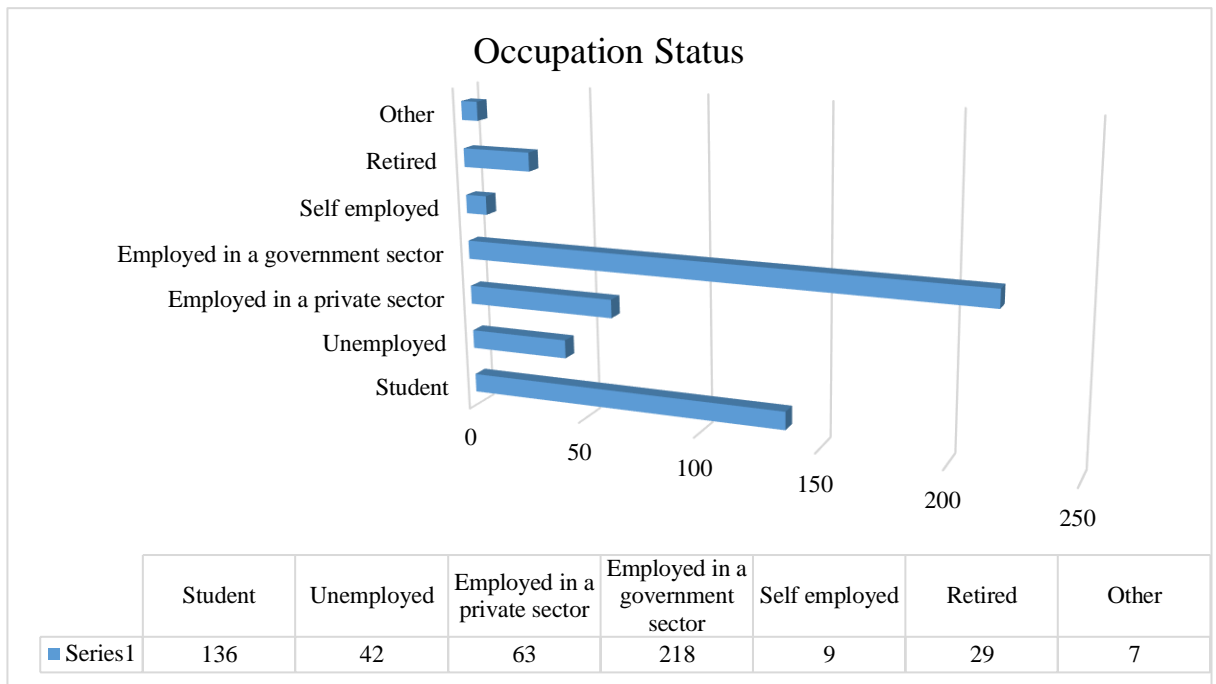


Figure 4.38: Occupation Status breakdown of the full sample

In regard to respondents' monthly income (see Figure 4.39), 60.5% of the participants reported that their monthly income was 6000 SAR and above, and 39.5% had a monthly income of 5999 SAR or below.

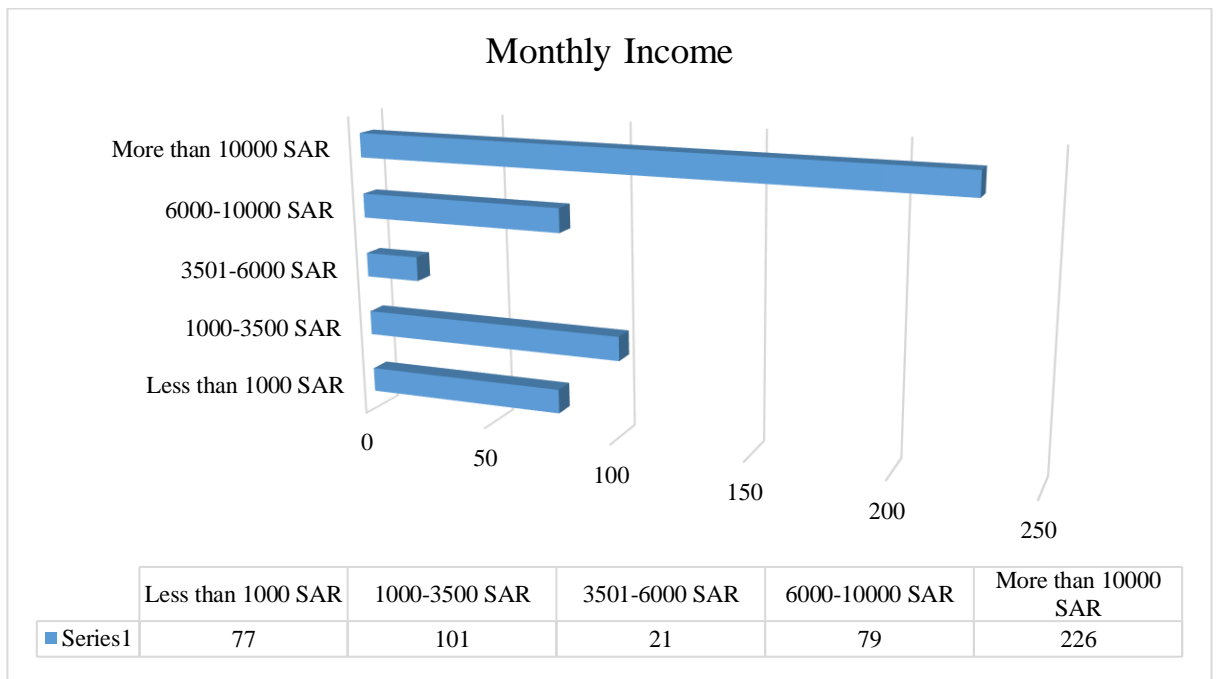


Figure 4.39: Monthly Income breakdown of the full sample

In addition to providing demographic information, participants were also asked about their use of SN applications (see Figure 4.40). The great majority (86.7%) of the respondents have more than five years' experience with SN applications, and only 1.6% have less than three years of SN experience.

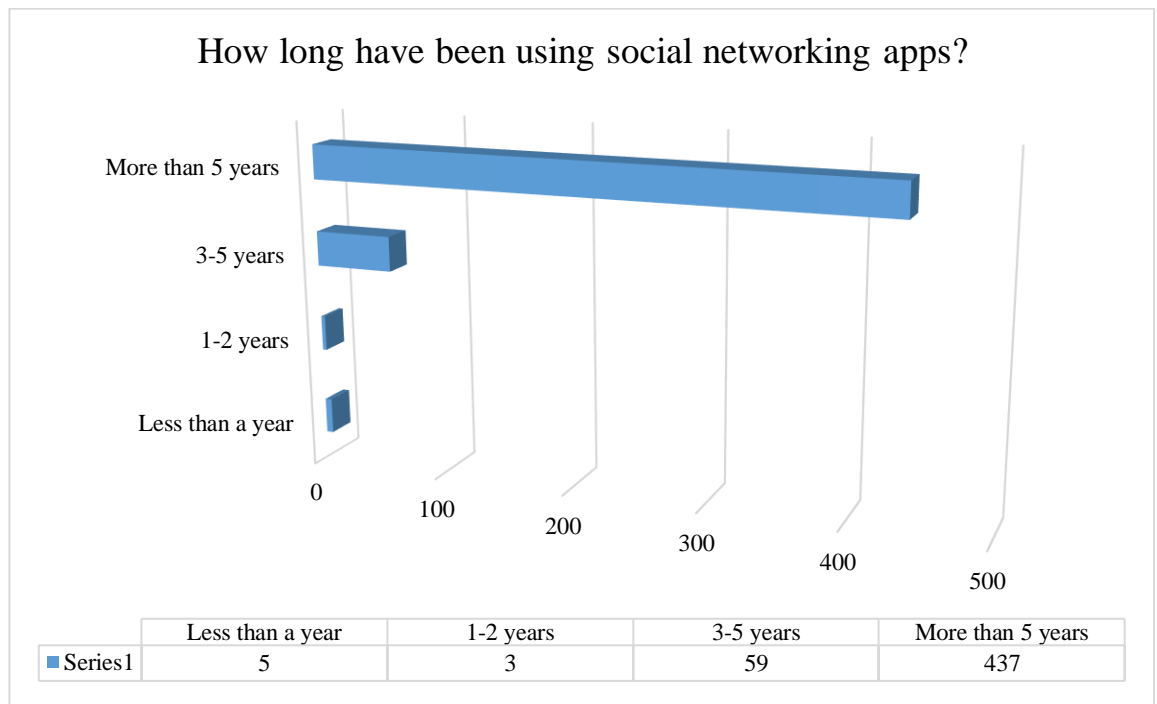


Figure 4.40: Usage Duration breakdown of the full sample

In regard to the s-commerce experience, Figure 4.41 shows detailed information regarding participants' s-commerce experiences in shopping. Most of the respondents (82.7%) were active users of using SN applications for online shopping, while only 17.3% reported that they had never shopped via SN applications.

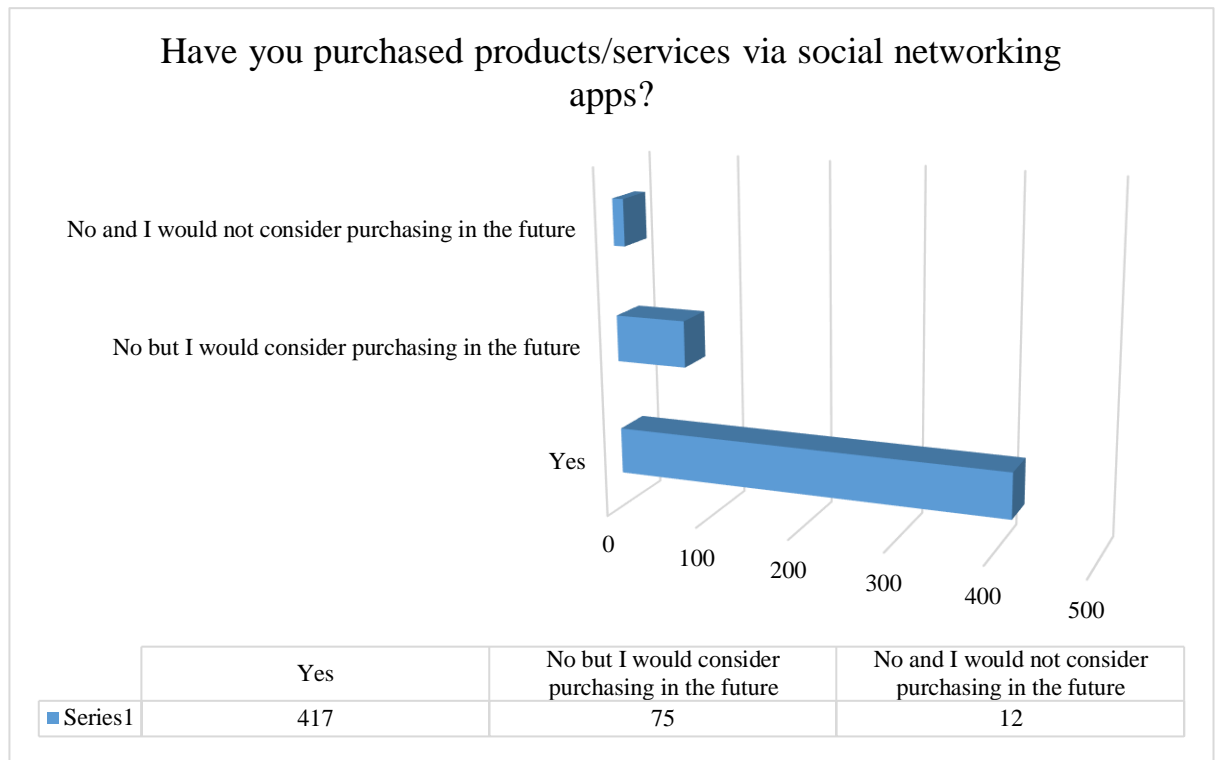


Figure 4.41: S-commerce Experiences breakdown of the full sample

As shown in Figure 4.42, Instagram is the preferred SN application as it is used by 41.4% of the respondents, followed by WhatsApp (23.4%), whilst the lowest percentage (4.4%) of respondents prefer to use Facebook for online shopping.

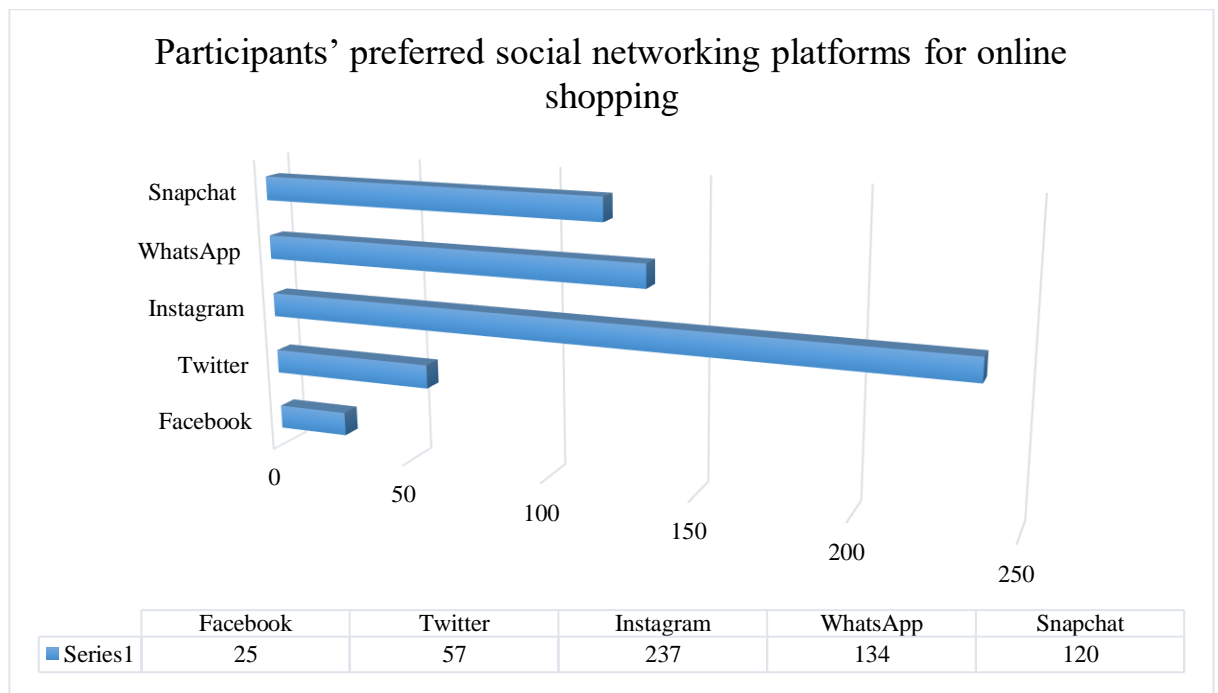


Figure 4.42: Preferred S-commerce Platform

Table 4.10 presents a summary of the demographic characteristics of the participants along with the frequency of usage of SN applications, s-commerce experiences, and preferred s-commerce platform. It shows that most of the respondents are male and relatively young (between 18 and 25 years of age) which was to be expected due to the research subject and the fact that only participants with SN accounts were selected to participate in the survey. Likewise, a high percentage of participants hold a Post Graduate Diploma. As far as the participants' job and income are concerned, most of the participants work in a government sector and have a monthly income of over 10,000 SAR.

In Saudi Arabia, SN usage has increased rapidly and is becoming an essential feature of everyday life. According to GMI Blogger (2021) statistics, there were 23 million active users on different social networks in 2019. In the sample, most of the participants have been using SN more than five years. Moreover, a high percentage of the respondents have shopped via SN applications, and Instagram is the preferred SN application platform for online shopping. These data suggest that most of the participants have an acceptable knowledge of s-commerce.

In Table 4.10, the red numbers refer to the highest percentage of demographic characteristics and SN users' behaviours, while the blue numbers indicate the lowest percentage.

Table 4.10: Frequencies and Percentages of Demographic characteristics and SN users' behavior

Variable	n	%
Gender		
Male	324	64.3
Female	180	35.7
Total	504	100
Age		
18-25	156	30.9
26-30	93	18.5
31-33	80	15.9
34-38	62	12.3

39 and above	113	22.4
Total	504	100
Highest Education Level		
Higher Secondary	79	15.7
Professional Certificate	3	0.6
Diploma	11	2.2
Bachelor's Degree	35	6.9
Post Graduate Diploma	247	49
Master's Degree	98	19.4
PhD	29	5.8
Other	2	0.4
Total	504	100
Occupation Status		
Student	136	27
Unemployed	42	8.3
Employed in a private sector	63	12.5
Employed in a government sector	218	43.2
Self employed	9	1.8
Retired	29	5.8
Other	7	1.4
Total	504	100
Monthly Income		
Less than 1000 SAR	77	15.3
1000-3500 SAR	101	20
3501-6000 SAR	21	4.2
6000-10000 SAR	79	15.7
More than 10000 SAR	226	44.8
Total	504	100
Usage Duration		
Less than a year	5	1
1-2 years	3	0.6
3-5 years	59	11.7
More than 5 years	437	86.7
Total	504	100
S-commerce Experiences		
Yes	417	82.7
No, but I would consider purchasing in the future	75	14.9
No, and I would not consider purchasing in the future	12	2.4
Total	504	100
Preferred S-commerce Platform (The Participant has the option to select more than one option in this question)		
Facebook	25	4.4
Twitter	57	9.9

Instagram	237	41.4
WhatsApp	134	23.4
Snapchat	120	20.9
Total	573	100

4.5 Factor Analysis

Factor analysis is a statistical method that is primarily used to determine the intercorrelation among variables in a data set (Comrey & Lee, 2013). In this study, the initial proposed model consists of seven themes: Organization Characteristics, HCI and Usability, Content, Social, Psychological, Culture, and Sustainability. In addition to the themes from the literature review, 31 factors have been extracted which are associated with the themes, and must be assessed. The factor analysis is used in this section to reduce the number of factors and to identify the most important ones.

4.5.1 Exploratory Factor Analysis (EFA)

This section explains the two different types of factor analysis methods and the reason for selecting exploratory factor analysis in this study. There are two main factor analysis techniques: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA).

Confirmatory factor analysis (CFA) is used to “test whether a specified set of constructs is influencing responses in a predicted way” (DeCoster, 1998, p. 1). In the CFA, the scholar should anticipate the number of factors, which variables belong to specific factors, and whether the factors are intercorrelated. It is used to test the hypotheses and the fit of factor models (Thompson, 2004).

On the other hand, EFA is generally used to discover and analyse the factors that influence the variables (Yong & Pearce, 2013). With EFA, the scholar has no expectations regarding the number of factors (Thompson, 2004). Thus, it allows the scholar to discover the main dimensions to create a model from a relatively large set of latent constructs often represented by a set of variables (Williams et al., 2010).

Since, in this research, the aim is to minimize the number of factors and to identify the most important ones, EFA is a more appropriate analysis technique than CFA.

4.5.1.1 Five-Step Exploratory Factor Analysis (EFA) Protocol

EFA was introduced by Williams et al. (2010) and involves sequential processing as depicted in Figure 4.43. The analysis involves five steps. In the first step, the analyst establishes all the factors; in the second step, the optimal techniques of extraction are applied. The number of factors is generated in the third step and in the fourth step, the best possible rotation method is implemented. In the fifth and final EFA step, the factors and their items are identified. The EFA technique is the one generally used for the analysis of survey data as it is simple to understand and the steps can be easily implemented. These steps are discussed in more detail below.

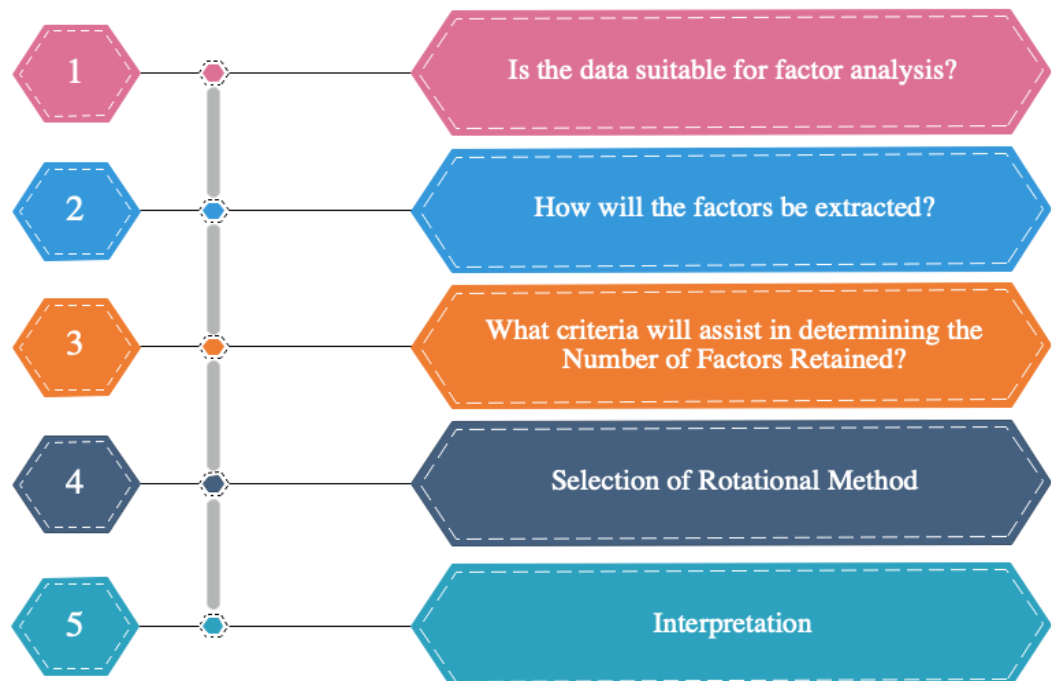


Figure 4.43: Five-Step Exploratory Factor Analysis Protocol (prepared by the author)

4.5.1.1.1 Is the Data Suitable for Factor Analysis?

Several criteria need to be met in order to determine whether the collected data is suitable for factor analysis. Each criterion is explained below.

Independence: The respondents must not participate in the survey more than once, and should not influence other respondents (Allen et al., 2014). The data in this survey meet the criterion of independence since the IP addresses of all the survey respondents are different.

Sample Size: In general, the correlation coefficients between the items are less reliable in a small sample of participants (Pallant, 2016). Allen et al. (2014) state that sample sizes should be 100 or above, while Coakes and Ong (2011) maintain that a minimum sample of 200 is preferred. This view is also supported by (Comrey & Lee, 2013; MacCallum et al., 1999) who claim that if the sample size is less than 200, it is insufficient for the factor analysis. The generally acceptable sample size is believed to be approximately 300. It is considered to be sufficient and very good if it is above 500, and excellent if it is above 1000. According to Yong and Pearce (2013), a larger sample size is preferred as it diminishes the possibility of error in the data, thereby making the EFA more accurate. Therefore, in this study, the sample size required for factor analysis is 384 participants. The online survey conducted in this study obtained 504 valid responses.

Correlation Matrix: The correlation matrix table presents the bivariate correlation among variables in the analyses. The dataset is appropriate for factor analysis when several correlations in the correlation matrix are greater than 0.3 (Allen et al., 2014; Coakes & Ong, 2011).

Sample Sufficiency Test and Sphericity Test: Williams et al. (2010) suggest that various tests should be conducted on the respondent data to assess their suitability for factor extraction. The relevant tests are the Kaiser Meyer-Olkin (KMO; Kaiser, 1974) and Bartlett's Test of Sphericity (Bartlett, 1954).

a) Kaiser-Meyer-Olkin (KMO) Test:

KMO sampling adequacy is an index that aims to check the factorability of the dataset (Malhotra & Birks, 2007). The KMO statistic can vary from 0 to 1. Hutcheson and Sofroniou (1999) claim that the values ranging from 0.5

and 0.7 are mediocre, values ranging from 0.7 and 0.8 are good, values ranging from 0.8 and 0.9 are great and values exceeding 0.9 are superb. Field (2013) suggests that any value close to 1.0 indicates that patterns of correlations are relatively compact, and this leads to having credible and distinct factors.

b) Bartlett's Test of Sphericity:

“Bartlett's test examines whether this matrix is proportional to an identity matrix” (Field, 2013, p. 607). It indicates how appropriate the data are for factor analysis. This test should be significant ($\text{sig} < .05$) to be suitable for factor analysis to be conducted (Tabachnick et al., 2007).

All the aforementioned measurements applied in this study will be presented in the summary section.

4.5.1.1.2 How will the Factors Be Extracted?

Several approaches can be used to extract factors: principal axis factoring (PAF), image factoring, principal components analysis (PCA), maximum likelihood, canonical, and alpha factoring. However, in the published literature, the PAF and PCA are the most widely used (Tabachnick et al., 2007; Thompson, 2004). The merits of PCA and PAF have been strongly debated amongst analysts (Henson & Roberts, 2006), although Thompson (2004) points out that, realistically, the differences between these two approaches might be insignificant, especially if the variables have high reliability. Thompson (2004) also indicated that PCA is the default technique for many statistical software packages such as SPSS and SAS, and therefore is the one most widely used for EFA. As shown in Figure 4.44, the PCA is selected for this study as it is more appropriate for the research data.

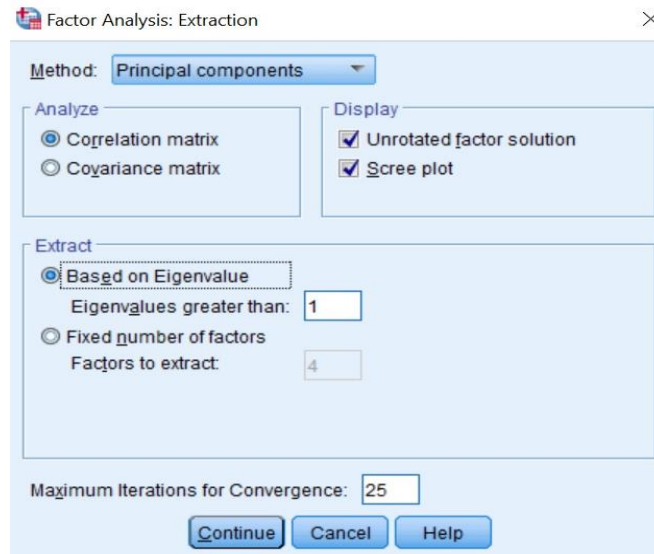


Figure 4.44: Factors Extraction Method in SPSS Version 26

4.5.1.1.3 What Criteria Will Assist in Determining the Number of Factors Retained?

Several techniques could be used to identify the number of factors by means of SPSS. Factor extraction includes identifying the smallest number of factors which can be utilized to best depict the interconnection between the set of variables (Pallant, 2016). There are different approaches for determining the number of factors to retain, including: Kaiser's criteria (eigenvalue rule), the percentage of variance criterion, the scree test, and parallel analysis (Williams et al., 2010). Here the researcher will briefly touch on the techniques available on SPSS and that have been applied in this study.

Eigenvalue Rule: a measure of explained variance. As stated by Kaiser (1960), the eigenvalue ought to be greater than one. If the eigenvalue is less than one, this indicates that the component scores are unreliable (Cliff, 1988).

Cumulative Percentage of Variance: the percentage of variance criterion is another method that is used to identify the factors that need to be retained. Hair et al. (2014) mentioned that in the natural sciences domain, usually the factoring process is stopped

when at least 95% of the total variance is accounted for. However, 50% to 60% of the total variance is considered as acceptable in the social science (Williams et al., 2010).

Scree Test: This graphical representation method was developed by Cattell (1966). It is utilized to determine the ideal number of components which could be extracted before the number of unique variations start to dominate the common variance structure. This is another approach that may be used to determine the number of components that should be interpreted (Allen et al., 2014).

Hair et al. (2014) noted that most factor analysts usually apply more than one criterion. Furthermore, it is advised that in an exploratory analysis, the scholar make attempts using different numbers of factors until an ideal result is obtained (Pallant, 2016; Tabachnick et al., 2007).

One cautionary note when choosing the final numbers of factors is the potential negative consequences of choosing either too few or too many components to represent the data. If very few components are used, then the proper structure will not be revealed, and significant dimensions could be ignored. And if many components are retained, then the interpretation becomes more complicated when the findings are rotated. By testing different numbers of factor structures derived from various trial resolutions, the scholar can compare them to obtain the best representation of the data (Hair et al., 2014).

Thus, in this study, in order to identify the number of factors that need to be extracted, all the approaches described above were applied. First, the number of factors based on the earlier extracted factors were determined. Afterwards, the scree plot graph was generated to identify the elbow break for the factors. Then, the eigenvalue technique was applied to arrive at the valid factors. Finally, the percentage of variance criterion method was used to identify the factors that need to be retained.

4.5.1.1.4 Selection of Rotational Method

When the number of factors has been identified, rotation is the fourth step that helps with the researcher's interpretation. The two common rotation methods are: orthogonal rotation and oblique rotation. The prime reason for applying these rotations is to generate a parsimonious solution and to simplify the interpretation process (Hair et al., 2014). Costello and Osborne (2005) state that orthogonal rotation is primarily used to deal with uncorrelated factors, and oblique is used for the correlated ones. There are various approaches to choose from both rotation options, for instance, oblique oblimin/promax or orthogonal varimax/quartimax (Williams et al., 2010). Varimax rotation was first suggested by Thompson (2004) and is one of the most popular orthogonal techniques due to its various features (Portes & Aguirre, 2016). Thus, this study adopted the Orthogonal Varimax rotation method to rotate the data, as indicated in Figure 4.45 below.

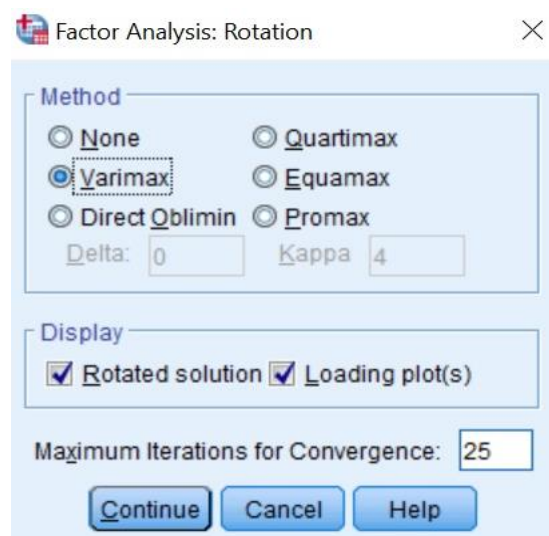


Figure 4.45: Rotational Method in SPSS Version 26

4.5.1.1.5 Interpretation

This is the last stage of the factor analysis steps and involves factor extraction and the naming of the valid extracted factors.

4.5.1.1.5.1 Factor Loading

In this stage, the factor loadings for the variables and their elements are obtained. The factor loading of each variable is a way of measuring the extent to which the variable contributes to the component. In interpreting factors, a decision must be taken with regard to factor loadings which are worthy of attention and consideration. A high factor loading score indicates a variable's strong connection with that factor (Yong & Pearce, 2013). Henson and Roberts (2006) mention that at least two or three variables should be loaded on a factor to give a meaningful interpretation. Hair et al. (2014) recommend that for a sample size of 50, variables need a loading of 0.75 and above in order to be significant; for 100 participants, the loading should be equal to or greater than 0.55; for 350 respondents, any loading equal to or greater than .30 is significant. Moreover, Guadagnoli and Velicer (1988) argue that "if components possess four or more variables with loadings above .60, the pattern may be interpreted whatever the sample size used" (p. 274).

In this study, the required sample size is 384 participants, 504 valid responses were returned, and all the extracted factors are included four and more variables with loading greater than .60. Therefore, in this research the factor loading was selected as $>.60$, and below .60 was ignored. When variables were loaded onto more than one factor, the highest loaded factor was selected.

4.5.1.1.5.2 Assess the Communalities of the Variables

When all the major loadings have been determined, the communality of each variable must be identified in order to decide which variable should be grouped under which factor. Hair et al. (2014) stated that "a variable's communality is the estimate of its shared, or common, variance among the variables as represented by the derived factors" (p. 103). The communalities must be examined to determine whether the variables meet reasonable ranges of explanation. Variables' communalities close to 1.0 indicate a very good connection, and less than 0.3 means that the variables do not belong in that group and must be omitted so as to enhance the validity of results (Pallant, 2016). Moreover, Stevens (2016) mentions in his research that if the number of variables is 30 or above, and communalities for all the variables are above 0.7,

different solutions are unlikely; on the other hand, if the number of variables is fewer than 20 and the communalities are less than 0.4, the differences could occur. Thus, the researcher determined that any variables with low communalities (< 0.4) did not have an adequate explanation.

4.5.1.1.5.3 Internal Consistency

According to Fink (2010), a survey's internal consistency "refers to the extent to which all the items or questions assess the same skill, characteristic, or quality" (p. 158). The internal consistency method is a popular way of estimating the reliability of the responses to survey questions (Collis & Hussey, 2014). One popular method for assessing the reliability of a survey is the alpha coefficient which was introduced by Cronbach (1951). Cronbach's alpha coefficient is calculated to indicate whether the variables in the scale were measuring the same component. Cronbach's alpha reliability coefficient may vary from 0 to 1; the higher the value, the greater is the reliability of the variables under the same component. George and Mallery (2003) claim that the values ranging from 0.5 to 0.6 are poor, values ranging from 0.6 to 0.7 are questionable, values ranging from 0.7 to 0.8 are acceptable, values ranging from 0.8 to 0.9 are good, and values exceeding 0.9 are excellent.

To evaluate the internal consistency of this study's factors, coefficient alphas were generated for each theme. Then, coefficient alphas were obtained for each factor independently, and the reliability of the factors was closely examined. The Cronbach's alpha values obtained for the online survey data were 0.8 or greater, which are considered to be good and acceptable values.

4.5.1.1.5.4 Label the Factors

Once an acceptable factor has been obtained which includes all variables that have a good loading on that factor, each factor is named. Variables with higher loadings are considered to be more significant and have greater effect on the name given to a factor (Hair et al., 2014). The naming of factors is more of an 'art' because there are no guidelines or standards for naming factors, except to assign names that best depict the

variables within the factors (Yong & Pearce, 2013). Hence, the researcher checked all the variables connected to a factor and assigned that factor an appropriate name.

4.5.1.1.6 Summary of the Five-Step EFA Protocol

Table 4.11 summarises section 4.5. The left-hand column shows each EFA step, and the right-hand column shows the values that have been obtained for each step.

Table 4.11: EFA requirements summary

Step	Values
Determining the suitability of the data	Sample size = 384
	Item correlations > 0.30
	KMO \geq 0.70
	Bartlett's test (Sig < 0.05)
Determining the factor Extraction method	PCA
Number of the extracted factors	Eigenvalues > 1
	Cumulative Percentage of Variance 50% or greater
	Scree test
Rotational Method	Orthogonal Varimax
Interpretation	Factor loadings > 0.60
	Communalities \geq 0.40
	Cronbach α > 0.7

4.5.1.2 Survey Analysis and Findings

This section presents the findings of the factor analysis and participants' comments related to the data obtained from the online survey. This step led to the development of the first holistic s-commerce model for Saudi Arabia which will be presented at the

end of this chapter. In this study, there are seven themes as shown in Figure 4.32 at the beginning of this chapter. Each theme includes a number of factors. These factors have been assigned to different themes based on the literature review. To reiterate, the seven themes in this study are: organization characteristics, HCI and usability, content, social, psychological, culture, and sustainability.

4.5.1.2.1 EFA Analysis

In this section, the data collected from the online survey are analysed to determine all the factors that are associated with the themes. Thus, the factor analysis was undertaken many times based on each theme, and only the items correlated to that particular theme were included in the analysis. EFA was conducted using IBM SPSS Statistics version 26.

4.5.1.2.1.1 Theme One: Organization Characteristics

In this section, items associated with the “Organization Characteristics” theme have been analysed in order to derive the factors. The PCA technique applied to the 16 variables with the adopted Orthogonal Varimax rotation method.

Table 4.12 below indicates that the Kaiser-Meyer-Olkin Measure (KMO) score of 0.870 exceeds this study’s standards and Bartlett’s test of sphericity result of ($\chi^2 = 3073.747$, $df = 120$, $p < .000$), which is good and significant as the $Sig < .05$ means that the items are significantly correlated (see Section 4.5.1.1.1). Thus, factor analysis is suitable for this theme. Also, the “Organization Characteristics” theme has good reliability, indicated by the total Cronbach's alpha of 0.861 for all the items as discussed in section 4.5.1.1.5.3.

In order to identify the number of components to be retained, the researcher used the eigenvalue rule, cumulative percentage of variance, and scree test techniques. The scree plot in Table 4.12 shows the curves flattening at component number four, which means that components 1, 2, and 3 could be extracted and all of these components meet the Eigenvalues-Greater-Than-One rule. Thus, the researcher extracted the first

three components according to the scree plot and Kaiser's criterion techniques. Each of these three factors had 20.662%, 20.376%, and 16.843% of the total variance respectively, and all of them represented a total of 57.881% variance (the minimum standards in the section 4.5.1.1.6 have been exceeded). Also, each factor showed internal consistency reliability > 0.77 (which is 'acceptable and good value' according to section 4.5.1.1.5.3).

All of the three components had a number of variables that loaded distinctly onto them. The factor loadings in the table below indicate very good convergent validity, since they are greater than .60. The summary of the EFA analysis results for the "Organization Characteristics" theme is given in Table 4.12.

Table 4.12: EFA analysis results for “Organization Characteristics”

Organization Characteristics									
Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.295	33.094	33.094	5.295	33.094	33.094	3.306	20.662	20.662
2	2.164	13.523	46.617	2.164	13.523	46.617	3.260	20.376	41.038
3	1.802	11.264	57.881	1.802	11.264	57.881	2.695	16.843	57.881

Rotated Component Matrixa				Communalities
Variables for Collaboration	Component/ Factor Loading			
	1	2	3	
Is a sizable company	0.803			0.661
Is a longstanding company	0.762			0.627
Sponsors numerous activities. (i.e. health, sport etc.)	0.735			0.554
Is an important and successful company in the market	0.678			0.563
Has a regional presence in Saudi Arabia	0.672			0.486
Offers well-known brand products	0.618			0.502
Has a favourable reputation		0.842		0.724
Is reliable		0.780		0.637
Is well-known		0.769		0.613
Is concerned about its clients		0.728		0.593
Has public respect		0.717		0.585
Tips and instructions are available on the s-commerce site			0.762	0.635
Technical support teams in the social networking apps are available			0.737	0.552
I have the resources, tools, and skills needed to use s-commerce			0.706	0.557
I feel confident using social networking apps for online purchases			0.682	0.485
I have the knowledge necessary to shop using social networking apps			0.641	0.487
Cronbach's Alpha	0.833	0.850	0.778	

Scree Plot

Component Number	Eigenvalue
1	5.295
2	2.164
3	1.802
4	1.802
5	1.802
6	1.802
7	1.802
8	1.802
9	1.802
10	1.802
11	1.802
12	1.802
13	1.802
14	1.802
15	1.802
16	1.802

Cronbach's Alpha	KMO Measure of Sampling Adequacy	Bartlett's test
0.861	0.870	$\chi^2 = 3073.747, df = 120, p < .000$

Table 4.13 shows the extracted factor labels for the “Organization Characteristics” theme. The new factors are labelled: “Recognized Company”, “Favourable Reputation” and “Instructions and Guidelines”.

Table 4.13: Factor labels for “Organization Characteristics” theme

Organization Characteristics				
Factor Labels	Description of Factor Labels	Original factors for each item from the initial S-commerce Model	Items for Organization Characteristics	Factor Loading
Recognized Company	All the variables within this factor focused on the customers' decisions about using an s-commerce in regard to a company's popularity. The first five variables focus on the size of the online company in terms of its market share and the number of its sponsor's activities while the last variable describes how the offering of a well-known brand product by company could affect the customers' decision to buy. The researcher believes that the common theme for these variables is "Recognized Company".	Size	Is a sizable company	0.803
		Size	Is a longstanding company	0.762
		Size	Sponsors numerous activities. (i.e., health, sport etc.)	0.735
		Size	Is an important and successful company in the market	0.678
		Size	Has a regional presence in Saudi Arabia	0.672
		Reputation	Offers well-known brand products	0.618
Favourable Reputation	The variables in this factor relate to the reputation of the s-commerce firm. The variables measure the firm's reputation in terms of the company's reliability and its concern about its customers which has public respect. The first variable has the highest loading for this factor. This factor was labelled "favourable reputation".	Reputation	Has a favourable reputation	0.842
		Reputation	Is reliable	0.780
		Reputation	Is well-known	0.769
		Reputation	Is concerned about its clients	0.728

		Reputation	Has public respect	0.717
Instructions and Guidelines	The first three variables in this factor relate to the availability and accessibility of the instructions and technical support on the SN apps. The other two related to having the confidence and knowledge regarding how to use the apps to makes online purchases. Therefore the "instructions and guidelines" is the common theme between these variables.	Facilitating Conditions	Tips and instructions are available on the s-commerce site	0.762
		Facilitating Conditions	Technical support teams in the social networking apps are available	0.737
		Facilitating Conditions	I have the resources, tools, and skills needed to use s-commerce	0.706
		Facilitating Conditions	I feel confident using social networking apps for online purchases	0.682
		Facilitating Conditions	I have the knowledge necessary to shop using social networking apps	0.641

4.5.1.2.1.2 Theme Two: HCI and Usability

In this section, items associated with the “HCI and Usability theme” were tested in order to derive the factors. The PCA technique was applied to the 31 variables, adopting the Orthogonal Varimax rotation method.

The Bartlett’s test of sphericity result for the themes was ($\chi^2 = 9158.146$, $df = 465$, $p < .000$), and the KMO test was 0.940, which indicates that the minimum standards have been exceeded and the variables are significantly correlated (See Section 4.5.1.1.1). Thus, factor analysis was appropriate for this data set. In terms of the reliability test for “HCI and Usability” theme’s items, Cronbach’s alpha scored 0.920 for all the 25 accepted items. As explained in section 4.5.1.1.5.3, this high internal consistency value for all the 25 items indicates the excellent reliability for the variables associated with the same theme.

The researcher applied the rotated eigenvalues, cumulative percentage of variance, and scree plot to identify the number of significant components to be retained. The scree plot in Table 4.14 indicates that the differences between the eigenvalues declined after the first four components (the curve flattens), which implies that only components 1, 2, and 3 could be retained. However, these three factors did not meet the minimum cumulative percentage of variance (50% or greater) as mentioned in section 4.5.1.1.6. Therefore, the researcher extracted four factors, all of which met the Eigenvalues-Greater-Than-One rule. After rotation, each of these four factors explained 22.139%, 12.540%, 12.263%, and 12.097% of the total variance consecutively, and all of them together represented 59.038% of the total variance. Moreover, each factor represented internal consistency reliability > 0.77 , which is an ‘acceptable and good value’ according to section 4.5.1.1.5.3.

Table 4.5 below shows the item loadings for the rotated components; items with less than .60 loadings were omitted to enhance the accuracy. The factor analysis results indicated that these items were related to the “Design” theme, not only to the “HCI and Usability” theme. Thus, the “HCI and Usability” theme has changed to “Design”

theme. The summary of the EFA analysis results for the “Design” theme are shown in Table 4.14.

Table 4.14: EFA analysis results for “Design”

Design									
Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.359	36.642	36.642	11.359	36.642	36.642	6.863	22.139	22.139
2	3.194	10.302	46.944	3.194	10.302	46.944	3.887	12.540	34.678
3	2.397	7.734	54.678	2.397	7.734	54.678	3.802	12.263	46.941
4	1.352	4.360	59.038	1.352	4.360	59.038	3.750	12.097	59.038

Rotated Component Matrixa					Communalities
Variables for Collaboration	Component/ Factor Loading				
	1	2	3	4	
Use clear instructions	0.777				0.684
Are easy to learn	0.775				0.655
Are efficient	0.735				0.608
Have processes that can be remembered easily	0.720				0.635
Are easy to use	0.698				0.579
Enable shopping to be done quickly	0.693				0.602
Make it easy for me to communicate with others	0.669				0.509
Instil confidence in customers	0.608				0.565
Offer prompt service to users	0.607				0.614
Understand the specific requests of the users	0.601				0.526
Are effective		0.828			0.763
Help me to achieve my goals		0.755			0.613
Improve my shopping experience		0.751			0.607
Save time		0.734			0.587
Are useful		0.729			0.590
Provide useful information		0.657			0.532
Have a realistic load time			0.731		0.631
Have a feasible search time			0.699		0.583
Protect my information against unauthorized access			0.633		0.532
Have a well-organized and visually attractive interface			0.625		0.438
Accurate				0.866	0.790
Reliable				0.831	0.739
Comprehensive				0.830	0.741
Useful				0.809	0.709
Up-to-date				0.696	0.548
Cronbach's Alpha	0.919	0.873	0.775	0.894	

Scree Plot

Cronbach's Alpha	KMO Measure of Sampling Adequacy	Bartlett's test
0.920	0.940	$\chi^2 = 9158.146, df = 465, p < .000$

Table 4.15 shows the extracted factor labels for the “Design” theme. The new factors are labelled “Usability”, “Perceived Usefulness”, “System Quality”, and “Information Quality”.

Table 4.15: Factor labels for “Design” theme

Design				
Factor Labels	Description of Factor Labels	Original factors for each item from the initial S-commerce Model	Items for Organization Characteristics	Factor Loading
Usability	The variables in this factor relate to the usability, as the first five variables highlighted that the instructions and processes should be clear, and easy to learn and remember to enable quick shopping. The others highlighted that the apps should facilitate communication with others, instil confidence, provide prompt service and understand user requests. These qualities make "usability" the common theme.	PEOU	Use clear instructions	0.777
		PEOU	Are easy to learn	0.775
		PEOU	Are efficient	0.735
		PEOU	Have processes that can be remembered easily	0.720
		PEOU	Are easy to use	0.698
		PEOU	Enable shopping to be done quickly	0.693
		PEOU	Make it easy for me to communicate with others	0.669
		Service Quality	Instil confidence in customers	0.608
		Service Quality	Offer prompt service to users	0.607
		Service Quality	Understand the specific requests of the users	0.601
Perceived Usefulness	The "perceived usefulness" is the common theme in this factor, as the first two variables focused on how the effectiveness of the apps and their ability to help users attain their goals and expectations make users perceive them as useful. The other variables consider that the usefulness could be obtained by improving the shopping experience, saving time and providing the required and relevant information to users by using the apps.	Perceived Usefulness	Are effective	0.828
		Perceived Usefulness	Help me to achieve my goals	0.755
		Perceived Usefulness	Improve my shopping experience	0.751
		Perceived Usefulness	Save time	0.734
		Perceived Usefulness	Are useful	0.729
		Perceived Usefulness	Provide useful information	0.657
System Quality	The first two variables reflect the characteristics of the SN apps system in terms of the load and search time. On the	System Quality	Have a realistic load time	0.731

	other hand, the last two variables relate to the apps' interfaces in terms of their navigability and guarantee of safeguarding personal information from access by unauthorized entities. Therefore, the "system quality" is the common theme among all these variables.	System Quality	Have a feasible search time	0.699
		System Quality	Protect my information against unauthorized access	0.633
		System Quality	Have a well-organized and visually attractive interface	0.625
Information Quality	All the variables in this section constituted the "information quality" factor. This is because all of them focused mainly on the information that provided by the SN apps in term of the accuracy, reliability and utility.	Information Quality	Accurate	0.866
		Information Quality	Reliable	0.831
		Information Quality	Comprehensive	0.830
		Information Quality	Useful	0.809
		Information Quality	Up-to-date	0.696

4.5.1.2.1.3 Theme Three: Content

In this section, a PCA was conducted on eight items associated with the “Content” theme in order to derive the factors. The KMO test result for this theme (0.845) verified that the sampling was appropriate for the factor analysis. Also, the result of the Bartlett’s test of sphericity ($\chi^2 = 2021.361$, $df = 28$, $p < .000$), indicated that the variables were significantly correlated and suitable for factor analysis (section 4.5.1.1.1). Moreover, this theme has adequate reliability indicated by the overall Cronbach’s alpha of 0.861 for all the items (section 4.5.1.1.5.3).

The eigenvalue rule, cumulative percentage of variance, and scree test approaches were used to determine the number of factors to be extracted for this theme. The scree plot in Table 4.16 shows that the curve begins to flatten at component number 3, which implies that components 1 and 2 could be retained. Each of these two factors recorded eigenvalues above 1 and explained 37.306%, and 33.086% of the total variance respectively. These two factors together presented a total of 70.392% variance. Thus, the researcher derived the first two components based on the previous techniques in the section 4.5.1.1.6. Each factor represented internal consistency reliability > 0.80 (which is ‘good value’ according to section 4.5.1.1.5.3).

As seen in Table 4.7 below, the results show that all eight items are acceptable since they have high loadings (> 0.60) due to their strong relevance to the theme. The summary of the EFA analysis results for the “Content” theme are shown in Table 4.16.

Table 4.16: EFA analysis results for “Content”

Content									
Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.076	50.951	50.951	4.076	50.951	50.951	2.984	37.306	37.306
2	1.555	19.441	70.392	1.555	19.441	70.392	2.647	33.086	70.392

Rotated Component Matrix			Communalities
Variables for Collaboration	Component/ Factor Loading		
	1	2	
Exciting	0.888		0.811
Entertaining	0.878		0.801
Enjoyable	0.807		0.705
Interesting	0.792		0.683
Free shipping		0.837	0.732
Gifts		0.817	0.695
Special offers		0.755	0.594
Loyalty points		0.738	0.611
Cronbach's Alpha	0.888	0.823	

Scree Plot

Component Number	Eigenvalue
1	4.076
2	1.555
3	0.647
4	0.555
5	0.509
6	0.441
7	0.407
8	0.392

Cronbach's Alpha	KMO Measure of Sampling Adequacy	Bartlett's test
0.861	0.845	$\chi^2 = 2021.361, df = 28, p < .000$

Table 4.17 shows the extracted factor labels for the “Content” theme. The new factors are named “Non-monetary”, and “Perceived Enjoyment”.

Table 4.17: Factor labels for “Content” theme

Content				
Factor Labels	Description of Factor Labels	Original factors for each item from the initial S-commerce Model	Items for Organization Characteristics	Factor Loading
Perceived Enjoyment	The variables in this factor relate to the "perceived enjoyment" theme as they measure the extent to which the use of SN apps for online purchasing is perceived to be enjoyable.	Perceived Enjoyment	Exciting	0.888
		Perceived Enjoyment	Entertaining	0.878
		Perceived Enjoyment	Enjoyable	0.807
		Perceived Enjoyment	Interesting	0.792
Non-monetary	The non-monetary benefits that are derived from the usage of SN apps to conduct online purchases, and that could enhance s-commerce activities. The benefits of free shipping, gifts, special offers and the ability to accumulate loyalty points could increase the attractiveness of the SN apps to purchasers. The variables in this section covered all the above points. Thus, "non-monetary" was the most suitable theme for the variables under this factor.	Nonmonetary	Free shipping	0.837
		Nonmonetary	Gifts	0.817
		Nonmonetary	Special offers	0.755
		Nonmonetary	Loyalty points	0.738

4.5.1.2.1.4 Theme Four: Social

The factorability test using the SPSS for the “Social” theme resulted in the deletion of several variables due to their weak factor loadings or commonalities results.

The KMO test result for this theme was 0.907, and the Bartlett’s test of sphericity scored ($\chi^2 = 12082.915$, $df = 630$, $p < .000$) which indicates that the minimum standards have been exceeded, and the constructs are significantly correlated and suitable for factor analysis (see section 0). In addition, the test resulted that the “Social” theme has adequate reliability represented by the total Cronbach’s alpha of 0.901 for all the 20 accepted variables (see section 4.5.1.1.5.3).

In order to determine the number of components to be retained under this theme, the researcher applied all the previous techniques described in section 4.5.1.1.3. The scree plot in Table 4.18 shows that the curve begins to flatten at component number 2, which implies that only the first component could be retained. However, this one factor does not meet the minimum cumulative percentage of variance (50% or greater) as mentioned in the section 4.5.1.1.6. Therefore, the researcher extracted four factors. Each of these four factors recorded eigenvalues above 1 and explained 15.508%, 13.798%, 13.159%, and 11.560% of the total variance respectively, together making up 54.025% of the total variance which indicates that the minimum standards in the section 4.5.1.1.6 have been exceeded. Also, each factor had internal consistency reliability > 0.80 , which is a ‘good value’ according to section 4.5.1.1.5.3.

All of the four components had a number of variables that loaded distinctly onto them. The factor loadings in the table below shows very good convergent validity, since the variables are greater than .60. The summary of the EFA analysis results for the “Social” theme is given in Table 4.18.

Table 4.18: EFA analysis results for “Social”

Social									
Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.152	33.755	33.755	12.152	33.755	33.755	5.583	15.508	15.508
2	2.846	7.904	41.659	2.846	7.904	41.659	4.967	13.798	29.306
3	2.399	6.664	48.323	2.399	6.664	48.323	4.737	13.159	42.465
4	2.053	5.702	54.025	2.053	5.702	54.025	4.161	11.560	54.025

Rotated Component Matrixa					Communalities
Variables for Collaboration	Component/ Factor Loading				
	1	2	3	4	
Provides me with significant information related to my queries	0.747				0.595
Sellers about products	0.720				0.633
Sellers about the services	0.717				0.633
Responds to my feedback about its service	0.715				0.564
Sellers who help me resolve a problem encountered during online shopping	0.684				0.600
Keeps me informed of new services	0.643				0.476
Express interest and concern in my welfare		0.852			0.790
Encourage me		0.831			0.771
Calm me down		0.825			0.770
Listen to me when I cannot decide which product I should buy		0.775			0.693
Listen to me talk about my private feelings		0.751			0.653
Makes me interested in what people thinking			0.721		0.624
Makes me feel like I am part of a large society			0.702		0.570
Makes me interested in buying what they suggest			0.677		0.565
Affects my attitude and behaviour in regard to online shopping			0.673		0.524
Consider that my friends' recommendations are reliable				0.740	0.578
Believe that my friends' recommendations are trustworthy				0.717	0.559
Enjoy recommending products to my friends				0.653	0.470
Enjoy using people's recommendations when buying a product				0.646	0.447
Like to see people's ratings and reviews about products				0.612	0.439
Cronbach's Alpha	0.870	0.930	0.823	0.808	

Scree Plot

Cronbach's Alpha	KMO Measure of Sampling Adequacy	Bartlett's test
0.901	0.907	$\chi^2 = 12082.915, df = 630, p < .000$

Table 4.19 shows the extracted factor labels for the “Social” theme. The new factors are labelled “Social Presence”, “Sellers’ Informational Support”, “Emotional Support”, and “Stakeholders’ Endorsement”.

Table 4.19: Factor labels for “Social” theme

Social				
Factor Labels	Description of Factor Labels	Original factors for each item from the initial S-commerce Model	Items for Organization Characteristics	Factor Loading
Sellers’ Informational Support	The first, fourth and last variables address the impact of the social presence of sellers on consumers’ behavioural intention to adopt s-commerce. The other variables examined the impact of informational support on consumers’ decision to use s-commerce. Therefore, all the variables in this section constituted the "sellers’ informational support" factor.	Social Presence of Sellers	Provides me with significant information related to my queries	0.747
		Informational Support	Sellers about products	0.720
		Informational Support	Sellers about the services	0.717
		Social Presence of Sellers	Responds to my feedback about its service	0.715
		Informational Support	Sellers who help me resolve a problem encountered during online shopping	0.684
		Social Presence of Sellers	Keeps me informed of new services	0.643
Emotional Support	The variables in this component relate to "emotional support" as the first two highlight the ability of the SN apps to providing messages that include emotional support such as encouraging and caring. The other variables address the ability of the SN apps to show empathy and listen to consumers.	Emotional Support	Express interest and concern in my welfare	0.852
		Emotional Support	Encourage me	0.831
		Emotional Support	Calm me down	0.825
		Emotional Support	Listen to me when I cannot decide which product I should buy	0.775
		Emotional Support	Listen to me talk about my private feelings	0.751
Social Presence		Social Presence of Other	Makes me interested in what people thinking	0.721

	All the variables in this section constitute the "social presence" factor. This is because all of them focus mainly on whether the interaction with other humans in the SN platform can influence others' interest in and attitudes to online shopping.	Social Presence of Other	Makes me feel like I am part of a large society	0.702
		Social Presence of Other	Makes me interested in buying what they suggest	0.677
		Social Presence of Other	Affects my attitude and behaviour in regard to online shopping	0.673
Stakeholders Endorsement	All the variables investigate the role of s-commerce constructs on customers' intention to use the s-commerce. This type of construct, which is provided by other consumers, is a new kind of word-of-mouth recommendation similar to that of traditional shopping. The variables relate to the ways that reviews, ratings, and recommendations provide a comprehensive information about products which could increase the customers' willingness towards buy the products using the s-commerce. The variables demonstrate "stakeholders' endorsement" as the common theme among these variables.	Social Commerce Constructs	Consider that my friends' recommendations are reliable	0.740
		Social Commerce Constructs	Believe that my friends' recommendations are trustworthy	0.717
		Social Commerce Constructs	Enjoy recommending products to my friends	0.653
		Social Commerce Constructs	Enjoy using people's recommendations when buying a product	0.646
		Social Commerce Constructs	Like to see people's ratings and reviews about products	0.612

4.5.1.2.1.5 Theme Five: Psychological

For the “Psychological” theme which contained a large number of variables, several factorability tests were conducted using the SPSS to determine all the factors associated with this theme.

The KMO test (0.940) and Bartlett’s test of sphericity ($\chi^2 = 12207.529$, $df = 496$, $p < .000$) results for this theme verified that the variables were significantly correlated and suitable for factor analysis. Moreover, the result showed that the “Psychological” theme had adequate and excellent reliability indicated by the overall Cronbach’s alpha of 0.941 for all the 29 accepted variables (see section 4.5.1.1.5.3).

The scree plot in Table 4.20 shows that the slope of the line changes dramatically after the second component which means that the factor number one explain the variance much more than the other factors. However, this factor does not meet the minimum cumulative percentage of variance (50% or greater) as mentioned in the section 4.5.1.1.6 and it looks like the slope of this curve begins to straighten out at the component number five, which means that components 1, 2, 3 and 4 could be extracted. Thus, the researcher extracted the first four factors. Each of these four factors recorded eigenvalues above 1, and explained 25.578%, 14.295%, 12.825%, and 12.156% of the total variance respectively, together adding up to 54.025% of the total variance, thereby exceeding the minimum standards. Furthermore, each factor exemplified internal consistency reliability > 0.80 , which is a ‘good value’ according to section 4.5.1.1.5.3.

As shown in Table 4.20 below, the item loadings for all of the 29 accepted items were (> 0.60), indicating their strong association with the theme. The summary of the EFA analysis results for the “Psychological” theme is presented in Table 4.20.

Table 4.20: EFA analysis results for “Psychological”

Psychological									
Component	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.556	39.238	39.238	12.556	39.238	39.238	8.185	25.578	25.578
2	3.304	10.325	49.564	3.304	10.325	49.564	4.574	14.295	39.873
3	2.982	9.320	58.884	2.982	9.320	58.884	4.104	12.825	52.698
4	1.911	5.970	64.854	1.911	5.970	64.854	3.890	12.156	64.854

Rotated Component Matrixa					Communalities
Variables for Collaboration	Component/ Factor Loading				
	1	2	3	4	
They are likely to be reliable	0.793				0.671
Their performance always matches my expectations	0.762				0.623
Are reliable	0.752				0.663
They are honest	0.747				0.607
Are honest	0.732				0.646
They care about users	0.729				0.577
Look out for my interests	0.717				0.638
Are honest	0.714				0.594
Care about me	0.703				0.613
Are reliable	0.700				0.644
They are competent platforms	0.675				0.608
Would assist me if I needed their help	0.634				0.521
They keep my privacy information safe	0.624				0.536
That any payment transaction is protected from destruction		0.828			0.768
That any payment transaction is protected from misuse		0.802			0.750
That they verify online shoppers' identity for security purposes		0.727			0.616
That the privacy of my payment information is protected		0.705			0.609
That they implement security measures to protect its online shoppers		0.687			0.654
That my payment information is accessible to only a limited number of personnel who need access to the information to perform their duties		0.685			0.565
I feel a strong connection to a company			0.884		0.832
I feel a sense of belonging to a company			0.868		0.818
I have a real emotional attachment to a company			0.846		0.768
I feel that I am a member of a company group			0.839		0.786
I care about the long-term success of a company			0.745		0.621
Some companies offer additional discounts				0.849	0.776
I can compare different product prices				0.841	0.739
Some companies offer reasonable prices				0.840	0.765
I value low prices for various products				0.834	0.722
I can search for cheap products				0.825	0.711
Cronbach's Alpha	0.944	0.898	0.924	0.912	

Scree Plot

Cronbach's Alpha	KMO Measure of Sampling Adequacy	Bartlett's test
0.941	0.940	$\chi^2 = 12207.529, df = 496, p < .000$

Table 4.21 shows the extracted factor labels for the “Psychological” theme. The new factors are labelled: “Monetary”, “Community Commitment”, “Trust”, and “Transaction Safety”.

Table 4.21: Factor labels for “Psychological” theme

Psychological				
Factor Labels	Description of Factor Labels	Original factors for each item from the initial S- commerce Model	Items for Organization Characteristics	Factor Loading
Trust	The variables in general related to "trust" theme. Whereas, most of the variables highlight that how important is the SN applications providers and sellers to be reliable, honest and caring about their consumers. They should establish an impression that they are reliable, honest with their customers and care about their interests and needs, which can then increase the customers' willingness to engage in s-commerce. Some of the variables relate to the impact that trust in other members has on an individual's decision to use s-commerce. The remaining variables relate to the ability of the SN apps to safeguard the customers' privacy and information.	Trust in Marketplace	They are likely to be reliable	0.793
		Trust in Marketplace	Their performance always matches my expectations	0.762
		Trust in Sellers	Are reliable	0.752
		Trust in Marketplace	They are honest	0.747
		Trust in Sellers	Are honest	0.732
		Trust in Marketplace	They care about users	0.729
		Trust Towards Members	Look out for my interests	0.717
		Trust Towards Members	Are honest	0.714
		Trust Towards Members	Care about me	0.703
		Trust Towards Members	Are reliable	0.700
		Trust in Marketplace	They are competent platforms	0.675
		Trust Towards Members	Would assist me if I needed their help	0.634
Trust in Marketplace	They keep my privacy information safe	0.624		
Transaction Safety	The variables are related to "transaction safety" theme as the first three focus on the ability of the sellers to ensure that payment transactions are protected from destruction and misuse and verify the identity of the shopper for security purposes. The other variables	Transaction Safety	That any payment transaction is protected from destruction	0.828
		Transaction Safety	That any payment transaction is protected from misuse	0.802
		Transaction Safety	That they verify online shoppers' identity for security purposes	0.727
		Transaction Safety	That the privacy of my payment information is protected	0.705

	relate to the ability of the sellers to implement security and privacy measures to protect online shoppers' payment information.	Transaction Safety	That they implement security measures to protect its online shoppers	0.687
		Transaction Safety	That my payment information is accessible to only a limited number of personnel who need access to the information to perform their duties	0.685
Community Commitment	In this component, the first three produce a sense of strong connection and belonging to the company, and having a real emotional attachment to the company. The other variables relate to feelings of being a member of a company group and caring about the long-term success of the company. The variables demonstrate "community commitment" as the common theme.	Community Commitment	I feel a strong connection to a company	0.884
		Community Commitment	I feel a sense of belonging to a company	0.868
		Community Commitment	I have a real emotional attachment to a company	0.846
		Community Commitment	I feel that I am a member of a company group	0.839
		Community Commitment	I care about the long-term success of a company	0.745
Monetary	The variables in this factor highlight the attractiveness of using SN apps for online purchases, which could be encouraged by offers of discounts, the ability to search for cheaper products and compare prices. Thus, the "monetary" is the common theme among these variables.	Monetary	Some companies offer additional discounts	0.849
		Monetary	I can compare different product prices	0.841
		Monetary	Some companies offer reasonable prices	0.840
		Monetary	I value low prices for various products	0.834
		Monetary	I can search for cheap products	0.825

4.5.1.2.1.6 Theme Six: Culture

In this section, items associated with the “Culture” theme are analysed in order to extract the factors. The PCA technique applied to the 29 variables, adopting the Orthogonal Varimax rotation method.

The KMO test results for this theme was 0.879, and the Bartlett’s test of sphericity scored ($\chi^2 = 8833.761$, $df = 406$, $p < .000$), indicating that the minimum standards of this study were exceeded, the variables were significantly correlated and suitable for factor analysis (see section 0). Furthermore, the result indicates that the “Culture” theme has adequate and good reliability represented by the overall Cronbach’s alpha of 0.859 for all the 26 accepted variables (see section 4.5.1.1.5.3).

The scree plot shown below shows the curve beginning to flatten at component number 6, which means that the first five components can be retained. Each of these five factors recorded eigenvalues above 1 and represented 17.651%, 13.177%, 12.417%, 12.356%, and 9.498% of the total variance respectively. Together, they explain 65.099% of the total variance, thereby exceeding the minimum standards. In addition, each factor recorded internal consistency reliability > 0.80 , which is a ‘good value’ according to section 4.5.1.1.5.3.

All of the five components had a number of variables that loaded distinctly onto them. The accepted items in the table are all strongly associated with the “Culture” theme since the variables are greater than .60. The summary of the EFA analysis results for the “Culture” theme is shown in Table 4.22.

Table 4.22: EFA analysis results for “Culture”

Culture									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
	1	7.629	26.308	26.308	7.629	26.308	26.308	5.119	17.651
2	3.888	13.409	39.717	3.888	13.409	39.717	3.821	13.177	30.828
3	2.978	10.267	49.984	2.978	10.267	49.984	3.601	12.417	43.245
4	2.617	9.025	59.009	2.617	9.025	59.009	3.583	12.356	55.601
5	1.766	6.090	65.099	1.766	6.090	65.099	2.754	9.498	65.099

Rotated Component Matrixa						Communalities
Variables for Collaboration	Component/ Factor Loading					
	1	2	3	4	5	
The skills necessary for using the internet to shop online	0.858					0.760
The skills necessary for using social networks applications	0.829					0.704
Technological skill to engaging in s-commerce	0.795					0.670
Learned to use smart mobiles for online shopping	0.743					0.573
Social networking apps in general	0.717					0.525
Better understanding of the benefits related to social commerce	0.687					0.553
Searching for products using social networking apps	0.683					0.577
Has become a routine practice for me		0.858				0.765
Has made me addicted to online purchasing		0.843				0.738
Is my first choice when I want to shop		0.841				0.753
Is more practical		0.794				0.672
Has become natural to me		0.682				0.631
Shopping using s-commerce will cause me to lose the privacy of my payment information			0.870			0.764
Shopping using s-commerce will cause me to lose the privacy of my personal information			0.856			0.749
The online payment system is unsafe			0.807			0.657
Shopping using s-commerce will cause me to suffer a financial loss due to the lack of security			0.771			0.609
The after-sale services may not be guaranteed in s-commerce			0.656			0.456
Do not sell merchandise violating others' intellectual property				0.851		0.762
Respect intellectual property				0.844		0.747
Explain how my personal information will be used				0.826		0.729
Follow a moral code				0.763		0.643
Have privacy policies that are stated explicitly and clearly				0.718		0.619
Being loyal to a group is more significant than individual gain					0.848	0.744
Group success is more meaningful than individual success					0.835	0.736
Working in groups is better than working alone					0.783	0.646
I care about the welfare of my group members					0.720	0.602
Cronbach's Alpha	0.894	0.895	0.865	0.891	0.842	

Scree Plot

Cronbach's Alpha	KMO Measure of Sampling Adequacy	Bartlett's test
0.859	0.879	$\chi^2 = 8833.761, df = 406, p < .000$

Table 4.23 shows the extracted factors labels for the “Culture” theme. The new factors are labelled: “Technical Skills”, “Team Group”, “Perceived Ethics”, “Uncertainty Avoidance”, and “Habit”.

Table 4.23: Factor labels for “Culture” theme

Culture				
Factor Labels	Description of Factor Labels	Original factors for each item from the initial S-commerce Model	Items for Organization Characteristics	Factor Loading
Technical Skills	The first three and last variables in this factor relate to the need for having skills to use the Internet, and SN applications for online shopping. The other variables relate to the knowledge required in order to engage in s-commerce activities. Therefore, "technical skills" is the common theme linking these variables.	Learning and Training	The skills necessary for using the Internet to shop online	0.858
		Learning and Training	The skills necessary for using social networks applications	0.829
		Learning and Training	Technological skill to engaging in s-commerce	0.795
		Learning and Training	Learned to use smart mobiles for online shopping	0.743
		Perceived Awareness	Social networking apps in general	0.717
		Learning and Training	Better understanding of the benefits related to social commerce	0.687
		Perceived Awareness	Searching for products using social networking apps	0.683
Habit	All the variables indicate that conducting shopping using SN apps can be a routine practice that makes the user addicted to online shopping, and thus online shopping is the shoppers’ first choice when they want to shop. Thus, these variables demonstrate that the "habit" is a common theme.	Habit	Has become a routine practice for me	0.858
		Habit	Has made me addicted to online purchasing	0.843
		Habit	Is my first choice when I want to shop	0.841
		Habit	Is more practical	0.794
		Habit	Has become natural to me	0.682
Uncertainty Avoidance	The variables here relate to the "uncertainty avoidance" theme. The first three variables concern fears of losing the privacy of the payment and personal information due to an unsafe online payment system. The other two variables highlight that shopping using s-commerce could lead to	Uncertainty Avoidance	Shopping using s-commerce will cause me to lose the privacy of my payment information	0.870
		Uncertainty Avoidance	Shopping using s-commerce will cause me to lose the privacy of my personal information	0.856
		Uncertainty Avoidance	The online payment system is unsafe	0.807

	financial loss due to the lack of security and there is no guarantee of after-sales service when shopping online.	Uncertainty Avoidance	Shopping using s-commerce will cause me to suffer a financial loss due to the lack of security	0.771
		Uncertainty Avoidance	The after-sale services may not be guaranteed in s-commerce	0.656
Perceived Ethics	The variables in this factor relate to the importance of the online retailers' and SN apps' ethical behaviour. If the retailers or SN apps engage in unethical behaviour, this could significantly affect the consumer purchase decision. Therefore, this component is called "perceived ethics".	Perceived Ethics	Do not sell merchandise violating others' intellectual property	0.851
		Perceived Ethics	Respect intellectual property	0.844
		Perceived Ethics	Explain how my personal information will be used	0.826
		Perceived Ethics	Follow a moral code	0.763
		Perceived Ethics	Have privacy policies that are stated explicitly and clearly	0.718
Team Group	The variables demonstrate that "team group" is a common theme as the first two variables measure whether loyalty to a group is more important than individual gain and more meaningful than the success of an individual. The other variables relate to the individual's concern for the welfare of the group members and belief that being a group member is better than working alone.	Individualism / Collectivism	Being loyal to a group is more significant than individual gain	0.848
		Individualism / Collectivism	Group success is more meaningful than individual success	0.835
		Individualism / Collectivism	Working in groups is better than working alone	0.783
		Individualism / Collectivism	I care about the welfare of my group members	0.720

4.5.1.2.1.7 Theme Seven: Sustainability

For the “Sustainability” theme, a PCA was conducted on the 16 items in order to derive the factors with adopted the Orthogonal Varimax rotation method.

The KMO test result for this theme was 0.898, and the Bartlett’s test of sphericity scored ($\chi^2 = 4729.578$, $df = 120$, $p < .000$), indicating that the minimum required standards have been exceeded, the variables are significantly correlated, and the constructs are adequate for factor analysis (see section 4.5.1.1.1). Furthermore, the result shows that the “Sustainability” theme has adequate and excellent reliability represented by the overall Cronbach’s alpha of 0.900 for all the 14 accepted variables (see section 4.5.1.1.5.3).

In order to determine the number of components to be retained for this theme, the researcher applied all the techniques described in section 4.5.1.1.3. The scree plot in Table 4.24 shows that the curve begins to flatten at component 3; hence, components 1 and 2 could be extracted. Each of these two factors recorded eigenvalues above 1 and represented 34.833%, and 22.679% of the total variance respectively. Together, they explained 57.512% of the total variance, thereby exceeding the required minimum standards. Also, each factor recorded internal consistency reliability > 0.80 (which is ‘good value’ according to section 4.5.1.1.5.3).

Only two variables were deleted under this theme because they did not meet the minimum factor loading required (.60) as indicated in the section 4.5.1.1.5.1. The summary of the EFA analysis results for the “Sustainability” theme is presented in Table 4.24.

Table 4.24: EFA analysis results for “Sustainability”

Sustainability									
Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.836	42.724	42.724	6.836	42.724	42.724	5.573	34.833	34.833
2	2.366	14.789	57.512	2.366	14.789	57.512	3.629	22.679	57.512

Rotated Component Matrixa			Communalities
Variables for Collaboration	Component/ Factor Loading		
	1	2	
Reduces air pollution	0.862		0.834
Reduces climate global warming	0.845		0.805
Reduces carbon emissions	0.842		0.812
Reduces waste	0.759		0.677
Reduces energy use	0.751		0.794
Reduces companies’ consumption of resources	0.748		0.678
Reduces transportation use	0.685		0.853
Reduces paper bills	0.652		0.510
Economic growth		0.793	0.702
Income sources		0.756	0.652
Competition		0.751	0.787
Purchasing power		0.727	0.636
Living standards		0.689	0.799
Job performance		0.670	0.768
Cronbach’s Alpha	0.914	0.848	

Scree Plot

Eigenvalue

Component Number

Cronbach’s Alpha	KMO Measure of Sampling Adequacy	Bartlett’s test
0.900	0.898	$\chi^2 = 4729.578, df = 120, p < .000$

Table 4.25 shows the extracted factor labels for the “Sustainability” theme. The new factors are named “Environmental Sustainability”, and “Economic Sustainability”.

Table 4.25: Factor labels for “Sustainability” theme

Sustainability				
Factor Labels	Description of Factor Labels	Original factors for each item from the initial S-commerce Model	Items for Organization Characteristics	Factor Loading
Environmental Sustainability	The use of SN apps to conduct online purchases could contribute to a sustainable environment as it reduces air pollution and paper consumption. Also, it could reduce the levels of global warming and carbon emissions. The variables in this section examine the extent to which these sustainability issues would encourage consumers to engage in s-commerce. Thus, "environmental sustainability" was an appropriate name for this factor.	Environmental	Reduces air pollution	0.862
		Environmental	Reduces climate global warming	0.845
		Environmental	Reduces carbon emissions	0.842
		Environmental	Reduces waste	0.759
		Environmental	Reduces energy use	0.751
		Environmental	Reduces companies' consumption of resources	0.748
		Environmental	Reduces transportation use	0.685
		Environmental	Reduces paper bills	0.652
Economic Sustainability	All the variables related to the economy measure the extent to which the use of SN apps improves economic growth, income resources, competition, purchasing power, living standards, and job performance. The variables demonstrate that “economic sustainability” is the common theme among these variables.	Economical	Economic growth	0.793
		Economical	Income sources	0.756
		Economical	Competition	0.751
		Economical	Purchasing power	0.727

		Economical	Living standards	0.689
		Economical	Job performance	0.670

4.5.1.2.2 Participants' Comments

In this section, the participants' comments provided in the online questionnaire are analysed. Respondents' comments are very important as they can offer additional information about issues than usually cannot be obtained by closed questions. Hence, it is common to include open-ended questions at the end of a questionnaire as a sort of safety net that can alert scholars to any issues that were not addressed by the closed questions (Biemer et al., 2011). Open-ended questions have qualitative characteristics in that they encourage participants to compose anything they want in their own words, and offer ideas with little constraint imposed by a researcher.

Almost one hundred participants used the free-text boxes to include their comments. In general, the respondents expressed their positive appreciation of the research. They believed the survey was a great initiative, and felt that the study was interesting and relevant. Also, they enjoyed participating and wished the researcher all the best in his research. In this study's survey, the open-ended questions did not yield much new information.

One possible way to analyse this kind of data is by using word clouds. Word clouds are graphical word frequency forms where the text size of the word in the cloud indicates its frequency in the source text (Feinberg, 2009). The larger the word in the graphic, the more frequently the term was in the source text. Word clouds enable the observer to construct a simple and intuitive understanding of text. "Word clouds are useful in analysing any kind of text data, including essays, short answers or written responses to survey or opinion questions" (DePaolo & Wilkinson, 2014, p. 39). Various software and websites such as Tagxedo, [Wordle](#) and NVivo, have developed word clouds. Based on the software or website, there are preferences for text, colour, and orientation settings. Some of them allow users to download the resulting graphical representation as a .jpeg, .pdf or...etc. file, while others enable only a screenshot. The researcher used the NVivo 12 to list the most frequent and common words occurring among the participants' comments.

4.5.1.2.3 The Survey Findings

The results of online survey data analysis were obtained in the first stage of this study. The outcomes of the online survey dramatically changed the initial s-commerce model for Saudi Arabia, particularly in terms of the number of factors.

First, the researcher determined whether the data collected was suitable for factor analysis by examining the sample size and sample adequacy. Two tests were conducted on the respondents' data to assess their suitability for factor extraction: KMO and Bartlett's test of sphericity. The minimum standards specified in section 4.5.1.1.1 have been met or exceeded; thus, factor analysis could proceed.

The analysis of the EFA and participants' comments resulted in seven themes. Each theme had a number of factors and each factor consisted of various variables which loaded clearly onto them. The results show that Cronbach's alpha for each theme and factor ranged between 0.778 to 0.944, exceeding the the minimum standards in the section 4.5.1.1.5.3, and thus demonstrating adequate internal consistency. Moreover, in order to ensure a strong connection with the variables, all the extracted factors are included four and more variables with loadings greater than .60.

The first theme "Organization Characteristics" contains four factors, which are "Recognized Company", "Favourable Reputation", "Instructions and Guidelines" and "Delivery". The highest loading under the "Organization Characteristics" theme was for "has a favourable reputation" at 0.842 while the lowest loading was 0.618 for "offers well-known brand products".

The second theme "Design" also has four factors, which are "Information Quality", "System Quality", "Usability", and "Perceived Usefulness". For this theme, the highest loading was for the information provided about a product being "accurate" at 0.866 whilst a lower loading of 0.601 was allocated to "understand the specific requests of the users".

The "Content" theme consists of only two factors: "Non-monetary", and "Perceived Enjoyment". The "exciting" variable associated with using SN apps for online

purchasing scored the highest loading of 0.888 under this theme. However, the “loyalty points” variable drew the lowest loading of 0.738.

The fourth theme “Social” includes four factors, which are labelled “Social Presence”, “Sellers’ Informational Support”, “Emotional Support”, and “Stakeholders endorsement”. In relation to the “Social” theme, the highest loading of 0.852 was given to the “express interest and concern in my welfare”, while “like to see people’s ratings and reviews about products” variable received lowest loading of 0.612.

The “Psychological” theme also contains four factors, which are “Monetary”, “Community Commitment”, “Trust”, and “Transaction Safety”. The highest loading for this theme was for “I feel a strong connection to a company” at 0.884. While the lowest loading was 0.624 for “they keep my privacy information safe”.

The sixth theme “Culture” consists of five factors, which are named “Technical Skills”, “Team Group”, “Perceived Ethics”, “Uncertainty Avoidance”, and “Habit”. The “Shopping using s-commerce will cause me to lose the privacy of my payment information” variable scored the highest loading of 0.870. However, “the after-sale services may not be guaranteed in s-commerce” variable drew the lowest loading of 0.656.

“Sustainability”, the seventh and last theme, has only two factors, labelled “Environmental Sustainability”, and “Economic Sustainability”. Based on an extensive review of the literature on s-commerce, and to the best of the researcher’s knowledge, none of the previous researches has considered the sustainability theme. Thus, this study included sustainability since this was missing from previous studies, and is aligned with Saudi Arabia Vision 2030. According to the results from the online survey analysis, sustainability could influence customers’ attitudes to the adoption of s-commerce in Saudi Arabia. Therefore, the inclusion of this theme is justified since users consider this factor in terms of s-commerce. For the “Sustainability” theme, the highest loading of 0.862 was given to the “reduces air pollution” while “reduces paper bills” variable received the lowest loading of 0.652.

All the seven themes and their factors from the initial s-commerce model for Saudi Arabia, before the factor analysis as well as the modifications made after the analysis of the factor, are illustrated in Table 4.26. All the changes are shown in red.

Table 4.26: Summary of factor analysis results from the online survey data

Themes	Before Factor Analysis (Initial s-commerce model)	After Factor Analysis
Organization Characteristics	Reputation	Favourable Reputation
	Size	Recognized Company
	Facilitating Conditions	Instructions and Guidelines
		Delivery
Design	Information Quality	Information Quality
	System Quality	System Quality
	Service Quality	Usability
	PEOU	
	Perceived Usefulness	Perceived Usefulness
Content	Nonmonetary	Nonmonetary
	Perceived Enjoyment	Perceived Enjoyment
Social	Social Presence of Web	
	Social Presence of Other	Social Presence
	Social Presence of Sellers	Sellers' Informational Support
	Informational Support	
	Emotional Support	Emotional Support
	Social Influence	
	Social Commerce Constructs	Stakeholders Endorsement
Psychological	Monetary	Monetary
	Community Commitment	Community Commitment
	Trust in Marketplace	Trust
	Trust Towards Members	
	Trust in Sellers	
	Transaction Safety	Transaction Safety
Culture	Perceived Awareness	Technical Skills
	Learning and Training	
	Individualism / Collectivism	Team Group
	Perceived Ethics	Perceived Ethics
	Uncertainty Avoidance	Uncertainty Avoidance
	Habit	Habit
Sustainability	Environmental	Environmental Sustainability
	Economical	Economic Sustainability

4.6 Conclusion

The aim of this chapter was to refine the initial model and determine the factors associated with each theme in order to design the enhanced s-commerce model for Saudi Arabia.

Firstly, a pilot test was conducted to test the survey instrument and determine the validity and the reliability of the online survey questions; changes were made accordingly. Then, the survey was disseminated to the target population through emails and various SN applications. Thirdly, descriptive statistics were applied to generate demographic characteristics and general information about the participants. Results showed that the majority of the participants were male and relatively young (between 18 and 25 years of age). After that, EFA was conducted by using SPSS 26 in order to determine how the variables group together and minimize the number of factors to enhance the s-commerce model. This step illustrated why various variables were deleted, resulting in the removal or merging of several factors. Finally, the participants' comments in the online survey were analysed using the word cloud to list the most frequent and common words. The result clearly identified a new factor named “Delivery” which has been added to the model.

The online survey analysis resulted in seven themes, in accordance with the initial model, and each theme had two or more factors. The researcher refined the initial s-commerce model for Saudi Arabia so as to accommodate the new survey findings as seen in Figure 4.47.

To sum up, this chapter provided a comprehensive overview of the first assessment of the initial model. The next chapter discusses the second stage of the data collection process, and the analysis of the qualitative data obtained from the semi-structured interviews. In the qualitative phase, the enhanced model (Figure 4.47) will be evaluated in order to design the final holistic s-commerce model for Saudi Arabia.



Figure 4.47: Enhanced social commerce model for Saudi Arabia

5 Interviews

5.1 Introduction

The previous chapter discussed the quantitative data collection phase and the analysis of the data obtained from the online survey. It presented the survey findings and the main changes made to the initial model, and the factors. In addition, the enhanced s-commerce model for Saudi Arabia was presented at the end of chapter 4 based on the online survey results, providing the basis for this chapter.

This chapter discusses the second stage of the research data collection process (qualitative phase) which involved the interviews. This phase was intended to yield more in-depth data about s-commerce in Saudi Arabia from the perspectives of e-commerce or s-commerce companies' owners or employees, e-commerce and SN researchers, and academic staff who have experience in this field, to acquire a better understanding of the main factors that influence the adoption of s-commerce technology. This stage was developed from questions that arose from the quantitative results as seen in Table 5.27.

Interviews were conducted to ensure that the enhanced s-commerce model would be comprehensive, and to explore the reasons why and how these factors are significant and therefore to be included in an s-commerce model for Saudi Arabia. This chapter presents the interview findings and the main changes made to the enhanced model, and all the analysis results. The final holistic s-commerce model for Saudi Arabia is presented at the end of this chapter.

Table 5.27: Interview questions and reason for each question

Interview Questions	Aims	Research Questions
Number of years' experience with social commerce?	These are general questions aimed to assess the experts' experience and knowledge of social commerce.	None

Indicate your level of competency in the use of social commerce		None
Based on your experience, list the most important factors that will encourage customers to use SN applications for online shopping?	This question was asked at the beginning of the interview to determine the experts' first impression of the major factors that influence the customers' attitude to the adoption of s-commerce in Saudi Arabia without their knowledge about the online survey results (The Enhance Social Commerce Model for Saudi Arabia).	RQ1
Please rate the importance of the following factors in influencing the customer's attitude to the adoption of s-commerce in Saudi Arabia.	This question was developed to validate, refine, and confirm each factor in the enhanced model from the survey phase result to ensure that the model represents a holistic social commerce model for Saudi Arabia.	RQ1, and RQ2
Do you think the factors under the "..... Theme" are related to each other and can be grouped under the same theme?	The themes and the factors related to each theme were defined based on the literature review and researcher's opinion. So, in this question the researcher wanted to ascertain whether or not the factors under each theme are related to each other and can be grouped under the same theme.	RQ1

<p>Do you think that Social Presence and Stakeholders Endorsement factors can be included under the Social Presence factor?</p>	<p>Some of the literature grouped the Social Presence and Stakeholders Endorsement factors under the Social Presence factor. The researcher received no comments about these two factors from the online survey result. So, the researcher developed this question to obtain the experts' feedback about these factors.</p>	<p>RQ1</p>
<p>Based on our interview, what is your evaluation of the enhanced social commerce model for Saudi Arabia?</p>	<p>Since this phase is intended to collect data from experts that reflect their experiences regarding the s-commerce, these questions were appropriate for evaluating the enhanced social commerce model from the survey, and validating the answers to RQ1, and RQ2. In addition, they address and answer the third research question.</p>	<p>RQ1, RQ2, and RQ3</p>
<p>Do we need to add new factors to the model, or merge, or delete any factors from the developed model? Please give one or more reasons for your response.</p>		

5.2 Interview Design and Rationale

This part presents the design and justification for choosing the semi-structured interview rather than other interview formats.

Qualitative data can be obtained mainly from observations, interviews, and documents, and the variety of these systematic methods is utilized to improve the data. Qu and

Dumay (2011); R. K. Yin (2015) indicated that interviews are one of the most popular methods used for collecting qualitative data. In line with the qualitative method, this study intends to explore various perspectives and experiences on the adoption of s-commerce in Saudi Arabia. Moreover, interview data allowed the researcher to explore in more depth the quantitative results from the survey, and to obtain more explanation of the constructed factors to validate the improvement of the holistic s-commerce adoption model. Most interviews are conducted face-to-face. However, interviews can also be conducted via the Internet for the purpose of collecting data. Online interviews can be either synchronous or asynchronous. The researcher conducted asynchronously semi-structured interviews for the reasons given in section 3.3.6.2. Qualtrics XM was used to provide respondents with the interview questions which invited them to contribute their ideas on the optimal set of factors encompassing the model. Qualtrics XM can assist the researchers to interview the participants regardless of their location. Another benefit of using this electronic platform is that data are recorded as typed, thereby avoiding challenges associated with other methods of recording and transcription such as expense, accuracy and anxiety of the participants (Saunders et al., 2016).

The four steps shown in Table 5.28 below were taken to conduct the interview phase. The first step involved defining the interview objectives. After that, the researcher developed semi-structured interview questions based on the online survey results. Then, purposive sampling was used in the third stage to recruit experts who have s-commerce experience in Saudi Arabia. The fifth step was conducting the interviews. In the last step, the interview data were analysed using the NVivo 12 software.

Table 5.28: The four steps of the interview phase

Process	Description
Defining the interview objectives	<p>The interviews are intended to:</p> <ul style="list-style-type: none"> • Refine the enhanced model and determine the factors associated with each theme in order to design the final holistic s-commerce model for Saudi Arabia.

	<ul style="list-style-type: none"> • Confirm the answer to the first research question, and respond the third research question by examining the experts' perceptions.
Formulating the interview questions	Online semi-structured interviews questions were designed based on the online survey results.
Identifying the interviewees	Purposive sampling was used in the third stage to recruit experts who have s-commerce experience in Saudi Arabia
Conducting the interviews	<ul style="list-style-type: none"> • Asynchronously semi-structured interviews were conducted via the Qualtrics XM platform. • There were three interview rounds of data collection: nine interviews were conducted in the first round, ten interviews in the second round, and only six interviews were conducted in the last round.

5.3 Reaching out to the Interviewees

As indicated in section 3.3.6.2.1, the sample was selected specifically to address the research questions and to meet the research objectives. The targeted population for this phase of the study were e-commerce or s-commerce companies' owners or employees, e-commerce and SN researchers, and academic staff (i.e., assistant professors, associate professors, and full professors) who have experience in the field of s-commerce. Prior to conducting the interviews, a letter of invitation was sent to the target population. In January 2021, the invitation letter was disseminated in two different ways.

The first method was to find potential interviewees and obtain their contact data by browsing the company or university website. In the second way, the researcher searched LinkedIn to find potential interviewees, and sent the invitation letter to interviewees who have experience in s-commerce in Saudi. LinkedIn provides extensive search capabilities which enable the researcher to identify the target sample

based on specific criteria such as experience, job title and education level (Bradbury, 2011).

Table 5.29 shows the interview rounds. The number of interviewees interested in the study are significantly greater than those who actually agreed to an interview.

Table 5.29: The interview rounds

Round	Interviewees number	Period		No. of interviewees interested in the study	No. of completed interviews
		From	To		
1	31	05/03/2021	16/03/2021	17	9
2	23	18/03/2021	31/03/2021	12	10
3	19	01/04/2021	25/04/2021	9	6

The interview questions link was sent to 73 participants who had a sound knowledge of s-commerce and were working in companies or universities in Saudi Arabia. Only 25 participants completed the interview questions. However, as theoretical saturation was reached and emerging data were redundant, after round three, the researcher decided to terminate the interview process as no new data was forthcoming, and more than one expert had mentioned and confirmed most of the already-established themes. According to Saunders et al. (2016), “many research textbooks simply recommend continuing to collect qualitative data, such as by conducting additional interviews, until data saturation is reached: in other words until the additional data collected provide little, if any, new information or suggest new themes” (p. 297).

Most of the participants chose to send the interview questions link to their emails, LinkedIn, WhatsApp, or Twitter profile pages to be answered at their convenience. Table 5.30 shows the distribution methods of the invitation letter for each interviewee.

Table 5.30: Distribution methods

Round	No. of interviewees	Interviewee identifier	Distribution method
One	9	PA1 to PA6 PA7, and PA8 PA9	WhatsApp Email Twitter
Two	10	PA10, PA11, and PA12 PA13 to PA18 PA19	Email WhatsApp Twitter
Three	6	PA20, and PA21 PA22, PA23, and PA24 PA25	LinkedIn Twitter WhatsApp

5.4 Data Analysis

As discussed in section 3.3.6.2.4, thematic analysis was applied to the qualitative data. Braun and Clarke (2006) consider thematic analysis to be a “foundational method for qualitative analysis” (p. 78).

Thematic Analysis (TA) is a method that requires a researcher to code her or his qualitative research data to identify patterns for further analysis related to the research questions. TA can assist the researcher to analyse and comprehend the qualitative data sets whether large or small. Moreover, it can help to integrate related data drawn from different transcripts and identify key patterns from a qualitative data set for more reconnaissance (Saunders et al., 2016). TA is a technique commonly employed by researchers and some academics claim that it is also a part of the content analysis approach (Ryan & Bernard, 2000). It is used to convert a huge amount of text systematically into a highly structured outline of the key findings.

There are two primary ways to identify themes within data: inductive and theoretical (deductive) thematic analysis. In the inductive thematic analysis, the identified patterns are mainly related to the data itself. In this approach, the researcher begins coding the data without attempting to fit it into a pre-existing framework (Patton, 1990). Whereas the theoretical thematic analysis mainly depends on the themes derived from previous conceptual or theoretical work. In this approach, the researcher

begins coding by applying these predetermined codes to analyse the data (Nowell et al., 2017).

In this research, inductive and theoretical thematic analysis were adopted to analyse the qualitative data via NVivo 12. This means that the themes were extracted from the online survey results, and other were developed based on the data. As seen in Figure 5.48, the six steps of thematic analysis proposed by Braun and Clarke (2006) were followed to analyse the data.



Figure 5.48: Thematic analysis steps

- **Familiarisation with the Data**

This is the foundation step that constitutes the bedrock of the remaining analysis steps. Immersion in data entails reading the data repeatedly and actively in search of meanings and themes. Braun and Clarke (2006) advised that during this phase, scholars should examine the entire data set at least once and take notes before the commencement of coding, since ideas and the identification of probable patterns may emerge as researchers become familiar with the entire data set. Once this phase is completed, the researcher is ready to start the more formal coding process.

In this study, the data collected from 25 transcribed interviews were organized and arranged into a document totaling 225 pages. As the first step in the analysis, the researcher read the transcripts several times and took notes so as to become thoroughly acquainted with all aspects of the data.

- **Generating Initial Codes**

In this phase, codes are generated based on the collected data. Coding enables the researcher to simplify a large amount of data and identify certain data characteristics (Nowell et al., 2017). Throughout the coding process, researchers pick key parts of text and apply labels to them in order to index them as they pertain to a theme or pattern in the data (King, 2004). Text parts can be coded under many various themes as deemed suitable by the researcher. Either a software programme or a manual method can be used to do the coding (Braun & Clarke, 2006).

In this research, NVivo 12 software was used to classify and organise the entire data set. According to Nowell et al. (2017), this software assists the researcher to work efficiently with complicated coding systems and enormous volumes of data. The researcher utilised specific themes as coding units after reviewing all the transcribed data. According to Y. Zhang and Wildemuth (2009b), “when using the theme as the coding unit, you are primarily looking for the expressions of an idea. Thus, you might assign a code to a text chunk of any size, as long as that chunk represents a single theme or issue of relevance to your research question” (p. 3).

- **Searching for Themes**

This step entails categorising and organising any relevant coded data extracted into potential themes (Braun & Clarke, 2006). In order to identify a theme, it is necessary to combine components or fragments of thoughts or experiences that are frequently insignificant when viewed alone (Aronson, 1995). A theme could be derived inductively from raw data or deductively from previous theories or research (Boyatzis, 1998).

As previously stated, the interview data was analysed using inductive and deductive thematic analysis throughout this part of the study. Therefore, the list of themes was identified based on the quantitative phase results, and one theme was renamed based upon the qualitative data. Additionally, the researcher kept miscellaneous codes in separate free nodes to make sure they

did not get lost. Some of these codes generated a new sub-theme (factors), and others were discarded.

- **Reviewing Themes**

Throughout this stage, the coded data extracts are reviewed to determine if they constitute a coherent pattern (Nowell et al., 2017). It is important that the data within each theme be coherent, with an obvious and distinguishable difference between themes. Some themes may be combined, while others may need to be divided into several themes. Also, in other cases, there might not be enough data to support certain themes, or the data is disparate. At the end of this stage, scholars should have a solid view of the various themes and how they fit together (Braun & Clarke, 2006).

In this study, the 25 transcripts were meticulously reviewed. After that, the author determined the emerging themes and examined all the themes again to eliminate any overlap if more than one theme included the same section of text. Lastly, a thematic map of the analysis was developed.

- **Defining and Naming Themes**

Stage 5 begins after the researcher has created a satisfactory thematic map of the data. During this phase, the researcher needs to define and further refine the themes and analyse the data within them. According to Braun and Clarke (2006), define and refine mean “identifying the ‘essence’ of what each theme is about (as well as the themes overall), and determining what aspect of the data each theme captures” (p. 92).

In this study, the researcher provided a detailed analysis and generated clear names for each theme. The themes were arranged and reorganized until a consensus was obtained and all supervisors were satisfied that all the collected interview data had been presented in a meaningful way.

- **Writing Up**

Finally, this phase includes the final analysis and write-up of the report. King (2004) advised that direct quotations from respondents are a crucial part of the final report.

We began the process of writing the reports once the final themes were determined. The reports comprised both short quotations and lengthier block quotes, and each quotation was accompanied by a unique identifier allocated to each respondent. Seven main themes resulted from the analysis that forms the final holistic s-commerce model for Saudi Arabia.

Interviewees' responses to 25 questions yielded seven main themes and 25 sub-themes (factors) for the proposed model. Themes were reviewed and developed to combine similar sub-themes under the same theme and to organize them for the final model. Figure 5.49 shows the initial interview coding tree.

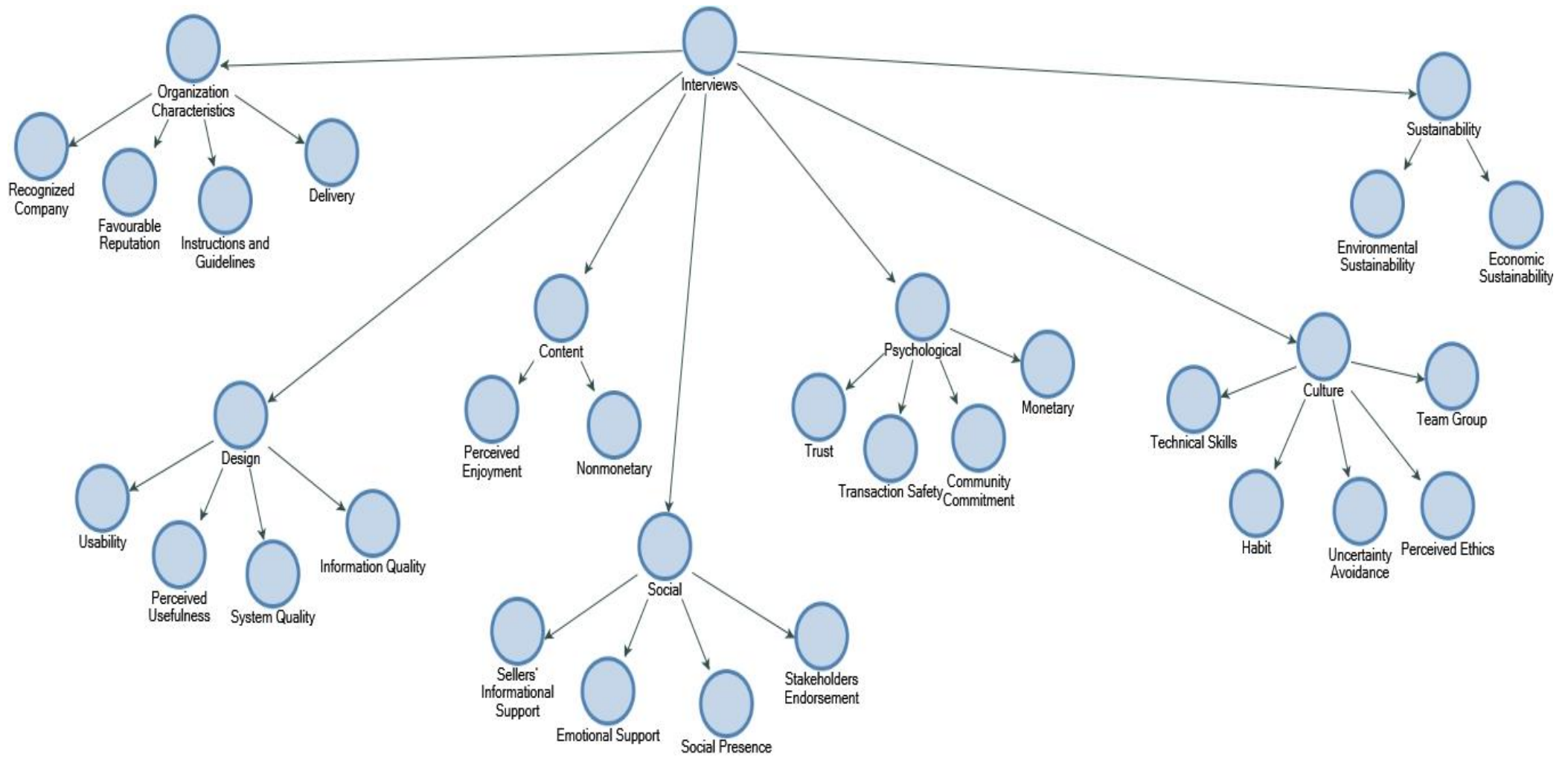


Figure 5.49: Interview coding tree

5.5 Validity and Reliability

According to Patton (1990), validity and reliability are two important elements of a qualitative study when a researcher is designing a study, analysing results, and assessing the study's quality. An examination of trustworthiness is critical for ensuring the validity and reliability of a qualitative study. Seale (1999) claims that the "establishing the trustworthiness of a research report lies at the heart of issues conventionally discussed as validity and reliability" (p. 467).

As mentioned in section 3.3.6.2.5, the researcher applied the four criteria (credibility, transferability, dependability, and confirmability) proposed by Lincoln and Guba (1985) to determine the trustworthiness of the qualitative phase. To ensure that the interviews themselves were trustworthy, the following decisions were taken:

- A methodological triangulation (a mixed methods strategy known as "sequential explanatory research design") was applied to ensure the validity and obtain a comprehensive view of the phenomenon.
- A source triangulation was applied to improve the credibility and strengthen the data.
- The researcher made an effort to provide a detailed description of the process, context, location, and study participants to ensure the study's transferability.
- All the phases of data collection, and analysis, and the findings of the study were reviewed and examined by research supervisors.
- The research supervisors confirmed the internal coherence of the results, discussion, conclusion, and recommendations.

5.6 Interpretations and Results

This section presents the interview results obtained from the 25 participants who worked in various universities and companies related to s-commerce in Saudi Arabia. The author intended to seek data beyond the survey results by interviewing s-commerce experts to gain more in-depth information about the factors that influence the adoption of s-commerce, and which should be included in the final holistic s-commerce model for Saudi Arabia.

The interviews were conducted to elicit participants' thoughts on and attitudes toward the use of e-commerce technologies in Saudi Arabia. The initial set of questions were intended to encourage interviewees to talk about themselves, their position in the company, their history, and their experiences with s-commerce.

The next set of questions were open-ended and were intended to gather information about the interviewees' experiences, and asked them to list the most important factors that encourage customers to use SN applications for online shopping. According to Reja et al. (2003), open-ended questions may be used to collect new and relevant information as well as stimulate the emergence of new concepts through intensive and in-depth debate. Collis and Hussey (2014) indicated that data collection that is rich in detail and analysis enhances the validity of the research. The interviewees were asked 25 questions (please see Appendix 4) which were classified into four sections, as shown in Figure 5.50.

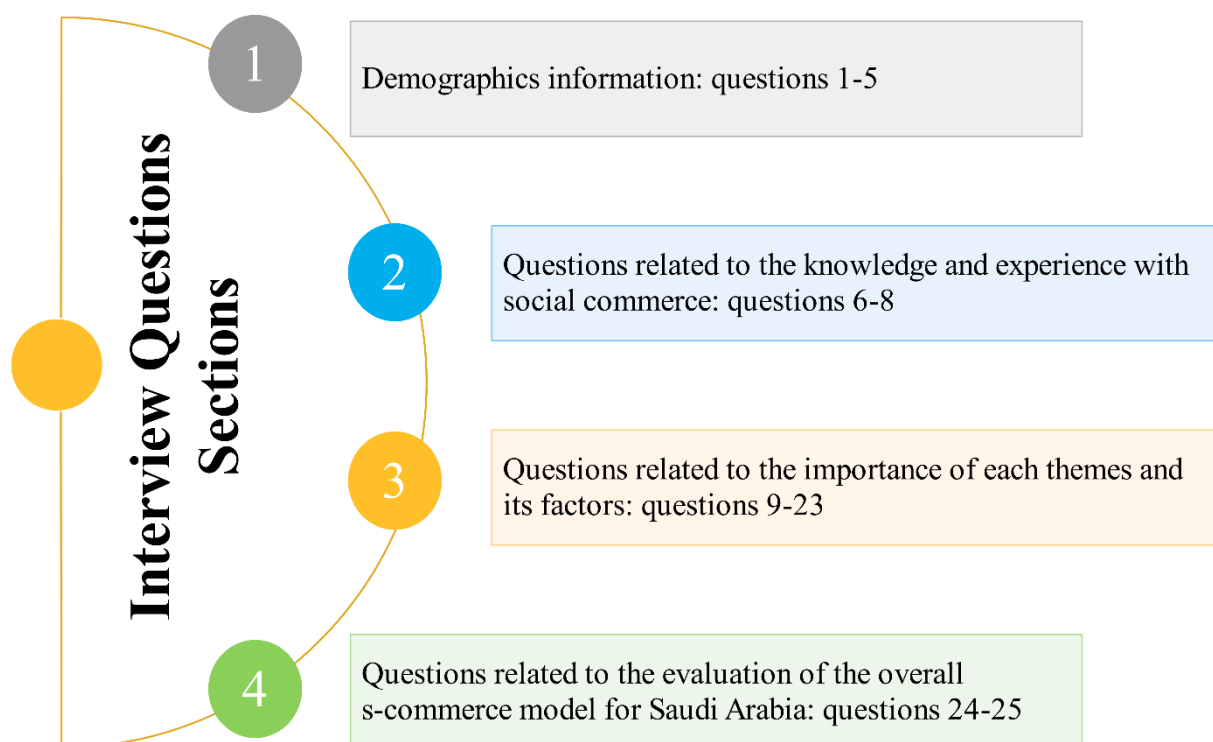


Figure 5.50: Interview questions sections

5.6.1 Demographics Questions

The first set of interview questions were intended to obtain demographic information from the participants: age, gender, education level, position in the company, years in their current job, and experience with s-commerce technology. The demographic data are shown in Table 5.31.

Table 5.31: Participant demographic information

Demographics items	Categories	Frequency	Percentage
Gender	Male	15	60%
	Female	10	40%
	Total	25	100%
Age	23-29	0	0%
	30-36	21	84%
	37-43	4	16%
	44-50	0	0%
	50 and above	0	0%
	Total	25	100%

Highest education level attained	Bachelor degree	6	24%
	Post graduate diploma	0	0%
	Master degree	15	60%
	PhD	4	16%
	Total	25	100%
Years in the current job	Less than one year	0	0%
	1-3 years	2	8%
	4-6 years	13	52%
	7-10 years	8	32%
	More than 10 years	2	8%
	Total	25	100%
Years of experience with social commerce	Less than one year	0	0%
	1-3 years	2	8%
	4-6 years	13	52%
	More than 6 years	10	40%
	Total	25	100%
Level of competency in the use of social commerce	Extremely competent	14	56%
	Somewhat competent	8	32%
	Neutral	3	12%
	Somewhat incompetent	0	0%
	Extremely incompetent	0	0%
	Total	25	100%

Twenty-five experts provided answers to the interview questions. The majority of the participants, as shown in the Figure 5.51 were male, constituting 60% of the whole sample.

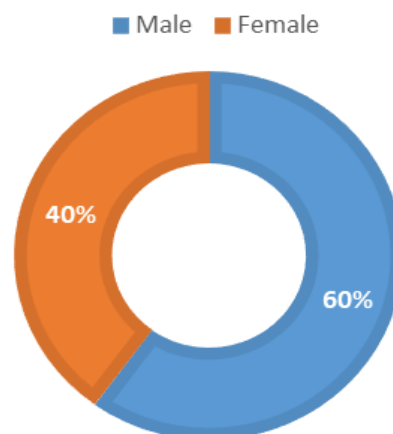


Figure 5.51: Participants' gender

The highest number of participants was in the 30 to 36 years age bracket (84%). On the other hand, only 16 % of the respondents were aged between 37 and 43 years. In terms of the participants' highest-level education, Table 5.31 indicates that the largest proportion of participants (60%) hold a Master degree, followed by 24% with a Bachelor degree. However, a very small percentage of participants hold a PhD Degree (16%).

In addition to providing demographic information, participants were asked about the number of years they had worked in their current job. Experts who reported working for four to six years were the most highly represented, accounting for 52%, followed by those who had worked for seven to ten years. Participants who had worked for one to three years or more than ten years were the accounted for only 8% of participants.

In regard to the number of years of experience with s-commerce, the great majority (52%) of the respondents have four to six years' experience with s-commerce, followed by 40% have more than six years' experience with s-commerce, and only 8% have one to three years of s-commerce experience.

Experts were also asked to describe their experience with s-commerce. Fourteen participants (56%) were extremely competent with s-commerce, followed by those who reported being somewhat competent (32%), while only three (12%) showed that they were neither competent nor incompetent. Table 5.32 summarises the interviewees' descriptions of and experiences with s-commerce.

Table 5.32: Interviewees and their descriptions

Interviewees	Gender	Qualification	Work Experience with Social Commerce	Current Job
Participant 1 PA1	Female	Master degree	I have a competent level of knowledge and experience of social commerce technology via teaching e-commerce course, and publish different papers related to the topic. I rely on social media sites a lot in term of keeping up to date with fashion trends, learning about online self-development workshops, finding out interesting information, networking with academics and other people. I am an active user of Instagram, and Snapchat.	Lecturer
Participant 2 PA2	Female	Master degree	I have a high level of experience, and knowledge of s-commerce via experimenting with s-commerce applications especially Instagram Since 2015.	Branch Manager
Participant 3 PA3	Female	Master degree	I am expert in online shopping strategies and the different platforms used to conduct digital shopping or conversions on a website.	Online Shopping Specialist
Participant 4 PA4	Male	Master degree	I am teaching e-commerce and e-business courses in the Management Information Department.	Lecturer
Participant 5 PA5	Male	PhD degree	I am specialist in building digital and marketing strategies and policies and very familiar with the social commerce as it is part of my job.	Digital Marketing Trainer & Consultant
Participant 6 PA6	Male	PhD degree	I knew about social commerce from the very beginning of its emergence among people, and the reason for this I was in the United States, the cradle of social commerce, where I was an undergraduate student at that time in a college town. It was a very common thing to buy and sell things among students from other cities with local people, especially during the end of the semester and more often at the end of the school year (in May of each year).	Assistant Professor and Head of the Department of Management Information System

Participant 7 PA7	Male	Bachelor degree	I am working as a customer feedback analyst in the company for more than two years. We receive certain feedbacks from peers who buying our product or service that we are selling online via different SN apps.	Customer Analyst
Participant 8 PA8	Male	Master degree	Currently I am an entrepreneur owning and operating my own business (S-commerce company).	Entrepreneur and Consultant
Participant 9 PA9	Male	PhD degree	An academically accomplished PhD in E-business. I have a unique combination of skills and capabilities acquired during research and work experience about s-commerce.	Assistant Professor, and Head of Innovation and Business Development
Participant 10 PA10	Male	Master degree	I have high experience in SN. Also, I am skilled in interpersonal skills, analytical skills, and web design.	Creative Content Developer
Participant 11 PA11	Female	Master degree	I believe that I have enough knowledge about the s-commerce and the factors that encourage customers to buy using it. I am using the s-commerce for selling and marketing my company items.	Entrepreneur
Participant 12 PA12	Female	Master degree	A seasoned Information Technology and Business Development professional with a demonstrated history of more than 15 years of experience in different senior positions	Senior Business Development Consultant
Participant 13 PA13	Male	PhD degree	I am academician with more than 20 years of teaching experience, both at undergraduate and postgraduate level. I am active researcher in the field of E-business, and SN, and I have published more than 25 papers in different international journals.	Assistant Professor, King Faisal University
Participant 14 PA14	Female	Master degree	I have more than 6 years' experience as an e-commerce in both client and agency sides. Also, I have worked with different companies to build, develop and deliver their digital strategies.	Senior Digital and E-Commerce Manager
Participant 15 PA15	Male	Master degree	I am interested in SN, and e-commerce.	Marketing Specialist

Participant 16 PA16	Male	Bachelor degree	Experienced brand management and marketing professional with over 5 years of international experience.	Corporate Communication and E-Commerce Manager
Participant 17 PA17	Male	Master degree	A Digital Marketing and e-commerce lover. My main job is to build a brand presence, engagement, and customer-loyalty from scratch in the digital world.	Specialist in the Social Media Marketing
Participant 18 PA18	Male	Bachelor degree	I have a competent level of knowledge and experience of social commerce with more than six years' experience.	E-commerce Director
Participant 19 PA19	Female	Master degree	I teach couple of courses in social media, and online shopping.	Lecturer
Participant 20 PA20	Male	Bachelor degree	I work as a Digital Marketing Manager with a focus on designing strategies to increase sales through SNSs.	Digital Marketing Director
Participant 21 PA21	Female	Master degree	I am responsible for managing the e-commerce department which include the analysing, development and implementation of different strategies that involve customer relationship services, and digital marketing.	Head of e-Commerce Department
Participant 22 PA22	Male	Bachelor degree	I work as an IT consultant in the last 8 years, finished 9 projects successfully. 4 of my 9 projects include SN technology aligned with online shopping.	IT consultant
Participant 23 PA23	Male	Master degree	I track the data and provide adequate advice as to how the work can go forward by rising revenue.	E-commerce Business Analyst
Participant 24 PA24	Female	Bachelor degree	Actually, we are selling our product by using the Instagram, and Facebook applications since 2018. So, I am totally familiar with the s-commerce.	E-commerce specialist and experienced in customer service
Participant 25 PA25	Female	Master degree	Social commerce is when a person buys a product/service through social platforms. I have some interactions with some product providers who have been recommended to me.	Lecturer/ Researcher Graduate

5.6.2 Important S-commerce Factors Based on the Interviewees' Experience

In this stage, the researcher asked the interviewees one open-ended question concerning their experience, and knowledge about the most important factors that will encourage customers to use s-commerce. The question (number 8) was:

- Based on your experience, list the most important factors that will encourage customers to use SN applications for online shopping?

This question was framed to elicit information about the interviewees' perspective and experience of s-commerce. This related to the research question regarding the factors that must be included when developing a holistic s-commerce model for Saudi Arabia. Responses to question 8 produced some of the significant factors related to organization characteristic, social, and design themes that might promote the adoption of s-commerce in Saudi Arabia based on the experts' experiences, such as recognized company, social influence, and usability. The participants' answers are shown below:

It is a social networking site so people are looking for the social aspect and this can be reflected in a good content such as sharing interesting skincare routine, updates about fashion, new information/updates about the society, new opportunities, travel information etc.... build a good relationship with the audience and make a strong connection. (PA1)

Image quality and display information, payment method, report the violators of using the site, and the response of the site management to that, and availability of more than one delivery option. (PA6)

Providing accurate information, and a good quality infrastructure. (PA16)

Providing a useful, and reliable information, having a strong attachment with customers, and be honest to get trust. (PA23)

The presentation, prices and the ability to interact with the seller. Also, recommendations and testimonials. (PA25)

Other interviewees emphasized the crucial factors related to content, psychological, and culture themes such as trust, privacy, habit, and perceived enjoyment.

There are many factors, but the most important one is Trust. (PA3)

Easy to use, trust in marketplace, sellers, and apps, security, usefulness, money saving, free delivery, and quality. (PA12)

Enjoying, ease of use, trust, app interface, seller support, recommendations, and privacy. (PA11)

There are many factors that motivate consumers to use s-commerce. As a point of my view security, trust, and famous brand or company are the most important factors. (PA14)

Trust is the most important factors that any customer looks for to use s-commerce. (PA19)

I think Trust in seller, and company, privacy and culture are the most important factors that will encourage customers to use social networking applications. (PA24)

5.6.3 Thematic Analysis of S-commerce Themes

This section presents the experts' comments about the essential factors required for the adoption of s-commerce in Saudi Arabia and whether these factors influence the customers' attitudes toward the adoption of s-commerce in Saudi Arabia. The interview questions in this section were designed to assess the seven themes yielded by the online survey results and validated by the interview data. These themes include organization characteristics, design, content, social, psychological, culture, and sustainability themes. In addition to the themes, from the online survey data, 25 factors were extracted which are associated with the themes, and must be assessed.

5.6.3.1 Theme One: Organization Characteristics

As explained in section 4.5.1.2.1.1, this theme focuses mainly on four factors: favourable reputation, recognized company, instructions and guidelines, and delivery.

In this part of the interview, the participants were asked to rate the importance of each factor in this theme. From the interviews, it was observed that the majority of the participants agreed with the importance of the four factors. However, only two interviewees believed that the recognized company factor is only slightly important, and one felt that the instructions and guidelines factor is slightly important as well. Figure 5.52 below shows the interviewees' thoughts regarding the importance of the four factors under the theme of organization characteristics.

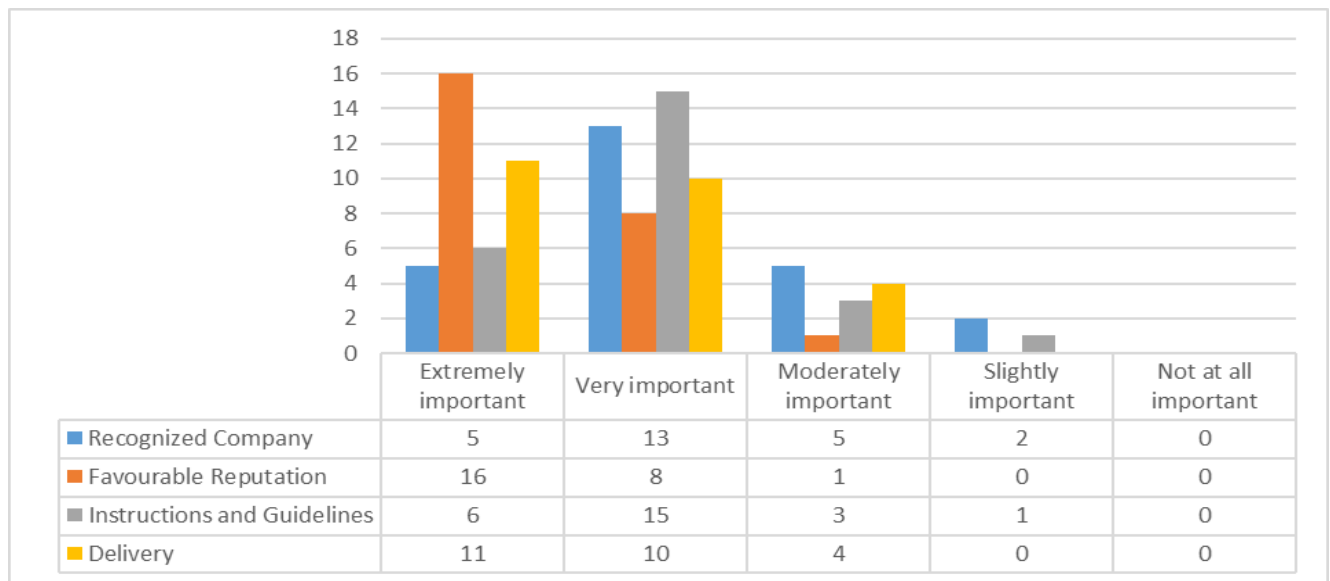


Figure 5.52: Interviewees' rate regarding the importance of the four factors under the organization characteristics theme

Then the researcher asked the interviewees to give the reason for their rating. Interviewees indicated their reasons of the factors rating by the following comments:

Because these four factors "Recognized Company", "Favourable Reputation", "Instructions and Guidelines", and "Delivery" form the cornerstone of any organization, and if any one of them is dysfunctional. In my opinion, it causes the entire system to malfunction. For example, let's assume that an organization has the first three factors, but it has a problem with the fourth factor, "Delivery" We will find that customers abandon it over time, and this happened frequently in Saudi Arabia. (PA6)

This theme consists of all essential factors that I could I think of. (PA15)

In term of organization theme these four factors are the most value factors in order to encourage customers in Saudi to shop online using the social networking applications. (PA20)

- **Recognized Company, and Favourable Reputation**

As seen in Figure 5.52, most of the interviewees admitted that the recognized company and favourable reputation factors play a significant role in the successful adoption of s-commerce in Saudi Arabia. These views are evident in the following quotations:

The reputation is very important, and we can assess the company based on their reputation which will likely reflect on their quality of products and services. (PA1)

Consumer always looking deeply to the company reputation and whether it is known or not. (PA3)

I usually buy from company or people who have a good reputation, and well-known companies. (PA5)

Companies which provide a popular product, deliver their items on time, and concern about their customers they will have a good reputation. (PA23)

Tellingly, however, other experts pointed out that it would be better to delete the recognized company factor or merge it with the favourable reputation factor as it refers to the same meaning. Experts' comments regarding this point are given below:

The first and second factors (Recognized Company, and Favourable Reputation) are related to each other and can play significant parts in fostering the trust. (PA12)

Do you think the first two factors have the same meaning? (PA19)

Customers feel concern about the Favourable Reputation of the company, but they do not pay any attention if the company is well recognized or not. (PA22)

- **Instructions and Guidelines**

Instructions and guidelines are known as facilitating conditions (users' perceptions of the instructions and guidelines available to perform s-commerce) in the UTAUT 2 theory (Venkatesh et al., 2012). It was noticeable that the great majority of the interviewees identified instructions and guidelines as a significant factor that influences behavioural intention to use technology and usage behaviours. Quotations below show their opinions about this factor:

Instruction also another relevant factors as it will reduce the errors and problems might occur during the shopping experience (PA1)

Guidelines help customer to make purchases easier and clear. (PA2)

Providing an obvious instruction to the customers about the buying steps will of course encourage consumers to buy especially the customers who have not use the s-commerce before. (PA12)

This is very important factor and different studies approved that this factor has high influence on the usage behaviour. (PA13)

On the other hand, other interviewees declared that the instructions and guidelines do not have any effect on behavioural intention to use s-

commerce because users in Saudi Arabia are familiar with the procedures associated with using s-commerce.

With the revolution of the technology, there are no needs for any instructions and guidelines for how to use the s-commerce... Most or all of the consumers are familiar with the procedures of using online shopping by using social networking apps in Saudi. (PA10)

I think there is no need for instructions and guidelines as long the site is easy to use. (PA18)

- **Delivery**

This is the last factor of organization characteristics theme. Most of the interviewees (84%) attested to the paramount importance of the delivery factor in influencing the adoption of s-commerce in Saudi Arabia, as seen in the following comments:

Delivery is the highest importance for me as it will be related to my satisfaction level! Once I get my package in the right time and condition this means I will be happy and might purchase again. (PA1)

The delivery facilities process for buying and increase demand on company products if it is free or offering fast trust delivery in cheap fees. (PA2)

Also, researcher should pay more attention on the last point Delivery as it is a sensitive issue in Saudi. (PA24)

5.6.3.1.1 Modifications in the Organization Characteristics Theme

Then, the interviewees were asked to comment on the relationship between factors and whether they are grouped under the right theme.

- Do you think the factors under the “Organization Characteristics Theme” are related to each other and can be grouped under the same theme?

In brief, as seen in Figure 5.53, most interviewees (23 out of 25) confirmed that all the four factors are related to the organization characteristics theme, and are logically related to one another.

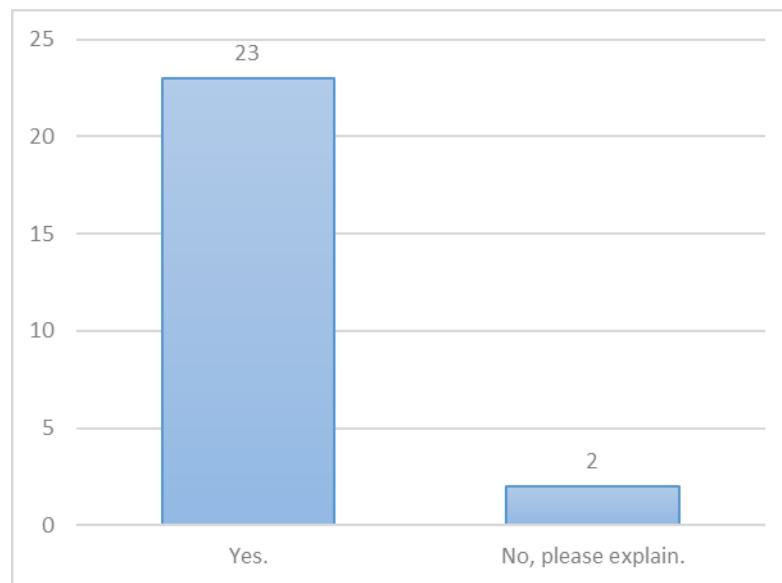


Figure 5.53: Interviewees' evaluation regarding the relations between factors in the organization characteristics theme

A recognized company and favourable reputation factors are related to each other and have the same meaning as s-commerce experts pointed out previously. In the context of s-commerce, any organization with a favourable reputation should be a well-known company. So, the recognized company factor was eliminated from the final holistic s-commerce model.

Based on the interview data analysis, this theme has three significant factors which could enhance the adoption of s-commerce in Saudi Arabia: favourable reputation, instructions and guidelines, and delivery as shown in Figure 5.54.

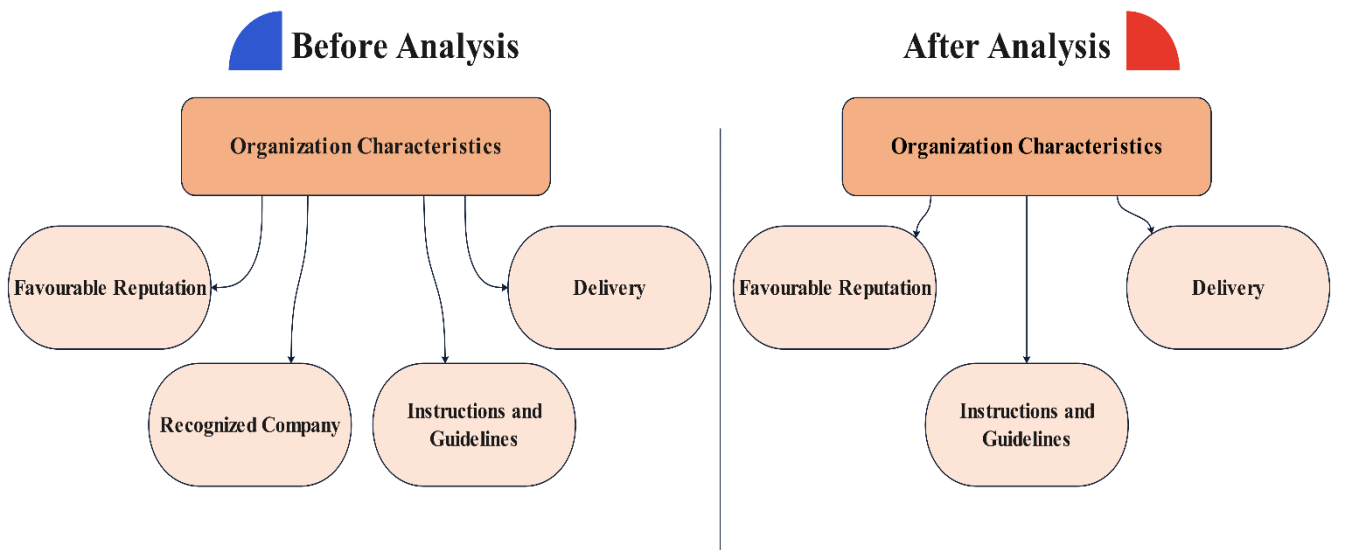


Figure 5.54: Coding tree of organization characteristics theme

5.6.3.2 Theme Two: Design

As stated in section 4.5.1.2.1.2, this theme consists of four factors: usability, perceived usefulness, system quality, and information quality. In this section, the interviewees rated the importance of the factors associated with the design theme.

The data showed that the majority of participants confirmed the importance of the four factors. Nevertheless, one interviewee believed that the perceived usefulness factor is only slightly important, and another one agreed that the system quality factor is only slightly important as well. Based on the interview data, Figure 5.55 illustrates the importance rating of the four factors under the design theme.

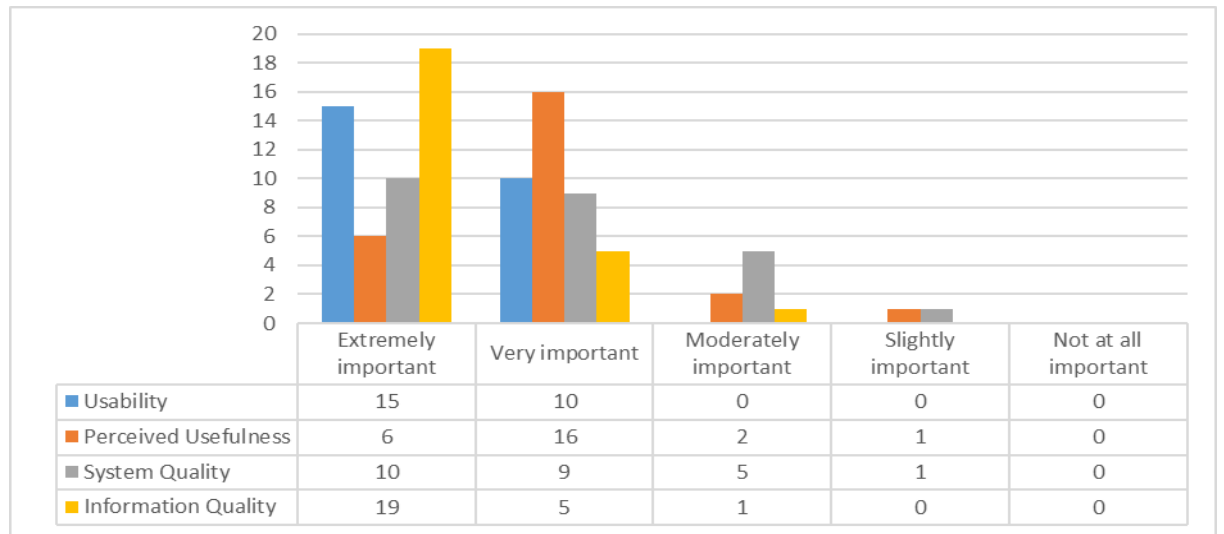


Figure 5.55: Interviewees' rate regarding the importance of the four factors under the design theme

After giving these factors an importance rating, interviewees were asked to give the reason for their rating. The explanations included the following:

Functionality such as usability, usefulness, quality are essential factors in social commerce because they attract the customers to use the social networking apps for online shopping. (PA5)

All the world-famous Internet sites combine perfectly on these four factors Usability, Perceived Usefulness, System Quality, and Information Quality. As it is not sufficient to achieve these four factors only in the first version of the site, but rather is a continuous process of updating that keeps pace with the latest technologies in website design. Find what suits users and how compatible this is with the devices they use. (PA6)

Very important theme and consist of all the significance factors. (PA15)

The Design theme and the factors under it considered as significant factor in determining the success of a social commerce and user behaviour (PA25)

- **Usability**

The usability factor was cited by all of the interviewees as an important factor that would encourage s-commerce use and adoption, as illustrated by the following quotations:

Also, usability is very significant factor because the less the effort required of an individual to learn and use the s-commerce app, the more likely he or she is use it frequently. (PA3)

Ease of use is part of the usability. When marketplace and s-commerce apps construct sites that are easy to use and navigate, they are effectively will build a relationship with their consumers. (PA12)

People use s-commerce because it has many benefits such as shopping with more convenience, and more product variety. (PA16)

I think it is important to focus on the usability and this will influence customer to use the s-commerce. (PA21)

- **Perceived Usefulness**

The great majority of the interviewees (88%) agreed that perceived usefulness is a significant factor that would encourage customers to use s-commerce in Saudi Arabia, as seen in the following:

Consumers will be encouraged to use the s-commerce when they perceive the usefulness of it. (PA10)

Consumers always care about if this technology is useful or not. (PA14)

People use s-commerce because it has many benefits such as shopping with more convenience, and more product variety. (PA16)

Despite the importance of the perceived usefulness factor, some interviewees believed that this factor is not related to the design theme.

Perceived Usefulness is important factor, but it has no relation to the design theme. You can create new theme for it. (PA3)

Usefulness factor is very important factor, but I think better to move to another theme. (PA12)

ALL of them related to the design theme except the Perceived Usefulness factor. It is important factor, but you could move it to another theme. (PA13)

- **System Quality and Information Quality**

These are the last two factors under the design theme. According to H. Lin et al. (2014), system quality could influence a customer's sense of belonging to an SNS. Moreover, Y. Kim (2011) maintained that the quality of the information is a crucial factor that affects customers' trust in s-commerce.

As can be seen in Figure 5.55, most of the interviewees confirmed that system quality and information quality play a significant role in the

successful adoption of s-commerce in Saudi Arabia. Experts' opinions regarding this point are indicated below:

Information and system quality factors are very important because they are increasing the consumers' trust in online environments. (PA3)

Consumers will be encouraged to use the s-commerce when they perceive the usefulness of it, and trust on the quality of the system, and information. (PA10)

Customers need an accurate information when he is not familiar with a brand or product, while he buys online. (PA20)

One of the most important factors that can motivate customer to use s-commerce is having a useful, and comprehensive information. (PA23)

Other participants believed that the service quality factor should be included in the s-commerce model as it encourages the adoption of s-commerce in Saudi Arabia, as indicated by the comments below:

Totally agree with you but What about the service quality!! (PA7)

I do not see that you mentioned the service quality?! Which is more important than system and information quality? (PA11)

Regarding Quality factors, different studies have reviewed the significance of s-commerce site quality. There are three different sites quality measures: Information quality, system quality, and service quality. (PA12)

As I know, there are three different type of the quality that can be used to measure any technology: information, system and service quality. I think better to add the service quality to your model to get a comprehensive image. (PA24)

5.6.3.2.1 Modifications in the Design Theme

The interviewees were then asked to evaluate the relationships between factors and comment on whether they belonged to the correct theme.

- Do you think the factors under the “Design Theme” are related to each other and can be grouped under the same theme?

As shown in Figure 5.56, the majority of participants (84%) agreed that all four factors were related to the design theme and had a logical interrelationship.

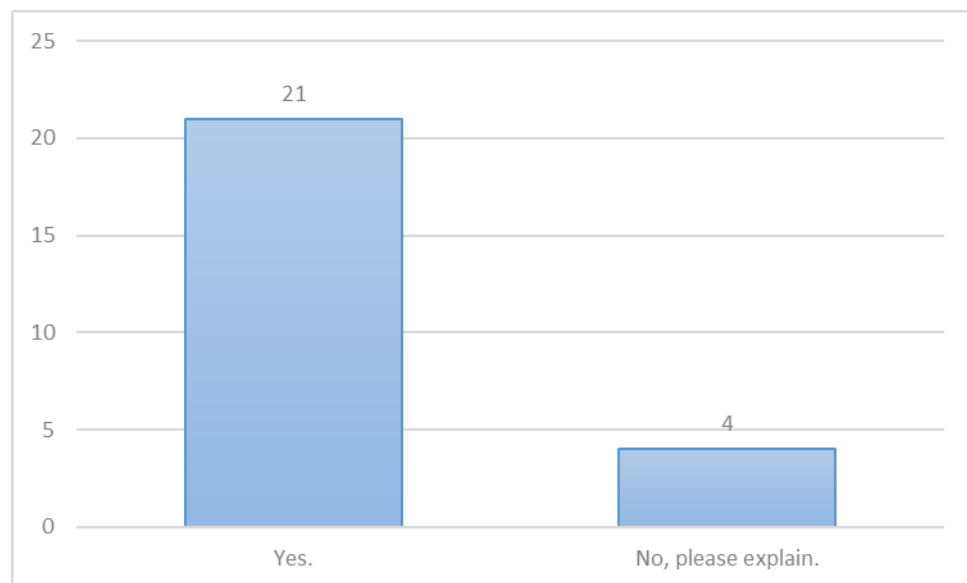


Figure 5.56: Interviewees' evaluation regarding the relations between factors in the design theme

In short, the usability, perceived usefulness, system quality, and information quality factors were confirmed by the majority of the interviewees. However, the perceived usefulness factor became a new theme in the final s-commerce model. Also, a new factor (service quality) was added to this theme (design theme) based on the experts'

opinion. This is consistent with the Hernández et al. (2009) finding that the system, information, and service quality provided by a company through its website are the most important aspects of commercial website design.

Based on the thematic analysis, this theme has four significant factors that can encourage the adoption of s-commerce in Saudi Arabia: usability, system quality, information quality, and service quality as shown in Figure 5.57.

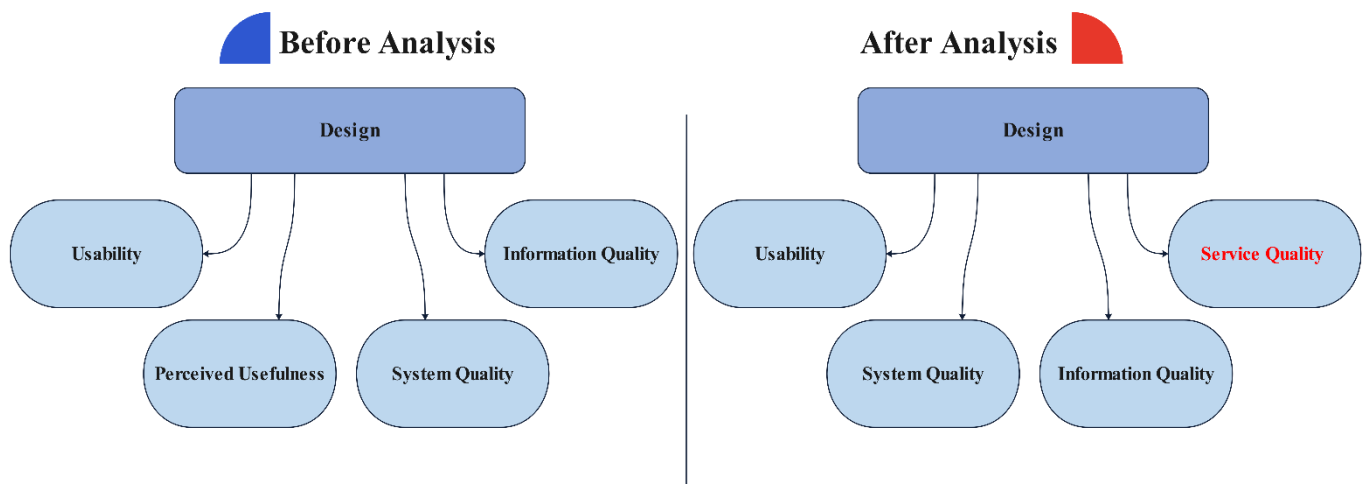


Figure 5.57: Coding tree of design theme

5.6.3.3 Theme Three: Content

As stated in section 4.5.1.2.1.3, this theme has two factors: non-monetary and perceived enjoyment. In this section, the interviewees rated the importance of the content theme-related factors. The majority of the interviewees (19 out of 25) agreed that the non-monetary factor was important. On the other hand, only 32% of the interviewees considered that the perceived enjoyment factor is important. Figure 5.58 below shows the interviewees' opinions regarding the importance of the two factors under the content theme.

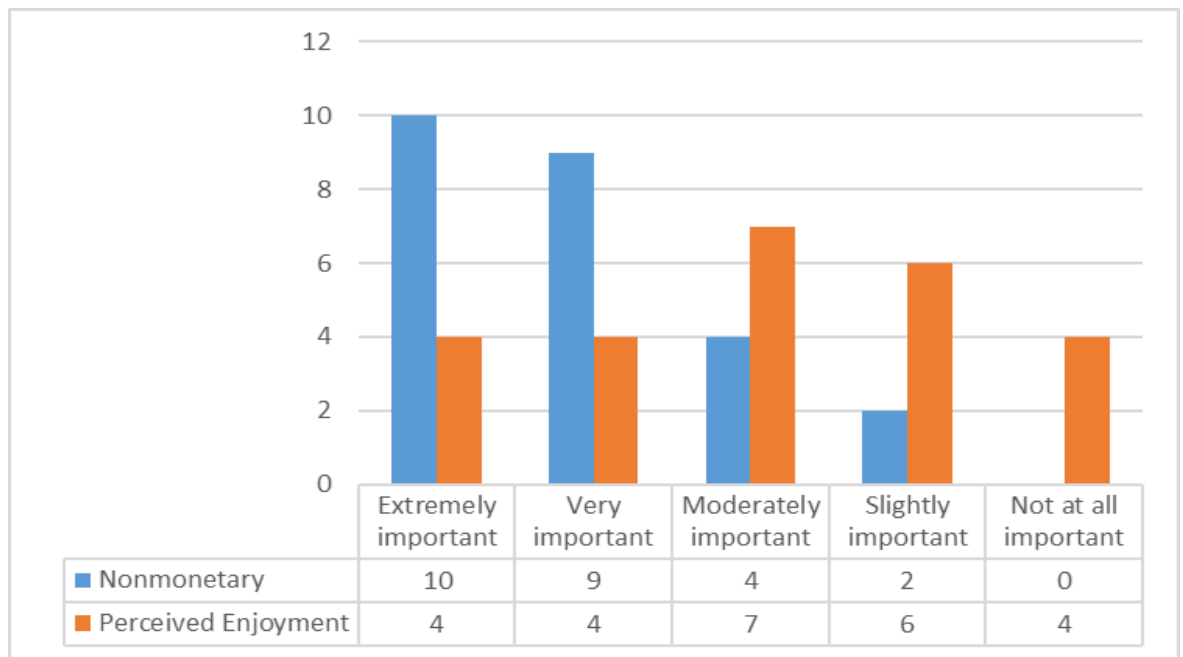


Figure 5.58: Interviewees' rating regarding the importance of the two factors under the content theme

Some experts (4 interviewees) suggested a new name for the content theme. They believed that it should be labelled 'usefulness' instead of 'content'. Experts' comments regarding this point are given below:

I recommend the researcher to change the theme name to Usefulness. Then he can put the following factors under it (Monetary, and Nonmonetary). (PA3)

You should change the theme name to usefulness theme and delete the usefulness factor from the design theme. (PA7)

I would like to change the Content theme to Usefulness theme. (PA9)

Well, I think here what I have talked about it previously. You can change the Content theme name to Usefulness theme. (PA12)

- **Nonmonetary**

Seventy-six percent of interviewees agreed that the non-monetary factor plays a significant role in the successful adoption of s-commerce in Saudi Arabia. This viewpoint is evident in these comments:

I think that these two factors “Non-monetary” and “Perceived Enjoyment” are very helpful in social commerce, especially if we take into account the spread of social networks among people and the extent of this impact on other potential customers who may increase the amount of purchase of a specific product or site visits due to the availability of these two factors. (PA6)

Non-monetary factor such as giving a gift for consumer consider as very important factor that could motivate consumer to buy online using the social networking apps. (PA8)

“When a company provide customers with special offers, and gift, they will get the customers loyalty.” (PA23)

- **Perceived Enjoyment**

Some interviewees saw the use of s-commerce as a pleasurable experience. They believed that the design of s-commerce sites has to be enjoyable as indicated by the comments below:

There are no doubts that Nonmonetary, and perceived enjoyment factors are significant. (PA3)

Very important points for any customers would like to use s-commerce. (PA18)

I think customers in Saudi Arabia will accept the s-commerce for shopping as it is enjoyable and saving their time. (PA21)

On the other hand, other participants confirmed that it would be better to remove the perceived enjoyment from the model because it is under the non-monetary factor.

But perceived enjoyment factor is part of the nonmonetary factor. You know that Nonmonetary consist of many elements such as the amount of time spent on purchasing, enjoyment and emotional efforts. (PA3)

Remove the Enjoyment factor because it is included under the Nonmonetary Factor. (PA12)

Most of the interviewees believed that there is no direct relationship between enjoyment and using of s-commerce as supported by the comments below.

Customers do not care about the enjoyment inside the s-commerce platform. They use it for shopping purpose not for the entertainment (PA5)

S-commerce focuses on online shopping not about entertainment. (PA10)

I am not sure about what does enjoyment factor means here!! There is no relation between online shopping and enjoyment. Saudi consumers care about saving money when the shopping. They are not looking for how enjoy it is. (PA14)

I think that there is no direct relationship between Enjoyment and using of s-commerce. (PA17)

5.6.3.3.1 Modifications to the Content Theme

The interviewees were then asked to evaluate the relationships between factors and comment on whether they were under the correct theme.

- Do you think the factors under this theme are related to each other and can be grouped under the same theme?

The participants agreed that the factors are related to this theme, but they suggested including the perceived enjoyment factor under the non-monetary factor. Moreover, some participants indicated that the monetary factor should be under this theme instead of the psychological theme. Experts' comments regarding this point are below:

*Here the Monetary factor is part of the perceived usefulness.
(PA2)*

Also, I have seen that you added the monetary factor under the Psychological Theme. I think better to add it here. (PA7)

You might need to add another factor related to the usefulness such as Saving Money. (PA9)

You can add monetary factor to this theme. (PA19)

As a result of the interviewees' suggestions, the theme name was changed from 'content' to 'perceived usefulness'. And the non-monetary factor was confirmed by the majority of the participants to reflect the purpose of it correctly. Also, a monetary factor was added to this theme (perceived useful theme) based on the experts' opinion. However, the perceived enjoyment factor was excluded following the suggestion offered by most of the interviewees.

Based on the interview data analysis, this theme consists of two significant factors which could encourage the adoption of s-commerce in Saudi Arabia: non-monetary and monetary as shown in Figure 5.59.

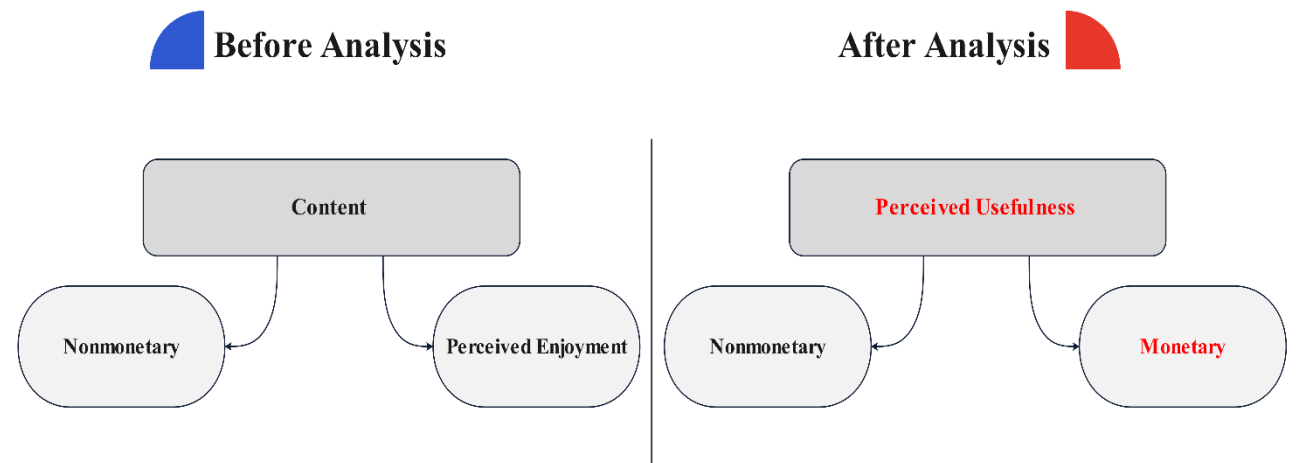


Figure 5.59: Coding tree of perceived usefulness theme

5.6.3.4 Theme Four: Social

According to T. Zhou (2019), social interaction is an important predictor of consumers' intention to use s-commerce. As discussed in section 4.5.1.2.1.4, this theme contains factors: social presence, sellers' informational support, emotional support, and stakeholders' endorsement. In this section, the interviewees rated the importance of the factors associated with the social theme. Most of the participants agreed on the importance of the four factors. However, one interviewee believed that the social presence and emotional support factors are only slightly important, and one felt that the sellers' informational support factor is not important at all. Figure 5.60 depicts the interviewees' perspectives on the significance of the four factors under the social theme.

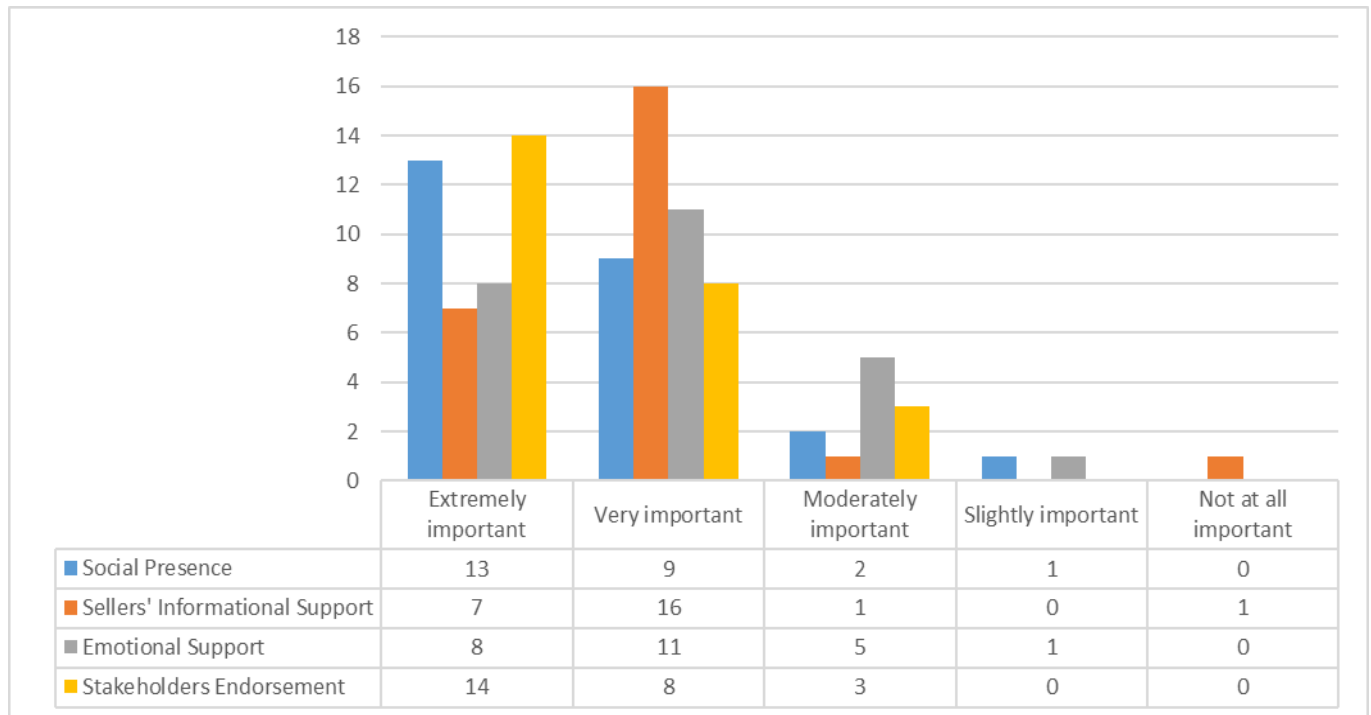


Figure 5.60: Interviewees' rate regarding the importance of the four factors under the social theme

When asked to explain their rating, interviewees' comments included:

Social presence would make it more realistic and relatable and might make me comfortable with it. (PA1)

Consumers on the online shopping always concern about others' opinions. So, they normally could be influenced socially by other users. (PA10)

It is important to include the social factors to your model. Effective connection and social interaction in the social networking apps is considered to be the key to establish a successful online relation between marketplace, sellers and buyers. (PA11)

These are the most common factors under social theme in any process of adopting new type of technology such as s-commerce. (PA15)

From my experience, if all the above factors were considered carefully, this will cover the social theme. (PA17)

- **Social Presence**

A social presence enables people to sense human contact, human warmth, and sensitivity and is, therefore, an important predictor of the intention of an individual to use s-commerce (S. Sharma et al., 2019). As seen in Figure 5.60, most of the interviewees confirmed that the social presence factor plays a vital role in the successful adoption of s-commerce in Saudi Arabia. Interviewees' feedback regarding this factor is given below:

For example, the social presence is important because this reflects the experience of using social media in general and social commerce in specific. (PA2)

Users in SA will be influenced from their peers or community in regard to the use of social commerce. (PA5)

Human experience is important and influence customers to use s-commerce. (PA16)

- **Sellers' Informational Support**

The great majority of the interviewees (23 out of 25) agreed that sellers' informational support is a significant factor that encourages customers to use s-commerce in Saudi Arabia. Some of the views include:

It is important to providing messages in the form of advice, or knowledge from the sellers that could assist consumers when they face a problem. (PA3)

In short, the Sellers' Informational Support is what a buyer is looking for when he/she has an opportunity to compare products or intermediate sites to buy things. (PA6)

- **Emotional Support, and Stakeholders' Endorsement**

These are the last two factors under the social theme. According to J. Chen and Shen (2015), emotional support emphasises the care and compassion of the community which is essential, especially for developing ties in the community of s-commerce. Moreover, customer testimonials on social commerce sites can include content with a negative or positive valence (Y. Wang & Yu, 2017).

As can be seen in Figure 5.60, most of the experts confirmed that emotional support and stakeholders' endorsement play an important role in the successful adoption of s-commerce in Saudi Arabia. The following are the opinions of interviewees on this point:

Users in SA will be influenced from their peers or community in regard to the use of social commerce. (PA5)

Emotional support, and stakeholder's endorsement such as customer reviews has a significant effect on the consumers' intention to use social commerce. (PA12)

Recommendations, and emotional support are important and influence customers to use s-commerce. (PA16)

Recommendations that come from close friends highly encourage customers in the adapting and using the s-commerce. (PA19)

5.6.3.4.1 Modifications in the Social Theme

Interviewees were then asked to evaluate the relationship between factors and comment on whether they belonged under the social theme.

- Do you think the factors under the “social theme” are related to each other and can be grouped under the same theme?

As seen in Figure 5.61, most interviewees (92%) agreed that all the four factors are related to the social theme, and have a logical interrelationship.

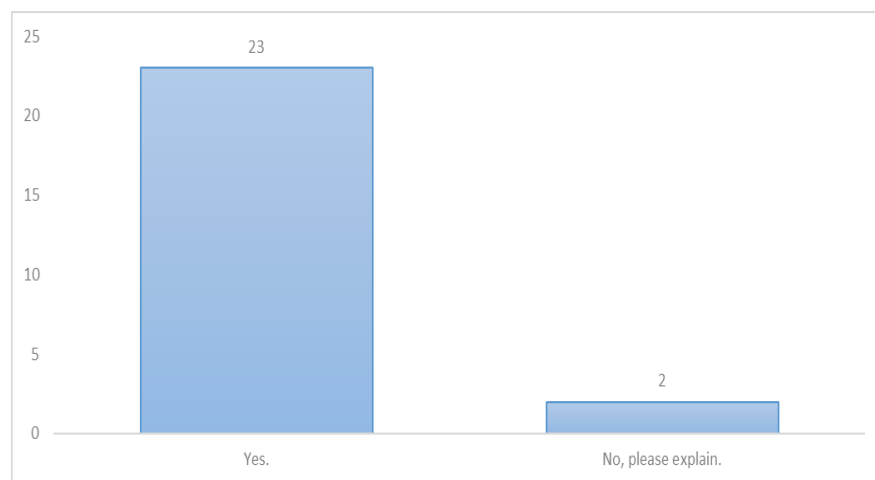


Figure 5.61: Interviewees' evaluation regarding the relations between factors in the social theme

In short, the importance of social presence, sellers' informational support, emotional support, and stakeholders' endorsement factors was agreed upon by the majority of the respondents. However, the name of the stakeholders' endorsement factor was changed to “Customer Testimonials” following one expert's suggestion:

Endorsement usually is used with celebrities so better to change it to Customer Testimonials. (PA23)

Based on the thematic analysis, this theme consists of four essential factors that can motivate the adoption of s-commerce in Saudi Arabia: social presence, sellers'

informational support, emotional support, and customer testimonials as shown in Figure 5.62.

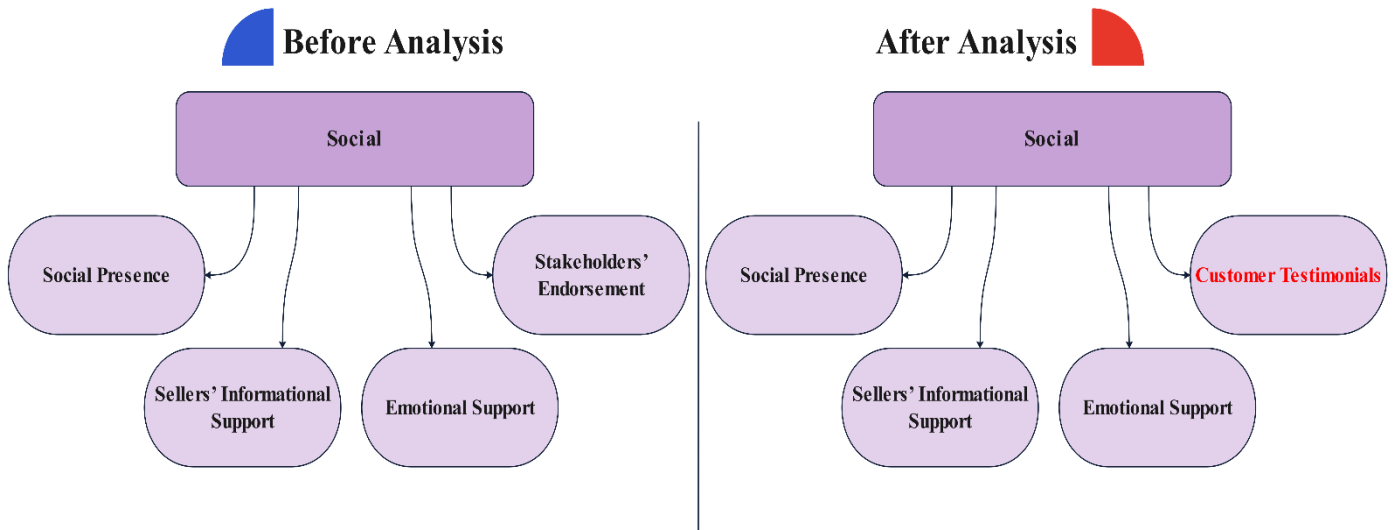


Figure 5.62: Coding tree of social theme

5.6.3.5 Theme Five: Psychological

As explained in section 4.5.1.2.1.5, there are four factors under this theme: monetary, community commitment, trust, and transaction safety. In this section, the interviewees rated the importance of the psychological theme-related factors. The majority of interviewees agreed that this theme and its factors are important. The importance of the four factors under the psychological theme was rated by the interviewees, as depicted in Figure 5.63.

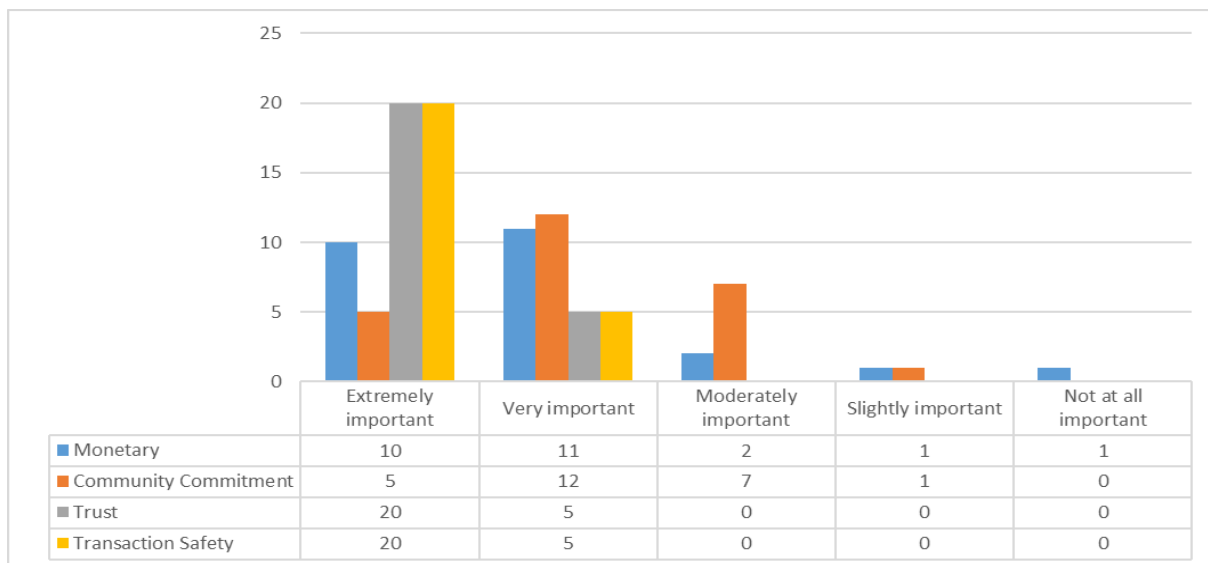


Figure 5.63: Interviewees' rate regarding the importance of the four factors under the psychological theme

The researcher then asked each interviewee to give the reason for his/her rating. The following comments indicate some of these reasons:

Consumers are purchasing from the App that fit personal values and needs and all of these factors make them reassured and satisfy their internal needs such as being secure from fraud and confidence in using the App. (PA6)

I think this the most important theme and include the significant factor. (PA7)

What can I say about these factors, there are no doubts about the importance of all of them. (PA12)

- **Monetary**

Y. Kim (2011) indicated that the monetary factor is frequently viewed as a significant influence on customers' purchase decisions. The great majority of interviewees (84%) agreed that the monetary factor has a great

effect on behavioural intention to use s-commerce as seen in the following statements:

People seek how to save money and buy a cheap product with acceptable quality. (PA4)

Saudi consumers care about saving money when the shopping. (PA14)

This factor increases the customer's trust and the product reputation (PA25)

Despite the importance of the monetary factor, PA13, and PA24 declared that this factor is not related to this theme.

Monetary factor is important factor, but I think it is not related to this theme. Try to move it to another theme. (PA13)

No need to have the monetary factor here as I have mentioned previously, you already included it under the perceived usefulness factor. (PA24)

- **Community Commitment**

Most of the experts (17 out of 25) confirmed that community commitment is also a crucial factor that should be included in the proposed model as it encourages the adoption of s-commerce in Saudi Arabia as indicated by the comments below:

The presence of these four factors “Monetary”, “Community Commitment”, “Trust”, and “Transaction Safety” combined, ensures that the buyer has confidence in the transaction and the purchase process, which further expands the volume of social commerce in the future. (PA6)

Community Commitment or as other call its loyalty is very essential factor especial in Saudi. People care about the relationship between them and sellers. So, we can see that there are many different loyalty programs in Saudi Arabia to grab the customer and increase their loyalty to the marketplace. (PA13)

- **Trust, and Transaction Safety**

Trust is important factor in commercial transactions, which is why many academics in both s-commerce and e-commerce have examined it (N. Hajli, Wang, et al., 2017). As seen in Figure 5.63, all of the interviewees attested that trust, and transaction safety factors play a significant role in the successful adoption of s-commerce. This view is evident in these comments:

Consumers are purchasing from the App that fit personal values and needs and all of these factors make them reassured and satisfy their internal needs such as being secure from fraud and confidence in using the App (PA1)

Trust and transaction safety influence customer decisions to purchase items via social special small business. (PA2)

The Internet is a very big place and it's easy to face any transaction issue, so consumers always care about who are dealing with to keep their money safe. (PA3)

Customers always looking for the truthful sellers and marketplaces that provide a high level of security. (PA7)

5.6.3.5.1 Modifications in the Psychological Theme

All of the four factors under the psychological theme were confirmed by the majority of interviewees. However, the monetary factor was moved to the perceived usefulness theme following the experts' suggestions.

Based on the interview data analysis, this theme has three significant factors which could improve the adoption of s-commerce in Saudi Arabia: community commitment, trust, and transaction safety as seen in Figure 5.64.

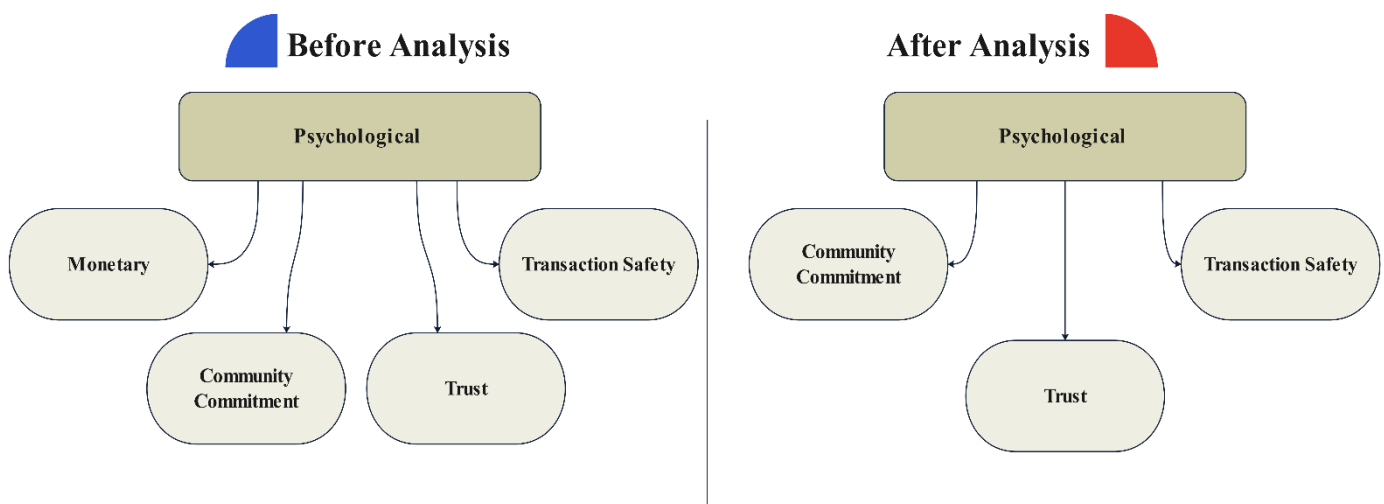


Figure 5.64: Coding tree of psychological theme

5.6.3.6 Theme Six: Culture

As various nations have distinct values and cultures, the behaviour of SN users and their desire to engage in s-commerce may differ (Ng, 2013). This theme consists of five factors as mentioned in section 4.5.1.2.1.6: technical skills, team group, perceived ethics, uncertainty avoidance, and habit. In this section, the interviewees rated the importance of the factors associated with the culture theme.

The majority of the experts agreed on the importance of technical skills, team group, uncertainty avoidance, and habit factors. However, they had conflicting opinions about the importance of the perceived ethics factor Figure 5.65 illustrates the importance rating of the five factors under the culture theme.

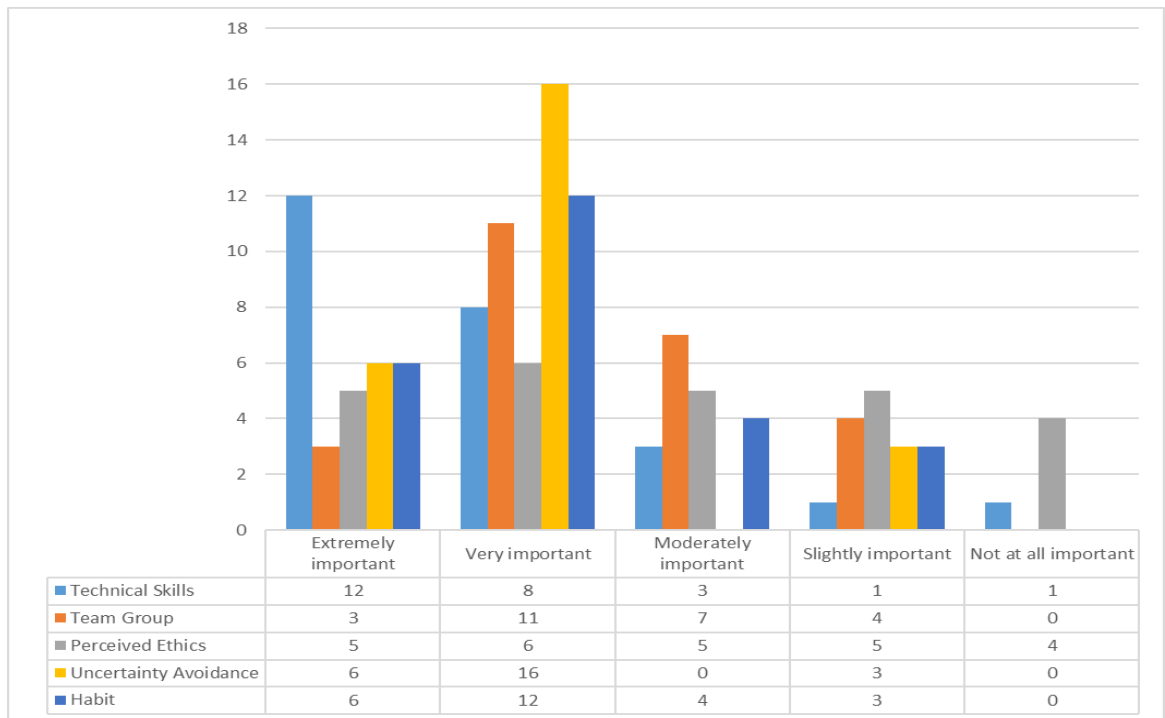


Figure 5.65: Interviewees' rate regarding the importance of the five factors under the culture theme

The following comments indicate some of the reasons for the ratings assigned to the factors:

Undoubtedly, these four factors "Technical Skills", "Team Group", "Perceived Ethics", and "Uncertainty Avoidance" have an important role in promoting social commerce. Although it was slightly less than the other factors mentioned in the proposed model. (PA6)

Culture factors are important in adopting any technology. (PA16)

Cultural factors are very sensitive issue in Saudi and have to be taken into consideration. (PA21)

Companies that intend to sell items whether online or not in any countries such as Saudi Arabia, they must be sensitive to the cultural factors. (PA22)

- **Technical Skills**

This factor improves consumers' understanding of online shopping procedures and reduces the complexity of decision-making (Al-Adwan & Kokash, 2019). Eighty percent of the experts agreed that the technical skills factor has a great effect on behavioural intention to use s-commerce as indicated by the following comments:

Knowing how to use the App and shop online very important because this will ease the shopping process and reduce any risk purchase. (PA1)

Users also need to have the technical competence to easily utilities social commerce. (PA5)

Also, technical skills factor can motivate customer to use s-commerce. Because when customers don't have the required skills to use it, mostly he will not take the risk and try to use it. (PA12)

On the other hand, two of the participants believed that the technical skills factor does not have a significant effect on behavioural intention to use s-commerce because of the following reasons:

I think the Saudi environment will be more open especially with Saudi Arabia's vision, so the effectiveness of these factors (Technical Skills, Team Group, Perceived Ethics, Uncertainty Avoidance, and Habit) decreased by the time and became slightly important. (PA2)

Also, customers do not need that much of skills to use s-commerce, it is very easy, and simple. (PA23)

- **Team Group**

According to Sheikh et al. (2017), Saudi Arabia is classified as a collectivist society because people see themselves as members of a group. Individuals in a collectivist culture are more impacted by other individuals' opinions and are more concerned with others' lives (Yin et al., 2019). Most of the interviewees agreed that the team group factor has a great effect on behavioural intention to use s-commerce as expressed below:

Customer's attitude especially in our culture will be affected from their team group. (PA5)

Team group or as other study call it Collectivism is very important and it is part of Saudi Culture. It means that people are more likely to be concerned about each other and share their reviews on items or services. (PA13)

- **Perceived Ethics**

Some interviewees confirmed that the perceived ethics factor does not play any role in promoting customers' engagement with s-commerce, so they suggested removing it from the final model. They expressed the following opinions:

I would like to say that no need to add an ethical factor to your model. (PA9)

Customers in Saudi have not paid any attention to the ethical issues with s-commerce. They always believe that s-commerce sites are honest unless they faced problem with them. (PA14)

*I cannot think of any ethical concerns with s-commerce.
(PA17)*

I have not understood what you mean by Perceived Ethics, and Team Group factors!! I feel there are no direct relationship between them and s-commerce. (PA18)

- **Uncertainty Avoidance, and Habit**

Previous research has indicated that nations with a high level of uncertainty avoidance may limit their use of online platforms unless they feel that the online activity is secure and that they can trust it (Ng, 2013). Furthermore, Liao et al. (2006) examined habit as a key construct to anticipate and justify customers' continued intention to use a B2C website. The vast majority of experts believed that uncertainty avoidance and habit factors have a significant impact on behavioural intention to use s-commerce, as evidenced by the following:

Habit is very very important and now there is a relevant concept (FOMO) fear of missing out. Users just use the App as part of their daily so the shopping might become as part of their daily life! (PA1)

It is great to add the Uncertainty Avoidance in your model because Consumers in Saudi have a preference for avoiding uncertainty (It is part of the Saudi culture). (PA12)

It is habit especially for women in Saudi as they find it easy to shop instead of doing a traditional shopping. (PA20)

5.6.3.6.1 Modifications in the Culture Theme

The interviewees were then asked to evaluate the relationships between factors and comment on whether they were under the correct theme.

- Do you think the factors under the “Culture Theme” are related to each other and can be grouped under the same theme?

As shown in Figure 5.66, the majority of participants (96%) agreed that all the factors are related to the culture theme and have a logical relationship to one another.

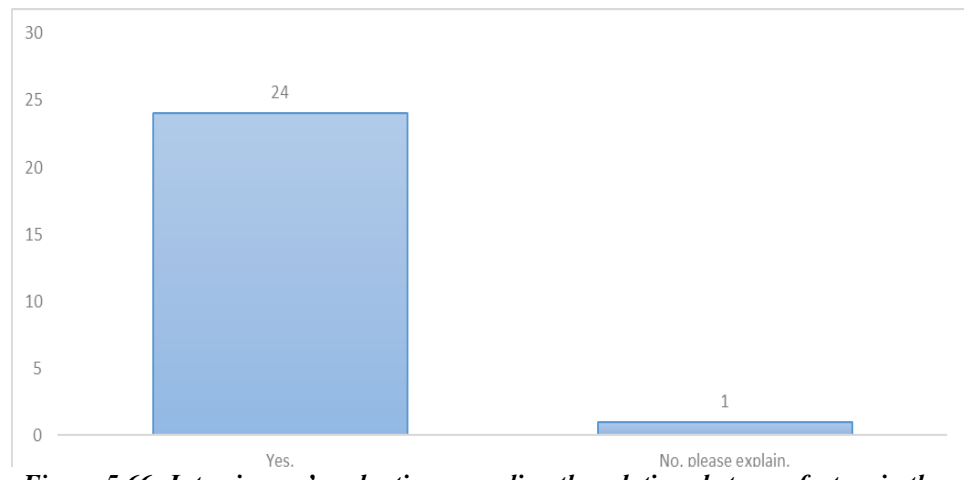


Figure 5.66: Interviewees' evaluation regarding the relations between factors in the culture theme

The team group factor name was changed to “Collectivism” which, based on previous studies, better reflects its purpose (Noh et al., 2013; Sheikh et al., 2017; Yin et al., 2019). Moreover, the perceived ethics factor was excluded following the experts' suggestion. This is consistent with the findings of Akman and Mishra (2017).

Following the data analysis, this theme has four significant factors which could encourage the adoption of s-commerce in Saudi Arabia: technical skills, collectivism, uncertainty avoidance, and habit as illustrated in Figure 5.67.

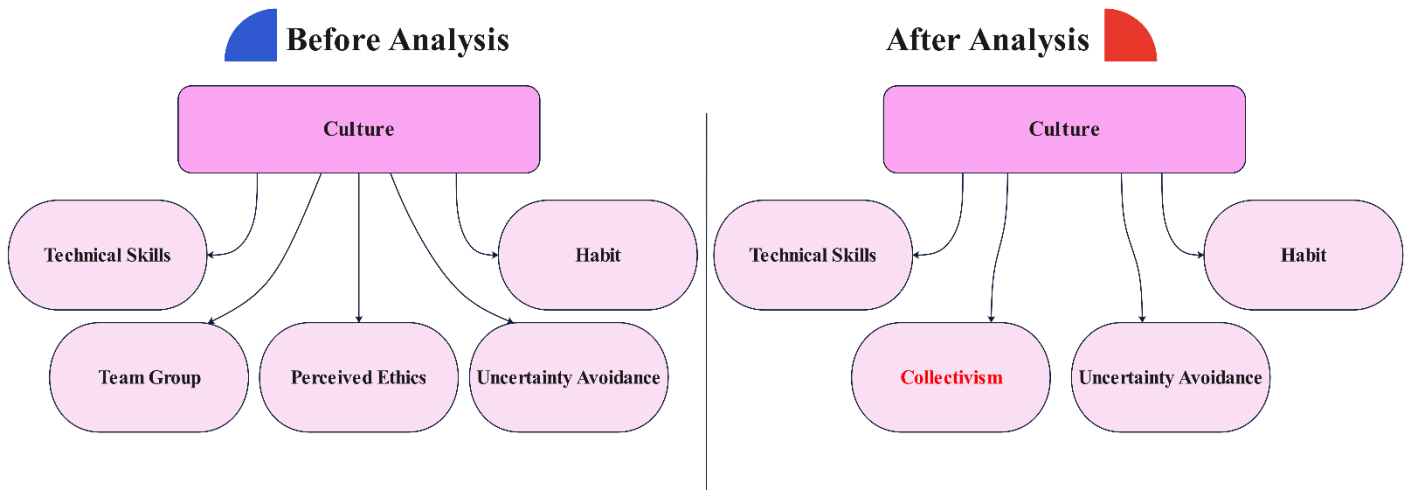


Figure 5.67: Coding tree of culture theme

5.6.3.7 Theme Seven: Sustainability

As discussed in section 4.5.1.2.1.7, this theme focuses mainly on examining the extent to which the issue of environmental and economic sustainability could affect customers' willingness to adopt s-commerce in Saudi Arabia. It consists of two factors: environmental sustainability and economic sustainability.

The interviewees were asked to rate the importance of each factor under this theme. The majority of interviewees (17 out of 25) agreed that both factors were important, while only two interviewees believed that the environmental sustainability and economic sustainability factors are slightly important, and one felt that they are not important at all. Figure 5.68 below shows the interviewees' opinions about the importance of the two factors under the sustainability theme.

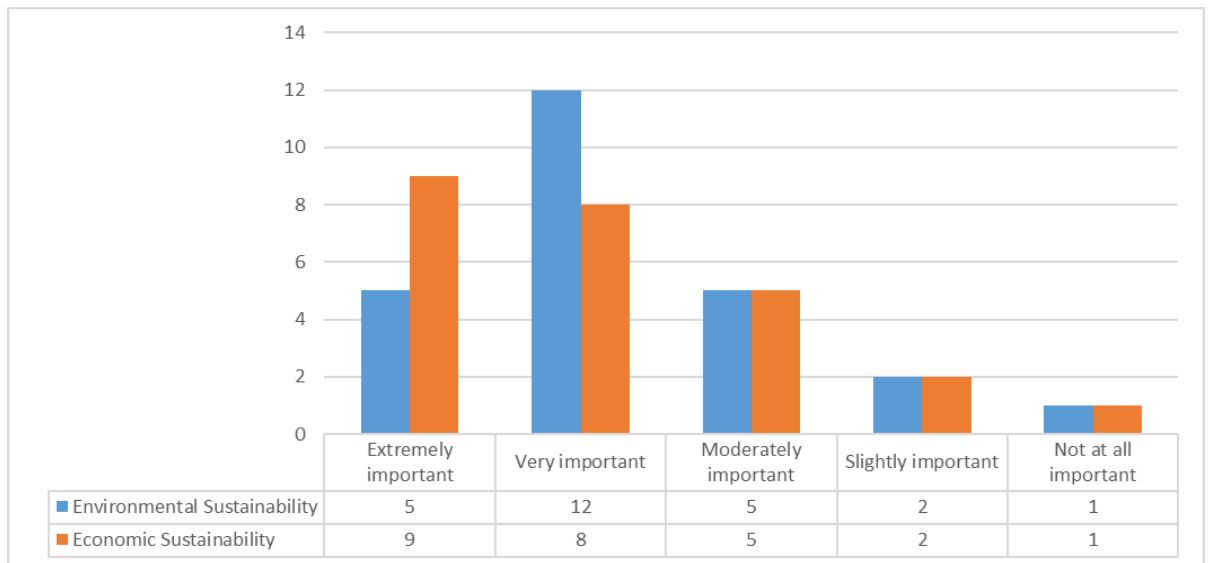


Figure 5.68: Interviewees' rate regarding the importance of the two factors under the sustainability theme

When asked to give reasons for their rating, interviewees offered the following comments:

Sustainability is a key value for social commerce. Environmental Sustainability and Economic Sustainability like two wings of a bird, without which it could not fly. (PA6)

Sustainability factors is one of the key factors to measure their effectiveness to consumers' intention to use s-commerce in developed countries, but I have no idea how is that work with developing countries like Saudi Arabia. (PA15)

Very interested to add these factors to your model. This will be a good contribution to your study. (PA18)

Other interviewees linked the importance of the sustainability factor with the Saudi Vision 2030 blueprint which has been adopted by the Saudi government:

Very interesting. You know Saudi government now has adopted Saudi Vision 2030 which looking to become a more economic, and environmentally sustainable by reducing the dependency on oil, and generating green business. (PA7)

This theme aligned with the Saudi Vision 2030. (PA10)

Very new and important factors. May be at this stage consumers in Saudi have not care about these factors, but they will be aware about them soon along with the 2030 Saudi Vision. (PA14)

- **Environmental Sustainability and Economic Sustainability**

The interviewees' comments suggest that environmental sustainability and economic sustainability in s-commerce play a large role. The great majority of the interviewees attested to the paramount importance of these two factors in influencing the adoption of s-commerce in Saudi Arabia:

It is important to develop knowledge about eco products and keep environment safe. (PA2)

It will reduce cost for both customers and sellers. Also, it will help to reduce environmental pollution. (PA5)

Very interested to add these factors to your model. This will be a good contribution to your study. (PA18)

5.6.3.7.1 Modifications in the Sustainability Theme

The respondents were then asked to examine the links between elements and determine whether they were grouped under the appropriate theme.

- Do you think the factors under the “Sustainability Theme” are related to each other and can be grouped under the same theme?

As seen in Figure 5.69, the majority of participants (96%) agreed that all the factors are related to the sustainability theme and have a logical interrelationship.

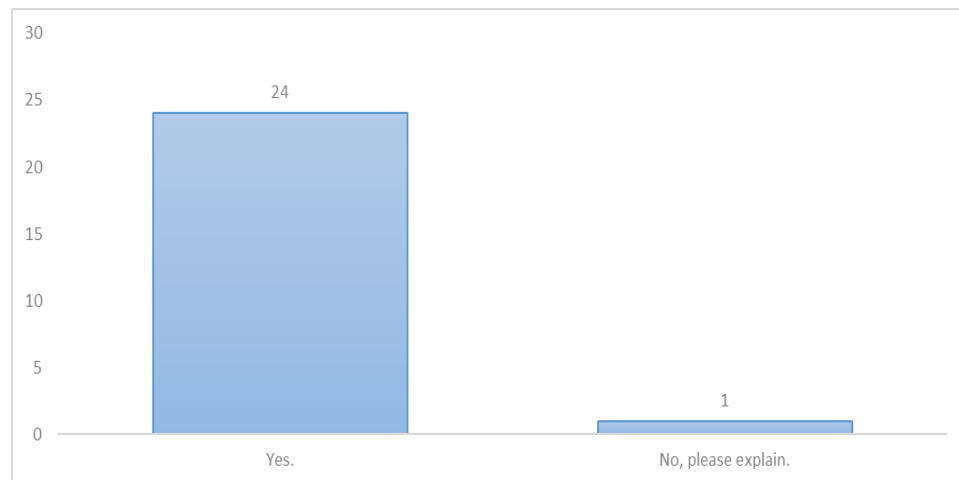


Figure 5.69: Interviewees' evaluation regarding the relations between factors in the sustainability theme

The majority of the respondents agreed about the importance of the sustainability theme, which contains two factors environmental sustainability and economic sustainability as shown in Figure 5.70. Interviewees agreed that these factors should be included in the proposed s-commerce model.

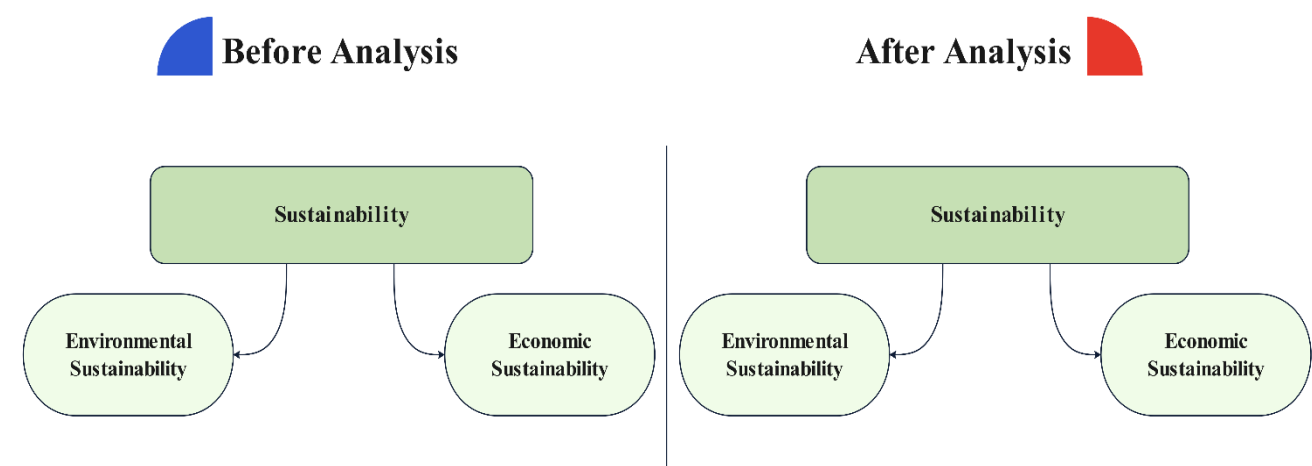


Figure 5.70: Coding tree of sustainability theme

5.6.4 Experts' Perception of the Enhanced S-commerce Model

This section explains and justifies the inclusion of each factor suggested for the final s-commerce model for Saudi Arabia. It provides a summary of interviewees' responses to the enhanced s-commerce model as well as their additional comments. The experts were asked the following question:

- Do we need to add new factors to the model, or merge, or delete any factors from the developed model? Please give one or more reasons for your response.

The great majority of the experts approved all the factors provided by the enhanced model and suggested several changes to the final model such as adding a new factor related to the design theme and changing the name of the content theme. The researcher considered these suggestions which are presented in Table 5.33. Interviewees offered the following comments:

Customers feel concern about the Favourable Reputation of the company, but they do not pay any attention if the company is well recognized or not. (PA22)

Regarding delivery, I found many consumers do not care about the delivery time as long as they received their order in excellent condition. (PA11)

With the revolution of the technology, there are no needs for any instructions and guidelines for how to use the s-commerce. Most or all of the consumers are familiar with the procedures of using online shopping by using social networking apps in Saudi. (PA10)

Perceived Usefulness is important factor, but it has no relation to the design theme. You can create new theme for it. (PA3)

As I know, there are three different type of the quality that can be used to measure any technology: information, system and service quality. I think better to add the service quality to your model to get a comprehensive image. (PA24)

You should change the theme name to usefulness theme and delete the usefulness factor from the design theme. (PA7)

But perceived enjoyment factor is part of the nonmonetary factor. You know that Nonmonetary consist of many elements such as the amount of time spent on purchasing, enjoyment and emotional efforts. (PA3)

You might need to add another factor related to the usefulness such as Saving Money. (PA9)

I think the world is more open specially with Saudi Arabia vision so the effectiveness of these factors (Technical Skills,

Team Group, Perceived Ethics, Uncertainty Avoidance, and Habit) decreased by the time and slightly important. (PA2)

I cannot think of any ethical concerns with s-commerce. (PA17)

I am not sure if the customers in Saudi care about Sustainability!!! But as I see and know, they don't. (PA11)

Following an examination of all experts' feedback, it was decided to replace the content theme with the perceived usefulness theme. The other themes remained the same, with a few amendments to some factors, such as merging the recognized company factor with the favourable reputation factor under the organization characteristics theme, and positioning the service quality factor under the design theme. Table 5.33 summarises the experts' recommendations and the decisions taken by the researcher.

Table 5.33: Experts' recommendations and the decisions taken

Interviewee	Suggestion	Implementation	Reason
PA12, PA19, and PA22	Delete/merge the recognized company factor.	Done	The recognized company factor was merged with the favourable reputation factor according to the interviewees' opinion.
PA11	Delete the delivery factor.	Ignored	The suggestion was not implemented because this factor was agreed on by the majority of the interviewees, and previous literature.
PA3, PA12, and PA13	Move the perceived usefulness factor to another theme.	Done	The perceived usefulness factor was moved to be as a new theme in the final s-commerce model upon the experts' suggestion.

PA7, PA11, PA12, and PA24	Add a factor related to the service quality.	Done	In line with experts' views and the literature review, the service quality factor was added to the final s-commerce model.
PA3, PA7, PA9, and PA12	Change the theme name.	Done	The content theme name was changed to perceived usefulness theme upon the interviewees' suggestions.
PA3, PA5, PA10, PA12, PA14, and Pa17	Delete the perceived enjoyment factor.	Done	The perceived enjoyment factor has been excluded as it was discussed under the nonmonetary factor, and upon the majority of the experts' suggestion.
PA7, PA9, PA13, PA19, PA24	Move the monetary factor to another theme.	Done	The monetary factor was moved to the perceived usefulness theme as it is the most appropriate theme for this factor according to the interviewees' comments.
PA9, PA14, PA17, and PA18	Delete the perceived ethics factor.	Done	The perceived ethics factor has been excluded upon the experts' suggestion. This is consistent with the findings of Akman and Mishra (2017) study.
PA2, and PA23	Delete the culture theme.	Ignored	Most of the interviewees' views opposed this suggestion.

The experts were then asked to evaluate the overall s-commerce model for Saudi Arabia. As seen in Figure 5.71, the great majority (20 or 80%) of the participants considered the proposed set of themes in the s-commerce model for Saudi Arabia to be effective. On the other hand, only five (or 20%) considered the framework to be moderately effective, mentioning the need for weighting each factor and moving, deleting, or adding some factors in the final model.

As a result, the findings from this phase were presented in response to the first research question, as well as in response to the third research question.

- What are the factors that must be included when developing a holistic s-commerce model for Saudi Arabia?
- What are the perceptions and attitudes of s-commerce experts in terms of the holistic s-commerce model for Saudi Arabia?

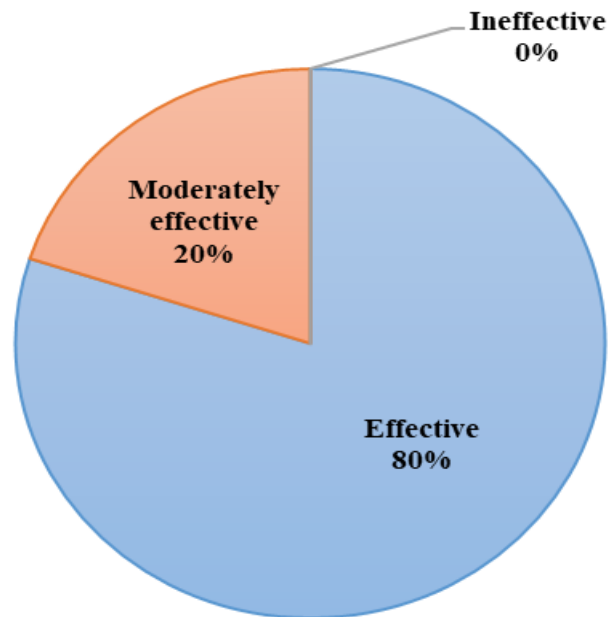


Figure 5.71: Interviewees' responses to the enhanced s-commerce model

The interviewees generally responded positively to the researcher, which motivated him to continue this study. The following comments are examples of positive feedback:

The model is comprehensive and have all the essential factors that needed to adopt s-commerce in Saudi. As a point of my view, the psychological theme has the most important factors.
(PA4)

It is very clear how much the researcher did in designing this model. I liked it a lot and I think it really is a holistic social commerce model for Saudi Arabia. It also opens an important

door for other researchers to build future models based on this model. (PA5)

I believe you have covered all the significant factors and presented them in attractive image...Good Luck. (PA7)

Covering all of these themes and factors will lead to rich knowledge and outcomes of adopting s-commerce in Saudi Arabia. (PA15)

I think if these factors are planned and applied properly, the model can improve the overall social commerce in Saudi Arabia. (PA25)

5.6.5 Interview Findings

An analysis of the interview data revealed a range of viewpoints, and emphasized the importance of the factors that make up the final s-commerce model. Experts indicated their confirmation and their level of satisfaction with the importance of each factor. The opinions of the experts were recorded on a five-point scale ranging from 5= Extremely Important to 1= Unimportant to determine the weighting and order of these factors based on their impact as seen in Figure 5.72.

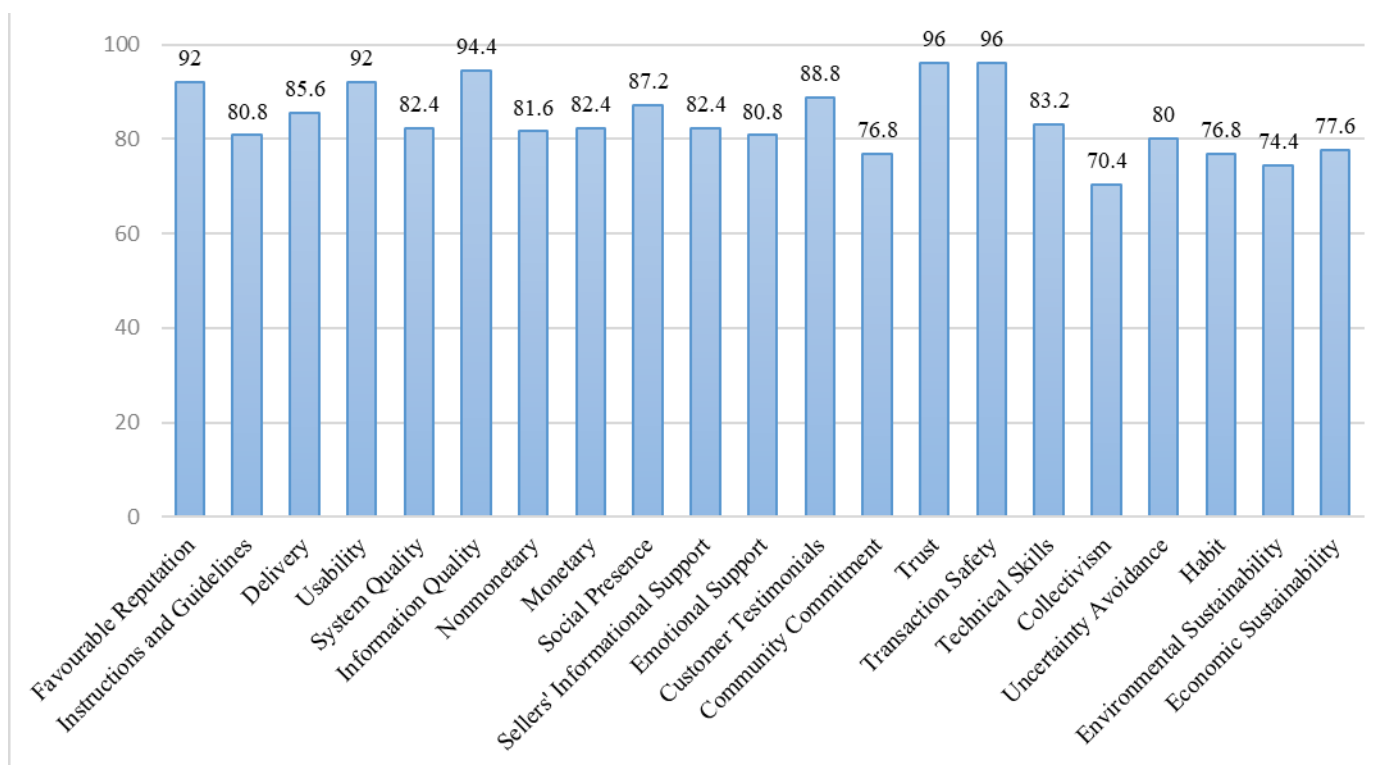


Figure 5.72: Ratings of overall factors

The thematic analysis of the data resulted in seven themes, in accordance with the enhanced model, and each theme had two or more factors. The first theme “Organization Characteristics” contains three factors, which are “Favourable Reputation”, “Instructions and Guidelines” and “Delivery”. The highest score under the “Organization Characteristics” theme was for the favourable reputation factor (92% range), while the instructions and guidelines factor received a relatively lower score of importance (80.8%).

The second theme “Design” comprises four factors: “Usability”, “System Quality”, “Information Quality”, and “Service Quality”. For this theme, the highest score was for the information quality factor with 94.4%, whilst the system quality factor scored 82.4%.

The “Perceived Usefulness” theme consists of only two factors: “Non-monetary” and “Monetary” deemed important by 81.6%, and 82.4% of respondents respectively.

The fourth theme “Social” has four factors, labelled “Social Presence”, “Sellers’ Informational Support”, “Emotional Support”, and “Customer Testimonials”. In relation to the “Social” theme, the highest rate of importance 88.8% was given to the customer testimonials factor, while the emotional support factor received lowest rating of 80.8%.

The “Psychological” theme contains three factors, which are “Community Commitment”, “Trust”, and “Transaction Safety”. The highest importance rate for this theme was for trust, and transaction safety factors at 96%, considered as the top-rated factors in the final model. While the lowest rating was 76.8% for the community commitment factor.

The sixth theme “Culture” consists of four factors: “Technical Skills”, “Collectivism”, “Uncertainty Avoidance”, and “Habit”. The technical skills factor scored the highest rating of 83.2%. However, collectivism factor drew the lowest rating of 70.4%, the lowest rating of all the factors in the final model. The researcher kept this factor in the model because more than half of the participants confirmed that the collectivism factor plays a vital role in the adoption of s-commerce in Saudi Arabia. Also, according to Hofstede Insights (n.d.), Saudi Arabia is classified as a collectivistic society.

“Sustainability”, the seventh and last theme, has only two factors, labelled “Environmental Sustainability” and “Economic Sustainability” deemed important by 74.4%, and 77.6% of respondents respectively.

The results of the data collection and analysis resulted in a few modifications being made to the enhanced model. All the seven themes and their factors from the enhanced s-commerce model for Saudi Arabia, before the qualitative data analysis, as well as the modifications made after the analysis, are illustrated in Table 5.34. All the changes are shown in red.

Table 5.34: Summary of thematic analysis results from the interviews data

Themes	After Quantitative Data Analysis (Enhanced S-commerce Model)	After Qualitative Data Analysis (Final Holistic S-commerce Model)
Organization Characteristics	Favourable Reputation	Favourable Reputation
	Recognized Company	
	Instructions and Guidelines	Instructions and Guidelines
	Delivery	Delivery
Design	Usability	Usability
	System Quality	System Quality
	Information Quality	Information Quality
		Service Quality
	Perceived Usefulness	
Perceived Usefulness	Nonmonetary	Nonmonetary
	Perceived Enjoyment	
		Monetary
Social	Social Presence	Social Presence
	Sellers' Informational Support	Sellers' Informational Support
	Emotional Support	Emotional Support
	Stakeholders Endorsement	Customer Testimonials
Psychological	Monetary	
	Community Commitment	Community Commitment
	Trust	Trust
	Transaction Safety	Transaction Safety
Culture	Technical Skills	Technical Skills
	Team Group	Collectivism
	Perceived Ethics	
	Uncertainty Avoidance	Uncertainty Avoidance
	Habit	Habit
Sustainability	Environmental Sustainability	Environmental Sustainability
	Economic Sustainability	Economic Sustainability

5.6.6 Summary of the Study Findings

This research revealed that there are seven themes that can contribute to the successful adoption of s-commerce in Saudi Arabia: organization characteristics, design, perceived usefulness, social, psychological, culture, and sustainability. Each theme has two or more factors and will be discussed in the following sections.

5.6.6.1 Organization Characteristics Theme

This theme includes aspects of an organization that could influence the customer's attitude toward the company, specifically in relation to its capabilities, size, and reputation. This section discusses the factors under the organization characteristics theme and how they are important for the adoption of s-commerce and inclusion in the HSMSA model. The organization characteristics theme and its factors were confirmed by the literature review and data collection process, including the online surveys and SSI with s-commerce experts. As seen in the Table 6.35, this theme comprises three factors: favourable reputation, instructions and guidelines, and delivery.

Table 6.35: Factors associated with the “Organization Characteristics” theme

Factor	Brief Summary	For More Details
Favourable reputation	The degree to which consumers perceive that an organization is reliable and concerned about its clients.	See section 2.7.1
Instructions and guidelines	The extent to which a person's perception that an organizational structure and technical infrastructure are available to facilitate system use	See section 2.7.1
Delivery	One of the success factors for social commerce firms is having speedy and convenient delivery of products.	See section 2.7.1

5.6.6.2 Design Theme

This theme aims to understand the factors that influence customers' attitudes to s-commerce adoption in relation to usability and website quality. The online survey and

SSI results revealed that usability and website quality were considered as significant factors to be included in the final HSMSA model. Four factors are related to this theme as shown in the Table 6.36: usability, system quality, information quality, and service quality.

Table 6.36: Factors associated with the “Design” theme

Factor	Brief Summary	For More Details
Usability	The extent to which persons can use a website to accomplish their goals in an effective, efficient, and satisfactory manner.	See section 2.7.2
System quality	Is associated with the desired and essential capabilities of a website such as its reliability, availability and response time.	See section 2.7.2
Information quality	Determines the accuracy, completeness, and timeliness of the website content.	See section 2.7.2
Service quality	Indicates consumers’ evaluations of the services and supports provided through the website by the service provider.	See section 2.7.2

5.6.6.3 Perceived Usefulness Theme

As part of the perceived usefulness theme, this section will describe the factors that contribute to the adoption of s-commerce in relation to monetary and non-monetary factors. Since s-commerce relies on individual behaviour, perceived usefulness can be an effective means of motivating individuals to engage in s-commerce activities. This theme and its factors (monetary, and non-monetary) were confirmed by the literature review and the quantitative and qualitative data. Table 6.37 presents a brief definition of each factor.

Table 6.37: Factors associated with the “Perceived Usefulness” theme

Factor	Brief Summary	For More Details
Monetary	The degree to which a customer concentrates on acquiring low-priced services or products.	See section 2.7.3
Non-monetary	The emotional efforts required, and amount of time spent on a transaction (purchase).	See section 2.7.3

5.6.6.4 Social Theme

Social commerce is related to the usage of social networks. Thus, a person’s behaviour is influenced by the social factors that encourage collaboration and communication between individuals (Lal, 2017). This theme focuses mainly on the experiences, communications, and relationships that influence customers’ attitudes, lifestyles, and personalities. It includes four factors as seen in Table 6.38: social presence, sellers’ informational support, emotional support, and customer testimonials. The data indicated that all four factors were vital and should be included in the final HSMSA model.

Table 6.38: Factors associated with the “Social” theme

Factor	Brief Summary	For More Details
Social presence	Is associated with the ability of a social networking site to elicit a feeling of warmth and sociability.	See section 2.7.4
Sellers’ informational support	Refers to delivering messages which can be useful for problem-solving in the form of advice, knowledge, or recommendation.	See section 2.7.4
Emotional support	Defined as delivering messages which include passionate interests such as caring.	See section 2.7.4
Customer testimonials	“The presence of comments, ratings, and reviews about products” (Maia et al., 2018, p. 197).	See section 2.7.4

5.6.6.5 Psychological Theme

When purchasing products using SN apps, a consumer considers various factors such as motivation, privacy, and security. These factors have a great influence on the mentality of a person and his/her decision-making, and they are the psychological factors considered in this study. Community commitment, trust, and transaction safety have been identified as psychological factors that influence the adoption of s-commerce as seen in Table 6.39. The online survey and SSI results revealed that these three factors were significant for the adoption of s-commerce in Saudi Arabia and should be included in the final HSMSA model.

Table 6.39: Factors associated with the “Psychological” theme

Factor	Brief Summary	For More Details
Community commitment	A psychological bond that depicts a consumer’s connection with a company.	See section 2.7.5
Trust	Is considered to be the key to the successful establishment of a long-term relationship and it becomes even more important in the context of online platforms because much uncertainty surrounds the online environment.	See section 2.7.5
Transaction safety	A social commerce site’s ability to protect its consumers before and after a purchase	See section 2.7.5

5.6.6.6 Culture Theme

Globalization in the business world has increased dramatically; therefore, culture now plays a considerable role in all business operations (Straub et al., 1997) and it directly impacts the consumers’ adoption of technologies (Sheikh et al., 2017). As suggested by (Hassanein et al., 2009), the acceptance and adoption of information technologies are influenced by cultural factors. The culture theme and its factors were confirmed by the literature review and the qualitative and quantitative data. This theme includes four factors: technical skills, collectivism, uncertainty avoidance, and habit. Table 6.40 presents a brief definition of each factor.

Table 6.40: Factors associated with the “Culture” theme

Factor	Brief Summary	For More Details
Technical skills	Refers to the practical abilities that customers possess that assist them to use s-commerce.	See section 2.7.6
Collectivism	Refers to the extent to which individuals in a community or an organization desire to be active as an individual or a part of a group.	See section 2.7.6
Uncertainty avoidance	Defined as the degree to which individuals in a community worry about unpredictable cases.	See section 2.7.6
Habit	“The extent to which people tend to perform behaviours (use IS) automatically because of learning” (Limayem et al., 2007, p. 705).	See section 2.7.6

5.6.6.7 Sustainability Theme

This theme focuses mainly on the extent to which environmental and economic sustainability could affect Saudi customers’ willingness to adopt s-commerce. As shown in Table 6.41, the sustainability theme consists of two factors: environmental sustainability and economic sustainability. The green trend is growing, and customers are becoming increasingly aware of the environmental and economic sustainability required to save the planet. From the online survey and interviews conducted with experts, it was obvious that the environmental sustainability and economic sustainability of s-commerce play a large role in Saudi Arabia. The great majority of the interviewees confirmed the paramount importance of these two factors in influencing the adoption of s-commerce in Saudi Arabia. Some of them linked the importance of sustainability with the Saudi Vision 2030 blueprint. Therefore, the sustainability theme was included in the final HSMSA model.

Table 6.41: Factors associated with the “Sustainability” theme

Factor	Brief Summary	For More Details
Environmental sustainability	Described as appropriate engagement with the environment in order to minimise natural resource depletion or deterioration and to ensure long-term environmental quality.	See section 2.7.7
Economic sustainability	An economy’s capacity to sustain a specific level of economic production for an indefinite period of time.	See section 2.7.7

The researcher refined the enhanced s-commerce model for Saudi Arabia to accommodate the new findings as seen in Figure 5.73.

**Figure 5.73: Holistic S-commerce model for Saudi Arabia (Final Version)**

5.7 Conclusion

The aim of this chapter was to refine the enhanced model and determine the factors associated with each theme in order to design the final holistic s-commerce model for Saudi Arabia. Interviews were conducted with s-commerce experts in Saudi to address the first and third research questions.

The design and rationale for the interview were presented. Then, the target population was defined, and the demographic characteristics and general information about the participants was provided. It was found that all selected participants are working in Saudi and were highly conversant with s-commerce. After that, the reaching out to the interviewees and the data analysis techniques were illustrated. Finally, the findings of the interview data analysis were presented.

The results of the interview data analysis led to several changes being made to the enhanced model based on the s-commerce experts' opinions. The interview analysis resulted in seven themes, in accordance with the enhanced model, and each theme had two or more factors. The researcher refined the enhanced s-commerce model for Saudi Arabia so as to accommodate the new findings from the interviews. The final holistic s-commerce model for Saudi Arabia shows a comprehensive set of themes and factors that influence the adoption of s-commerce. The findings of the study and the final holistic s-commerce model will be explained in depth in the next chapter.

6 Conclusion

6.1 Introduction

The preceding chapter described this study's final stage, which involved confirming and consolidating the factors observed and validated through interviews. The final model was constructed based on the interview data, which improved the set of factors required for the successful adoption of s-commerce in Saudi Arabia. The final holistic s-commerce model for Saudi Arabia (HSMSA) was developed based on a combination of the factors derived from the literature review, online surveys, and semi-structured interviews phases. It is envisioned that the HSMSA model resulting from this study will play a vital role in guiding stakeholders such as companies, organizations, and governments in Saudi Arabia.

This chapter presents the final set of significant factors influencing Saudi customers' attitude toward adopting s-commerce. A brief summary of the research is provided at the beginning of the chapter. Then, the chapter discusses and answers the primary and secondary research questions. After that, various recommendations are provided on ways to adopt s-commerce in Saudi Arabia successfully. The chapter also explains the substantial theoretical and practical contributions made by this research to the s-commerce field, especially in the Saudi Arabian sectors. Finally, the study's limitations are acknowledged, and potential future research directions are suggested.

6.2 Research Method

This research investigated a comprehensive range of factors that influence the customers' attitude to the adoption of s-commerce in Saudi Arabia. These assisted in developing a conceptual model of factors that could encourage the effective adoption of s-commerce in Saudi Arabia, as no previous studies have reviewed all these factors comprehensively. The initial s-commerce model was created by combining all of the factors determined from previous research and publications about s-commerce technology adoption.

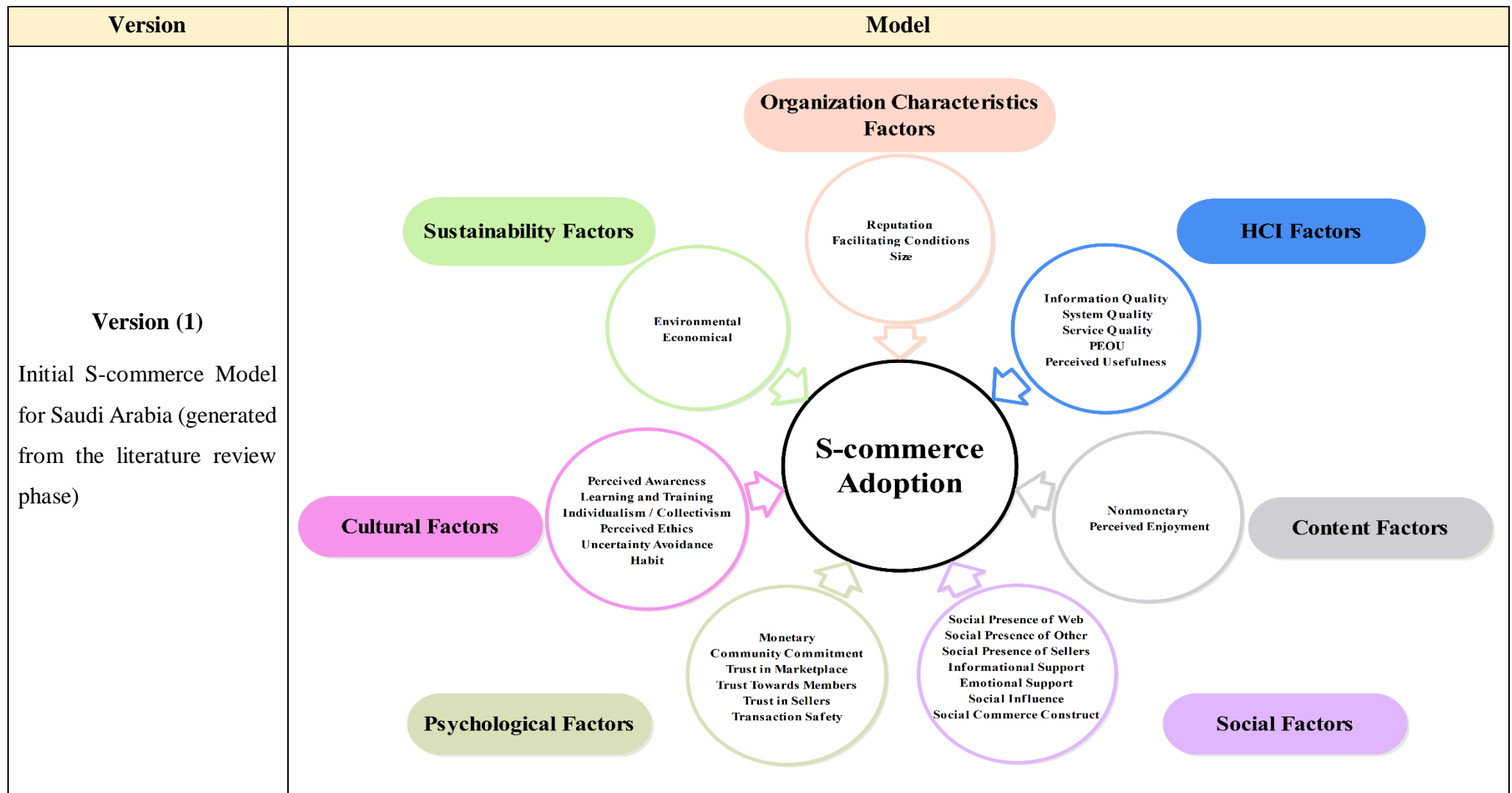
Then, a mixed-methods approach was adopted in this study in order to collect and analyse the participants' opinions of the new initial s-commerce model in Saudi Arabia. The mixed-methods strategy known as 'sequential explanatory research design' was applied to answer the research questions and obtain a comprehensive view of the phenomenon being studied. Therefore, this study included both quantitative and qualitative phases of data collection.

In the first stage, the online survey was conducted to evaluate and examine the initial model and improve the initial model with additional factors. Since the research questions for this study are concerned with investigating the SN users' attitudes regarding the factors that influence the adoption of s-commerce in Saudi Arabia, an online survey was adopted to gather the data directly from the respondents. The number of valid responses returned was 504 of 1,026 received responses. After that, EFA was conducted using SPSS 26 in order to determine how the variables group together, and to minimize the number of factors required to improve the s-commerce model. The EFA results dramatically changed the initial s-commerce model and provided a new list of more coherent factors. As illustrated in Chapter 4, the online survey analysis resulted in seven themes and each theme had two or more factors.

Then the qualitative phase was conducted to explore the quantitative results from the survey to address the first and second research questions and answer the third question. The researcher conducted asynchronous SSI comprising open-ended questions, with 25 s-commerce experts to ensure that the final s-commerce model is comprehensive, and to explore the reasons why and how these factors are significant and should be included in the final s-commerce model. As presented in Chapter 5, thematic analysis was conducted to analyse the qualitative data using NVivo software (version 12), a general qualitative analysis tool. The results of the thematic analysis of the data led to a few changes being made to the enhanced model based on the s-commerce experts' opinions. The researcher refined the enhanced s-commerce model for Saudi Arabia to accommodate the new interview findings.

The HSMSA model contains a comprehensive set of themes and factors required in order for the s-commerce technology to be adopted successfully. Table 6.42 shows the evolution of the final s-commerce model for Saudi Arabia. The HSMSA model may be adopted in other developing countries, especially the Gulf Cooperation Council countries, by removing or adding some of these factors, depending on each country's needs and characteristics.

Table 6.42: Changes and development of the initial s-commerce model for Saudi Arabia



Version (2)

Enhanced S-commerce Model for Saudi Arabia (generated after evaluating the initial model through the online survey)



Version (3) – Final Model

The HSMSA model (generated from the interviews phase with s-commerce experts)



6.3 Research Findings Overview

This research investigated and evaluated perceptions concerning the adoption of s-commerce in Saudi Arabia, by developing a new model for s-commerce. It is apparent that s-commerce is a significant technology, but it must be evaluated in terms of the factors that may promote or impede its adoption. Therefore, it is necessary to provide a model that encourages its acceptance in Saudi Arabia. Data was gathered from Saudi SN users, e-commerce and s-commerce companies' owners and employees, e-commerce and SN researchers, and academic staff, in order to acquire a comprehensive understanding of this issue. Table 6.43 indicates the relationship between research questions, objectives, methods, and analyses. The following research questions have been addressed:

RQ1: What are the factors that must be included when developing a holistic social commerce model for Saudi Arabia?

RQ2: What are the specific cultural, and organizational factors that must be considered when developing a holistic social commerce model for Saudi Arabia?

RQ3: What are the perceptions and attitudes of s-commerce experts in terms of the holistic social commerce model for Saudi Arabia?

Table 6.43: The relationships between the research questions, objectives, method and analysis

Research Question	Research Objectives	Research Method	Analysis
RQ1	To determine the factors that must be included when developing a holistic social commerce model for Saudi Arabia.	<ul style="list-style-type: none"> • Literature Review • Mixed methods 	<ul style="list-style-type: none"> • Content analysis • EFA on quantitative survey data using SPSS software. • Thematic analysis of qualitative interview data using NVivo software.

RQ2	To determine the specific cultural, and organizational factors that must be considered when developing a holistic social commerce model for Saudi Arabia.	<ul style="list-style-type: none"> Mixed methods 	<ul style="list-style-type: none"> EFA on quantitative survey data using SPSS software. Thematic analysis of qualitative interview data using NVivo software.
RQ3	To investigate social networking experts' attitudes regarding the holistic social commerce model developed for Saudi Arabia.	<ul style="list-style-type: none"> Qualitative method 	<ul style="list-style-type: none"> Thematic analysis of qualitative interview data using NVivo software.

Table 6.44 indicates the stage at which each research question has been addressed.

Table 6.44: An indication in which phase the research questions were answered

Questions Phases	RQ1	RQ2	RQ3
Literature review	✓	×	×
Online survey	✓	✓	×
Interviews	✓	✓	✓

6.3.1 Research Question One

The first research question (Table 6.43) aimed to determine the factors that must be included when developing a holistic s-commerce model for Saudi Arabia. Therefore, the literature review, online survey, and SSI identified the most prevalent factors influencing

s-commerce adoption in Saudi Arabia, which were assembled to develop the HSMSA model as seen in Section 5.6.6.

This research revealed that there are seven themes that can contribute to the successful adoption of s-commerce in Saudi Arabia: organization characteristics, design, perceived usefulness, social, psychological, culture, and sustainability.

The model depicted in Figure 6.74 included these themes and factors assessed and confirmed by s-commerce experts as highly crucial for s-commerce adoption in Saudi Arabia. Because these factors have been closely examined and confirmed, they are rigorous and robust in nature. Furthermore, the diversity of the themes and factors listed in this thesis is unique, as no other previous study has identified such a wide range of factors that could encourage the adoption of s-commerce in Saudi Arabia.



Figure 6.74: Holistic S-commerce Model for Saudi Arabia (HSMSA model)

6.3.2 Research Question Two

The second research question (See Table 6.43) related to the specific cultural and organizational factors that influence Saudi customers' attitudes to the adoption of s-commerce. Globalization in the business world has increased dramatically; therefore, culture now plays a considerable role in all business operations (Straub et al., 1997), and

it directly impacts the consumers' adoption of technologies (Sheikh et al., 2017). As suggested by (Hassanein et al., 2009), the acceptance and adoption of information technologies are influenced by cultural factors. According to the findings of this study, Saudi Arabia has a high level of equivalence with the rest of the world, and cultural distinctions are beginning to blur somewhat as a result of the influence of the modernising Saudi Vision 2030. Moreover, Saudi people's current culture and behaviour show that uncertainty avoidance in Saudi Arabia is high (80), which suggests that Saudis prefer to avoid preference uncertainty (Hofstede Insights, n.d.). Therefore, the Saudi Arabian people would be expected to have less flexibility in adopting new technology or doing business online due to their culture characterised by high uncertainty avoidance. However, according to Hofstede Insights (n.d.), the cultural score for individualism in Saudi is 25, indicating that it is a collectivistic society, and it is proactive in adopting new technology for online shopping.

Moreover, organizational factors are strongly considered by s-commerce customers, and determines their trust in the organization when buying items or seeking services. The Saudi 2030 Vision acknowledges that small and medium-sized enterprises (SMEs) playing a significant role in contributing to the country's overall economic growth by creating more employment, innovating, and exporting (Alshuwaikhat & Mohammed, 2017). Thus, the Saudi government launched initiatives for small and medium-sized businesses. These initiatives will enhance the Saudi's organizations' characteristics such as their reputations. In turn, this will encourage Saudi customers to adopt s-commerce.

6.3.3 Research Question Three

This third question (see Table 6.43) was intended to determine the perceptions and attitudes of s-commerce experts towards the holistic s-commerce model. Experts' responses to items related to this question focus principally on assessing the s-commerce model and determining the factors that encourage s-commerce adoption. The s-commerce experts' perceptions and attitudes were investigated in the qualitative phase to further

explore the s-commerce adoption factors and validate and confirm the enhanced s-commerce model resulting from the online survey responses.

Based on the study's findings, s-commerce is welcomed in Saudi Arabia, and experts did not feel that Saudi Arabia's cultural restrictions would be a significant barrier to its success. This is consistent with the current Saudi Vision 2030 for a reorganization of society, which the Saudis are eager to achieve. Moreover, s-commerce experts reported that all of the main themes from the enhanced s-commerce were acceptable with only a few changes required to be made to the final model, such as adding a new factor or merging two factors (section 5.6.4). The responses obtained from the interviewees confirmed the importance of the factors that constituted the final model.

According to the interviewee data, the factors rated in descending order of importance are: trust and transaction safety, information quality, favourable reputation and usability, customer testimonials, social presence, delivery, technical skills, system quality, monetary, and sellers' information support, non-monetary, instructions and guidelines, emotional support, and uncertainty avoidance. The lowest-rated factors were community commitment, collectivism, habit, and environmental and economic sustainability factors.

6.4 Recommendations

The findings of this study have led to actionable recommendations that have the potential to assist and encourage the adoption of s-commerce and other comparable technologies in Saudi Arabia. It is anticipated that consideration of these factors will help stakeholders and academics in the domain of IS technology adoption to implement e-commerce effectively. Figure 6.75 outlines the recommendations for ensuring the effectiveness and efficiency of s-commerce adoption in Saudi Arabia. The following recommendations provide stakeholders with a step-by-step roadmap for developing a prosperous s-commerce site.

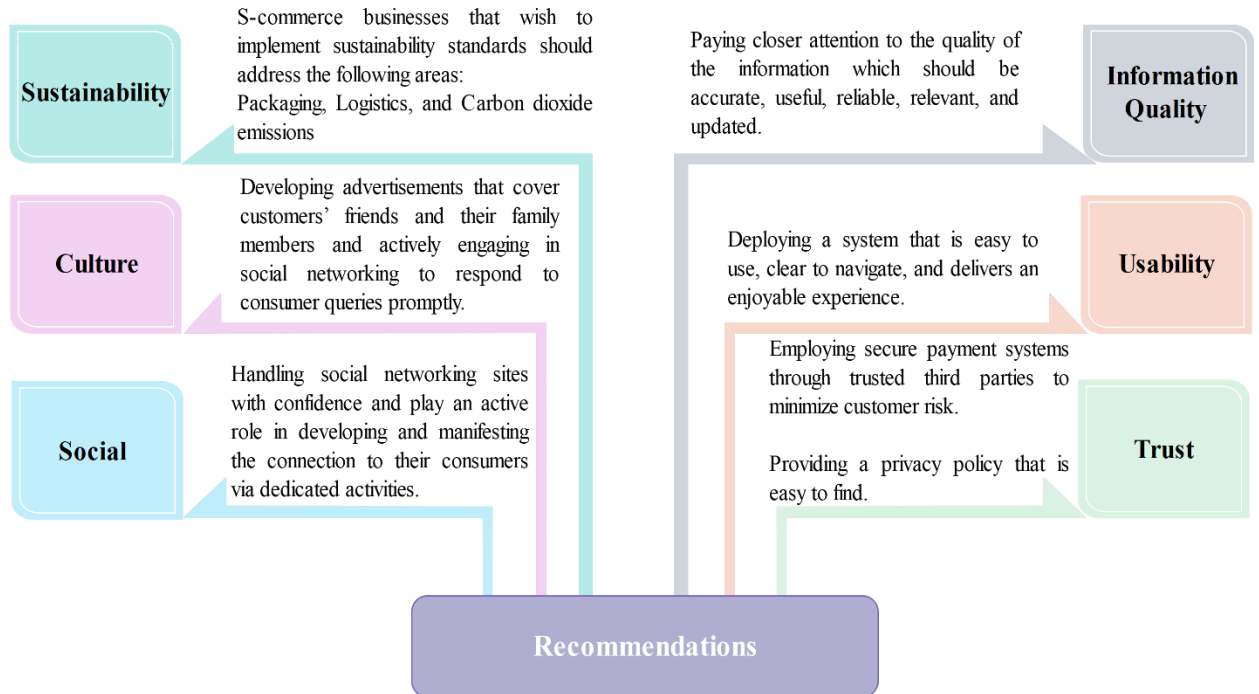


Figure 6.75: Summary of recommendations for ensuring the effectiveness of s-commerce adoption in Saudi Arabia

6.4.1 Information Quality

The success of an s-commerce site depends on what customers see when they visit it. The content was determined as a crucial factor that influences customers' attitude toward the adoption of s-commerce in Saudi Arabia. High-quality content that includes helpful information, reviews, images, and videos can keep a company's customers interested, satisfy their needs, and encourage them to return. System designers should provide relevant and adequate information and tutorials that guide customers through the shopping process of seeking, decision-making, and purchasing. The study's findings suggest that business owners, managers, and marketers should provide adequate guidelines and instructions. Also, they must pay closer attention to the quality of the information provided on SNSs about various products and services, which should be accurate, useful, reliable, relevant, and updated. Furthermore, such businesses should prioritise the interactive

features of SN platforms, as well as having appealing screen design and user-friendly navigation tools. In addition, companies' managers should establish effective goals that focus on s-commerce, as well as ensuring authentic sources of data to provide consumers with the best possible information.

6.4.2 Usability

Based on the findings of the analysis, usability was determined to be a crucial factor. In light of this factor, any proposed s-commerce implementation model needs to be easy to navigate, user-friendly, and provide customers with convenience and improved performance. In order to maximize user satisfaction, s-commerce content and applications must be free from potential flaws and difficulties that could confront customers during online shopping. A hard-to-navigate s-commerce site is likely to lose many customers.

To avoid that, it is recommended that companies' owners and administrators leverage customers' high level of acceptance of s-commerce by deploying a system that is easy to use and navigate, and delivers an enjoyable experience. The usability factor must be considered in Saudi Arabia's context because a complex and clumsy system design would hamper its successful implementation. Furthermore, an s-commerce site pilot trial should involve the customers so that the issues can be addressed and resolved before launching the site. A better understanding of the aforementioned obstacles can improve the usability of an s-commerce site.

6.4.3 Trust

The security of online purchases is important to all customers. Many social engineering attacks are launched against social network sites and virtual worlds where people interact with each other. Therefore, public or internal workspaces may suffer security breaches and data breaches as a result of malicious individuals disclosing confidential or sensitive information. S-commerce companies have to be proactive in preventing social engineering

attacks. For continued success, building trust is crucial in addition to providing a secure s-commerce site. Trust is established when s-commerce companies offer secure payment systems through trusted third parties to minimize customer risk.

Also, a quality s-commerce site must have a privacy policy. The purpose of this is to explain how customer information will be used, particularly in regard to their purchases. Providers of s-commerce services should communicate their privacy policies clearly to their customers and ensure that their online payment systems are secure. Providing a privacy policy that is easy to find and has easy-to-understand and straightforward terms is important. It is also essential for s-commerce companies to give their consumers the choice of not sharing their data.

6.4.4 Social

S-commerce companies have to be able to handle SNSs with confidence, and play an active role in developing and manifesting the connection to their consumers via dedicated activities. To put it another way, becoming an active participant in the SN landscape and establishing a solid foundation for s-commerce are both advantageous. Companies need to nurture their audiences and take advantage of the fact that consumers communicate with one another via SNSs. Talking to individual customers is an excellent way to engage the audience. Also, events and special activities give businesses additional opportunities to connect with their customers.

A customer should always be able to reach an e-retailer regardless of the reason – whether it be to return items or ask questions about a purchase. By encourage communication and interactive activities in a community, companies get to understand their consumers, optimize their products, and subsequently increase their sales.

6.4.5 Culture

Saudi Arabia is a collectivist society because people see themselves as members of a group. Also, the dimension of uncertainty avoidance in Saudi Arabia scores 80, and that implies its people have a preference for avoiding uncertainty (Hofstede Insights, n.d.). The online survey and interview data showed that the great majority of participants and experts placed great importance on the collectivism and uncertainty avoidance factors.

Because Saudi Arabia is a collectivist society, potential customers discuss options collectively with their friends and family before purchasing. Consequently, businesses ought to develop advertising policies that cover customers' friends and their family members and encourage them to support a purchase decision. Furthermore, because Saudi Arabia is characterized as an uncertain avoidance society with a low propensity for trusting or accepting new technologies such as s-commerce, businesses must provide detailed information about their services and products. Also, they have to help build customer trust by ensuring accurate, trustworthy and timely online shopping transactions and actively engaging in SN to promptly respond to consumer queries.

6.4.6 Sustainability

Despite the rapid evolution of online commerce, including s-commerce, the technologies are still flexible and easily adaptable. The sustainability of online commerce may be a complex issue, with many different stakeholders and actors who have their individual agendas and demands to fulfil. However, it is possible to extend online commerce to encompass sustainability. By progressively pursuing parallel aims, key actors can ensure that the three pillars of sustainability (social, economic and environment) are taken into account to a greater extent than they are at present (Finnbogason, 2013).

For the younger generations, sustainability is a significant factor since they have more options than ever before and are willing to boycott certain brands due to sustainability

issues. Social commerce gives businesses the opportunity to promote sustainable products and services that are consistent with their brand statement (Lehtinen, 2022).

S-commerce businesses that wish to implement sustainability standards should address the following areas first since they have the greatest opportunity for optimization:

- Packaging
- Logistics
- Carbon dioxide emissions

S-commerce customers complain that packaging waste and shipping/delivery issues are two of the biggest environmental sustainability concerns. Both issues already have effective solutions that have been applied by numerous companies. For example, Living Packets, which offers highly reusable and recyclable packaging, as a substitute for billions of disposable and nonreturnable packages. A study conducted by PwC found that companies that use alternative products in this area, such as reusable packaging, less filler material, or no plastic, perform better than their competitors in terms of sustainability and can thus win customers' approval and loyalty. Furthermore, fast delivery must be discouraged by charging extra for deliveries unless the product is urgently needed (Willems, 2020).

6.5 Research Contributions

The critical contribution of this research is in identifying the significant factors that influence customers' attitudes to the adoption of s-commerce in Saudi Arabia. This has been achieved by developing a holistic model of s-commerce for Saudi Arabia. The results of this research make a substantial theoretical and practical contribution to the s-commerce field, especially in Saudi Arabian sectors, discussed further in the sections below.

6.5.1 Theoretical Implications

This study makes new theoretical and academic contributions to the current literature regarding the significant factors required to implement s-commerce in Saudi Arabia successfully. In light of this study, the lack of theoretical models to guide the implementation of s-commerce in Saudi Arabia is of concern. Therefore, this thesis seeks to add to new theoretical and academic knowledge regarding the crucial factors needed to guide the successful adoption of s-commerce in Saudi Arabia. Moreover, the study's findings could benefit stakeholders in research centres or institutions and universities in Saudi Arabia, such as scholars, academic staff, PhD and Master students who could obtain the benefits of s-commerce in their lecturing, studying, and activities as well as those in the other developing countries, particularly in the Gulf Cooperation Council countries. Briefly, this research added new knowledge to the literature in this recent and essential field by considering all possible factors more comprehensively using an exploratory approach and examining the significant levels of these factors collectively.

6.5.2 Practical Implications

In practice, the study's outcomes can benefit stakeholders such as companies, organizations and governments as they provide guidance on how to encourage customers to adopt s-commerce and find practical solutions to improve the use of s-commerce in KSA. Companies, managers, and marketers in developing countries can use the final model to realize the factors that require further attention to get the maximum benefits from s-commerce adoption. Based on the final model, the following themes need more attention when adopting s-commerce in Saudi Arabia: organization characteristics, design, perceived usefulness, social, psychological, culture, and sustainability.

Furthermore, this research is aligned with the objectives of Saudi Vision 2030, a project map for strengthening the Saudi economy by diversifying its sources of income. One of the goals of Saudi Vision 2030 is to promote economic growth by empowering Saudi

entrepreneurs (Saudi Vision 2030, 2019). Hence, this research contributes to the Vision and has practical implications for Saudi Internet entrepreneurs by offering recommendations that will encourage consumers to adopt s-commerce in Saudi Arabia. S-commerce adoption will help entrepreneurs to achieve their desired financial objectives which, in turn, may help build a stronger economy. In addition, this holistic model could be applied in the GCC countries as they have many common objectives and similar political, language, cultural identities, and economic and financial systems.

6.6 Research Limitations

Although this research makes significant contributions from both theoretical and practical perspectives, the study had several limitations that need to be acknowledged. These are discussed below.

In the online survey, the researcher screened samples to ensure that participants were active users of SN platforms; however, people who have stopped using or are not using SN may have different perceptions and experiences. For example, the famous Instagram star, Essena O'Neill, quit SN in 2015 despite the high earnings and fame she earned from it because it is addictive and gives an unrealistic life view, and manipulated images were harming her offline relationships (Hunt, 2015). Therefore, it is recommended that future research should examine both active and inactive users of SN platforms.

Also, it was difficult for the researcher to conduct face-to-face interviews due to limitations imposed by Covid-19. Hence, the researcher switched to conducting asynchronous, semi-structured interviews.

Additionally, the time zone difference between Saudi Arabia and Australia was a hindrance in the sense that it made it more challenging to contact participants.

Lastly, from a practical point of view, various invalid responses were received. Several reasons could account for the high number of invalid responses: first, the survey examined too many factors and was therefore too long; second, participants experienced technical difficulties such as Internet speed and availability.

6.7 Future Research

The finding of this study give rise to various possibilities for future research into s-commerce. These future research directions can be considered by academic researchers in developed or developing countries. In Figure 6.76 below, a number of possible future research directions are presented.

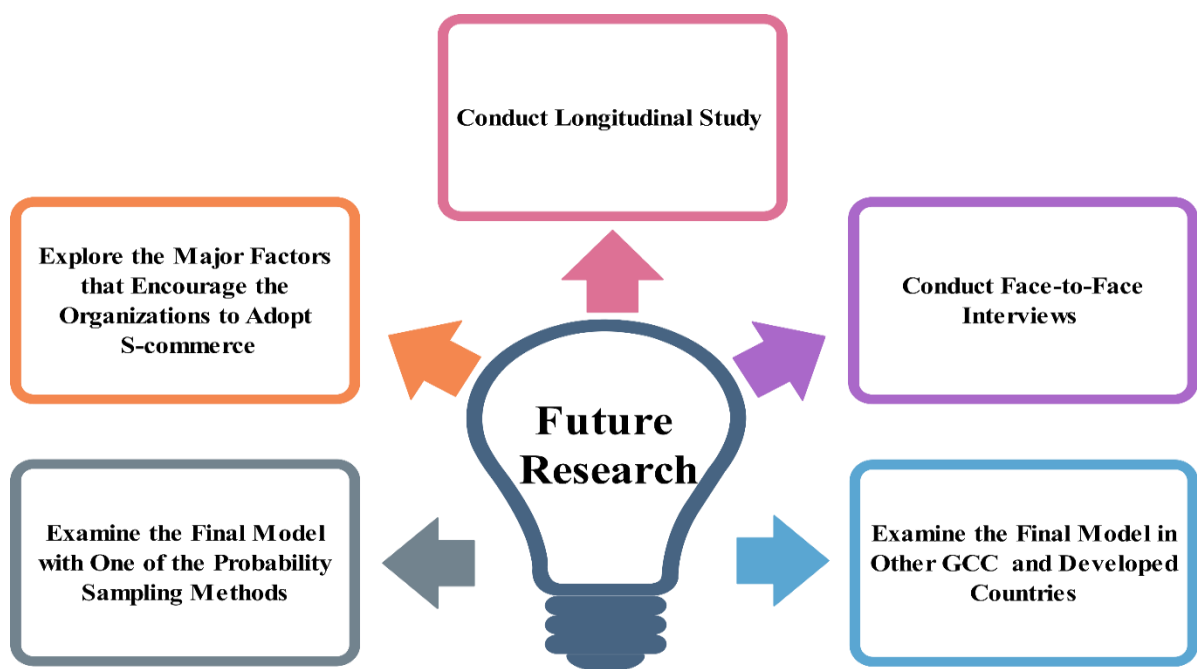


Figure 6.76: Future research

This study implemented a cross-sectional approach to gather data from SN users in Saudi Arabia. A longitudinal approach is recommended for future research to provide

an understanding of the interrelationship of the different factors that may influence s-commerce adoption in Saudi Arabia.

Also, because the COVID-19 pandemic and the time zone difference between Australia and Saudi Arabia made it difficult for the researcher to conduct face-to-face interviews, the researcher conducted asynchronously semi-structured interviews. In future, researchers could conduct face-to-face interviews in order to interpret the body language and facial expressions and ask for explanations of responses.

This study was carried out in Saudi Arabia. As a result, the model developed in this study could be applied to populations with comparable features; however, the findings might not be applicable to locations where different traits may be captured. Future studies can use the final holistic model developed in this research and examine populations different from those in this study. This will enable the model of the study to be validated, as well as generating comparison studies.

In this study, the non-probability sampling method used was convenience sampling to collect respondents' data via an online survey. Based on prior studies within this context, non-probability sampling techniques are considered less generalizable. In order to enhance the generalisability of the study results, future studies should examine the proposed final model with probability sampling methods, such as the simple random method. Furthermore, further investigation of the final model will improve the model's validity.

Finally, in order for s-commerce to be successful, the requirements of both businesses and customers must be researched and analysed. Although the present study has identified the significant factors that influence customers' attitudes to the adoption of s-commerce in Saudi Arabia, further research needs to explore the major factors that encourage businesses and organizations to adopt s-commerce.

6.8 Conclusion

This chapter began with a summary of the study's findings, followed by a review of the research questions and answers. The HSMSA model for Saudi Arabia is the main contribution of this thesis. It includes common issues and factors that influence the customers' attitudes to the adoption of s-commerce in Saudi Arabia that emerged from the collected data. These factors were agreed upon by the online survey participants and confirmed by s-commerce experts as being the most important in increasing the adoption of s-commerce in Saudi Arabia. Then, recommendations were derived from the HSMSA model to further help stakeholders and IS technology academics and practitioners to implement s-commerce successfully.

The contributions of this research fill a research gap identified in the literature by providing a theoretical holistic model that combines all significant factors to guide the adoption of s-commerce. The study has comprehensively examined all possible factors, taking an exploratory approach to investigate the significant levels of these factors collectively. To the best of this researcher's knowledge, none of the previous research has comprehensively reviewed all these factors, and none has adopted a mixed-methods approach to conduct an in-depth investigation of the phenomenon of interest. Concerning its practical significance, the study's outcomes can benefit stakeholders in developing countries to be aware of the factors that require further attention in order to derive the maximum benefits from s-commerce adoption. Overall, the outcomes of this study have made important theoretical and practical contributions. Finally, the limitations of this study were acknowledged and several recommendations were given in regard to future research.

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Appendix 1: Ethical Approval



Research Office at Curtin

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06-Apr-2020

Name: Tomayess Issa
Department/School: School of Management
Email: Tomayess.Issa@cbs.curtin.edu.au

Dear Tomayess Issa

RE: Ethics Office approval
Approval number: HRE2020-0163

Thank you for submitting your application to the Human Research Ethics Office for the project **Determinants of Holistic Social Commerce Framework for Saudi Arabia**.

Your application was reviewed through the Curtin University Negligible risk review process.

The review outcome is: **Approved**.

Your proposal meets the requirements described in the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research (2007)*.

Approval is granted for a period of one year from 06-Apr-2020 to 05-Apr-2021. Continuation of approval will be granted on an annual basis following submission of an annual report.

Personnel authorised to work on this project:

Name	Role
Aljaafari, Mohammed Abdullatif H	Student
Issa, Tomayess	CI

Approved documents:

Document

Appendix 2: Online Survey Questions

English ▾

Participant consent statement

I am currently undertaking a PhD research entitled as “Determinants of Holistic Social Commerce Framework for Saudi Arabia” at Curtin University, Australia and is funded by my sponsor.

The purpose of this research is to identify the major factors that influence the customers’ attitude to the adoption of social commerce (s-commerce) in Saudi Arabia. This research will help to develop a new initial holistic framework for s-commerce in Saudi Arabia. The s-commerce is defined as a subset of e-commerce that uses the social networking platforms as a bridge to e-commerce to facilitate the online buying and selling of products and services via Internet technologies.

This survey is conducted exclusively for research purposes. It should take approximately 20 minutes to complete. This survey contains three sections. Please read each statement and then circle the number or tick the box that best describes your attitude or belief. Please, feel free to disregard to answer any particular question that you do not wish to answer for any reason.

We greatly appreciate your participation because your responses may help us learn more about how to successfully implement social commerce framework in Saudi Arabia. This research will help to improve the use of social commerce in Kingdom Saudi Arabia (KSA). Your assistance in this research is greatly appreciated and is critical for the success of its findings.

Your Participation in this research is completely voluntary and your responses will be treated as being anonymous. Participants have the right to refuse or withdraw at any time without penalty or negative consequences and do not need to provide a reason. By completing this survey, you are consenting to participate and allow me to use your data in this research.

The data collected through the survey will be held as strictly confidential. The data collected for this study will be available in R Drive (in accordance with Curtin Data Management policy) at Curtin University, and only the researcher and PhD committee will have the authority to access it. The data will be used for the research purpose only and will not be revealed to or shared with others. Finally, the researchers will ensure that published material does not contain any information that can identify the participants.

Curtin University Human Research Ethics Committee (HREC) has approved this study (HREC number HRE2020-0163). Should you wish to discuss the study with someone not directly involved, in particular, any matters concerning the conduct of the study or your rights as a participant, or you wish to make a confidential complaint, you may contact the Ethics Officer on (08) 9266 9223 or the Manager, Research Integrity on (08) 9266 7093 or email hrec@curtin.edu.au".

Thank you for your involvement in this study. Your participation is highly appreciated. If you need any additional information, please feel free to contact the researcher.

Thank you in advance.

Yours faithfully,

Mohammed Aljaafari
PhD student- School of Information Systems
Curtin University
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Senior Lecturer- School of Information Systems
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General Information

Participant consent statement:

I have received information regarding this research and have had the opportunity to ask questions. I understand the purpose, extent and possible risks associated with my involvement in this project and I voluntarily consent to take part

- Agree
 Disagree

Your nationality:

- Saudi nationality
 Non-Saudi nationality

Do you have any social networking account in Facebook, Twitter, Instagram, Snapchat, WhatsApp or any other?

- Yes
- No

Demographic Information

Please click on the link below to watch the short video about the s-commerce definition before answering the online survey questions.

[CLICK HERE TO WATCH THE VIDEO](#)

SECTION A: Under this section, the researchers will elicit the participants' demographic information and background

Gender:

- Male
- Female

What is your age?

- 18-25
- 26-30
- 31-33
- 34-38
- 39 and above

Please tick your highest education level:

- Higher Secondary
- Professional Certificate
- Diploma
- Bachelor's Degree
- Post Graduate Diploma
- Master's Degree
- PhD
- Other- please specify

Please tick your occupation status:

- Student
- Unemployed
- Employed in a private sector
- Employed in a government sector
- Self employed
- Retired
- Other- please specify

Please tick your monthly income:

- Less than 1000 SAR
- 1000-3500 SAR
- 3501-6000 SAR
- 6000-10000 SAR
- More than 10000 SAR

How long have been using social networking apps?

- Less than a year
- 1-2 years
- 3-5 years
- More than 5 years

Have you purchased products/services via social networking apps?

- Yes
- No but I would consider purchasing in the future
- No and I would not consider purchasing in the future

What are the most social networking platforms being you use of the online shopping?

- Facebook
- Twitter
- Instagram
- WhatsApp
- Snapchat
- Other- please specify

Organization Characteristics Factors

SECTION B: Under this section, the researcher will examine the core factors influencing the customers' attitudes to adopt s-commerce in Saudi Arabia.

To what extent do you agree with the following statements?

**Organization Characteristics Factors
(Reputation,Size,Facilitating Conditions)**

Q1: My decision to buy from s-commerce may be influenced when the firm:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Is well-known	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has a favourable reputation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has public respect	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is reliable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Is concerned about its clients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Offers well-known brand products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is a longstanding company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is a sizable company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is an important and successful company in the market	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sponsors numerous activities. (i.e. health, sport etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has a regional presence in Saudi Arabia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2: My willingness to shop via s-commerce is increased when:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I feel confident using social networking apps for online purchases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technical support teams in the social networking apps are available	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have the resources, tools, and skills needed to use s-commerce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tips and instructions are available on the s-commerce site	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have the knowledge necessary to shop using social networking apps	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

HCI and Usability

HCI and Usability
 (Information Quality, System Quality, Service Quality, PEOU, Perceived Usefulness)

Q1: The information provided about products sold online via social networking apps is:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Up-to-date	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accurate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Useful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comprehensive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Reliable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2: Social networking apps encourage me to shop if they:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Provide tools enabling me to locate information easily	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Protect my information against unauthorized access	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have a feasible search time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have a realistic load time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have a well-organized and visually attractive interface	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3: Social networking apps encourage me to shop if they:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Provide a reliable service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide dependable support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Offer prompt service to users	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pay attention to the user's individual wishes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understand the specific requests of the users	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instil confidence in customers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4: Social networking apps for online purchases encourage me to shop if they:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Are easy to use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Need little mental effort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are easy to learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use clear instructions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enable shopping to be done quickly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have processes that can be remembered easily	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make it easy for me to communicate with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Are efficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make it easy to evaluate products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5: Social networking apps for the purpose of online purchasing:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Are useful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help me to achieve my goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Save time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are effective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improve my shopping experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide useful information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Content Factors

Content Factors
(Nonmonetary, Perceived Enjoyment)

Q1: Online shopping via social networking apps are important to me as they provide me with:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Special offers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gifts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Free shipping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Loyalty points	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2: Using social networking apps for online purchasing is:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Enjoyable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Entertaining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exciting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Social Factors

Social Factors
(Social Presence of Sellers, Social Presence of Other, Social Presence of Web, Informational Support, Emotional Support, Social Influence, Social Commerce Constructs)

Q1: The s-commerce seller(s):

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Keeps me informed of new products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keeps me informed of new services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responds to my feedback about its service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provides me with significant information related to my queries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responds quickly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2: My interaction with people on social networking apps:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Allows me to try new things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Makes me interested in what people thinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Makes me interested in buying what they suggest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Makes me feel like I am part of a large society	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gives me new people to talk to about my shopping interests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Affects my attitude and behaviour in regard to online shopping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3: In the social networking apps, there is a sense of:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Human contact	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sociability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Human warmth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Human sensitivity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4: In the social networking apps, I can read useful information from:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Users about products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Users about the services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Users who help me resolve a problem encountered during online shopping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sellers about products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Sellers about the services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sellers who help me resolve a problem encountered during online shopping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5: I like social networking apps for purchasing online because when I face a problem there are friends/users who:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Listen to me talk about my private feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Express interest and concern in my welfare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calm me down	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Listen to me when I cannot decide which product I should buy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encourage me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6: In the social networking apps, there are:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
People who influence my attitude by suggesting that I should use social networking apps for shopping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People whose opinions I value, think that I should use social networking apps for shopping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friends on my social network account suggest that I should use social networking apps for shopping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Several relatives who suggest that I should use social networking apps for shopping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7: In the s-commerce, I:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Enjoy using people's recommendations when buying a product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Like to see people's ratings and reviews about products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consider that my friends' recommendations are reliable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Believe that my friends' recommendations are trustworthy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Like to share my shopping experience by providing ratings and reviews	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enjoy recommending products to my friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Psychological Factors

Psychological Factors

(Monetary, Community Commitment, Trust in Marketplace, Trust Towards Members, Trust in Sellers, Transaction Safety)

Q1: I like to use social networking apps for online shopping because:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I can search for cheap products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can compare different product prices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some companies offer additional discounts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some companies offer reasonable prices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I value low prices for various products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2: My willingness to shop via s-commerce is increased when:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I have a real emotional attachment to a company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel a strong connection to a company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel a sense of belonging to a company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I am a member of a company group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I care about the long-term success of a company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3: Based on my online shopping experiences with social networking apps (such as Instagram and Facebook) I believe that:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
They are honest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
They care about users	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
They are likely to be reliable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Their performance always matches my expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
They keep my privacy information safe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
They are competent platforms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4: Users of social networking apps:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Are honest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Look out for my interests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Care about me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are reliable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Would assist me if I needed their help	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5: The sellers in the social networking apps:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Care about their followers' queries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perform their role of offering services very well	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perform their role of marketing products very well	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are reliable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are honest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6: The sellers in the social networking apps ensure:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
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	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
That they implement security measures to protect its online shoppers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
That they verify online shoppers' identity for security purposes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
That any payment transaction is protected from destruction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
That any payment transaction is protected from misuse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
That my payment information is accessible to only a limited number of personnel who need access to the information to perform their duties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
That the privacy of my payment information is protected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Cultural Factors

Cultural Factors

(Perceived Awareness, Perceived Ethics, Individualism / Collectivism, Learning and Training, Uncertainty Avoidance, Habit)

Q1: I am familiar with:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Social networking apps in general	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Searching for products using social networking apps	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buying products using social networking apps	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Searching about product ratings using social networking apps	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2: S-commerce sellers/apps:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Have privacy policies that are stated explicitly and clearly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Explain how my personal information will be used	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respect intellectual property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do not sell merchandise violating others' intellectual property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Follow a moral code	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3: I feel:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Group success is more meaningful than individual success	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being loyal to a group is more significant than individual gain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working in groups is better than working alone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I care about the welfare of my group members	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4: I have:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Learned to use smart mobiles for online shopping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The skills necessary for using the internet to shop online	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The skills necessary for using social networks applications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technological skill to engaging in s-commerce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better understanding of the benefits related to social commerce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5: It is likely that:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Shopping using s-commerce will cause me to suffer a financial loss due to the lack of security	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Shopping using s-commerce will cause me to lose the privacy of my personal information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shopping using s-commerce will cause me to lose the privacy of my payment information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The online payment system is unsafe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The after-sale services may not be guaranteed in s-commerce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The product I purchase via s-commerce could fail to meet my expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6: I feel that purchasing online from social networking apps:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Has become natural to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has made me addicted to online purchasing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has become a routine practice for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is my first choice when I want to shop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is more practical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

Please add other comments on other factors that might influencing the customers' attitudes to adopt s-commerce in Saudi Arabia

Sustainability

SECTION C: Under this section, the researchers will examine how sustainability is being affected by s-commerce in Saudi Arabia. The researchers will study this from two perspectives: economic, and environmental sustainability.

To what extent do you agree with the following statements?

Sustainability
(Environmental,Economical)

Q1: Using social networking apps for online purchases:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Reduces transportation use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduces energy use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduces waste	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduces paper bills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduces carbon emissions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduces air pollution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduces climate global warming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduces companies' consumption of resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decreases the need for parking lots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Minimizes the number of display shelves	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2: Using social networking apps for online purchases improve:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Purchasing power	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Living standards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economic growth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Income sources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

Please add other comments on how sustainability is being affected by s-commerce in Saudi Arabia

Appendix 3: Interview Consent Form

Interview consent form

HREC Project Number:	HRE2020-0163
Project Title:	<i>Determinants of Holistic Social Commerce Framework for Saudi Arabia</i>
Principal Investigator:	<i>Tomayess Issa – Senior Lecturer</i>
Student Researcher:	<i>Mohammed Aljaafari</i>
Version Number:	1
Version Date:	9 Sept 2020

- I have read (or had read to me in my first language) the information statement version listed above and I understand its contents.
- I believe I understand the purpose, extent and possible risks of my involvement in this project.
- I voluntarily consent to take part in this research project.
- I have had an opportunity to ask questions and I am satisfied with the answers I have received.
- I understand that this project has been approved by Curtin University Human Research Ethics Committee and will be carried out in line with the National Statement on Ethical Conduct in Human Research (2007).
- I understand I will receive a copy of this Information Statement and Consent Form.

Participant Name	
Participant Signature	
Date	

Declaration by researcher: I have supplied an Information Letter and Consent Form to the participant who has signed above, and believe that they understand the purpose, extent and possible risks of their involvement in this project.

Researcher Name	
Researcher Signature	
Date	

Note: All parties signing the Consent Form must date their own signature

Appendix 4: Interview Questions

Dear Sir/Madam

I am conducting a PhD research titled “Determinants of Holistic Social Commerce Model for Saudi Arabia”. The aim of this research is to identify the major factors that influence the customers’ attitude toward the adoption of social commerce (s-commerce) in Saudi Arabia.

If you are uncomfortable about answering certain questions, please feel free to disregard them.

Participation in this research is voluntary and your responses will be completely anonymous. Participants may withdraw at any time without prejudice or negative consequences, and do not need to provide a reason. By completing the interview, you are consenting to participate.

Curtin University Human Research Ethics Committee (HREC) has approved this study (**HRE2020-0163**). Should you wish to discuss the study with someone not directly involved, in particular, any matters concerning the conduct of the study or your rights as a participant, or you wish to make a confidential complaint, you may contact the Ethics Officer on (08) 9266 9223 or the Manager, Research Integrity on (08) 9266 7093 or email hrec@curtin.edu.au.

Thank you in advance

Yours faithfully,

Mohammed Aljaafari

PhD student- School of Information Systems

Curtin University

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Email: Tomayess.Issa@cbs.curtin.edu.au

Q1: Gender:

- Male*
- Female*

Q2: What is your age?

- 23-29*
- 30-36*
- 37-43*
- 44-50*
- 50 and above*

Q3: Please tick your highest education level:

- Higher Secondary*
- Professional Certificate*
- Diploma*
- Bachelor Degree*
- Post Graduate Diploma*
- Master Degree*
- PhD*
- Other- please specify*

Q4: What is your position in the company?

Q5: Number of years in your current job?

- Less than one years*
- 1-3 years*
- 4-6 years*
- 7-10 years*
- More than 10 years*

The following questions relate to your knowledge of, and experience with, social commerce:

Q6: Number of years' experience with social commerce?

- Less than one years*
- 1-3 years*
- 4-6 years*
- More than 6 years*

Q7: Indicate your level of competency in the use of social commerce:

- Extremely competent*
- Somewhat competent*
- Neutral*
- Somewhat incompetent*
- Extremely incompetent*

Share with us your social commerce knowledge and experience.

Q8: Based on your experience, list the most important factors that will encourage customers to use social networking applications for online shopping?

Organization Characteristics Theme: these characteristics are aspects of an organization that could influence the customer’s attitude toward the company, specifically in relation to its capabilities, size and reputation. This theme comprises four factors: “*Recognized Company*”, “*Favourable Reputation*”, “*Instructions and Guidelines*”, and “*Delivery*”.

Q9: Please rate the importance of the following factors in influencing the customer’s attitude to the adoption of s-commerce in Saudi Arabia.						
#	<i>Factors</i>	<i>Extremely important</i>	<i>Very important</i>	<i>Moderately important</i>	<i>Slightly important</i>	<i>Unimportant</i>
1	Recognized Company					
<i>Why? Please give details.</i>						

2	Favourable Reputation					
<i>Why? Please give details.</i>						

3	Instructions and Guidelines					
<i>Why? Please give details.</i>						

4	Delivery					
<i>Why? Please give details.</i>						

Q10: Do you think the factors under the “Organization Characteristics Theme” are related to each other and can be grouped under the same theme?

- Yes.
- No, please explain.

Design Theme: aims to understand the factors that influence customers’ attitude to s-commerce adoption in relation to the usability, and information and system quality. Four factors are related to this theme: “Usability”, “Perceived Usefulness”, “System Quality”, and “Information Quality”.

Q11: Please rate the importance of the following factors in influencing the customer’s attitude to the adoption of s-commerce in Saudi Arabia:						
#	<i>Factors</i>	<i>Extremely important</i>	<i>Very important</i>	<i>Moderately important</i>	<i>Slightly important</i>	<i>Unimportant</i>

1	Usability					
<i>Why? Please give details.</i>						

2	Perceived Usefulness					
<i>Why? Please give details.</i>						

3	System Quality					
<i>Why? Please give details.</i>						

4	Information Quality					
<i>Why? Please give details.</i>						

Q12: Do you think the factors under the “Design Theme” are related to each other and can be grouped under the same theme?

- Yes.
- No, please explain.

Content Theme: is mainly focused on perceived non-monetary rewards and perceived entertainment value. It contains two factors: “*Non-monetary*” and “*Perceived Enjoyment*”.

Q13: Please rate the importance of the following factors in influencing the customer’s attitude to the adoption of s-commerce in Saudi Arabia:						
#	<i>Factors</i>	<i>Extremely important</i>	<i>Very important</i>	<i>Moderately important</i>	<i>Slightly important</i>	<i>Unimportant</i>
1	Nonmonetary					
<p><i>Why? Please give details.</i></p> <p>-----</p> <p>-----</p>						
2	Perceived Enjoyment					
<p><i>Why? Please give details.</i></p> <p>-----</p> <p>-----</p>						

Q14: Do you think the factors under the “Content Theme” are related to each other and can be grouped under the same theme?

- Yes.
- No, please explain.

Social Theme: focuses mainly on the experiences, communications and relationships that influence customers’ attitudes, lifestyles and personalities. It includes four factors: “*Social Presence*”, “*Sellers’ Informational Support*”, “*Emotional Support*”, and “*Stakeholders Endorsement*”

Q15: Please rate the importance of the following factors in influencing the customer’s attitude to the adoption of s-commerce in Saudi Arabia:						
#	<i>Factors</i>	<i>Extremely important</i>	<i>Very important</i>	<i>Moderately important</i>	<i>Slightly important</i>	<i>Unimportant</i>
1	Social Presence					
<i>Why? Please give details.</i>						

2	Sellers’ Informational Support					
<i>Why? Please give details.</i>						

3	Emotional Support					

<i>Why? Please give details.</i>						

4	Stakeholders Endorsement					
<i>Why? Please give details.</i>						

Q16: Do you think that Social Presence and Stakeholders Endorsement factors can be included under the Social Presence factor?

Yes or No. Please give a reason for your answer.

Q17: Do you think the factors under the “Social Theme” are related to each other and can be grouped under the same theme?

- Yes.*
- No, Please explain.*

Psychological Theme: when purchasing products using the social networking apps, a consumer considers various factors such as motivation, privacy, and lack of security. These factors have a great influence on the mentality of a person and his/her decision making, and they represent the psychological factors considered in our study. This theme

has four factors: “*Monetary*”, “*Community Commitment*”, “*Trust*”, and “*Transaction Safety*”.

Q18: Please rate the importance of the following factors in influencing the customer’s attitude to the adoption of s-commerce in Saudi Arabia:						
#	<i>Factors</i>	<i>Extremely important</i>	<i>Very important</i>	<i>Moderately important</i>	<i>Slightly important</i>	<i>Unimportant</i>
1	Monetary					
<i>Why? Please give details.</i>						

2	Community Commitment					
<i>Why? Please give details.</i>						

3	Trust					
<i>Why? Please give details.</i>						

4	Transaction Safety					
<p><i>Why? Please give details.</i></p> <hr/> <hr/>						

Q19: Do you believe that the factors under the “*Psychological Theme*” are related to each other and can be grouped under the same theme?

- Yes.*
- No, Please explain.*

Culture Theme: this theme encompasses the moral codes, skills, beliefs, and habits characteristic of a Saudi community. This study investigates whether these cultural factors influence consumers’ behaviour in regard to the adoption of social commerce. This theme has five factors: “*Technical Skills*”, “*Team Group*”, “*Perceived Ethics*”, “*Uncertainty Avoidance*”, and “*Habit*”.

Q20: Please rate the importance of the following factors in influencing the customer's attitude to the adoption of s-commerce in Saudi Arabia.

#	<i>Factors</i>	<i>Extremely important</i>	<i>Very important</i>	<i>Moderately important</i>	<i>Slightly important</i>	<i>Unimportant</i>
1	Technical Skills					
<p><i>Why? Please give details.</i></p> <p>-----</p> <p>-----</p>						
2	Team Group					
<p><i>Why? Please give details.</i></p> <p>-----</p> <p>-----</p>						
3	Perceived Ethics					
<p><i>Why? Please give details.</i></p> <p>-----</p> <p>-----</p>						
4	Uncertainty Avoidance					
<p><i>Why? Please give details.</i></p>						

5	Habit					
<i>Why? Please give details.</i>						

Q21: Do you think the factors under the “Culture Theme” are related to each other and can be grouped under the same theme?

- Yes.*
- No, Please explain.*

Sustainability Theme: is mainly focused on examining the extent to which the issue of environmental and economic sustainability could affect customers’ willingness to adopt s-commerce in Saudi Arabia. The “Sustainability” theme consists of two factors: “*Sustainable Environmental*” and “*Sustainable Economy*”.

Q22: Please rate the importance of the following factors in influencing the customer's attitude to the adoption of s-commerce in Saudi Arabia.

#	<i>Factors</i>	<i>Extremely important</i>	<i>Very important</i>	<i>Moderately important</i>	<i>Slightly important</i>	<i>Unimportant</i>
1	Sustainable Environmental					
<p><i>Why? Please give details.</i></p> <p>-----</p> <p>-----</p>						
2	Sustainable Economic					
<p><i>Why? Please give details.</i></p> <p>-----</p> <p>-----</p>						

Q23: Do you think the factors under the “Sustainability Theme” are related to each other and can be grouped under the same theme?

- Yes.*
- No, Please explain.*



Figure 1: Enhanced social commerce Model for Saudi Arabia (prepared by the author)

Q24: Based on our interview, what is your evaluation of the enhanced social commerce model for Saudi Arabia?

- Effective*
- Moderately effective*
- Ineffective*

Please add your comments:

Q25: Do we need to add new factors to the model, or merge, or delete any factors from the developed model? Please give one or more reasons for your response.

