Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Motivational Drivers for Mobile Shopping Adoption: An Empirical Study of the Chinese Generation Y Consumers

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Submitted in partial fulfilment for the award of the degree of
Doctor of Business Administration (DBA)
University of Wales Trinity Saint David
October 2020

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Acknowledgement

First of all, I would like to thank Dr. Stephen Thomas Sommerville who interviewed and offered me an opportunity to begin a such great journey in pursuit of a degree in Doctoral Business Administration.

Foremost, I would like to express my sincere gratitude to my amazing supervisory team: Dr. Ying Fan and Dr. Lipi Begum for their constant supports of my DBA study and research. Without their patience, motivation, enthusiasm, and immense knowledge, this study will never be completed, I was enlightened in all the time through communication with them during the research and writing of this thesis.

My sincere thanks goes to the DBA Director Professor Jill Venus for her continuous guidance and valuable insights throughout this journey. I would also like to express my gratitude to Dr. John-Paul-Okeke and Dr. Isaiah Oino, who instructed me and inspired me in many ways, their opinions and suggestions into this research were a great support for the completion of this thesis.

My heartfelt gratitude to my family especially to my loving parents, whose encouragement, emotional and financial support was crucial for me in the past years. I owe my gratitude to my wife, who offered great companionship in completing this study, encouraged me to overcome the grey days and hardships during the whole journey.

Last but not least, I offer my regards and blessings to all of my lovely friends, Dr. Handing Sun, Muhammad Awais Riaz, Valdes Songmene Douanla, and Muhammad Khan, etc. I am truly grateful for their friendship during the pursuit of this doctoral degree.

Abstract

One of the most prominent trends of the 21st century in China is the emergence of e-commerce, especially mobile commerce, which has changed people's lives, notably in the way they conduct shopping. This study investigates mobile shopping behaviour in China, focusing on Generation Y, for the following two reasons: （1）Research on consumers' behavioural intention in adopting mobile shopping has been carried out previously, yet the research into this trend in China is limited and research with specific focus on the Chinese Generation Y is even more so. （2）Since Chinese Generation-Y has played a dominant role and made a significant impact on the online retailing market, the researcher believes it is essential to conduct Chinese Generation-Y-focused research to develop a deeper understanding of this special group's consumption behaviour so that the online and offline marketers and retailers will be able to develop effective strategies in terms of customer positioning and mobile shopping platform design.

Following an extensive literature review, the research develops a new conceptual framework which extends the existing framework of the Unified Theory of Acceptance and use of Technology, also known as the UTAUT (Venkatesh, et al.,2003) and Six Dimensions of Hedonic Shopping Motivation (Arnold and Reynold, 2003). This novel integration has not been attempted in previous research. The research was also designed to employ a combination of quantitative and qualitative methods for a robust understanding of mobile commerce acceptance in Chinese Generation-Y. Data was collected via an online questionnaire survey with a sample of 473 and an additional six interviews. Various statistical techniques in Statistical Package for Social Science (SPSS) are used for quantitative analysis and the thematic method is used for qualitative analysis.

The research findings confirm that the key factors affecting the behavioural intention of mobile shopping are as follows: performance expectancy, effort expectancy, facilitating conditions, perceived gratification shopping, perceived role shopping, and perceived value shopping. Other factors found to have an insignificant impact include social influence, perceived individual innovativeness, perceived adventure shopping, perceived social shopping, and perceived idea shopping. These findings help move existing theory forward, and consideration of using this integrated model can help scholars examine all the potential factors that might influence the reasons behind mobile shopping in China. In addition, this research framework further provides three practical implications for mobile shopping platform providers to consider: customer experience, product attributes, and customer positioning.

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CHAPTER 1 INTRODUCTION

1.1 Research Background

One of the most important events of the 21st century in China is the emergence of e-commerce, which has brought a huge convenience to people's daily life and in a way, changed people's lifestyles in terms of shopping approaches. Chinese Ministry of Commerce (2017) stated that Chinese online business transactions had reached 26.1 trillion Yuan in Chinese e-commerce reports in 2016. Furthermore, according to a report released by China Internet Network Information Centre in Jan 2018, the number of Chinese Internet users had reached 772 million, while mobile internet users reached 753 million, accounting for 97.5% of its internet population by the end of Dec 2017, Chinese online shopping users had reached 533 million while mobile Internet shopping users had reached 506 million (CNNIC, 2018). This points to the great potential growth of the number of mobile shopping users in China. There has been a 30% rise compared in mobile shopping since June 2012, only 388 million mobile Internet users were estimated in China compared to in 2017, but that was the time when the number of mobile phones' usage first exceeded computers', which turned it into the largest internet terminal for Chinese Internet users. The penetration rate of mobile phones is above 95%. The details about Chinese internet and mobile internet users are shown in Figure 1 below:

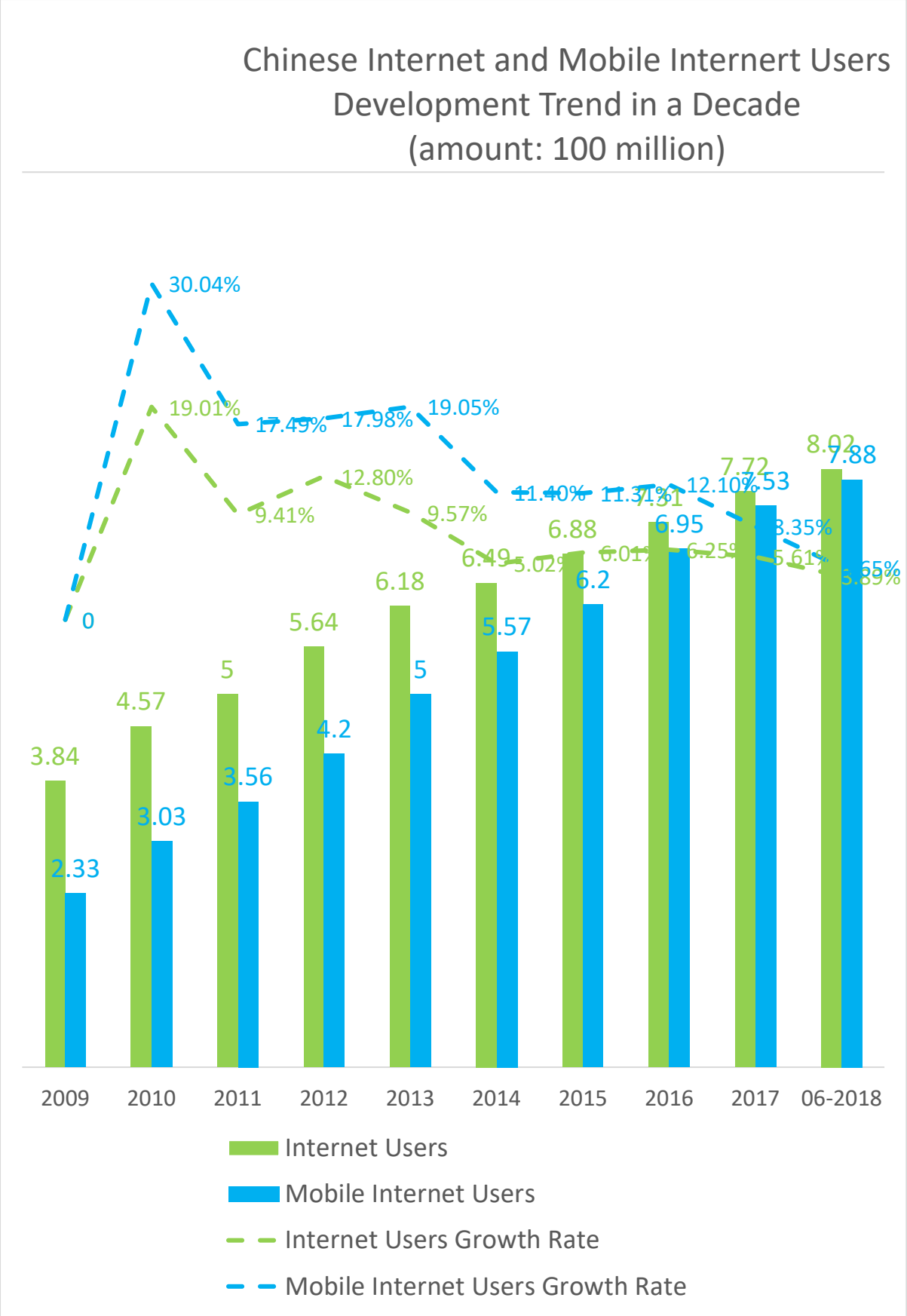

Figure 1 - Chinese Internet and mobile Internet users development Trend.

(Source: CNNIC, 2018, made by the author, 2020)

The use of desktop computers, laptop computers, and tablet PCs has declined. CNNIC (China Internet Network Information Centre) stated that the age between 10 – 39 years old account for 73.0% of total internet users and among this figure, age between 20-29 and 30-39 respectively achieved 30.0% and 23.5% (CNNIC, 2018). This implies the age between 20 -39 years old people had reached 391 million and accounted for 53.5%, over half of the population of Chinese internet users. In addition, iResearch's (2016) report has already demonstrated a similar result that mobile phone shopping users in China are mostly young, 18-34-year-old users account for 87.1% of mobile phone shopping, they are the main group of mobile shopping. Furthermore, Cao (2019) suggest the growing influence of Chinese millennials, born in the last two decades of the 20th century, on consumer trends in the world's second-largest economy, Chinese millennials buy daily items over their phones, their needs for convenience has fuelled the surging demand to make a purchase via mobile phone anywhere, anytime.

Therefore, it is important to conduct a Chinese Generation Y focused research to understand this group's particular behaviour and what made them do so.

1.2 Research Rationale

Research on the consumers' behavioural intention towards m-commerce and adoption of mobile shopping has been carried out previously, and yet the research on the adoption of mobile shopping in China is limited and research with a specific focus on the Chinese Generation Y is even more limited. This group of people is commonly described as 'post 80s and 90s Generation' in China. Internationally, this generation refers to Generation Y, encompassing those born in the 1980s and 1990s (Pitta and Gurau, 2012) and whose members are also known as Millennials.

This research is to specifically focus on Chinese Generation-Y behavioural intention towards mobile shopping, in terms of what factors drive this generation to adopt mobile shopping. Since Chinese Generation-Y has made a significant consumption impact on the online retailing market, the author believes it is interesting and essential to conduct a research on the adoption of mobile shopping among Chinese Generation Y. To develop a deeper understanding of this group's consumption behaviour, will enable the online and offline marketers and retailers to develop a fine-grained strategy in terms of customer positioning and product designing for the most influential consumer group in China, as suggested by Fyall et al. (2017) so that further

research can closely investigate how the generational characteristics influence the development of products and services.

In addition, the millennial generation in China has been growing up alongside China's rapid economic growth, a fact that affects their daily lives. In 2016, the total population in China was 1.37bn people; noticeably, the population count in the age group of 16–36 was about 434.1m people, constituting about 31.6 percent of China's total population (US Census Bureau, 2017). To put the power of this consumer segment into perspective, the headcount of China's millennials alone is more than the entire US population, which was about 324m in 2016 (Su and Zhou, 2019). Chinese Generation Ys have become the country's biggest consumer group and are considered one of the most important market segments (Luo et al., 2018). Retailers have been attracted to this consumer segment due to its size and emerging consumer spending power. Most Chinese Generation Ys are the only child in their family, and they represent a generation of young adults whose lifestyle is quite different from previous generations (Yi et al., 2010; Podoshen et al., 2011; Yang et al., 2018). They are technologically connected to the global marketplace. They highly regard the power of economic freedom, social freedom and are aware of emerging global, social, and technological issues (O'Cass and Siahtiri, 2014; Yang et al., 2018). Due to the huge social impact the young millennial generation has on society and their market potential in the retail industry, the author believes this research will fill the gap in understanding the Chinses Generation-Y's behavioural intention toward mobile shopping. Understanding Chinese Generation-Y's views provides valuable insights and comparable perspectives to the retailing marketers.

1.3 Research Aims and Objectives

The aims of this research are firstly to identify the factors that drive Chinese Generation Y to purchase online by utilizing mobile devices rather than non-mobile devices such as PCs and laptops. Secondly, to develop a prototype mobile shopping model to aid the understanding of Chinese Generation Y's consuming behaviours; and thirdly, to provide the strategies for the online and offline marketers and retailers in terms of customer positioning and product designing, hence to comprehensively satisfy the Chinese Generation Ys' needs and to contribute the knowledge of how mobile shopping has influenced Chinese Generation Ys' behaviours. Hence, this research seeks to achieve the following objectives and address the research questions under each objective:

Research Objective 1

Identify and examine the key factors that influence Chinese Generation Y's mobile shopping adoption.

RQ1: With regard to the use of mobile technology (smartphones or other smart devices) for online shopping, what are the motivational factors that drive Chinese Generation Y to adopt mobile shopping?

Research Objective 2

Develop a conceptual framework on Chinese Generation Y's mobile shopping behaviour by integrating six dimensions of hedonic shopping motivation to UTAUT.

RQ2: Does utilitarian and hedonic motivation simultaneously drive Chinese Generation Y to adopt mobile shopping?

Research Objective 3

Make recommendations to help marketers develop marketing strategies, and to provide fine-grained insights

RQ3: What strategies marketers and retailers could and should implement to capture this specific consumption group?

1.4 Outline of this thesis

The thesis is organized into eight chapters to achieve these objectives. Each chapter consists of several subsections, starting with an introduction and finishing with a summary. This thesis is structured as follows:

Chapter 1 Introduction

This chapter introduces the overall research background of this study, describes the aims and objectives, the rationale of this research as well as the outline of this thesis.

Chapter 2 Research Context

This chapter described the research context of this study, explained the generational cohort's divide the Chinese population in this study, and also discussed the definition and characteristics of mobile commerce and mobile shopping, and provided a review of consumers' mobile shopping motivations, experiences, and behaviours.

Chapter 3 Literature Review

This chapter is an extensive literature review. It starts with a brief overview of e-commerce and mobile commerce, including history, development, technological basis, application services, etc. It goes on to dedicate to a review of the literature of technology acceptance models.

Chapter 4 Conceptual Framework

This chapter begins by introducing the utilitarianism and hedonism, followed by the six dimension of hedonic shopping proposed by Arnold and Reynold (2003). Followed by a series of the hypothesis under the new theoretical model and interpretation of each variable contained in the framework.

Chapter 5 Research Methodology

This Chapter presents the research philosophy and paradigm including the approach, the survey instrument, semi-structured interview, data collection methods, and validity and reliability. It also describes the development of measures and the sample strategy.

Chapter 6 Data Analysis

This chapter is dedicated to the analysis based on the data collected using the quantitative survey and qualitative interviews. Descriptive analysis, correlation and regression analysis has been applied to analyse the survey data, while a thematic analysis has been applied for the qualitative interviews, the aim of these analysis is to identify the determinants of the adoption of mobile shopping among Chinese Generation Y.

Chapter 7 Findings Discussion

Chapter 7 discusses the practical implementation for the survey and interview result in light of the past literature on the subject and it also covers the testing of the research hypotheses as well as addressing the research objectives through discussion on the key factors that were found to influence the acceptance of mobile shopping.

Chapter 8 Conclusion

The final chapter summarises the major findings of the study, followed by conclusion recommendations to marketers. As well as areas for further academic research. The chapter states the limitations of the research and suggests areas for future research. An overview of the

main findings will be presented, and the contributions of this study will also be highlighted in this chapter.

1.5 Chapter Summary

This chapter explained how Internet penetration has enabled the success of e-commerce in China. Due to the overwhelming dominant impact the mobile shopping has made in the China retailing industry, the author believes it is interesting and essential to conduct a research on the adoption of mobile shopping among Chinese Generation Y. To develop a deeper understanding of this group's consumption behaviour, will enable the online and offline marketers and retailers to develop a fine-grained strategy in terms of customer positioning and product designing for the most influential consumer group in China. In addition, comprehensively satisfying the main consuming group's needs will lead to a enhancement of both online and offline consumption. Finally, this chapter addressed the aims and objectives as well as the research questions derived from the objectives and provided the structure of this thesis.

CHAPTER 2 RESEARCH CONTEXT

2.1 Introduction

The chapter is divided into two parts. The first part reviews Generational Cohort's theory proposed by Inglehart (1977) and applies the Generational Cohort's theory, to divide the Chinese population into three cohorts for achieving the aims of this research: Chinese Baby Boomers, Chinese Generation X and Chinese Generation Y, even though this paper focuses only on the Chinese Generation Y. The second part provides and overview of the mobile commerce landscape, and discusses the definition and characteristics of mobile commerce and mobile shopping, and explains the nature of online shopping and mobile shopping as same, =despite the fact that consumers' motivations, experiences and behaviours may differ.

2.2 Generational cohorts and its division in this study

Ronald Inglehart (1977) first introduced the Generational Cohort Theory as a way to split the population into segments – generational cohorts (cited in Inglehart, 1997). These cohorts share the same beliefs, values, attitudes, and ideas on a basis of their birth during the same period and life experiences, and these experiences will be reflected in their core values of employment, money, and tolerance (Schewe and Meredith, 2004). These values, beliefs, expectations, and behaviours remain the same throughout the entire life of a generation, therefore creating a generational identity, (Egri and Ralston, 2004; Hung et al., 2007; Ingelhart, 1997) – As far as in the consumer context, they may significantly reflect in and affect the purchase patterns and shopping behaviour (Parment, 2013). This proposition is used as a general basis for consumer segmentation (Moore and Carpenter, 2008; Schewe and Noble, 2000). Thus, understanding the values and motivations of a generation has become crucial to focus on specific consumers as each generation desires to acquire unique ideas about the lifestyles they aspire to achieve (Lissitsa and Kol, 2016).

It is asserted that generation is superior to demographic variables such as age and life expectancy since it reveals more than what a general population trend does, such as the consumers' lifestyle purchasing behaviour (Schewe, Meredith, and Noble, 2000). Therefore, generation labels, including Baby Boomers, Generation X (Gen X), and Generation Y (Gen Y) are frequently studied and employed in marketing research and segmentation strategies, respectively, not only in the U.S. but also in other countries such as Germany, UK, and India

(Noble and Schewe, 2003; Yu and Miller, 2003; Briitsohl and Ruhle, 2012; Leyva, 2017; Chaudhary and Bisai, 2018).

Researchers have categorized generations differently, significant examples include Inglehart's (1997) categorization of Traditional, Modern, and Postmodern cohorts, and Chia et al.'s (2007) distinction of Pre-industrial, Industrial, and Post-industrial categories. In the literature on Chinese generational cohorts, Liao and Zhang (2007) have classified generations by decade, such as the 1960s cohort (born 1960–1969), the 1970s (born 1970–1979), the 1980s (born 1980–1989), and the 1990s (born 1990–1999) and Tang et al. (2017) identified three Chinese generational cohorts: pre-reform (born before 1978), reform (born in 1978–1989), and post-reform (born after 1989). Egri and Ralston (2004) used the end of the Qing Dynasty, the consolidation of the Communist Party, the Great Cultural Revolution, and China's social reforms to distinguish generations: Republication (1911–1948), Communist Consolidation (1949–1965), Cultural Revolution (1966–1976), and Social Reform (1977-present), respectively. Chen and Lian (2011) identified the division into three generations: Generation of Communist Construction (born 1950 - 1966); Generation of Cultural Revolution (born 1967 - 1978); Generation of Social Reform (born 1979 - 1989).

It can thus be seen that for the division of generation after the establishment of the People's Republic of China, researchers in social sciences agree that the three major historical events should be used as criteria for division, which are Communist Consolidation, Cultural Revolution, and Social Reform (Egri and Ralston, 2004; Chen and Lian, 2011). The generational cohorts method has been provided in the Table 1 below:

Table 1 - Generational Cohorts Division Method.

Scholars	Division Methods			
Inglehart (1997)	Traditional cohort	Modern cohort	Postmodern	/
Egri and Ralston (2004)	Republication	Communist Consolidation	Cultural Revolution	Social Reform
Chia et al. (2007)	Pre-industrial	Industrial	Post-industrial	
Liao and Zhang (2007)	1960s cohort	1970s cohort	1980s cohort	1990s cohort
Tang et al. (2017)	pre-reform	reform	post-reform	/

(Source: made by the author, 2020)

According to these criteria, the generational cohorts' division in this study will adapt and modify the framework of Egri and Ralston (2004) and Chen and Lian (2011) to categorize Chinese generational cohorts in line with the research objectives of this study. The generation

of Communist Consolidation (Chinese Baby Boomers) and Culture Revolution (Chinese Generation X) will be applied and analysed in this study since the year in Social Reform of Egri and Ralston (2004) and Chen and Lian (2011) started from 1978 and ended differently/ The author of this study will define this generation in this study as Post 80s and 90s (1980 - 1999). Thus, the cohorts will be divided as: Chinese Baby Boomers, those born from 1949 to 1965; Chinese Generation X, those born from 1966 to 1979, and Generation Y, those born from 1980 to 1999. As shown in table 2 below:

Table 2 - Generational cohorts in this study.

Chinese Baby Boomers	1949 to 1965
Chinese Generation X	1966 to 1979
Chinese Generation Y	1980 to 1999

(Source: made by the author, 2020)

The term of Chinese Generation Y and Chinese millennial will be applied interchangeably in this article, they both refer to the same generational cohorts of this study (1980 - 1999), As for the specific year of division, the author believes that if the value will be affected by the significant events, the one to two years' error will not affect the intergenerational differences (Chen and Lian, 2011). This division is consistent with Meredith and Schewe (1994), and Pitta and Gurau (2012) notion that a generational cohort can be defined by the years of birth, extending 20–25 years in duration, or as long as it generally takes one birth group to be born, age and have children of their own.

2.2.1 Chinese Generation Y (1980 - 1999)

This group of people is commonly described as ‘post 80s and 90s Generation’ in China. Internationally, this generation refers to Generation Y, encompassing those born in the 1980s and 1990s (Pitta and Gurau, 2012) and whose members are also known as Millennials. Defining factors of this generation include the first high-tech generation (Norum, 2003) and one-child family China’s several-decades-long one-child policy was established in this era to control China’s high birth-rates, making the only child the centre of attention not only inside but also outside the family (Cameron et al., 2013). The generation experienced even more rapid trends of economic development and a shift toward a stronger focus on human development. This generation grew up in the age of economic growth, the surprising emergence of social media and television reality shows, and the disappearance of modernist values benefited from the strong influence of internationalization and popular culture (Parment, 2013). In addition, Prime

Minister Xiaoping Deng's 1992 South Tour Speech confirmed the establishment of a market-oriented socioeconomic system (Chen, 2007; Deshpandé and Farley, 2000), accelerating China's modernization. Together with economic growth is the rapid development of science and technology which exposed this generation to a large amount of diverse information from within and outside China. Furthermore, the nine-year compulsory education program further broadened people's views and opportunities (Cao, 2009). In short, this generation was born into and lived in an era characterized by rapid economic development, improved economic and social wellbeing, and the emergence of a more open and inclusive culture. It can be said that most Chinese millennials are the only child, therefore likely to have received more attention and investment including gifts and material products.

Shopping no longer meets the sole purpose of purchasing goods or spending time with friends and family. According to a survey conducted by a research company - CB Richard Ellis (2015), Chinese millennial generation spends a much higher proportion of their income on shopping experience (shopping while enjoying leisure and entertainment) than older generations (Brown-Crowder, 2017). As mentioned above, Chinese older generations such as Chinese Baby Boomers spend most of their money on life necessities, yet millennials in China have high expectations for shopping experiences and conveniences. According to a survey conducted by the Fung Group Research Centre and the China Department Stores Business Association in 2016, 50% of surveyed department stores have begun to utilize the O2O model, where applied both online and offline operations and 76.6% of surveyed department stores have added experiential elements to the store by providing a fun and exciting shopping and leisure experience to attract consumers. Fung Group Research Centre (2016) concluded that more and more shopping malls, department stores, and retail stores have introduced experiential elements and strive to create a retail space that integrates entertainment and social networking, hoping to create an unforgettable experience for the generation of millennials. It is can be seen that more retailers use Internet technology to provide products that can be experienced in the real life, and even use the latest VR technology to attract Millennials.

It can be said that millennials prefer omnichannel shopping – choosing the channel that best suits their needs, online and/or offline (Remy et al., 2015). When shopping online, most of them use mobile phones for their entire shopping trip—from product searching to payment, delivery, and after-sales. When shopping in physical stores, they look for convenient payment methods such as Alipay or Tenpay, as well as free delivery services. To attract Millennials in

China, providing seamless online-to-offline (O2O) shopping experiences across different retail channels has become a top priority for many retailers, because young users have stronger intention to adopt mobile shopping, and they have stronger spending power and willingness to pay (Fung group Research Centre, 2016). Taking Generation Y to a general perspective, this generation is a confident demographic group, especially when things go wrong, they are known to feel empowered to take positive action and they also have multitasked ability because of their speed and energy (Kim, 2008). The members of this cohort are generally optimistic, technologically competent, casual, and fun seekers (Spiro, 2006; Gursoy et al., 2008). The main part of their lives and daily activities are engaged in digital technologies: social interaction, friendship, civic activities, and hobbies. They are digital natives who have never had any other lifestyle (Palfrey and Gasser, 2011). Thus, it is believed that this cohort is the biggest group of people who utilize the Internet as a channel for shopping (Lissitsa and Kol, 2016), and Generation Y is also perceived as being consumption-oriented and sophisticated in terms of shopping (Jackson et al., 2011).

2.2.2 Chinese Generation Y vs. Global Generation Y

Generally speaking, as the products of the one-child policy, Chinese millennials are experience-oriented, demand uniqueness, and value lifestyle upgrade and social media presence (Wang, 2009). Not only are they becoming one of the great influencers of both Chinese and International marketplaces (Allen, 2017), but also their consumption patterns are compulsive and different from the older Chinese consumers' (Wang, 2009). Thus, an understanding of their behaviours is necessary. Indeed, marketers have recently begun to redesign communication strategies towards millennials since they are more digital-friendly and brand-conscious than other generations (Smith, 2012). This is because millennials defined as those born between 1982 and 2002, grew up alongside the internet, mobile phones, and online social networks (Hershatter and Epstein, 2010). A limited but growing number of studies have embarked on the characteristics of millennials from the perspectives of the workplace (e.g., Hershatter and Epstein, 2010) and travel vehicles (Polzin, Chu, and Godfrey, 2014), and tourism behaviour (Luo, et al., 2018). Therefore, this study addresses this literature gap by examining millennials in China with a special focus on their mobile shopping behaviour, which also provides marketers with insights into Chinese millennials' mobile online consumption behaviour, specifically their perceived utilitarian and hedonic values with respect to mobile shopping.

In comparison to other age groups, the Chinese millennials are considered young, independent thinkers, who are technologically savvy and possess plenty of resources. Kumar and Lim (2008) compared the willingness to adopt mobile service of Baby Boomers and generation Y, they found that being a member of a particular generation could influence willingness to use mobile technology. According to their findings, emotions, such as enjoyment and sense of fun, influence the perceived level of satisfaction with mobile services among generation Y (Kumar and Lim, 2008). Being the products of the one-child policy, Chinese millennials are perceived to be resourceful, materialistic, have high disposable incomes, are quick in accepting new product diffusion, are more willing to shop for hedonic reasons and display more compulsive consumption patterns compared to the older Chinese consumers (Wang, 2009). Haught et al. (2014) found that Chinese millennials spent the most time on the Internet, and they are the biggest spenders in mobile shopping. This group is among the most wealthy, as measured by income and by having a private car, and has the highest percentage of only child, this group embodies the ideals of technology, wealth, and perceived status (Haught et al., 2014).

On the other hand, from a global perspective, generation Ys are independent, self-sufficient, and have a high level of spending power (Pitta, Eastman and Liu, 2012; Parment, 2013). Characterized as less loyal, they tend to be innovators (early adopters) who are not afraid to try new products and services and are highly exposed to social influence (Parment, 2013). Generation Ys are classified as digital natives who are very comfortable with technology and devices and obsessed with social media and they are often described as sophisticated shoppers who are highly consumption-oriented (Jackson et al., 2011; Pitta, Eastman and Liu, 2012). They are generally seen as confident and brand-conscious (Butcher et al., 2017), and display high levels of materialism and status consumption (Pitta, Eastman and Liu, 2012). Several recent studies have examined Generation Y consumer perceptions, attitudes, and behaviours in comparison with other generational cohorts. For instance, Pitta, Eastman and Liu (2012) found that the level of status consumption was highest among Generation Ys compared with Generation X and the Baby Boomers. Parment (2013) reported that for Generation Ys, the main roles/significations of brands are image, social profiling, and quality whereas for Baby Boomers, the only role of a brand is quality. For Generation Ys, purchase criteria emphasize emotional factors, whereas Baby Boomers emphasize rational criteria (Parment, 2013). Jackson et al. (2011) found that generational cohorts have different attitudes toward shopping mall hygiene, location convenience, and entertainment features, but no significant differences with respect to hedonic and utilitarian shopping values. Giovannini et al. (2015) found that

self-esteem and public self-consciousness have a significant influence on Generation Y's status motivation. Bento et al. (2018) report that brand affiliation motivation (i.e., the motivation of the consumer to follow a brand that is convergent with his lifestyle and preferences), while interacting with brands through social media, is higher in Generation Y than in Generation X. Having grown up in a hyper-connected and multicultural society in which many technological innovations were introduced, Generation Ys makes extensive use of communication technology and are always connected to the world (Bento et al., 2018). In addition, Goi and Ng (2011) found that generation Y using mobile phones have a positive perception of using mobile commerce applications. Millennial shoppers are more likely to search for information through digital channels and are more likely to participate in the interaction with brands and retailers on social media, they seek approval from their peer using social media. Most fashion brands preferred by millennials (Forever 21, Victoria's Secret, Nike, Sephora, MAC, HandM) are adept at social media (Klein, 2015). This highly social generation views mobile devices as valuable tools for staying in touch with family and friends (Valentine and Powers, 2013). Generation Ys are of particular interest because they are almost always connected and may be predisposed to making online purchases given their ready access to the internet at any time and almost anywhere. Generation Ys live a fast-paced and socially connected lifestyle, yet despite being particularly adaptable to technological innovations, they remain apprehensive and untrusting of the commercial activities that surround them. They are more sceptical than older generations and can be a real challenge for retailers because they often feel as if they are being watched online, an environment they consider to be private and exclusive. Generation Ys do not like being targeted by advertising and rely more on the opinions of their peers and word-of-mouth (Valentine and Powers, 2013).

2.3 Internet Penetration in China

Certainly, e-shopping's rapid growth and development cannot be formed without the penetration of Internet use in China. In China, the products in the physical stores are more expensive than online because pricing issues, factors such as rents, sales tax, etc. are needed to be taken into account when pricing a product (Clay et al., 2002). Especially, land in China is very expensive due to the government relying heavily on land taxes and fees as a crucial source of income. This has significantly affected retail business in China, "as a consequence, China's retail market is highly fragmented and inefficient as there has been far less investment in marketing, customer service, human resources, or logistics in China's traditional retail sector

than in the West" (Clark, 2016, p.10), Clark continued, US grocery stores account for 37 percent of all sales while in China just 7 percent. Online shopping's rapid growth and development cannot be formed without the spread of Internet use in China. According to Meeker, there were 35 million Internet users around the world in 1995, Chinese Internet users remain almost zero among that figure. Nearly two decades later, the global Internet users rose to 2.8 billion while the percentage of Chinese Internet users in the figure made 23% (Meeker, 2015). According to a report released by China Internet Network Information Centre in Jan 2018, the number of Chinese Internet users had reached 772 million by the end of Dec 2017 (CNNIC, 2018).

Within a decade time, the percentage of Chinese Internet users has increased by 87% compared to 2005, and the Internet coverage rate has gone beyond half of the Chinese population. Therefore, the success of Chinese E-commerce can be determined by the number of people connected to the Internet. Nevertheless, it is worth noting that in the end of 2018, the Internet penetration rate in urban areas reached 72.7%, whereas in rural areas reached 36.5% (CNNIC, 2019). The penetration rate of the Internet in urban areas is significantly higher than that in rural areas, due to the different levels of urban and rural economic development, the use of Internet application services by urban and rural citizens is different (Fong 2009; Leong et al., 2016). The Internet utilization rate of urban citizens in online shopping, online travel booking, online payment as well as Internet banking is higher than that of rural citizens (Lin, 2019).

In addition, in 1995, the top 15 global public Internet companies had no place for any Chinese companies, nevertheless, in 2015, four Chinese Internet companies appeared on the same list and respectively positioned as the third, sixth, eighth, and eleventh place (Meeker, 2015). China has been rapidly building up its IT and telecommunications infrastructure for e-commerce applications. The potential of e-commerce is to bring new markets to Chinese companies, improve market information and transparency of pricing, and enhance the distribution of goods and services is widely acknowledged (Trappey and Trappey, 2001). China's transition from a plan-based economy to a more market-driven one designates the country as an emerging market in the global economic system, one that requires keeping pace with digital advances.

2.4 The concept of mobile commerce

With the rapid development of mobile internet technology and the popularity of mobile terminals such as smartphones and hand-held devices, mobile commerce has developed rapidly as a new business model in China (Yang, Li and Liao 2016). M-Commerce, also known as mobile commerce, scholars across the world still possess different definitions regarding the concept of mobile commerce from their perspectives, as shown in the Table 3 as follows:

Table 3 - Definition of Mobile Commerce

Scholars	Definition of Mobile Commerce
Durlacher (1999, as *cited in Lehner and Watson, 2001, p.1)*	*"any transaction with a monetary value that is conducted via a mobile telecommunication network."*
Tsalgatidou and Veijalainen (2000, p.477)	"any type of transaction of an economic value having at least at one end a mobile terminal and thus using the mobile telecommunications network. "
Clarke III (2001, p. 41)	"any transaction with monetary value that is conducted via a mobile network."
Coursaris and Hassanein (2002, p.2)	"m-Commerce could be viewed as a subset of e-Commerce, it acts as another channel through which value can be added to e-business processes."
Liang et al. (2004, p.7)	"the use of wireless devices (particularly mobile phones) to conduct electronic business transactions, such as product ordering, fund transfers, and stock trading."
Wu and Wang (2005, p.719)	"any transactions, either direct or indirect, with a monetary value implemented via a wireless telecommunication network."
Min, Ji and Qu (2014, p.257)	"m-commerce refers to any applications and services supported by mobile networks and mobile devices."
Chaffey (2015, p.12)	m-commerce is "Electronic transactions and communications conducted using mobile devices such as smartphones and tablets, and typically with a wireless connection"

(Source: made by the author, 2020)

As the table above shown, it has been defined by several researchers in slightly different ways. There are diverging views about whether there is a clear difference between e-Commerce and m-Commerce, some schools of thought arguing for their independence, while others support m-Commerce as an extension of e-Commerce (Tiwari and Buse, 2007). Yet, many studies argue that m-Commerce has its new business models and value chain and technological infrastructure, and unique value for consumers (Min, Ji and Qu 2008). Although this study does

not directly join in the debate, the result of this study will indirectly contribute to this debate. Therefore, this section will focus on defining m-Commerce within the context of this study. However, a review of some definitions of m-Commerce by different researchers is first discussed, before presenting the study's stance on the definition of m-Commerce.

It is commonly agreed that m-Commerce involves business transactions conducted over mobile devices such as mobile phones, smartphones, and other handheld devices. However, although most researchers tend to agree with this general definition, there exists some less obvious, albeit divergent opinions about the specific kinds of activities that fall under the umbrella of m-Commerce. While some literatures suggest that m-Commerce entails content delivery and information transfer, others suggest that m-Commerce goes beyond content delivery and information transfer to include transactions that offer some form of monetary gain. For instance, some researchers suggest that m-Commerce activities involve business transactions conducted over mobile devices for monetary value such as product and service orders, e-auction (Clarke III, 2001); some other researchers opine that m-Commerce includes a wider range of activities such as sending and receiving emails, downloading music/graphics/animations, playing interactive games online, trading stocks, booking tickets, finding friends, conducting financial and business transactions (Hung et al., 2003).

In a bid to identify m-Commerce activities, Chong (2013) has zoomed the focus of m-Commerce on mobile applications that allow customers to engage in various activities such as completing transactions, involving mobile banking and mobile purchase, getting access to mobile vouchers and mobile games. In addition to these, some other researchers have included internet browsing, location-based services, customer services, and automated home appliances as part of m-Commerce activities (Hung et al., 2003). Considering the divergence of opinions, some researchers, rather than focus on itemizing m-Commerce activities, took a different approach by highlighting the features of m-Commerce. Buellingen and Woerter (2004), identified the features of m-Commerce as comfort, spontaneity, and mobility. Other features of m-Commerce have been identified to include ubiquity, immediacy, localization, instant connectivity, pro-active functionality, and simple authentication procedure (Tiwari and Buse, 2007). Mobile commerce is expected to maintain a compound growth rate of 48%, becoming the main driving force for the rapid development of the online shopping market, more and more Internet consumers choose to use mobile networks to complete browsing and shopping (Einav et al.,2014). The traditional e-commerce has laid a solid foundation stone for the development

of mobile commerce. Under the umbrella of mobile commerce, mobile shopping serves as a novel technical means, and its rapid application of intelligent terminals has changed customers' purchase methods. The prominent feature of purchase behaviour under the mobile shopping context is that it is not limited by geographical areas, time, and space. At the same time, for the generation of consumer behaviour, mobile shopping provides a multi-channel source of information acquisition and reduces the contradictions caused by the asymmetry of information. (Yang, 2013).

2.4.1 Characteristics of mobile commerce

Comparing with other information technologies, mobile commerce is not a simple extension of e-commerce, but a business model derived from mobile communication technology (Lehner and Watson, 2001), which has its unique characteristics. Comparing with traditional e-commerce, mobile commerce has the characteristics that traditional e-commerce does not possess, such as the capability to pinpoint mobile devices' locations for personalization and localization, and the functionality to access information at the point of need. Scholars have conducted extensive and in-depth research on mobile commerce characteristics, as shown in Table 4 below:

Table 4 - mobile commerce characteristics

Scholars	mobile commerce characteristics
Clarke III (2001) Turban et al.(2004)	Ubiquity, Personalization, Localization, Convenience.
Anckar and D'Incau(2002)	Entertainment needs, Spontaneous needs, Efficiency ambitions, Time-critical arrangements, Mobility-related needs.
Venkatesh et al.(2003)	Time pressure free, location is not limited, convenience
Ngai and Gunasekaran(2007)	Mobility, Broad reach
Wu et al. (2010)	Mobiltiy, Instant
Lu et al. (2014)	Ubiquity, Scenario

(Source: made by the author, 2020)

Through the review of the literatures above, it can be seen that although scholars have different descriptions of mobile commerce features, the characteristics of mobile commerce services can be summarised as anytime and anywhere, convenient, location-related, and personalized services, which are consistent with Clarke III's (2001) research findings. Despite the intersection of mobile commerce service feature segmentation, this study draws on the research

results of Clarke III (2001) and believes that mobile commerce features can be divided into four aspects: ubiquity, convenience, personalization, and location.

2.5 The concept of mobile shopping

With the improvement of mobile networks and the popularity of various mobile terminals such as smartphones, the mobile shopping market has developed rapidly. Su and Lu (2009) pointed out that mobile shopping refers to the online shopping activities of consumers through mobile phones. Due to the portability of mobile phones, consumers can use mobile phones to conduct online shopping anytime and anywhere. Ozok and Wei (2010) also pointed out that mobile shopping is a mobile shopping activity by consumers using mobile terminals such as smartphones via mobile networks. Yang and Kim (2012) stated in the study that mobile shopping allows consumers to be set free from time and space constraints, so consumers can enjoy shopping experience through mobile shopping. Based on the research of existing literatures, this paper defines mobile shopping as consumers using mobile terminals such as smartphones and hand-held tablets to conduct product or service transactions through mobile communication networks.

The emergence of the mobile shopping has enriched the original online and offline shopping channel, with the development of mobile communication technologies, mobile Internet channels have their unique channel characteristics, such as mobility, personalization, entertainment, etc. (Li, 2017), which have captured the favour of many retailers and consumers. The development of 4G technology and the popularity of mobile terminals have accumulated numerous users for mobile Internet channels, and the user's connection carrier has clearly shown the trend of migration from the computer side to the mobile side (Li, 2017).

The nature of online shopping and mobile shopping is the same, however, the consumers' motivations, experiences, and behaviours may differ. Mobile shopping in many cases is the mobile version of online shopping. Mobile shopping app is considered as a charismatic touchpoint by retailers due to it reduces the cost to a larger extent and allows personalized marketing promotion such as pop-up app notification or push message on consumers' mobile screen, the mobile app is consolidating its position as a retailing channel, facilitate information access and payment through user-friendly interfaces (Park and Lee, 2017), many retailers generally design and build their application scenarios, launch and promoted the mobile apps as

well as payment systems similar to their online sites when developing their business to the mobile platform, in order to seize mobile users (Bang et al. 2013). Nevertheless, there are still absolute differences remain between mobile devices and computers. Goh, Chu, and Wu (2015) found that differences in the information search behaviours between using mobile phones and desktop computers. Due to the mobile content is shown on smaller screens, mobile users intermittently read the content (Kim et al., 2017). Ghose et al. (2013) discovered a similar result that "the smaller screens of mobile devices increase search costs, which in turn makes the relative attractiveness of the first search result over the second greater on mobile devices than on computers". As a result, consumers are becoming less price-sensitive when shopping on the mobile (Wang, Malthouse, and Krishnamurthi, 2015). Meanwhile, mobile shopping is perceived more efficient with regards to the feature of 'Search for Price' on smartphones, as it allows consumers to search and compare the product price when shopping in physical stores, by scanning bar codes or taking pictures of the product (Li, 2013). This enables consumers to easily select the nearest cheapest shopping venue or online shop to achieve one-stop mobile shopping, which is more convenient and efficient than traditional online shopping.

In addition, as the function and performance of smartphones continues to approaching closely to PCs', and it is easier to carry with than traditional computers or laptops (Li, 2013). Comparing with traditional online shopping, mobile shopping is not limited by time and place, the author believes this has become an important factor in attracting consumers. Furthermore, Chong (2013) indicated that mobile users who value ubiquitous access are much more prefer watching videos and listening to music on mobile phones than computers, the fast pace of modern society has given consumers more fragmented time, which refers to the time spent in other time apart from daily work or study (iResearch, 2018). These hours such as the time spent on the way to and from work, waiting in the queue, watching TV, and before going to bed. This fragmented time allows mobile shopping users to complete online browsing and purchases. In addition, more and more users want to get rid of computer constraints during their spare time and prefer to use mobile terminals such as cell phones for online shopping (Li, 2013). These findings underpin the differences between online and mobile channels. Hence, deducing mobile behaviour from research on online behaviour may lead to misunderstanding or inappropriate information. Yang (2010) defined mobile shopping is an approach of purchasing goods or services by adopting a mobile device to connect to the retailers by wireless networks. In comparison with other forms of e-shopping, mobile shopping provides a higher degree of convenience to the consumers, since it allows browsing or purchasing products and services anywhere and anytime (Yang and Kim, 2012; Yang, 2010).

2.5.1 Mobile shopping characteristics

Mobile shopping is closely related to traditional online shopping, and yet mobile shopping presents a new shopping channel (Siau et al., 2004). The characteristics of mobile shopping differ from traditional online shopping, the main differences can be reflected from two perspectives:

1. Internet Access Devices:

   Traditional online shopping is conducted mainly through desktop and laptop computers. Mobile shopping, on the other hand, is conducted through a variety of wireless devices including cell phones, PDAs, and wireless-enabled devices. Since most of these devices are more personal than the usual desktop (i.e. they tend to be used by a single user who carries the device at most times), the potential for offering personalized products/services is higher (Coursaris and Hassanein 2002). Different Internet devices generate a significant difference in the experience that consumers will obtain during the shopping process (Li, 2016). The differences are shown in the Table 5 below:

Table 5 - Difference Characteristics between non-mobile and mobile devices.

PC and laptop	Mobile phones
larger screen, good experience and high efficiency	Small screen, keyboard input is relatively difficult, so that it is unlikely to perform a complicated task.
Unable to turn on and use anytime and anywhere, it takes time to wait for system switch on	Anytime and anywhere, sensible location, perceptible sound, perceptible motion, and perceptible image.
The PC is mainly used for work, therefore the users' time of using the PC is complete, abundant, and coherent.	The phone is mainly used at commuting time or at home in a relaxed situation. The time fragmentation is obvious, incoherent, and easily interrupted.
Clear demand and active search is primary purpose, leisure and entertainment needs come as secondary	The demand for leisure and entertainment comes as primary purpose, meanwhile it also derives demand of impulsive buying such as instant demand for sales etc.

(Source: iReasearch, 2018; summarised and made by the author, 2020)

2. Communication Technology.

   With the development of wireless network technology in China, the realization of the fourth generation (4G) communication technology and the full coverage of urban WIFI hotspots not

only enables mobile shopping to access a wider network but also allows the mobile Internet speed to greatly improved, so that mobile shopping consumers are able to complete shopping in a smooth and fast mobile Internet process, which has greatly promoted the consumers' active shopping experience (Li, 2016).

Due to the difference between the Internet access devices and communication technology, traditional online shopping is more limited by time and place than mobile shopping. Mobile users can purchase their favourite products and services whenever and wherever they need to shop (Lu and Su, 2009). Mobile shopping, as a specific business application of mobile commerce (Siau et al. 2004), which is inheriting and presenting mobile commerce features. Through the review and summary of mobile commerce and mobile shopping literatures and combined with the characteristics of mobile commerce based on the findings of Clarke III 's (2001) research paper, this study considers that mobile shopping has four characteristics: ubiquity, convenience, personalization, and location.

(1) Ubiquitous

Mobile devices offer users the ability to receive information and perform transactions from virtually any location on a real-time basis. Mobile commerce users will have a presence everywhere, or in many places simultaneously, with a similar level of access available through fixed-line technology. Communication can take place independently of the users' location. The advantages presented from the omnipresence of information and continual access to commerce will be exceptionally important to time-critical applications (Clarke III 2001). Mobile shopping, as an applied branch of mobile commerce (Zhang et al., 2012), also shares the ubiquitous feature, which enables users to check information about products or services anytime and anywhere, making a decision on their favourite ones, and immediately process the payment, which is one of its main advantages over traditional online shopping. Since mobile communication network is not restricted by the Internet cable and the access point, hence the users' mobile shopping experience can be achieved by only carrying the mobile devices such as a smartphone and connect to the wireless or 3G/4G network. For example, users are able to complete a payment transaction for the desired item during their fragmented time such as while waiting in line, work commuting, and before bedtime, etc. Ubiquity in mobile shopping not only allows users to make the most of their fragmented time in order to save time spent on shopping but also greatly enhances the efficiency of shopping as the users are able to complete payments and transactions at anytime and anywhere.

(2) Convenience

The agility and accessibility provided by wireless devices will further allow mobile commerce to differentiate its abilities from e-commerce, people will no longer be constrained by time or place in accessing e-commerce activities (Clarke III, 2001). Mobile commerce convenience is characterized by availability, easy, and convenient to operate and fast access to the Internet (Kalakota and Robinson, 2003; Zhang et al., 2012). Mobile shopping is derived from mobile commerce, hence shares the feature of the convenience of mobile commerce. First of all, the main device of the mobile terminal is a smartphone, and the user can carry it conveniently. Secondly, although the screen of the smartphone is relatively small, it is a screen-touch operation system, therefore the users only need to tap the screen according to the prompt, which is extremely convenient to use in the shopping process. In addition, many retailers have developed mobile apps, which further deepen the convenience for users to access and operate. According to the 2018 China Mobile Shopping Report released by iResearch, the mobile app is the primary entry point for mobile shopping as there were 66.6% of users choose the mobile app as a starting point. With the improvement of mobile technology and the continuous optimization of mobile shopping APP, users can quickly lock the products they need, and meanwhile, it is even easier to find quality and economical products through accurate price comparison.

(3) Personalization

Personalization in mobile commerce refers to when individuals conduct mobile commerce activities, mobile commerce services are capable to automatically provide services such as user identification, personalization, and security (Kalakota and Robinson, 2003; Siau et al., 2004; Zhang et al., 2012). Chae and Kim 2003 emphasized the role of the personalization of mobile devices. Typically, a mobile phone is a single device in an individual's possession rather than a communal device, such as a computer in a household or at a workstation. Mobile phones – especially smartphones –can be personalized by an individual through downloading applications to fit the person's needs and services, including saving necessary personal information to an application.

In addition, mobile devices are usually used by users and are generally not shared with others, thus mobile shopping retailers can provide personalized and customized services to the users. Through the obtained users' transaction information, location information, and personal data,

the retailers will discover the personalized needs of users, so that to achieve individual-based target marketing through in-depth data mining and analysis. Clarke III (2001) has pointed out that personalization is one of the value-added propositions of mobile commerce, for instance, upon employing your mobile Internet device, advertising messages tailored to your individual preferences can be provided. The relevance of material and the "de-massing" of marketing becomes possible through the personal ownership of mobile devices. Some of the key features that consumers seek and are currently using include the following: the first is music players and mobile TV–smartphones currently provide various music players and live streaming through the Internet. This capability took a large share of the MP3 market by pushing out various other music products, as consumers no longer needed an extra device to listen to music (Chang et al., 2009).

(4) Position

Knowing the location of the Internet user creates a significant advantage for m-commerce. Location-based marketing, through GPS technology, service providers can accurately identify the location of the users, utilizing this technology, m-commerce providers will be better able to receive and send information relative to a specific location (Clarke III, 2001). Since mobile devices like mobile phones are almost always on, vendors will know the location of their customers and can deliver promotions based upon the likely consumer demands for that location (Keen and Mackintosh, 2001; Wu et al., 2007). Furthermore, the majority of smartphones provide Google Maps as a navigation function and include them with other applications, which covers every possible option for transportation, including walking, driving, and the use of public transportation around the globe, in local languages and English (Chang et al., 2009). Through mobile communication networks and GPS global positioning technology, mobile commerce service providers can obtain user geographic location information, send shopping information at their location, and better able to integrate online and offline shopping. For example, when a user comes to a certain place, he/she will receive the preferential information about local food, entertainment, and hotels provided by the mobile commerce provider.

2.7 Chapter Summery

This chapter defined Chinese millennials as those born between 1980 to 1999, according to the criteria of Egri and Ralston (2004) and Chen and Lian (2011) to categorize Chinese

generational cohorts in line with the research objectives of this study. This division is consistent with Meredith and Schewe (1994), and Gurau (2012), a generational cohort can be defined by the years of birth, extending 20–25 years in duration, or as long as it generally takes one birth group to be born, age and have children of their own. This chapter also provided the definition of mobile commerce and mobile shopping and discussed the characteristics respectively, finally provided the mobile shopping motivation from both utilitarian and hedonic perspectives.

CHAPTER 3 LITERATURE REVIEW

3.1 Introduction

This chapter is divided into seven sections and begins with a review of consumer behaviour theories and various models that measure the consumers' adoption intention towards a certain technology, and to lead to the main model that this research is based on in the first two sections. The next section is to discuss the utilitarian and hedonic motivation in the field of consumer behaviour, as consumers are often influenced by hedonic or utilitarian motivation, these tendencies drive consumers to make corresponding evaluations and choices upon different objects based on hedonistic or utilitarian characteristics (Batra and Ahtola, 1991; Mano and Oliver, 1993). The fourth section is to evaluate the six dimensions of hedonic shopping motivation proposed by Arnold and Reynold 2003, which also will be another core theory that this research is going to apply and evaluate in the proposed research model. The following section is to discuss the mobile shopping motivation from both utilitarian and hedonic perspective. Based on all the reviews of the above sections, the research gap is identified in the sixth section, and afterward, the final section is to conclude this chapter.

3.2 Consumer behaviours theories review

The notion of consumer behaviour is defined broadly, one of which proposed by Solomon et al., 2006 was that "Consumer behaviour is the study of the processes involved when individuals or groups select, purchase, use or dispose of products, services, ideas or experiences to satisfy needs and desires" (p. 27). By definition, consumer behaviour is the process through which individuals or groups in seeking, purchasing, utilizing, and evaluating products or services after satisfying their needs. Consumers may buy, use, and/or dispose of products, but these functions can be performed by different people. In addition, consumers may be seen as role players, and they need different products to help them play different roles (Solomon et al., 2006).

Understanding consumers lay a vital foundation stone in designing a marketing strategy. Ha and Stoel (2009) asserts that understanding the impact of consumer adoption intention towards online shopping could enable e-retailers to acquire more information about how to entice purchasers to shop online more frequently and entice non-purchasers to initiate their first transaction online. A solid understanding of the consumer in terms of their buying behaviour and preferences can also assist firms with identifying lucrative opportunities in the markets (Katsikeas et al., 2019). Table 6 below is the summarised table for an overview of the consumer

behaviour theories related to this study, whereas the main theoretical models adopted in this study are discussed in section 3.3:

Table 6 - Consumer Behaviour Models Reviews

Consumer Behaviour Models Reviews		
Names of models and brief reviews	**Core constructs**	**Definitions of Constructs**
The functional theory of attitudes, Daniel Kats, 1960		
Functional theory of attitudes demonstrated the presence of attitudes is to serve as a function for an individual, the attitudes are controlled by an individual's intentions. Two individuals can have a similar attitude towards an object or item for totally different reasons (Katz, 1960; Solomon, et al., 2006).	Instrumental/ Utilitarian function	"this function is a recognition of the fact that people strive to maximize the rewards in their external environment and to minimize the penalties" (Kats, 1960, p.170).
	Ego-defensive function	"the individual protects his ego from his own unacceptable impulses and from the knowledge of threatening forces from without, and the methods by which he reduces his anxieties created by such problems (p. 171)". Simply put, consumers form this attitude in order to protect themselves from either external threats or internal feeling.
	Value-expressive function	"While many attitudes have the function of preventing the individual from revealing to himself and others his true nature, other attitudes have the function of giving positive expression to his central values and to the type of person he conceives himself to be" (Katz, 1960, p.173). This means that consumer forms an attitude toward product not because of the product's benefits, but because what the product represents him or her as a person.
	Knowledge function	"Individuals not only acquire beliefs in the interest of satisfying various specific needs, they also seek knowledge to give meaning to what would otherwise be an unorganized chaotic universe" (Katz, 1960, p.175). This attitude is formed when a consumer is in an ambiguous circumstance or is faced a new

		product, as a result of a need for order structure or meaning.
Motivational Model		
Vallerand and Bissonnette pointed out in 1992 that behaviour can be seen as intrinsic or extrinsic motivation. This theory has been applied in the IS domain to understand the adoption towards new technology (Davis, et al., 1992; Venkatesh and Speier, 1999)	Intrinsic Motivation	This motivation refers to people who wish to perform an action "because it is perceived to be instrumental in achieving valued outcome that are distinct from the activity itself, such as improved job performance, pay or promotions" (Davis, et al. 1992, p.1112).
	Extrinsic Motivation	This is the perception that people who wish to perform an action "for no apparent reinforcement other than the process of performing the activity per se" (Davis, et al. 1992, p.1112).
The Model of PC Utilization (MPCU)		
Based on the theory of human behaviour proposed by Triandis (1977), Thompson et al. (1991) used a subset of Triandis's framework to conduct a preliminary test of a personal computer (PC) utilization model, implied that the use of personal computers will be affected by social factors, complexity of use (the less perceived complexity, the more like to use a technology), job fit, and long term consequence use (Thompson et a;., 1991).	Social Factors	"the individuals' internalization of the references group's subjective culture, and specific interpersonal agreements that individual has made with others, in specific social situations" (Thompson et al. 1991, p.126)
	Affect towards Use	"the feelings of joy, elation, or pleasure, or depression, disgust, displeasure, or hate associated by an individual with a particular act" (Thompson et al. 1991, p.127).
	Complexity	"the degree to which an innovation is perceived as relatively difficult to understand and use" (Thompson et al. 1991, p.128).
	Job Fit	"the extent to which an individual believes that using a PC can enhance the performance of his or her job (e.g., obtaining better information for decision making or reducing the time required for completing important job tasks)" (Thompson et al. 1991, p.129).
	Long Term Consequences Use	"These are outcomes that have a pay-off in the future, such as increasing the flexibility to change jobs or increasing the opportunities for more meaningful work" (Thompson et al. 1991, p.129).
	Facilitating Conditions	"In the context of PC use, the provision of support for users of

		PCs may be one type of facilitating condition that can influence system utilization" (Thompson et al. 1991, p.129).
Innovation Diffusion Theory (IDT)		
In 1962, Rogers proposed the Innovation Diffusion Theory (IDT) in the book of Diffusion of Innovations, and the theory of innovation diffusion elaborates the basic laws and processes of technological innovation diffusion in the social system (Rogers, 1983, as cited in Rogers, 2003). In the IS domain, Moore and Benbasat (1991) adopted the characteristic of innovations demonstrated in Rogers, and refined a set of constructs that could be applied to study individual technology acceptance.	Relative Advantage	"the degree to which an innovation is perceived as being better than its precursor" (Moore and Benbasat 1991, p. 195).
	Compatibility	"the degree to which an innovation is perceived as being consistent with the existing values, needs and past experiences of potential adopters" (Moore and Benbasat 1991, p. 195).
	Visibility	The degree to one can visualise others in the organization using the system (Moore and Benbasat, 1995).
	Image	"the degree to which use of an innovation is perceived to enhance one's image or status in one's social system" (Moore and Benbasat 1995, p. 195).
	Voluntariness of Use	"the degree to which use of the innovation is perceived as being voluntary or of free will" (Moore and Benbasat 1995, p. 195).
	Ease of Use	"the degree to which an innovation is perceived as being difficult to use" (Moore and Benbasat 1995, p. 195).
	Results Demonstrability	"the tangibility of the results of using. The innovation, including their observability and communicability" (Moore and Benbasat 1995, p. 203).
The Social Cognitive Theory (SCT)		
Social Cognitive Theory (SCT) is derived from Social Learning Theory (SLT), which was proposed in the book of "Social Learning and Imitation" and published by Miller and Dollard in 1941. Albert Bandura, who led the development of cognitive SLT, his theory was the first to incorporate the concept of modelling (vicarious learning) into the form of social learning, he renamed his version of social learning theory	Outcome Expectations - Performance	Performance-related results are those related to work improvement (mainly efficiency and effectiveness) when using computers (Compeau and Higgins,1995b).
	Outcome Expectations - Personal	Personal outcome expectations were related to expectations of changes in image, status, or reward expectations (such as promotion, raise, and praise) (Compeau and Higgins,1995b).

"Social Cognitive Theory", and this theory explains how people acquire and maintain certain behavioural patterns (Bandura, 1989). In the IS domain, Compeau and Higgins (1995b) studied computer use and research has that self-efficacy adds to understanding of why people use computers, over and above concepts like outcome expectations, anxiety, and affect. While the nature of the model allows it to be extended to acceptance and use of information and technology, therefore Venkatesh et al., (2003) examined the predictive validity of the model in the context of intention and usage a purpose of establishment of an unified theory of acceptance and use of technology, as known as UTAUT – Discussed below in 3.3	Self-Efficacy	"self-efficacy represents an individual's perceptions of his or her ability to use computers in the accomplishment of a task" (Compeau and Higgins 1995b, p.191).
	Affect	Refers to the extent to which "individuals' affect (or liking) for particular behaviours can, under some circumstances, exert a strong influence on their action" (Compeau and Higgins 1995b, p.196).
	Anxiety	"Feelings of anxiety surrounding computers are expected to negatively influence computer use" (Compeau and Higgins 1995b, p.197).
Combined of TAM and TPB (C-TAM-TPB)		
This model integrated the two control variables of TAM and TPB, namely subjective norm and perceived behaviour control, and added them to the TAM model, found it has extremely high adaptability, which can well explain the user's behaviour towards use of new technologies (Taylor and Todd, 1995).	Attitude towards behaviour	Adapted from TRA and TPB, explained in section 3.2.1 and 3.2.2
	Subjective Norm	Adapted from TRA and TPB, explained in section 3.2.1 and 3.2.2
	Perceived Behavioural Control	Adapted from TRA and TPB, explained in section 3.2.1 and 3.2.2
	Perceived Usefulness	Adapted from TRA and TPB, explained in section 3.2.1 and 3.2.2
	Perceived Ease of Use	Adapted from TRA and TPB, explained in section 3.2.1 and 3.2.2

(Source: summarised and made by the author, 2020)

3.3 Key theoretical models adopted in this study

The below sections describe the main theoretical models that are considered in this study, namely Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975), Theory of Planed Behaviour (TPB) (Ajzen, 1991), Technology of Acceptance Model (TAM) (Davis, 1989) and Technology of Acceptance Model 2 (TAM2) (Venkatesh and Davis, 2000), and Unified theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) and Unified theory of Acceptance and Use of Technology 2 (UTAUT2) (Venkatesh et al., 2012). Based on the reviews of these models, the UTAUT was applied because it has distilled the critical factors

and contingencies related to the prediction of behavioural intention to use technology in this research context, it is believed to be a comprehensive synthesis of prior models, therefore it has been adopted by the author.

3.3.1 Theory of Reasoned Action (TRA)

Recent models in consumer behaviour studies have heavily relied on the functional theory of attitude (Xu, 2008), problems with the predictive ability of attitude models to predict behaviour (Ably, 2000) incubated the development of the theory of reasoned action (TRA) and the theory of planned behaviour (TPB), which will be discussed respectively at below.

The Theory of Reasoned Action (TRA) was proposed by American researchers Fishbein and Ajzen in 1975. TRA is a theory that predicts and clarifies human conduct in different fields of exploration from the point of view of human social psychology. The theory recommends that the people's genuine conduct (Behaviour) will be affected by the people's behavioural Intention (BI), which is the after-effect of the cooperation of the person's behavioural attitudes and behavioural convictions. Among them, the person's behavioural attitude is the outcome of individual behavioural belief assessment; the person's behavioural belief is affected by both the subjective norm and the person's motivation (Fishbein and Ajzen, 1975).

Behaviour Intention (BI) represents the quality of a person's intention to show the individual practices. The behavioural intention at last mirrors the attitude of the person to the conduct. Attitude refers to the person's intellectual reaction to a specific thing, including positive and negative mentalities. Attitude towards behaviour refers to the assessment and impression of the outcomes of a person's particular behaviour before the last behaviour is displayed. This recognition incorporates both positive and negative. Subjective Norm represents the impact of a person's effect on an individual or a gathering while anticipating the conduct of humans. Belief toward the behaviour is a fearless view or impression of the person's conceivable behaviours. To simply put it, when an individual has a positive attitude towards specific conduct, and in the interim this current person's observation that the vast majority who are important to him believe he should or should not to perform the behaviour, at that point this individual will have a more grounded eagerness to deliver such a behavioural intention, or the other way around. The model is appeared as shown in Figure 2 at below:

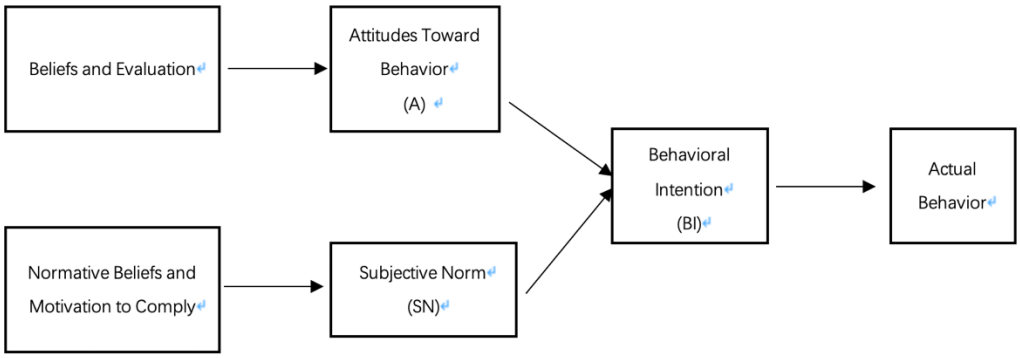

Figure 2 - Theory of Reasoned Action (TRA)
(Source: Fishbein and Ajzen, 1975)

Fishbeing and Ajzen (2005) featured the significance of the attitude of the person in their adoption of innovative technologies. Fishbein and Ajzen (2005) expressed that the adoption of new technology can be resolved through their behavioural intention to embrace the technology and this expectation thus is directed by their attitude towards this conduct and other subjective norms in their theory of reasoned action, for example, the response of their social group on their behaviour. While attitude in this theory is characterized as the positive or negative sentiments related with the objective conduct, subjective perception is their discernment with respect to the response of others in their social group and therefore drives them to think why the activity ought to or ought not to be carried out (Fishbein and Ajzen, 2005).

Therefore, the Theory of Reasoned Action (TRA) recognizes the attitude and subjective norms to be controlling the behavioural intention to adopt the technology. While the attitude is demonstrative of the internal factors influencing personal decisions, subjective norms consolidate the external factors that influence the behaviour of an individual (Davis et al.1989). This theory subsequently was generally used to clarify the adoption of novel technologies like the internal and different remote technologies that have been liable for the significant changes looked over the most recent twenty years (Mirescu and Maiorescu, 2011). Nevertheless, this theory has been expanded into different theories, for instance, the Theory of Planned Behaviour (TPB) to defeat its restrictions of TRA such as avoidance of behavioural control variables like the admittance to the resources expected to play out the ideal behaviour, which will be talked about at the accompanying segment. The other restriction of TRA is the effect of the attitude on the perceived subjective norm and vice versa (Ajzen, 1991). Hence, to overcome these impediments, Ajzen recommended TPB in which perceived behavioural control was included as an extra determinant of the behavioural intention towards the new technology adoption.

3.3.2 Theory of Planned Behaviour (TPB)

Theory of Planned Behaviour (TPB) was proposed by Ajzen in 1991 based on the Theory of Reasoned Action (TRA), which is another theory that can clarify personal behaviour, as Ajzen accepted that the TRA featured two lacks in deciphering individual practices: First, it is based on the viewpoint of person's subjective intention, it might neglect the external components; Second, the theory does not take the outer variables into account, disregarding a circumstance where the individual conviction cannot be completely controlled. Consequently, on this premise, the Theory of Planned Behaviour has risen.

The Theory of Planned Behaviour (TPB) centers around the utilization of perceptions, subjective norms, and perceived behavioural control to impact the person's willingness to perform. The significance of genuine behavioural control is undeniable: The resources to an individual must direct the probability of behavioural accomplishment to some extent. Of more prominent psychological enthusiasm than actual control, notwithstanding, is the view of behavioural control and is the effect on intention and activities. Perceived behavioural control has a significant influence on the Theory of Planned Behavioural. Truth be told, the Theory of Planned Behaviour contrasts from the Theory of Reasoned Action in its option of perceived behavioural control, the new included factors (Ajzen, 1991). It very well may be seen that the Theory of Planned Behaviour considers that the person's willingness to act is the consequence of the amalgamation of attitude, subjective norm, and perceived behavioural control, as appeared in the Figure 3 beneath:

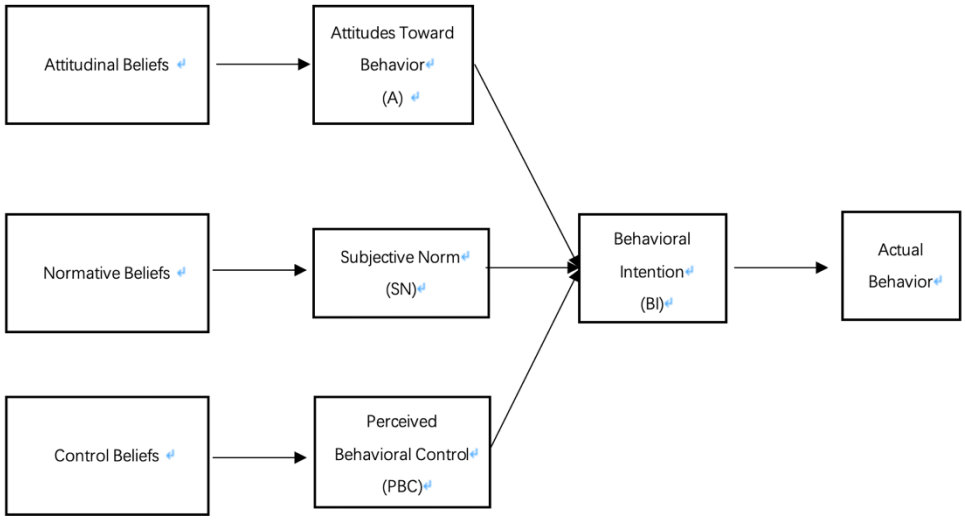

Figure 3 - Theory of Planned Behaviour (TPB)

(Source: Ajzen, 1991)

However, Ajzen (1991) included perceived behavioural control demonstrating that the individual is not the only controller of the behavioural intention but on the other hand is subject to the resources accessible to perform the behaviour. Hence, in extra to the attitudinal and normative beliefs, this theory likewise incorporates control beliefs as a determinant of the behavioural intention and actual use of technology. It tends to be seen that the Theory of Planned Behaviour is more comprehensive than the Theory of Reasoned Action.

In light of the essentials of TRA and TPB, other technology adoption models have ascended to be the most persuasive and well-known theory to explain technology acceptance, for instance, the Technology Acceptance Model (Davis 1989; Davis et al., 1989) and Unified Theory of Acceptance and Use of Technology (Venkatesh, V. et al., 2003).

3.3.3 Technology Acceptance Model (TAM and TAM2)

As a further extension of TRA, Davis (1989) introduced a technology acceptance model, which describes the personal acceptance of information technology. The purpose of TAM is to explain the determinants of computer acceptance among users. TAM replaces TRA's attitude beliefs with two technological acceptance measures: Perceived Usefulness (PU) refers to the degree to which people believe that using a specific system can improve their work performance; Perceived Ease Of Use (PEOU) refers to people's belief that using a specific system would be effortlessness (Davis, 1989). TAM does not include TRA's subjective norm (SN) as a determinant of BI. The figure shows the original theoretical concepts of TAM, including the attitude variable. Nevertheless, based on empirical evidence, the final model excludes attitude construct because it cannot completely mediate the effect of PEOU on intention, and the link of PU→BI seems to be more important (Davis et al., 1989). TAM believes that PU is affected by PEOU, because other things being equal, the easier the technology to use, the more useful it is. TAM is consistent with TRA, indicating that the influence of external variables on intention is mediated by PEOU and PU. The external variables in the model refer to a set of variables, such as target system design characteristics, training, computer self-efficacy, user participation in the design, and the nature of the implementation process (Davis, 1996). However, with the continuous development of TAM, new variables were introduced as external variables that affect PU, PEOU, BI, and actual use or behaviour. Among the most frequently mentioned are system quality, compatibility, computer anxiety, entertainment, computing support, and experience (Venkatesh et al., 2003). Assume the relationship between the four

main variables of TAM (PU, PEOU, BI, and B) using PU as both: the dependent variable that directly affects BI; and being an independent because it is predicted by PEOU. Actual usage or behaviour is usually measured in the following ways: usage time, usage frequency, actual usage times, and usage diversity. The model is shown as Figure 4 at below:

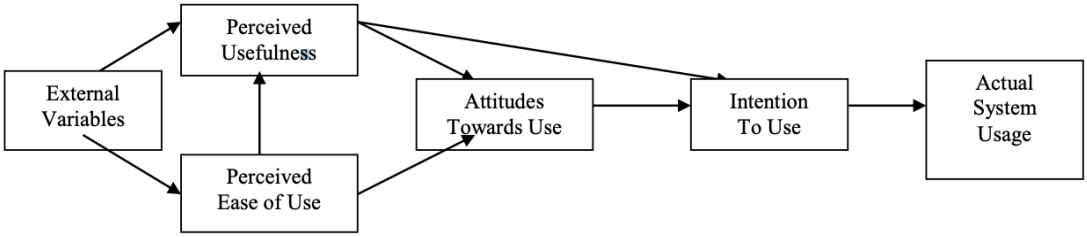

Figure 4 - Technology Acceptante Model (TAM)
Source : Davis et al., 1989, p. 985

TAM2 is an extension of TAM, which included perceived usefulness and intention as key determinants, it aims to explain the changes in technology acceptance over time as individuals gain experience in using the target technology and measure the intention in the case of mandatory setting (Venkatesh and Davis, 2000). This new model (TAM2) incorporates other theoretical constructs covering social influence processes (subjective norms, voluntariness, and image) and cognitive processes (work relevance, output quality, result demonstrability, and perceived ease of use). Model is provided as shown in Figure 5 benenth:

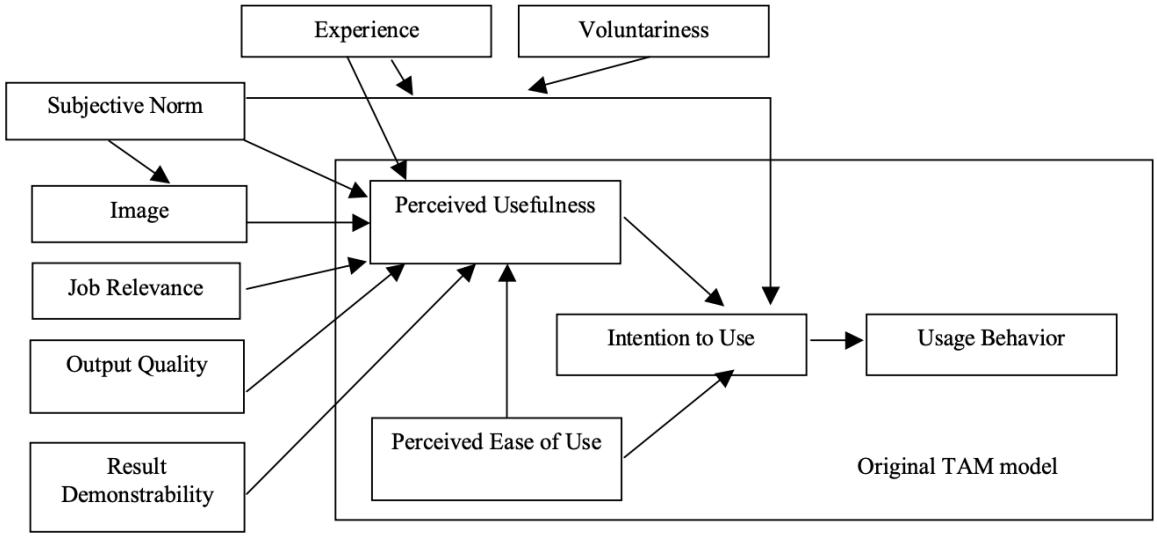

Figure 5 - Technology Acceptance Model 2 (TAM2)
Source: Venkatesh and Davis, 2000, p.188

3.3.4 The Unified Theory of Acceptance and Use of Technology (UTAUT)

Venkatesh et al. (2003) realized that IS or IT researchers were faced with many choices among various models and must choose constructs or a favourable model among them, thus neglecting the contribution of alternative models. They believed it is necessary to integrate in order to have a unified understanding of the user's technology acceptance. The eight dominant models that have been applied to explain technology acceptance behaviour were reviewed and compared by Venkatesh et al., 2003. These models included TRA, TPB, TAM, combined TAM – TPB (C-TAM-TPB), MM, MPCU, IDT, and SCT (discussed in the previous section 3.2). After review, they have reported five limitations of previous model testing and comparison, and addressed them accordingly in their work (Venkatesh et al.,2003):

- The researched technology is simple and individual-oriented, rather than complex and supplicated organizational technology.
- Most of the participants in these studies were students, except for a few studies.
- Time of measurement was general and, in most studies, well after acceptance or rejection of the usage decisions so individuals' reactions were retrospective.
- The nature of measurement was in general cross-sectional
- Most studies were conducted under voluntary use, so it was difficult to generalize the results in mandatory settings.

Then, Venkatesh et al. conducted an empirical comparison of eight models in a longitudinal field study, and these models were studied in four different organizations that were introduced to new technology in the workplace. Measurements were made at three different time points: after training, one month after implementation, and three months after implementation; and actual usage behaviour was measured within six months after training. According to mandatory and voluntary settings, the data was divided into two samples of eight models. Venkatesh et al. also considered the influence of some moderating variables, which have been reported in previous studies to influence usage decisions. These were experience, voluntariness, age, and gender. The results showed that in addition to MM and SCT, after joining the moderating variables, the predictive effectiveness of the model increased. They afterward checked the commonalities between the models and found that the seven constructs were significant and direct determinants of intention or usage in one or more individual models. They assume that four of the constructs played an important role as direct determinants of user acceptance and usage behaviour. According to the results of user acceptance literature and model comparisons,

it was hypothesized that attitudes, computer self-efficacy, and anxiety had no direct influence on behavioural intentions. The constructs that possessed a direct impact on behavioural intention and usage were: performance expectancy, effort expectancy, social influence, and facilitating conditions. Below is shown how of these constructs derived from the eight models:

Performance Expectancy (PE) *is the degree to which an individual believes that using the system will help him/her to attain gains in job performance*. The constructs in the other models that pertain to performance expectancy are perceived usefulness (TAM, and combined TAM-TPB), extrinsic motivation (MM), job-fit (MPCU), relative advantage (IDT), and outcome expectancy (SCT). In each model, this construct was the strongest predictor of intention, and its significance has remained at all measurements of both voluntary and mandatory. According to the literature, it is assumed that the impact of performance expectancy on behavioural intentions was affected by gender and age. Particularly for men, especially young workers, this influence will be stronger.

Effort Expectancy (EE) *is the degree of ease associated with the use of the system*. The constructs in the other models that capture the same concept are perceived ease of use (TAM), and complexity (IDT and MPCU). This construct was the strongest predictor of intention, and its significance has remained at all measurements of both voluntary and mandatory, and as participated in the literature, it was only to be significant in post-training measurements. According to the literature, it was assumed that the impact of effort expectancy on behavioural intentions was moderated by gender, age, and experience. For young women and older workers in the early experience stage, this effect will be stronger.

Social Influence (SI) *is the degree to which an individual perceives that important others believe he/she should use the new system*. Similar constructs are represented in existing models: subjective norms (TRA, TAM2, TPB, and combined TAM-TPB), social factors (MPCU), and image (IDT). The comparison between the models revealed that the similar performance of this construct; is insignificant in the voluntary case, and it becomes significant when it is in a mandatory setting. The literature explained that in mandatory situations, this effect is attributed to compliance, which seems to be important only in the early stages of personal experience and when rewards/punishments are applied. On the contrary, social influence in a voluntary environment is generated by influencing people's perception of the technology (i.e.

internalization and identification). Similarly, according to the literature, the influence of social influence on behavioural intentions is assumed to be moderated by gender, age, voluntariness, and experience. For women, the impact will be greater, especially in the mandatory environment at the beginning stages of the experience.

Facilitating Conditions (FC) *is the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system*. This definition captures three different constructs in existing models: perceived behavioural control (TPB and combined TAM-TPB), facilitating conditions (MPCU), and compatibility (IDT). The comparison between the models found that in the voluntary and mandatory settings of the first training phase, the relationship between the intention and this construct in each model was similar, but this impact in the second phase (implementation of one month later) disappeared. According to the literature, when in the presence of both performance expectancy and effort expectancy, facilitating conditions become insignificant, and agreed with the facilitating conditions of TPB / C-TAM-TPB is also a direct prerequisite for usage (this attribute is also available in MPUC). With the accumulation of users' technical experience, as users find multiple ways to seek help and support, this effect is expected to improve. Therefore, it is assumed that the impact of facilitating conditions on usage is moderated by age and experience. For older workers especially, the impact will be greater as experience increases.

Empirical testing of the original data (collected from four organizations) and cross-validation using new data (collected from the other two organizations) provided solid foundation stones for UTAUT. The new model was able to resolve 70% of the variance in usage intentions, which is considered the greatest improvement to any original model, in which the maximum value of the original model was about 40%. Venkatesh et al. (2003) acknowledged the limitations of content validity due to measurement procedures and suggests that future research should be aimed at more fully developing and verifying appropriate scales for each construct and focusing on content validity and revalidation or expansion with new measures for the UTAUT (Venkatesh et al., 2003).

However, several researchers also argue that UTAUT was developed to explore the mandatory use of technology; therefore, its ability to explain the voluntary use of technology, such as

mobile applications, mobile banking, and mobile games, is limited (Van der Haijden, 2006; Shaw and Sergueeya, 2018). The model is shown as Figure 6 at below:

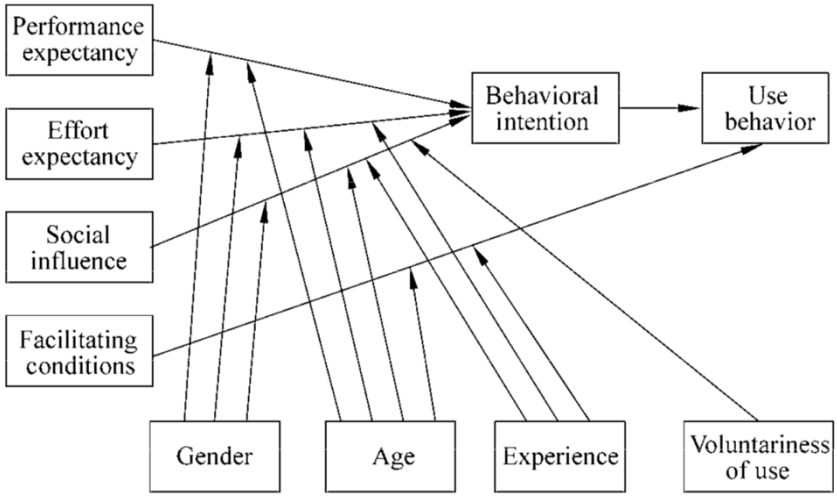

Figure 6 - The Unified Theory of Acceptance and Use of Technology (UTAUT)

Source : Venkatesh et al., 2003, p. 447

3.3.5 Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2)

Therefore, Venkatesh et al. (2012) developed a revised UTAUT model, named UTAUT 2, as shown in Firgure 7 below:

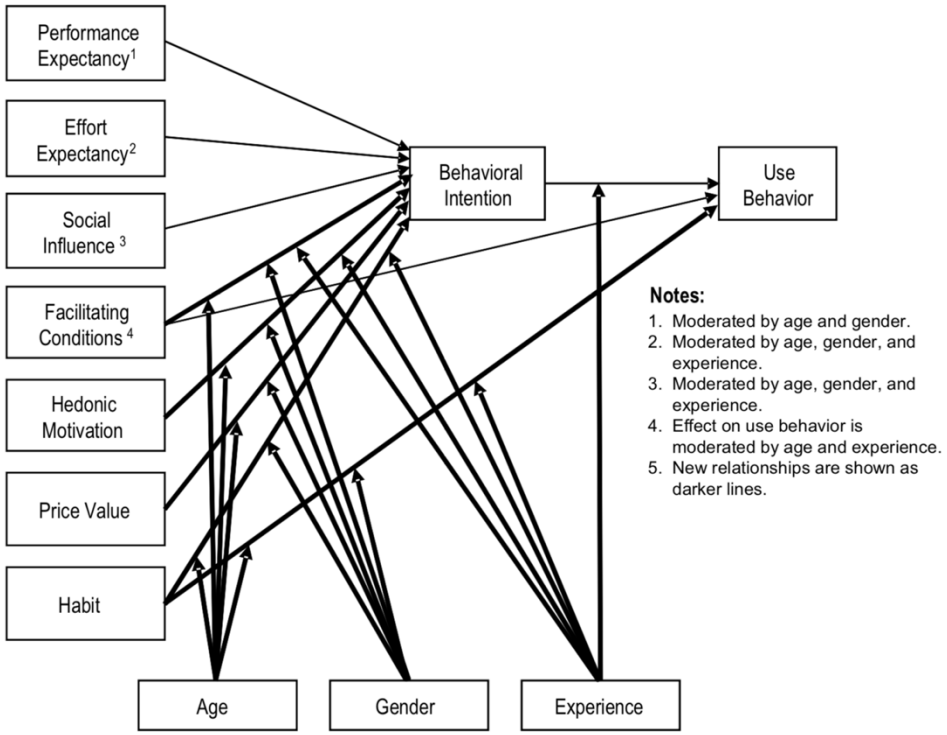

Figure 7 - The Unified Theory of Acceptance and Use of Technology (UTAUT2)

Venkatesh et al., 2012. p. 160

In the proposed model, they integrated hedonic motivation, price value, and habit into UTAUT in order to tailor it to the consumer technology use context, Venkatesh et al (2012) adopted an approach that complements the current constructs in UTAUT. First, UTAUT takes an approach that emphasizes the importance of utilitarian value (extrinsic motivation). The construct tied to utility, namely performance expectancy, has consistently been shown to be the strongest predictor of behavioural intention (Venkatesh et al., 2003). Complementing this perspective from motivation theory is intrinsic or hedonic motivation (Vallerand, 1997). Hedonic motivation has been included as a key predictor in much consumer behaviour research (Holbrook and Hirschman, 1982) and prior Information System research in the consumer technology use context (Brown and Venkatesh, 2005). Second, from the perspective of effort expectancy, in organizational settings, employees assess time and effort in forming views about the overall effort associated with the acceptance and use of technologies. In a consumer technology use context, price is also an important factor as, unlike workplace technologies, consumers have to bear the costs associated with the purchase of devices and services. Finally, UTAUT and related models hinge on intentionality as a key underlying theoretical mechanism that drives behaviour. Many, including detractors of this class of models, have argued that the inclusion of additional theoretical mechanisms is important. In a use, rather than initial acceptance, context habit has been shown to be a critical factor predicting technology use (e.g., Kim and Malhotra 2005; Limayem et al. 2007).

Based on the above gaps in UTAUT and the associated theoretical explanation provided, Vekatesh et al. (2012) integrated hedonic motivation, price value, and habit into UTAUT in order to tailor it to the consumer technology use context. Hedonic motivation is a critical determinant of behavioural intention and was found to be a more important driver than performance expectancy is in non-organizational contexts. The integration of price value into the UTAUT framework addressed the cost issue of technology use in the consumer setting. The research highlights the importance of price value in consumer decision making regarding technology use and the moderating effects of the consumer demographic profile that is rooted in mechanisms related to social roles. The integration of habit into UTAUT, which reflected an earlier unification of eight prior models of technology acceptance and use. The treatment of habit reflects the two main theoretical perspectives of habit (Ouellette and Wood 1998): the stored intention view (e.g., Ajzen 2002) and the automaticity view (e.g., Limayem et al. 2007). In summary, the research conducted by Venkatesh et al. (2012) has demonstrated that when

predicting continuance intention of mobile services use, UTAUT predictors, hedonic motivation, price value, and habit played important roles (Hew *et al*., 2015).

3.4 Hedonism and Utilitarianism in consumer behaviour

Consumers are often influenced by hedonism or utilitarianism, these tendencies drive consumers to make corresponding evaluations and choices upon different objects based on hedonistic or utilitarian characteristics (Batra and Ahtola, 1991; Mano and Oliver, 1993). Relatively speaking, hedonistic value allows consumers to enjoy more experience, fun, and excitement (such as fashion cloth, sports cars, watches), while utilitarian value mainly focuses the basic functions for consumers (such as microwave ovens, electric fans), personal computers, etc.) (Holbrook and Hirschman, 1982; Strahilevitz and Myers, 1998).

Therefore, the values that people perceive can be divided into two categories: (1) utilitarianism: from the intentional pursuit of a given goal (2) hedonism: the immediate sensory response of a person to a particular thing (Babin, Darden and Griffin (1994). The former can be regarded as people who do things because they have to do it, whereas the latter is people who do things because people like to do it (Triandis, 1977). For instance, people may participate in competitions because they want to get the awards, but at the same time, they also understand the inner, personal, and emotional happiness for attending the competition (Deciel et al., 1981). This also shows that people's participation in the competition may be purely for rewards, which shows that these intentions are in order to gain the value of utilitarianism.

In fact, the value of hedonism/utilitarianism has been studied in the fields of sociology, psychology, and economics (Holbrook and Hirschman, 1982; Batra and Ahtola, 1990; Crowley, Spangenberg and Hughes). The different characteristics of hedonism/utilitarianism are portrayed as feelings and thinking, experiential and functional (Hirschman and Holbrook, 1982), transformational and informational, needs and necessities (Shiv and Fedorikhin, 1999). Although the terminology is different, it reflects the concept that was first proposed by Holbrook and Hirschman (1982). Both hedonistic and utilitarian items provide consumers with a certain benefit, the former mainly providing experience-like fun, while the latter mainly provides practical functions (Holbrook and Hirschman, 1982; Batra and Ahotola, 1990; Mano and Oliver, 1993). The value of hedonism and utilitarianism is not necessarily equally important to consumers; some types of goods are more hedonic or more utilitarian than others

(Batra and Ahtola, 1990). Furthermore, both hedonic and utilitarian value for the customers will also gradually change with time and space. For example, one's enjoyment may cause serious suffering to others (such as smoking) (Batra and Ahtola, 1991). Dhar and Wertenbroch (2000) argue that consumers consider utilitarian objects as a necessity to maintain daily life, while hedonic objects are things that improve the quality of life. Consumers establish a symbolic connection with the hedonic items they possess. Dhar and Wertenbroch (2000) reported: "owners of relatively hedonic cars value their vehicles higher relative to the market price than owners of relatively utilitarian cars. Consumers are less willing to give up the hedonic item if compared with the utilitarian item.

3.4.1 Hedonic value

In the marketing world, the first scholars who proposed the concept of shopping value are Holbrook and Hirschman (1982), they believed that the value of shopping is too narrow if the value is only seen as the acquisition of product function and the product itself, in many cases that consumer's purchase of the products is not associated to the product itself. Therefore Holbrook and Hirschman (1982) proposed the experience point of view, emphasizing that in addition to the utilitarian demands, the experience of symbol, pleasure, and beauty that customers acquired in the consumption process also plays a key role. The customer not only judges the value of the product through a utilitarian perspective but also involves the hedonic perspective. Other researchers also believed that traditional methods for customer value measurement are not complete, and the value of hedonism is also a factor that needs to be considered by customers (Holbrook and Hirschman, 1982; Bloch and Richins, 1983; Belk, 1988). Therefore, it should include both hedonism and utilitarianism to measure the value of consumers obtained from the entire shopping process (Barbin et al.,1994). Barbin et al. (1994) believed that customer value includes two benefits, utilitarian and hedonic benefits. Chandon et al. (2000) proposed that hedonic benefits include entertainment, exploration, and opportunities for value-expression, mainly to provide fun, intrinsic stimulation, and self-esteem. Chitturi et al. (2008) stated that the customer's original happy feeling experience will be enhanced by the excitement and pleasure brought by the hedonic benefit. Babin et al. (1994), and Mathwick et al (2001) believed that value consumers receive from the shopping process whether in the traditional stores (bricks-and-mortar) or online experience contains hedonistic values. Barbin et al (1994) continued that consumers with hedonic value, their consumption purpose is to focus on the entertainment and fun, which also can be regarded as the pursuit of

the potential entertainment and emotional value of shopping, rather than the specific practical functions of the product itself. Consumers are often subject to hedonism, the influence of this tendency drives consumers to make evaluations and choices based on hedonistic characteristics (Batra and Ahtola, 1991; Mano and Oliver 1993). Hedonistic values provide consumers with more experience, fun, and excitement such as fashion cloth, luxury sports cars, and watches, etc. Hedonism is human's natural immediate sensory response to a particular thing (Babin et al., 1994), for instance, the fact that people do things is just because they like to do it, no other specific reasons (Triandis, 1977).

The experience of the shopping process can provide people with psychological happiness. The hedonic shopping experience in shopping is usually considered to be crucially important (Arnold and Reynold, 2003). Hedonic shopping value reflects the potential value of fun and pleasure. For instance, people do not shop for the sake of shopping, they are expected to receive a happy experience through shopping. Jin and Sternquist (2004) stated that during the shopping process, unexpected money-saving will make consumers feel happy, but the money savings alone will not make people feel happy. Therefore, the hedonistic shopping process is a spontaneous, emotional process of experience (Hoolbrook and Hirschamn, 1982). In summary, this study believes that hedonic shopping is the shopping pleasure that consumers perceived during the shopping process, as pointed out by Babin et al. (1994), consumers with hedonic shopping value see shopping as a pleasure in the shopping process.

In addition, shopping can provide hedonistic value in many ways. In the previous studies, respondents expressed experiences related to shopping hedonistic values. Some consumers describe their Christmas shopping experience as "kids in the candy shops", like shopping "because of the little kid in me", "In a situation where you come across something and you just know somebody is going to like it, there is a lot of pleasure in that" (Fischer and Anold 1990). Fischer and Arnold (1990) summarised that consumers' satisfaction in hedonic shopping value comes from instant pleasure in the mood. Hedonistic shopping value also has disadvantages for consumers, which may include impulsive buying. Rook (1987) pointed out that impulsive buying consumers are usually not for the needs of the goods, but the needs of the shopping. Similarly, Faber and Guinn (1989) stated impulsive buying consumers believe that the value of shopping is greater than the value of the item. Conversely, the value of hedonic shopping possesses a positive value too. In some cases, the value of hedonic shopping has therapeutic effects, "I enjoy shopping when it helps me forget my problems" (Woodruffe, 1994, p.327). A

consumer describes how shopping can make him escape from reality. "... It occurred to me that if I get depressed, then I want to go shopping. It's too bad it's expensive. It's a thrill. It gives you a lift to buy something fun" (Babin et al., 1994, p,648).

3.4.2 Utilitarian value

In the early days, most of the research focused on the utilitarian value of shopping (Bloch and Richins 1984). Utilitarian consumers are described as rational, task-oriental (Batra and Ahtola 1991). Utilitarian shopping value is considered from the perspective of completing the shopping task, which can explain the "helplessness" of shopping, for example, the utilitarian value of shopping can explain why consumers see Christmas shopping as a "woman's job" and it is a daunting task (Holbrook and Hirschman, 1982). Fisher and Arnold (1990) provided a typical example： A consumer sees a Christmas shopping list and complaining: "I found it sort of a chore this year trying to get everything done " (p.355). For this consumer, the value of shopping is to be able to complete the shopping in the shortest possible time.

This paper argues that the value of utilitarian shopping depends on whether the consumers' demand for shopping is satisfied. This consumption demand can be usually understood as being able to buy the products efficiently and quickly, as consumers of utilitarian shopping value see shopping as a work (Babin et al., 1994). In addition, Babin et al. (1994) documented the interpretation of "successful" and "unsuccessful" shopping trips by two focus group consumers: "I like to get in and out with a minimum amount of time wasted . . . I get irritated when I can't find what is needed . . . and I have to go to another store to find it," "To me, shopping is like a mission, and if I find what I'm looking for, I'm satisfied, mission accomplished! (p.650)" Respondents in group interviews and other studies often use specific words to describe the shopping process, these words are "successful," "completed," or "finished" (Thompson, Locander and Pollio, 1990). Therefore, the utilitarian value of shopping sees shopping as a kind of "task" or "work". They are happy or satisfied if they "completed" the shopping list and efficiently obtained the products they need. In short, the significance between hedonic and utilitarian shopping value is summarised by the author in the Table 7 below:

Table 7 - Diffference between Hedonic and Utilitarian shopping value.

Hedonic Shopping Value	Utilitarian Shopping Value
Shopping as an interest	Shopping as a task
Willing to spend time	Shorten the shopping time
Not necessarily purchase (intended item)	Purchase (intended item)
Emphasizing on experience	Emphasizing on being rational
Unplanned	Planned

(Source: made by the author, 2020)

3.5 Six dimensions of hedonic shopping motivation

Through the literature review, the author finds that some scholars divided consumers' shopping attitude into utilitarian and hedonic to study the shopping motives behind (Batra and Ahtola, 1990; Crowley et al., 1992; Voss et al., 2003). Other scholars studied shopping motives from the perspective of shopping value (Babin et al., 1994; Bakirtas et al., 2015), also there were scholars study consumer shopping motives from a shopping-oriented perspective (Büttner et al., 2014), orientation is the motivation that can be motivated by the process goal, and the process goal refers to the method that the consumer needs to achieve the desired outcome. The author of this study argues that scholars do not strictly distinguish between shopping motivation, shopping attitude, shopping value, and shopping orientation in research, and quite often these concepts appear mixed. Therefore, the author believes that although these concepts answered the reasons why consumers wish to shop from different angles, there are slight differences, to summaries from the author's perspective: shopping attitude reflects the trend of consumers' psychological reaction; shopping value starts from shopping results, which is a description of consumers' shopping experience. It is the evaluation of the benefits consumers get in the shopping experience process; shopping orientation emphasizes consumers' attention to focus on shopping goals, and shopping motivation emphasizes the psychological driving force of consumers' shopping behaviour. Therefore, the concept of shopping motivation not only reflects the attitude of consumers' shopping but also fundamentally answers the question of why consumers want to shop.

Motivation is an individual's intrinsic demand, and which causes the individual to engage in certain activities, it is the basis and driving force of individual behaviour (Mook, 1987). Shopping motive is an important concept of consumer psychology, which is the internal driving force and the direct cause to encourage people to involve in shopping activities, it is the consumers' physiological needs and wishes in the shopping process (Schiffman and Kanuk,

2007). Previous studies have shown that consumers' shopping motives play a dominant role and affect their shopping behaviour (Rohm and Swaminathan, 2004).

As discussed above, in contrast to the utilitarian perspective, shopping is viewed as a positive experience where consumers may enjoy an emotionally satisfying experience related to the shopping activity regardless of whether a purchase was made. The hedonic aspect of shopping has been documented and examined as excitement, arousal, joy, festivity, escapism, fantasy, adventure, etc. (e.g. Bloch and Richins, 1983; Fischer and Arnold, 1990; Babin et al., 1994). Also, the entertainment aspect of retailing is increasingly being recognized as a competitive tool among retailers (Arnold and Reynolds, 2003). Arnold and Reynolds (2003) investigated hedonic reasons why people go shopping and found six broad categories that motivated shopping.

(1). The first category is labelled "adventure shopping," which refers to shopping for stimulation, adventure, and the feeling of being in another world. It is explained by theories of human motivation, which explain the "the need for stimulation and self-expression through play and creativity among human organisms'' (Arnold and Reynolds, 2003, p. 80). Arnold and Reynolds (2003) described various sensations related to adventure shopping, such as thrills, excitement, and stimulation in interviews with consumers, which is similar to the sensory stimulation motivation proposed by Tauber (1972) and Westbrook and Black (1985).

(2). The second category is labelled "social shopping," which refers to the enjoyment of shopping with friends and family, socializing while shopping, and bonding with others while shopping (Arnold and Reynold, 2003). Social shopping is an aspect of shopping explained by the theory of affiliation in human motivation, which describes the basic needs of humans for acceptance, affection, and affiliation (McGuire, 1974). Darden and Dorsch (1990) proposed that social interaction is the main driving force for certain consumers to shop. In addition, social shopping is also social behaviour, usually in the company of friends or family (Evans, Christiansen and Gill, 1996), in support of this, Arnold and Reynolds (2003) found that consumers often mention shopping as a way to spend time and connecting with family and friends

(3). The third category is labelled "gratification shopping," which involves shopping for stress relief, shopping to alleviate a negative mood, and shopping as a special treat to oneself,

obtaining a satisfying experience in shopping and choosing a variety of products to satisfy oneself (Arnold and Reynold, 2003). Lee, Moschis, and Mathur (2001) believed that shopping is a coping mechanism, and consumers can use this mechanism to keep themselves away from stressful events or problems. In 1994, Babin et al. pointed out that shopping has the value of self-satisfaction and escapism.

(4). The fourth category is labelled "idea shopping," the idea shopping refers to shopping that collects information about new trends, fashions, and products (Arnold and Reynold, 2003), which is consistent with Tauber's (1972) motivation to understand new trends. McGuire (1974) explained the basic human needs for knowledge and information in order to make themselves meaningful. Previous researchers also have studied shopping activities as a way to collect information and enjoy the experience (Brown, Pope, and Voges, 2003).

(5). The fifth category of shopping motivations is labelled "role shopping," which reflects the enjoyment that shoppers derive from shopping for others, the influence that this activity has on the shoppers' feelings and moods, and the excitement and intrinsic joy felt by shoppers when finding the perfect gift for others (Arnold and Reynolds, 2003). It emphasizes shopping for others to successfully find the right gift, which is related to role-playing motivation proposed by Tauber (1972) and Westbrook and Black (1985). In addition, consumers satisfying their internal joy for role-playing (McGiure, 1974), by finding the right products/gifts for others in the shopping process of putting themselves in their places (Tauber, 1972).

(6). The final category is labelled "value shopping," which refers to shopping during sales, looking for discounts, and hunting for bargains, and seeking the pleasure of sales (Arnold and Reynolds, 2003). This is also related to the motivation of choice optimization proposed by Westbrook and Black (1985). It is understandable that consumers' pursuit of value is from the perspective of competitive achievement, the goal of competitive achievement is to succeed and enhance their self-esteem (McGuire, 1974).

Regarding hedonic shopping motivations, consumers can get emotional satisfaction from mobile shopping and internal pleasures that can lead to actual purchases. In 2006, Kim adopted and analysed these six dimensions of hedonic shopping motivation. Results showed that according to these six dimensions, American inner-city consumers have higher hedonic motivations for shopping compared to non-inner-city consumers, which successfully testified

to the validity and reliability of six hedonic dimensions (Kim, 2006). Furthermore, consumers are able to obtain emotional satisfaction and intrinsic enjoyment through mobile shopping, therefore, hedonic shopping motivation also drives consumers to adopt mobile shopping (Yang and Kim, 2012). In addition, according to the cognitive evaluation theory, motivation can be divided into two types from a cognitive perspective: intrinsic and extrinsic motivation (Vallerand et al., 1992). Extrinsic motivation is related to the achievement of goals or rewards that may be achieved by certain actions; intrinsic motivation is related to the perception of pleasure and satisfaction that can be gained in the process of implementing such behaviour, if these two motivations are superimposed, it can generate a higher level of motivation to drive people's behaviour (Vallerand et al., 1992). Wamba (2017) believed that extrinsic and intrinsic motivation can correspond to consumers' utilitarian and hedonic motivation for shopping respectively. Therefore, it would be interesting for this paper to simultaneously evaluate the utilitarian and hedonic motivation among Chinse millennials towards mobile shopping adoption.

3.6 Mobile shopping motivation

Abraham Maslow (1943) took the lead in proposing that people's motives originated from needs and divides people's needs into five levels as Maslow’s hierarchy (McLeod, 2007). According to Maslow’s hierarchy theory, the author concluded that consumers often have two unmet needs in their lives. One is the utilitarian needs, which appears more with the objective demand of people, reflecting the human natural attributes (Solomon et al., 2006). In this regard, people tend to think more about the functionality of this product is whether or not this product can meet the consumer's own functional needs. On the other hand, which is the hedonic needs, which is the need for people's psychological hedonic type after the functional needs are met (Solomon et al., 2006). People often think more about the comfort of pleasure brought by products and reflect human’s social attributes. These two requirements are not fragmented but are often interrelated (Arnold and Reynold, 2003). When people purchase goods, they consider functional requirements, but they also consider hedonic factors, which together determine the choice of a product.

Solomon et al. (2006) stated that utilitarianism can be viewed as a function to form an attitude, which is linked with the basic fundamental of reward and punishment. Consumers develop some of their attitudes towards products simply on the basis of whether these products provide

pleasure or pain. Li et al. (2008) developed an effective attitude measurement questionnaire to measure consumer hedonic and utilitarian attitudes in different shopping environments. The results showed that consumers demonstrated both hedonic and utilitarian attitudes in the shopping process. Yang (2010) investigated the consumers' mobile shopping intention from a utilitarian and hedonic performance perspective. Based on the research, utilitarian and hedonic performance expectancy have a positive impact on the intentions of adopting mobile shopping, and the research of Yang and Kim (2012) demonstrated that both utilitarian and hedonic motivations, such as efficiency and adventure, contribute to consumer intentions and motivations to adopt and use mobile devices for shopping, while Holmes et al. (2014) stated mobile shopping is driven by utilitarian motives, such as convenience and accessibility. These studies when taken together implied that the hedonic and utilitarian features play an important role in mobile shopping adoption. Holmes et al. (2014) analysed how mobile phones are used when shopping and indicated that consumers intend to use mobile phones for product information before purchasing the product in an offline store. While Bilgihan (2016) continued consumers also seek the hedonic benefits as they receive the enjoyment of the online shopping experience (Bilgihan, 2016).

Although many scholars have conducted a more detailed study on consumer shopping motives in the traditional environment, the research on consumer shopping motives in the online shopping environment is relatively fragmented (Deng, 2016). Compared with the traditional consumption model, the online consumption environment has strong superiority and a certain specialty. For example, when consumers purchase products online, they mainly search for information and are able to purchase the product at any place and any time without leaving their houses, not limited by the time and space, which has brought great convenience to consumers. Although the online consumption environment has advantages over the traditional models, there are also some flaws remain. For example, consumers cannot satisfy their needs of touching and feeling the products when shopping online. It is difficult to communicate effectively with the salesperson before purchasing and it is difficult for consumers to eliminate concerns about the quality of online shopping products and transaction security issues, which hinder consumers' willingness and behaviour in online shopping. Wolfinbarger and Gilly (2001) based on consumers' task-oriented (for efficiency) and experience-oriented (for entertainment) perspectives, pointed out that consumers' online shopping motivation is to seek "freedom, control and happiness", in which consumer task-oriented shopping features mainly embodied in convenience, choice, information and no need for interpersonal contact; experience-oriented

shopping features are mainly reflected in novelty/excitement/uniqueness, positive sociality, transaction, and product involvement; and stated that task-oriented (utilitarian) and experience-oriented (hedonic) shopping motives also exist in the online shopping environment, although they believe that utilitarian motivation is more common. Similarly, Childers et al. (2001) pointed out that consumers' online shopping motives include both utilitarian and hedonic dimensions, and hedonic motives are as important as utilitarian motives. Parson 2002 further pointed out that hedonic shopping motivation is more and more important for online shopping environment because consumers tend to browse online stores due to the hedonic motivation. Hedonic consumers are more likely to be attracted by beautiful website design, easy-to-use navigation, and website visual effects, and to receive more fun from interacting with the website (Childers et al., 2001); Meanwhile, hedonic consumers often do not have specific shopping tasks, online retailers can attract their shopping through beautiful website design, and convert consumers' browsing of goods into buying behaviour.

Monsuwe et al. (2004) believed that the enjoyment value of consumer online shopping has three aspects: escapism, pleasure, and arousal. “Escapism” is reflected in the enjoyment that comes from engaging in activities that are absorbing, to the point of offering an escape from the demands of the day-to-day world. “Pleasure” is the degree to which a person feels good, joyful, happy, or satisfied in online shopping, whereas “arousal” is the degree to which a person feels stimulated, active or alert during the online shopping experience. To et al. (2007) continued Arnold's ideas and studied the motives of consumer online shopping from the perspective of utilitarianism and hedonism, their study found that online shopping motives are differed from traditional shopping motives, as consumers’ utilitarian motivation is a determinant of consumer intention to search and intention to purchase, hedonic motivation has a direct impact on intention to search and indirect impact on intention to purchase, while these dual motivations have significant effects, utilitarian motivation is the strongest predictor of intention to search and intention to purchase, utilitarian motivation is influenced by convenience, cost-saving, information availability, and selection; hedonic motivation is influenced by adventure, and authority and status. This conclusion is consistent with previous research claims that consumers’ online shopping is driven primarily by utilitarian motivation (Keeney, 1999).

3.6.1 From utilitarian perspective:

(1) Cost savings.

According to the research conducted by Keeney (1999) and Deng et al (2009), one of the reasons for a consumer to adopt online shopping is to save the cost, as online sales eliminate retailers' store rental cost, renovation costs, labour costs, and channel costs, thereby greatly reducing the price of products, and consumers can easily compare the price of the goods online, and finally, purchase a high-quality product with a low price. When consumers find that they can buy the same item online at a lower price, the willingness to shop is generated.

(2) Convenience.

Convenience means that consumers can save time and effort by shopping online (Deng, 2014). Convenience is a key factor for consumers to shop online. Wolfinbarger et al. (2001) pointed out that online shopping provides consumers with a more comfortable and convenient shopping environment. Consumers can access the online store to browse products without leaving home, and they are free to choose the time of purchase.

(3) Choices optimization.

Alba et al. (1997) pointed out that online stores can provide consumers with more choices of products. The Internet provides consumers with an environment to choose from a wide variety of goods and provides consumers with an infrastructure to efficiently search, capture and compare product information (Rohm and Swaminathan, 2004), thereby reduced consumers' choices of products and the cognitive cost of making decisions, increased the efficiency of shopping (Dittmar et al., 2004).

(4) Information availability.

Wolfinbarger and Gilly (2001) pointed out that information availability includes obtaining information on goods, stores, and promotions. The Internet provides consumers with the most effective way to access information. Bakos (1997) believed that the Internet provides a large number of public information resources and efficient information search tools. Consumers can obtain huge amounts of information about goods and stores by clicking on them. It is easy to find related products and the price information so that to conduct the price comparison.

(5) Reduce interpersonal contact.

Internet information technology enables online shopping consumers to browse goods without the hassle from salespeople and to fully protect their privacy. WolfinBarger and Gilly (2001) further pointed out that when online shopping, there is no face-to-face direct contact with salespeople, partners, or strangers, consumers do not have to worry about the bargaining troubles with sales staff and the pressure caused by the excessive enthusiasm from salespeople, as well as the interference from partners or around strangers, thereby creating shopping motives by reducing complex and unnecessary interpersonal contacts.

3.6.2 From Hedonic Perspective

(1) Sensory stimulation.

Sensory stimulation is mainly reflected in escape and learning trends (Tauber, 1972), stimulation (Westbrook and Black, 1985), adventure (Arnold and Reynolds 2003), and the pursuit of diversity (Rohm, 2004). Westbrook and Black (1985) defined stimulation motivation as finding novelty in shopping. Pursuing novelty can help consumers escape the unchanging life in reality, which is very similar to the concept of adventure (Arnold and Reynolds, 2003]. To et al. (2007) mentioned that consumers can experience novelty in interaction with computers, and this novelty will drive consumers to take adventurous shopping actions online. In addition to pursuing novelty, motivation also embodies the consumer's desire to chase new products and keep up with the current trend (Arnold and Reynolds, 2003). Understanding and keeping up with current trends can bring novelty and excitement to consumers.

(2) Social interaction.

The motivation of social interaction means that consumers gain happiness and satisfaction by interacting with others during the shopping process (Arnold and Reynolds, 2003), they pointed out that consumers mostly cherish the time spent shopping with friends and family and enjoy social activities during the purchase process. Westbrook and Black (1985) believed that social interaction in the shopping process is an important reason for the consumer to shop. Wolfinbarger and Gilly. (2001) proposed that virtual communities are a new type of social platform that provides online shoppers with a powerful tool for sharing the latest information and shopping experiences. Consumers can share their shopping experiences and knowledge with others over the Internet to create a broad range of personal social relationships (Hur, et al., 2007).

(3) Recreational entertainment.

Recreational entertainment means that consumers use online shopping to enjoy, relax, and seek fun. Driven by this kind of motivation, consumers often think that shopping is a kind of leisure activity, and in order to get a joyful experience of shopping activities, therefore, to participate in shopping activities (Parsons, 2002), consumers also often conduct online shopping to get rid of negative emotions (Yang and Kim, 2012).

(4) Freedom and control

Parsons (2002) pointed out that consumers can decide what to buy on the internet, when to buy, and when to receive the goods. As discussed in the section of Hedonism and Utilitarianism, consumers' shopping motives can be divided into two types as mentioned above: utilitarianism and hedonism (Batra and Ahtola, 1990; Crowley, 1992; Babin et al.,1994; Voss, 2003). Among them, utilitarian motivation sees shopping as a job or task, which described as a dark side of shopping, as consumers would tend to regard their shopping experience as to complete a mission, they are meant to finish it successfully, rather than a stress-free shopping experience (Hirschman and Holbrook, 1982; Babin, et al. 1994). Utilitarian shopping is considered to be based on the functional characteristics of the product or service, the price, and the completion of the shopping task; whereas hedonic motivation considers shopping as a positive experience related to shopping activities, that is, purchasing goods or services, in order to enjoy the emotional satisfaction associated with shopping activities (Babin et al., 1994; Arnold and Reynolds, 2003; Kim, 2006). It is generally believed that utilitarian motivation includes "efficiency" and "achievement" (Kim, 2006). Efficiency means that consumers need to save time and other resources during the shopping process, that is, to pursue quick and easy shopping; “achievement” is associated with shopping goals, consumers wish to be able to buy products or services that they plan to buy. Existing research shows that hedonic motivation is the main force driving consumers to use the Internet for shopping (Kim, 2006; Yang and Kim, 2012).

3.7 Research Gaps

According to Solomon 2006, consumers behave in a particular way driven by rational, emotional, and patronage motives. Motivation represents the processes of leading consumers to behave the way they do (Solomon, 2006). UTAUT is an effective model that offers theoretical supports for researchers to study the consumers’ intention towards innovative technologies, and prior researchers have applied this model to study the adoption intention in

the different research context of mobile commerce, such as mobile shopping (Yang, 2010; Yang and Forney, 2013; Tak and Panwar, 2017), mobile application (Hew et al., 2015; Tam et al., 2020), mobile banking (Alalwan et al., 2017) and mobile marketing (Yap and Tan, 2017). Although UTAUT is a comprehensive synthesis of the prior 8 models, it only investigates the impact of four constructs: performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC) on users' behavioural intention, therefore, when UTAUT is applied alone, it cannot meet the research objectives, (1) to identify what are motivational factors that drive Chinese millennials to adopt mobile shopping, and (2) to simultaneously evaluate the utilitarian and hedonic motivation on this regard.

The theory of six hedonic shopping motivations has been widely adopted to measure the consumers' hedonic shopping motivation, however, most cases were in the research context of the offline retailing environment (Arnold and Reynold, 2003; Patel and Sharma, 2009; Horváth and Adıgüzel, 2018). Yang and Kim (2012) first measured the six hedonic shopping motivation in the research context of mobile shopping and called for future research to measure in non-western countries and leaving an unanswered question: whether some mobile shoppers become more hedonic or utilitarian as time progresses?

The research gaps, therefore, are identified: (1) none of the existing studies have attempted to integrate these two theories (UTAUT and Six Hedonic Shopping Motivations) to form a new theoretical model in the context of mobile shopping to measure consumers' adoption motivation, this study aims to apply this novel combination to examine whether mobile shoppers are more of utilitarian or hedonic based as time goes by, or whether utilitarian and hedonic motivations play the same importance simultaneously. (2) Research on the adoption intention of mobile shopping with a specific focus on the Chinese Generation Y is limited, with a better understanding of this consumption group that could fill gaps in knowledge of marketers and the findings of this research might lend the assistance to the building of market strategies.

3.8 Chapter Summary

This chapter has presented and discussed the literature of consumer behaviours as well as the technology acceptance theories and models in the field, in particular, eight models that were integrated to establish the UTAUT model. The dominant model in this area is UTAUT, as the

UTAUT is considered parsimonious and comprehensive since it can explain more of the variance in usage intentions than any of its predecessor models. However, UTAUT only investigates the impact of four constructs (performance expectancy, effort expectancy, social influence, and facilitating conditions) on users' behavioural intention, therefore, when UTAUT is applied alone, it cannot meet the research objectives and address the research questions of this research (see section 1.8).

This chapter also reviewed the utilitarian and hedonic motivation in the field of consumer behaviour, consumers are often influenced by hedonic or utilitarian motivation, these tendencies drive consumers to make corresponding evaluations and choices upon different objects. In addition, given the importance of utilitarian and hedonic value that determines the consumer motivation, the six hedonic shopping motivations were introduced and will be integrated into the UTAUT model to comprehensively evaluate and examine the motivation of mobile shopping adoption among Chinese millennials.

Moreover, mobile shopping motivation from a utilitarian and hedonic perspective was discussed. Based on the literature review, the research gap was identified, as it was observed from the literature reviews that no prior studies have conducted research on the behavioural intention of mobile shopping by combining these two theories, especially with a focus on the Chinese millennials.

Therefore, in order to fill this gap, when UTAUT and six dimensions of hedonic shopping motivation integrated together, the integrated model includes more constructs than each of them originally has, which enables this research to meet the research objectives for this study. The following chapter is dedicated to the presentation and discussion of the developed conceptual framework for this thesis.

CHAPTER 4 CONCEPTUAL FRAMEWORK DEVELOPMENT

4.1 Introduction

This section is aimed to develop the conceptual framework of this thesis, which will be the core conceptual contribution of this research. This chapter is developed based on the Literature Review, by integrating the UTAUT model that Venkatesh et al. proposed in 2003 and six hedonic shopping motivation proposed by Arnold and Reynold 2003. This Chapter is divided into four sections, the first section is to re-address and emphasize the research objectives and research questions. The following section is to employ the revised UTAUT model based on the original UTAUT (Venkatesh et al., 2003) and six hedonic dimensions (Arnold and Reynolds, 2003) and to form up with the hypotheses according to the proposed model. The integration of the models is aimed at identifying the determinants of mobile shopping motivation among Chinese millennials, since it is related to human behaviour towards technology, it requires evaluation of the phenomenon from multiple perspectives such as utilitarian and hedonic motivation towards mobile shopping adoption and to include the key factors in the conceptual framework. The next section is the interpretation of each construct contained in the proposed model and the final section concludes this chapter.

4.2 Research objectives and research questions

The aims of this research are firstly to identify the factors that drive Chinese millennial to purchase online by utilizing mobile devices rather than non-mobile devices such as PCs and laptops. Secondly, to develop a prototype mobile shopping model to aid the understanding of Chinese millennial's consuming behaviours; and thirdly, to provide the strategies for the online and offline marketers and retailers in terms of customer positioning and product designing, so that to comprehensively satisfy the Chinese millennials' needs and to contribute the knowledge of how mobile shopping has influenced Chinese millennials' behaviours. Hence, this research seeks to achieve the following objectives and address the research questions under each objective:

Research Objective 1

Identify and examine the key factors that influence Chinese Generation Y's mobile shopping adoption.

RQ1: With regard to the use of mobile technology (smartphones or other smart devices) for online shopping, what are the motivational factors that drive Chinese Generation Y to adopt mobile shopping?

Research Objective 2

Develop a conceptual framework on Chinese Generation Y's mobile shopping behaviour by integrating six dimensions of hedonic shopping motivation to UTAUT.

RQ2: Does utilitarian and hedonic motivation simultaneously drive Chinese Generation Y to adopt mobile shopping?

Research Objective 3

Make recommendations to help marketers develop marketing strategies, and to provide fine-grained insights

RQ3: What strategies marketers and retailers could and should implement to capture this specific consumption group?

4.3 Formulating the conceptual framework

The main purpose of this study is to explore the factors driving Chinese millennial consumers to adopt mobile shopping, and to analyse the interaction between these factors. According to the section of Theoretical Perspective of Technology Adoption, Theory of Reasoned Action, Theory of Planned Behaviour, Technology Acceptance Model, and the UTAUT model has been widely used by many scholars in consumer behaviour research. This study is based on the individual's behaviour, mainly to explore the impact of motivating factors on driving Chinese Generation Y consumers' mobile shopping behaviour, UTAUT model has been chosen as a great interpretation of such problems. Therefore, the UTAUT model will be a suitable model for this study. However, this study is focused on individual behaviours (intention) rather than the original purpose of the UTAUT model focused – technology adoption in the organizations. In addition, although the UTAUT2 has been developed to adapt the consumer individual research context, due to UTAUT2 is mainly based on UTAUT, it is still subject to some of the original limitations. Thus, in order to apply UTAUT2 in certain special IT applications, Venkatesh et al. (2012) suggested that further modifications and revisions need to be made. Hence, the three new added constructs (i.e. hedonic motivation, price value, and habit) in UTAUT2 are not considered in this research. This choice is made based on the following considerations.

Firstly, motivations for consumption can be categorized into utilitarian (functional benefits and productivity) and hedonic value (experiential and enjoyable benefits) (Babin et al., 1994; Chitturi et al., 2008). Ahmad (2012) has classified mobile financial services, such as mobile wallet, m-money, stock market, e-banking, e-ticketing, mobile shopping as services that create utilitarian values, while mobile entertainment services, such as social network service (SNS), mobile games, mobile TV as services that create hedonic values. Ahmad (2012) suggested that mobile shopping creates utilitarian values rather than hedonic values , this research argues that the mobile shopping creates not only utilitarian values, but also the hedonic value simultaneously, and it is the original intention of this research to investigate the motivation to adopt mobile shopping among Chinese Gen-Y.

Secondly, the hedonic motivation is defined as the fun or pleasure derived from using a technology, in this context, it can be restated as the hedonic motivation is the fun or pleasure derived from using mobile shopping. Whereas the hedonic shopping motivation emphasizes the consumer's feelings and psychological sensations (Westbrook and Black, 1985; Arnold and Reynolds, 2003; Kim, 2006) and shopping for entertainment purposes (Mathwick et al., 2001; Kim, 2002). In this context, it can be restated as the hedonic shopping motivation emphasizes the consumers' feelings and psychological sensations, and shopping for entertainment purposes on mobile shopping platform. The hedonic motivation and hedonic shopping motivation share common nature and characteristics in the context of this research, as they both are meant to measure the fun and entertainment purposes derived from using mobile shopping technology. Furthermore, the six hedonic shopping motivation can be specified as adventure shopping, social shopping, gratification shopping, idea shopping, role shopping and value shopping, and yet it is unclear which one of these factors lead to the fun or pleasure derived until they are all being examined, therefore the author put these six hedonic shopping motivations into the research model aim to discover the effect of these factors. Moreover, since the research framework of this study has already integrated the six hedonic shopping motivations into the model. Keeping the 'hedonic motivation' factor here would cause concept overlapping and multicollinearity at the data analysis stage. Therefore, the 'hedonic motivation' factor in UTAUT 2 is not utilized in this research.

Thirdly, price value refers to the monetary cost to purchase devices and services (Venkatesh, et al., 2012). The research participants will be selected by the screening questions in the questionnaire, all of them will have to possess the mobile shopping experience in order to satisfy the criteria for participating in the research, therefore, the cost to purchase devices will not be considered as it seems to be inappropriate for this research context. In addition, as there

is no extra cost arising from using the mobile shopping, instead, products offered by mobile shopping usually cost less than traditional shopping, therefore the price value in UTAUT2 is not considered as a determinant of adoption of mobile shopping, therefore it is not included in the research model in this research.

Finally, habit refers to the extent to which people tend to perform behaviours automatically based on learning (Limayem et al., 2007). This research is aimed to identify the driving factors for initial mobile adoption, when looking at the initial adoption, habit is contracted to the research objective, as habit consumes time to form up, Venkatesh et al., (2012) stated that in a specific period of time, say 3 months, different individuals can form different levels of habit depending on their use of a target technology. Zhou et al., (2010) argued that the major advantage of mobile shopping is ubiquitous and immediacy, people use it because they need to do mobile shopping (especially users who are often on the go), otherwise they can choose traditional shopping. Having said this, habit is more appropriate for the research focus on continuance intention (Amoroso and Lim, 2017). Therefore, the habit factor in UTAUT2 is not considered in this research.

Nevertheless, the variables in the existing UTAUT model cannot meet the research questions of this study, therefore it is necessary to add the essential factors related to the individual in the use of mobile shopping; so the author decides to add factors that can reflect the consumers' intrinsic motivations as independent variables, to meet the current research needs. As discussed above, the UTAUT plays purely on a utilitarian based (extrinsic motivation), this paper will add the six dimensions of hedonic motivation (intrinsic motivation) as well as perceived individual innovation so as to construct a research model that is suitable for the purpose and direction of this research. For the choice of demographic variables, this research will use the education level and income to replace the age and voluntariness of use in the original model. All the factors in the model will be specifically explained in the below sections. In addition, in the following proposed model, factors in the green frames were kept and extracted from the original UTAUT model, whereas the factors in the blue frames were new added in order to fulfill the research objectives of this study. As shown in the Figure 8 below:

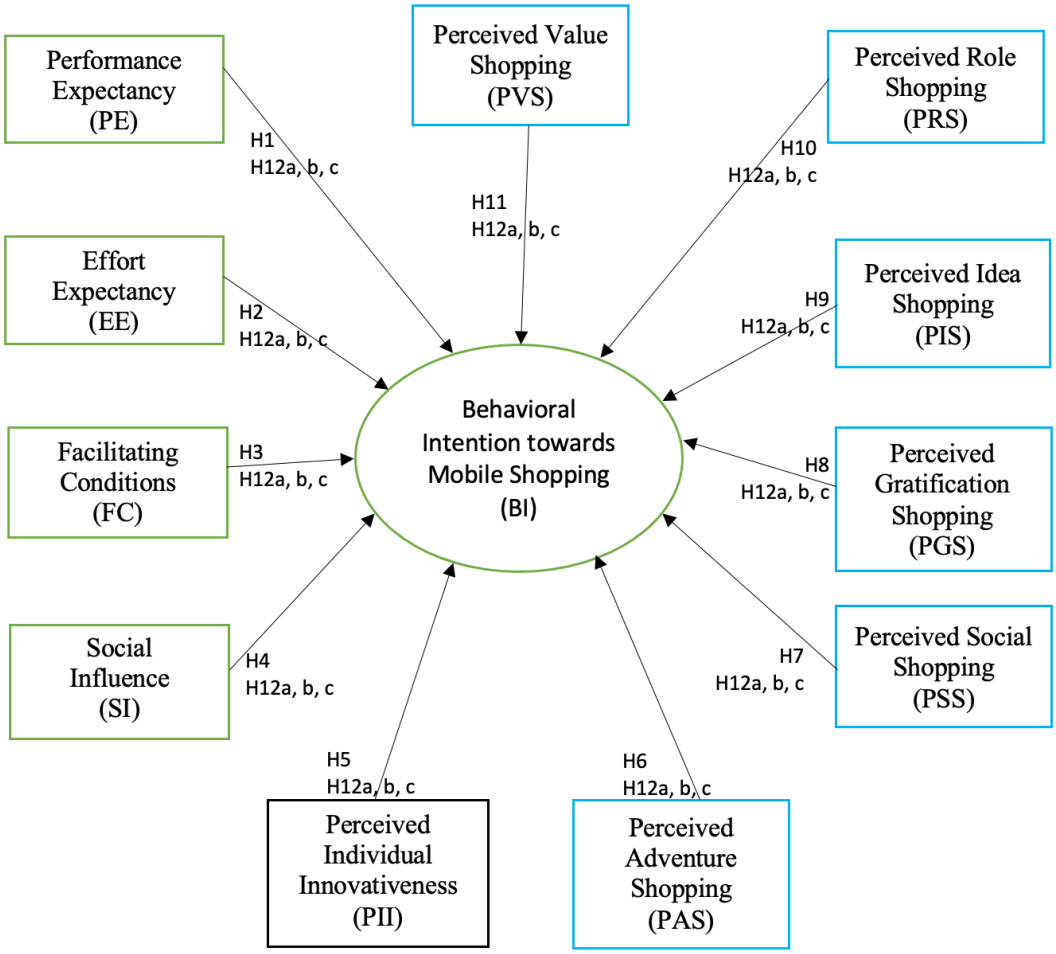

Figure 8 - Proposed Research Framework

(Source: Made by the author, 2020)

4.4 Developing research hypotheses

(1) Performance Expectancy (PE)

Performance expectancy (PE) is defined as the "degree to which an individual believes that using the system will help him or her attain gains in job performance" (Venkatesh et al. 2003, p. 447). According to Venkatesh et al. (2003), On the basis of the research purpose of this study, the concept of performance expectancy is defined as: consumers perceive that mobile shopping activities enhance the quality of the shopping, consumers believe that using a mobile phone to shop is more efficient and effective in finding the products or services that they plan to purchase with a proper price. Casaló et al., (2010) believes that performance expectancy has a direct impact on users' intention to use technology. Users are more willing to use technology when they perceive that system is more productive and able to improve their performance. In the context of mobile shopping, time efficiency, the flexibility of use regardless of place,

personalization, and shopping effectiveness reflect performance expectancy in mobile shopping (Shankar et al., 2016). Personalization of mobile shopping based on individual preferences can assist consumers to obtain product information efficiently and effectively, resulting in increased shopping efficiency. For example, mobile shopping may assist consumers to reduce shopping time by offering appropriate product information such as providing price comparison, promotional events, or product availability based on customized and personalized settings on their mobile devices. When consumers perceive that mobile shopping enhances shopping effectiveness without constraining time and place, their positive attitude toward mobile shopping may be increased (Yang and Forney, 2013). Thus, this research proposes the following hypotheses:

H1: Performance expectancy will have a positive and significant influence on the behavioural intention to adopt mobile shopping among Chinese millennials.

(2) Efforts Expectancy (EE)

Effort expectancy (EE) is defined as "the degree of ease associated with the use of the system" (Venkatesh et al. 2003, p. 450). According to Davis (1989), TAM posits that technology adoption depends upon both perceived usefulness and perceived ease of use (PEOU). Kim, Yoon, and Han, (2016) confirmed that PEOU significantly influences the intention to use mobile apps. On the basis of the research purpose of this study, it defines the concept of efforts expectancy as the ease of use that consumers perceive when they use a mobile phone to shop. Venkatesh et al (2003). have drawn the research that effort expectancy will positively affect the user's intention to use technology. When users use new technology, the more they feel comfortable and effortless, the more they are likely to use the new technology. ease of use was significant for consumers engaged in online shopping (Teo et al., 2015; Yang, 2010). In another research context of mobile commerce, some other studies have found that effort expectancy significantly influenced the adoption of mobile payments (Oliveira et al., 2016). Similarly, Shaikh et al., (2018) found that users of mobile banking were influenced by effort expectancy. In a meta-analysis, the influence of effort expectancy on behavioural usage was also significant (Faaeq et al., 2013). Therefore, this study proposes the following hypothesis:

H2: Effort expectancy will have a positive and significant influence on the behavioural intention to adopt mobile shopping among Chinese millennials.

(3) Social Influence (SI)

Venkatesh et al. (2003) defined Social influence as "the degree to which an individual perceives that important others believe he or she should use the new system" (Venkatesh et al. 2003, p. 451). It is categized as the subjective norms, personal images, or colleagues or family can influence a person's behaviour. “Important others” might include bosses, peers, subordinates, etc. Venkatesh et al. (2003). In addition, Nysveen et al. (2005) indicated that social influence is a significant factor in terms of the use of mobile services. On the basis of the research purpose of this study, it defines the concept of social influence as the extent to which consumers feel that they should use mobile phones to shop through contact with their often-connected social groups such as family and friends. Venkatesh et al. (2003) concluded that through the research that Social influence is positively correlated with the user’s behavioural intention. From a practical point of view, individuals are more likely to trust those people who are important to them such as their families and friends, etc. When these influential people respond with positive feedback on mobile shopping, then the individuals’ behavioural intention towards mobile shopping will increase. Therefore, this study proposes the following hypothesis:

H3: Social influence will have a positive and significant influence on the behavioural intention to adopt mobile shopping among Chinese millennials.

(4) Facilitating conditions (FC)

Facilitating conditions (FC) are defined as "the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system" (Venkatesh et al. 2003, p. 453). An example of a facilitating condition is the technical support provided for technology, if users have easy access to technical supports, it will facilitate the use of technology. In its research, it was pointed out that facilitating conditions can positively influence an individual's behavioural intention to adopt the technology or products. On the basis of the research purpose of this study, it defines the concept of Facilitating Conditions as consumers believe that when using mobile phones to purchase products, those conditions which can provide them with convenience or prompt access to the process of shopping.

Therefore, this study proposes the following hypothesis:

H4: Facilitating conditions will have a positive and significant influence on the behavioural intention to adopt mobile shopping among Chinese millennials.

(5) Perceived Individual Innovativeness (PII)

Innovators have a number of prerequisites that enable them to respond to innovations earlier than their peers. They have the ability to understand and apply complex technical knowledge; they have the ability to cope with high levels of uncertainty about innovation when adopting it (Rogers and Scott, 1997, Rogers, 2003). According to Ruvio and Shoham, 2007, innovators are a valuable resource to firms introducing new products.

Agarwal and Prasad (1998) proposed a new construct— personal innovativeness in information technology (PIIT) and illustrated its moderating effect on the antecedents as well as the consequences of individual perceptions about new information technology. Then a few other studies (e.g. Agarwal and Karahanna, 2000; Thatcher and Perrewe, 2002) followed to shed light on the fact that end-user perceptions are very often captured before adoption and vary with different dispositional characteristics. Lu (2005) added the factor of individual innovativeness in the study of the factors affecting the behavioural intention for adopting mobile wireless commerce. It can be seen from the analysis that the individual innovativeness has a positive influence on their intention to exercise shopping through wireless networks. Similarly, Bhatti (2007) introduced individual innovativeness based on the technology acceptance model and the innovation diffusion theory, aiming to explore its influence on the consumers' adoption behaviour of mobile commerce. The results showed that the more innovative the individual is, the more positive the consumers' attitude towards the adoption of mobile shopping, which means that individual innovation is positively affecting consumers' mobile shopping behaviour. Yang et al., 2012 conducted a study that confirmed the above statement and stated that since the innovativeness of an individual was a persistent trait, personal innovativeness was found significant to affect behavioural intention directly and indirectly via relative benefit perceptions towards mobile commerce. Thakur and Srivastava (2014) also found innovativeness to affect users' intentions meanwhile the innovativeness had a slightly stronger influence for those with knowledge of mobile commerce than those without. Therefore, this study proposes the following hypothesis:

H5: Perceived individual innovativeness will have a positive and significant influence on behavioural intention to adopt mobile shopping among Chinese millennials.

(6) Perceived Adventure Shopping (PAS)

The definition of adventure shopping is shopping for excitement, excitement, adventure, and experience different environments (Arnold and Reynolds, 2003). Because consumers try new stuff and receive new ideas when shopping, the exploration process of shopping may be full of

adventure, and the shopping results can satisfy consumers' adventure shopping motivation (Kim, 2006). In addition, since mobile shopping channels are a relatively new shopping medium if compared with traditional online and offline shopping channels, consumers will be keen on utilizing the new shopping services and functions that are only applicable in a mobile technology supported medium (Yang and Kim, 2012). Exploring various mobile shopping applications and functions will increase consumers' shopping enjoyment in mobile shopping channels. Therefore, this study proposes the following hypothesis:

H6: Perceived adventure shopping will have a positive and significant influence on behavioural intention to adopt mobile shopping among Chinese millennials.

(7) Perceived Social Shopping (PIS)

Social shopping focuses on the interpersonal relationship with others (Arnold and Reynolds, 2003). Social interaction, an affiliation of reference groups, and communication with others are related to social shopping motivation (Rohm and Swaminathan, 2004). Since consumers regard shopping as an opportunity to socialize with others through communication and social interaction in the shopping environment (Cardoso and Pinto, 2010), social shopping motivation further reflects in the choice of shopping channels (Alba et al., 1997). In terms of social motivation, mobile phones with Internet capabilities are a beneficial communication platform for socializing with others (Jones and Issroff, 2007). Such consumers will be motivated to participate in mobile shopping to easily obtain opinions from others through their mobile phones. In addition, communication features (such as social network connections, text messaging, and multimedia messaging) enable consumers to exchange ideas and interact with others through mobile shopping channels. When consumers realize that the needs of social interaction through the social commerce function in the mobile shopping channel can be satisfied, they are expected to adopt mobile shopping. In particular, millennials prefer to use mobile devices mainly for social networks, that is, to maintain close contact with friends and family (Shankar et al., 2010). Therefore, this study proposes the following hypothesis:

H7: Perceived social shopping will have a positive and significant influence on behavioural intention to adopt mobile shopping among Chinese millennials.

(8) Perceived Gratification Shopping (PGS)

Gratification shopping refers to shopping as a means to create a positive feeling, that is, to feel better or give a special treat to oneself (Arnold and Reynold, 2003). Gratification shopping refers to shopping that brings good feelings (Tauber, 1972) and special treats to individual

consumers (Kim, 2006). Consumers shop to reduce stress (McGuire, 1974) and escaping from problems (Lee et al., 2001). In a mobile shopping context, personalized services and product promotions can be offered and regarded as personal treats for the mobile phone users (Jones and Issroff, 2007). In addition, the entertainment features of mobile shopping applications and services can ease the pressure of some consumers (for example, the cost of traveling and queuing time, and dealing with sales staff). Furthermore, when consumers wish to offer themselves a special treat, such as non-purpose-oriented shopping for something, they can use their mobile phone to complete the treat instantly, without any limitations of places and time. Hence, this study proposes the following hypothesis:

H8: Perceived gratification shopping will have a positive and significant influence on behavioural intention to adopt mobile shopping among Chinese millennials.

(9) Perceived Idea Shopping (PIS)

Idea shopping refers to shopping to gather information about new trends, fashions, and products (Arnold and Reynold, 2003), when consumers may participate in gathering information about new trends and fashions, this type of shopping activity is so-called idea shopping. Consumers who like to browse for new product information and fashion trends may be happy to search for and receive new information (Bloch et al., 1989). In addition, compared with other shoppers, those who are seeking various product information tend to obtain more personalized or specialized product information (Burke, 1997; Syzmanski and Hise, 2000). In the mobile shopping channel, it is easy to obtain the latest information and promotions about products and services, which can enable shoppers to discover various product information and services, thereby increasing consumers' idea shopping motivation. Thus, this study proposes the following hypothesis:

H9: Perceived idea shopping will have a positive and significant influence on behavioural intention to adopt mobile shopping among Chinese millennials.

(10) Perceived Role Shopping (PRS)

Role shopping reflects the enjoyment felt when shopping for others and finding the perfect gift. Role shopping emphasizes shopping for others in order to successfully find the right gift (Arnold and Reynolds, 2003). Consumers play a role in the shopping process to find gifts/products that are suitable for others (Tauber, 1972) while satisfying their internal joy for role-playing (McGiure, 1974). When role shopping is applied to the mobile shopping environment, the personal property of the mobile phone provides shoppers with a tangible

sense of ownership, showing the person's role in sharing information and opinions in the mobile shopping channel (Jones and Issroff, 2007). In addition, mobile personal devices enable shoppers to obtain product information anytime and anywhere, thereby enhancing people's role in finding the right product at any time. Thus, this study proposes the following hypothesis:
H10: Perceived role shopping will have a positive and significant influence on behavioural intention to adopt mobile shopping among Chinese millennials.

(11) Perceived Value Shopping (PVS)

Value shopping refers to the consumer shopping process that focuses on seeking for bargains and discounts (Arnold and Reynolds, 2003), and is described as a consumer's desire for inexpensive shopping opportunities (Wagner, 2007). Consumers may feel their sense of accomplishment and satisfaction with their shopping process when they receive bargains and discounts information (Babin et al., 1994). As for the mobile shopping channels, products that offer to consumers are usually chapter than other channels such as traditional stores due to the land costs. In addition, multiple discussion forums as well as regular discount activities organized by the online merchants on the mobile Internet enable consumers to share discount information with other members, so that they can easily find special offers through mobile shopping channels. Therefore, this study proposes the following hypothesis:
H11: Perceived vale shopping will have a positive and significant influence on behavioural intention to adopt mobile shopping among Chinese millennials.

(12) Demographic variables

Demographic characteristics are typically studied when researchers try to understand the consumers' motivation to purchase either via online shopping or mobile shopping (Foucault and Scheufele, 2002; Clemes et al. 2014). Venkatesh et al. (2003) have used Demographic variables (Gender, Age, Experience, and Voluntariness of use) to analyse whether these variables will have different effects on actual user behaviour. Therefore, this paper also selects the basic demographic variables as moderating variables. However, given the purpose of this research is to focus on the Chinese millennial, age cohorts will be relatively concentrated (1980-1999), therefore age will not be taken into account as a variable. In addition, the variable as Voluntariness of Use will also be replaced, as the mobile shopping in China among millennials is not in a mandatory setting, and especially it has become a common phenomenon, under such circumstances to measure the voluntariness of Use tend to be meaningless. Moreover, due to the nature of this research is to identify the initial mobile shopping adoption

intention among Chinese millennials, “experience” will be a less appropriate and potentially biased factor in determining the initial mobile shopping adoption. Eliminating “experience” will also simplify the model. Certainly, these moderating factors could always be considered in future studies.

Instead, income and education will be the new added, thus, the moderating variables in the demographic characteristics will be gender (original), income (replaced), and education (replaced). This is because the previous research indicates that internet consumers intend to be younger, having a higher income, as well as being better educated and spend more time on the Internet (Brashear et al., 2009). In addition, Monsuwé et al (2004) found that American and European consumers with higher income intend to purchase more online compared to lower-income consumers, they found a positive relationship between the higher income consumers and possession of computers and Internet access. Conversely, Clemes et al. (2014) discovered interesting result that indicated Chinese consumers with high incomes do not tend to shop online as they found these consumers prefer to buy the branded products such as Apple, Nike, and Gucci from high-end retail stores where they trust they can physically evaluate the products and obtain good quality customer services.

Clemes et al. (2014) also claimed that in China, there are more female Internet users becoming online shoppers than male Internet users, and the trend is expected to be increasing, this is because female consumers are more influenced by their friends and families (Zhou et al., 2007). The ongoing debate is intense, therefore the study of the author also tends to identify the moderating factor that affects the Chinese millennial’s mobile shopping behaviours, therefore, the finalized demographic variables of this research model will gender (original), income (replaced), and education (replaced).

However, the moderators of the UTAUT in both mandatory and voluntary settings demonstrated a sophisticated relationship, in order to demonstrate them more clearly, the research has summarised the Table 8 below to indicate sophisticated of moderating effects:

Table 8 - Summarised moderating effect in UTAUT1and2

Moderating effect in UTAUT1 (Venkatesh et al., 2003)							
Gender	PE - BI	Age	PE - BI	Experience	EE - BI	Volunt ariness	SI - BI
	EE - BI		EE - BI		SI - BI		
	SI - BI		SI - BI		FC - AU		
			FC - AU				
Moderating effect in UTAUT2 (Venkatesh et al., 2012)							
Gender	PE - BI	Age	PE - BI	Experience	EE - BI	Due to it is voluntary use setting, therefore the prior moderator "voluntariness" has been erased from the model	
	EE - BI		EE - BI		SI - BI		
	SI - BI		SI - BI		FC - BI		
	FC - BI		FC - BI		FC - AU		
	HM - BI		FC - AU		HM - BI		
	PV - BI		HM - BI		HT - BI		
	HT - BI		PV - BI		HT - AU		
	HT - AU		HT - BI		BI - AU		
			HT - AU				

(Source: summarised made by the author, 2020)

As it can be seen from the above table, in the voluntary use setting, gender, age, and experience almost generated the moderating effect on each variable in the model. Due to the proposed model in this research is modified and integrated six new added factors from hedonic shopping motivations, since the model is an entirely novel integration, the author plans to keep an open mind to observe how the demographic variables would affect the relationship between all the independent and dependent variables, by doing so, this would allow the author to obtain an unbiased outcome so that to come up with new findings in terms of the moderating effects. Therefore, accordingly, this study proposes the following hypothesis as shown in Table 9 below:

Table 9 - Proposed moderating effect for this research

Moderating effect in this proposed research model					
H12a: Gender	PE - BI	**H12b: Income**	PE - BI	**H12c: Education**	PE - BI
	EE - BI		EE - BI		EE - BI
	SI - BI		SI - BI		SI - BI
	FC - BI		FC - BI		FC - BI
	PII - BI		PII - BI		PII - BI
	PAS - BI		PAS - BI		PAS - BI
	PSS - BI		PSS - BI		PSS - BI
	PGS - BI		PGS - BI		PGS - BI
	PIS - BI		PIS - BI		PIS - BI
	PRS - BI		PRS - BI		PRS - BI
	PVS - BI		PVS - BI		PVS - BI

(Source: summarised and made by the author, 2020)

4.5 Chapter Summary

This chapter first reviewed the research objectives and questions to guide the formal proposal of the research theoretical framework. Afterward, the following section employed the UTAUT model and six dimensions of hedonic shopping motivations, which have been integrated by the author to align with the research objectives and questions of this paper. The next section is to formulate the proposed model based on the reviewed theories, and generated the hypotheses according to the research model, interpretations were made for each variable contained in the model. To emphasize once, the review is aimed at identifying the determinants of mobile shopping motivation among Chinese Generation Y, with a comprehensive integration of UTAUT and six hedonic shopping motivations, the research objectives and questions are confident to be achieved, as all the factors that influence the intention to adopt mobile shopping will be fully examined from both utilitarian and hedonic perspective.

CHAPTER 5 RESEARCH METHODOLOGY

5.1 Introduction

This chapter will begin to discuss the research framework and perspective that has been utilized in designing the methodology and in conducting the procedures that the research requires. Based on the literature discussed in the preceding chapter a conceptual model was formed, this was used to formulate the research design that has been adopted in the entire procedure of the research. While the conceptual model has already been discussed in the previous chapter, the research design will be presented in this chapter. The sections below also describe the choices available to the author in designing the research and the rationale behind the selection of the chosen research paradigm and methodology. The research has been designed based on the research onion suggested by Saunders et al (2009) where the authors have provided a systematic mechanism through which the research can be designed to include all the elements of research design in a matter that also aligns the research choices.

The research has been carried out to understand the adoption of mobile-shopping amongst the millennnials in China and through the identified factors that need to be considered. The research will be designed as a quantitative and qualitative research to enable the author to utilize the existing theoretical frameworks in carrying out a consumer research in a structured manner to understand the factors that influence the adoption of mobile shopping in China. Therefore, chapter firstly focuses on the research philosophy, approach, and strategies considered to be most suitable in addressing the research questions, the second part focuses on the techniques and procedures that would be used for the collection of research data and further analysis. The second section will discuss the sampling techniques and data collection instruments in detail to describe the population and sample from where the data will be collected as well as discuss the format of the data collection instruments to create a framework for the information being collected from the research participants. This will be followed by the section that assesses the reliability and validity of the instruments and procedures used in collecting the data. Finally, the ethical considerations of the research method employed in this research will be enumerated and discussed. All the details of the methods chapter will be summarised in the final subsection of this chapter.

5.2 Research paradigm

With a better understanding of research paradigm, it is necessary to understand with respect to the research ontology and epistemology, which will be discussed in the following section.

5.2.1 Ontology

Ontology is defined as the study of "being" and is one of the essential branches of research philosophy (Holden and Lynch, 2004). It is also defined as the study of the nature of social entities and the structure of social reality (Crotty, 1998). Therefore, the main focus of ontology is to deal with the essence of truth (Guba, 1990; Saunders et al., 2009). All research is considered to start from ontology, then epistemological and methodological aspects, which formulates the basis for researchers to pursue new knowledge in research (Grix, 2002).

The ontology includes two main opposing branches, subjectivism and objectivism, which is for the science that debates whether beings are subjective or objective, (Saunders et al., 2009). “Subjectivism holds that social phenomena are created from the perceptions and consequent actions of those social actors concerned with their existence. ” (Saunders et al., p. 111). As for objectivism, “This portrays the position that social entities exist in reality external to social actors concerned with their existence” (Saunders et al., p. 111). Jonassen (1991) staged that objectivism and subjectivism have different philosophical assumptions because it recognizes the inquiry of knowledge as the researcher's active interpretation and construction of individual knowledge. According to Jonassen (1991), he also believed that according to objectivism, the essence of existence is objective, and researchers reflect and analyse these existences, which act as a mirror.

The ontological position of this research is objectivism, which means that this research stands that social reality is external to people's thinking. There are two main reasons for choosing an objective ontological position in this study. First, this position allows the author to study social phenomena and explain the implications behind the phenomena in a way that might be independent of the wills of social actors. In this research, mobile shopping is regarded as a social reality, and service providers, online merchants, and Chinese millennials are social participants. Although all participants have been changed or replaced, the mobile shopping remains the same (true). In other words, none of those social participants can freely change, modify, or remove mobile shopping (reality). Now, mobile shopping exists in the structure of

social reality in the form of mobile shopping. In order to study this objective social entity, this research needs an objective position to understand a certain and realistic world. Thus, the first logic is the need for a world that can be understood clearly so that social entities like mobile shopping can be measured beyond the will of any social participants. Secondly, this position has a significant influence on the following decision of pragmatic epistemology, research strategies, and data collection and analysis methods. Since objectivism's position often leads to the need for quantitative data collection and analysis to provide solid evidence to explain the phenomenon, it is often applied in the existing literature and achieved through quantitative research methods (especially questionnaire surveys) (Orlikowski and Baroudi, 1991). Therefore, this study decided the objectivism as the ontological position.

5.2.2 Epistemology

According to Saunder et al. (2009), the definition of epistemology is "Epistemology concerns what constitutes acceptable knowledge in a field of study." (p. 112). Grix (2002) expressed the definition of epistemology is one of the most important branches of philosophy, and it is related to the inquiry of social reality through research methods, hypothesis verification, or other methods. In addition, Orlikowski and Baroudi (1991) further divided the research epistemology into two main approaches, including positivism and interpretivism. In the field of information systems research, the positivist approach serves as a primary method, and this method is related to both qualitative and quantitative research (Galliers and Land, 1987). In order to determine the most effective and appropriate method of this research, the three epistemological methods are analysed below:

According to Saunders et al.,2009, positivism was defined as "working with an observable social reality and that the end product of such research can be law-like generalisations similar to those produced by the physical and natural scientists" (p. 113). For positivists, people generally believe that the world is real and entities are objective, which enables researchers to choose appropriate methods to approach reality. Researchers conduct theories testing in order to gain or enhance the understanding of the phenomenon under the guidance of positivism. Orlikowski and Baroudi (1991) stated that research in the field of information systems as a positivist, if the research consists of formal propositions, and then applying quantitative methods to design variables, test hypotheses, and utilize samples that represent the specific pre-defined population.

Interpretivism is defined as research that advocates social context, which shapes the knowledge of the world, and only social constructions such as consciousness, meaning, and documents can lead to the production of knowledge (Myers, 2008). In other words, interpretivism believe that "as humans we play a part on the stage of human life, we interpret our everyday social roles in accordance with the meaning we give to these roles." (Saunders, et al., 2009, p. 116), human create meaning, this emphasises the difference between conducting research among people rather than objects such as trucks and computers, therefore when studying the physical phenomena, it cannot utilize the same method to study the world and humans.

5.2.3 Selected Research Philosophy

Research paradigms provide the framework on which the data needed for the research can be defined and structured (Hussey and Hussey, 1997). The positivism and interpretivism are two main paradigms available to the researcher (Byrne et al., 2008). These two are contrasting paradigms and while positivism has been adopted from natural sciences, interpretivism is based on the belief that the social world is complicated and cannot be understood merely by adopting principles from natural sciences (Collins and Hussey, 2009).

Saunders et al., 2009 argued that it is possible to combine both positivism and interpretivism positions. Therefore, in this study, a pragmatic epistemological position is selected, which fits into the objective ontological position. Pragmatism enables researchers to unfold their study of a measurable social phenomenon with a set of tools or constructs and to reach a generalizable finding in a way similar to those approaches used in physical or scientific studies (Saunders et al., 2009). Pragmatic epistemological position, the focus is on the research question itself, rather than on one particular research philosophy. In this way, the question can determine the epistemology and ontology that are adopted. The research question here does not lend itself unambiguously to either a positivist or an interpretivism philosophy, so this confirms the pragmatist's position, which maintains that it is perfectly possible to have variations in the epistemology and ontology. This reflects the fact that mixed methods, both qualitative and quantitative, can be highly advantageous within one piece of research (Tashakkori and Teddlie, 1998; and Saunders et al., 2009).

The research will thus be based on the pragmatic epistemological position where both qualitative and quantitative assessments will be carried out to evaluate the acceptance of mobile shopping among Chinese millennials.

5.3 Research approach

In order to come up with ideas and constructs regarding the issues about the acceptance of m-commerce in China, and to find out which factors might affect the people's adoption of mobile shopping technology, the appropriate research approach, design and method should be used. Deductive, inductive and abductive approaches are the three main ways for the development of a theory (Saunders et al., 2015).

The deductive approach requires the research to formulate hypotheses based on existing theoretical frameworks and tests them through the data collected during the research (Saunders et al, 2015). This approach is highly scientific and the parameters of the research and the scope of the analysis are set at the start of the research, which might be disadvantageous since the researcher has no freedom to explore other possibilities and issues that might arise during the data gathering and analysis that are not included in the previously set scope (Anderson and Huesmann, 2003; Saunders et al., 2015) However at the same time deductive approach due to its inclusion of existing theoretical frameworks can provide the framework that can be used to collect structured data that is required for studies based on positivism.

The inductive approach on the other hand provides higher freedom to the researcher since there is more flexibility in the scope of the research that could be modified as the research progresses, as more new information is gathered (Saunders et al, 2015). This approach is suitable for the philosophy of interpretivism since the ideas and constructs that were not initially in focus could be added to the research's scope, thus the findings could be more in-depth and larger. Moreover, inductive research often leads to the creation of theoretical frameworks based on the research findings (Saunders et al., 2009).

In the abductive approach, a new theory or a modified theory is generated from theme identification, event exploration, and pattern explanation. The theory is then examined with data collection and analysis (Saunders et al., 2015). It can be considered as a combination of the deductive and inductive approaches. Therefore, it is similar to the deductive and inductive

approaches, because the sole purpose of using this is for developing theories and logical inferences. It adopts a pragmatic perspective and enables researchers to give the best prediction of an empirical pattern explanation, which exceeds the reach of any existing theories (Saunders et al., 2015).

In conclusion, deductive reasoning enables researchers to focus on the confirmation of hypotheses and theory; inductive reasoning enables researchers to analyse the observations and come up with a generalizable theory; the abductive approach enables researchers to creatively explain the pattern that is not explained by existing theories through predictions based on the confirmation of those predictions (Saunders et al., 2015).

Given the pragmatic research philosophy selected in this research, the abductive approach is considered the most appropriate methodology in this research. Since the motivation behind the mobile shopping on the specific group of millennials in China is not a highly researched subject, which provides limited support in the use of theoretical frameworks for the existing research, thus indicating an inductive approach to be better able to achieve the research objectives. Techonology adoption models can be used to identify some of the factors that might be influencing the adoption or rejection of mobile shopping in China. Thus, the research can be carried out with a deductive approach using the existing theoretical frameworks but at the same time use an inductive approach to identify factors that might not be included in the existing theoretical frameworks, and however influencing the adoption of mobile shopping in China among millennials. Thus, the abductive approach - a mixed methodology is selected as an important strategy to knowledge development in a field where huge gaps are leading to a wider scope in the review and analysis of the highlighted phenomenon.

5.4 Research design

The earlier sections included a discussion on the philosophy and approach to be used in carrying out the research and highlighted the choices as pragmatism - a combination of positivism and interpretivism, and abstractive approach – a combination of deductive and inductive approach. As indicated in the introduction to this chapter, the research will be designed as mixed-method research and will use both qualitative and quantitative research to address the research questions (Creswell, 2003; Johnson and Christensen, 2010).

The author is going to adopt both qualitative and quantitative research methods in order to achieve a comprehensive research result. Qualitative and quantitative research can be integrated as "combining quantitative and qualitative research has become unexceptional and unremarkable in recent years" (Bryman, 2006, p.97). These two approaches shared the same purpose and understanding of the world in which we live; they share unified logic; they are united by a shared commitment to understanding and improving the human condition (Sale and Brazil, 2004). The mixed-method design is able to broaden the scope of the research, while also providing support to the findings from both types of research (Creswell, 2003; Johnson and Christensen, 2010). Thus, while the quantitative research findings will enable generalization through statistical tests, the qualitative design will help explore the phenomenon in detail without the boundaries of the existing theoretical frameworks (Johnson and Onwuegbuzie, 2004). Thus, the mixed methods approach will help overcome the limitations of the two types of studies (Saunders et al., 2009). Oates (2005) has emphasized on the use of diverse data in the research process as a means to achieve higher levels of reliability in analysing a phenomenon.

This research design gives an accurate scale for people's opinions, preferences, and behaviour and employs scientific techniques to come up with an outcome that could address the study's hypothesis about relationships of factors (Saunders et al., 2009). The construct of mobile shopping adoption in Generation Y is still new with regards to the China context, it needs to be explored in detail. There is limited research available on this case in China, and by employing a qualitative design, which serves as a supplementary tool for the quantitative study will allow this study to dive into a more detailed and in-depth exploration of the thoughts, opinions, and preferences of Chinese millennial, including the rationale for these group of the population, perceive mobile shopping in a particular way.

As this research is going to adopt a mixed research method, both qualitative and quantitative studies will then be applied, hence a sufficient amount of data will enable the author to explore the answer of the central attention of this study and allowing the data output to be sufficiently comprehensive. By employing this type of research method, an objective and systematic investigation of the factors that may have an influence on mobile shopping adoption among the Chinese millennials could be achieved.

5.5 Sampling techniques

5.5.1 Quantitative Sampling technique

This study aims to identify the factors influencing attitudes of Chinese Generation Y towards mobile shopping and aimed to ascertain the marketing strategies for both online and offline retailers in China. A quantitative approach is essential with respect to collect the numerical data so that to explain a certain phenomenon, the problem then appears suited to be answered by the specific use of quantitative methods.

A quantitative survey needs to be carried out with the Chinese millennial who have adopted mobile shopping. The structured questionnaire design has been based on the theoretical frameworks covered in the literature review and the conceptual framework developed for the research. This research will employ a non-probability sampling, fully targeted on the Chinese Generation Y by adopting both convenience and snowball sampling method. In terms of the respondent profile, the individuals will be selected on the basis of age between 20 and 39 years of age since this group of people is the true interest of this research. All the selected respondents will be sending a link to the online survey via WJX.com with the research purpose, scope, use of data, and duration of the survey highlighted. Thus, the respondents can fill in the online questionnaire at a place and time that is convenient to them and will be more likely to pay attention to the questions in their natural environment (Wright, 2005).

Yet, due to the nature of the online survey, the author also expects that some of the surveys may not be completed entirely due to lack of understanding by the respondents and those responses will be dropped during the data analysis stage. In addition, this online questionnaire contains a series of questions to explore that to what extent Chinese Generation Y's adoption intention towards mobile shopping would be affected. As the author proposes the hypotheses to discover the factors drive Chinese Generation Y to adopt mobile shopping, the correlation and regression analysis in SPSS will be able to help the author to examine the validity of the hypotheses, the testing results of hypotheses will be given, and addressed.

Given the situation of the Internet penetration rate in urban districts in China is much higher than the rural areas, as described in section 2.3. Considered the feasibility of data collection, as well as the research objectives of this study, it is decided to focus on the urban consumers

rather than rural one. The survey questionnaire will be conducted in China's four first-tier cities: Beijing, Shanghai, Guangzhou and Shenzhen. Though these four cities certainly could not represent the whole China, the author believes a focus on these four cities is rather insightful for understanding of mobile shopping intention of Chinese millennials. Firstly, these four cities are generally considered as the most four important consumer markets, and are the most developed regions in China (Wu 2008; Lin and Wu, 2018); secondly, in 2019, these four cities with a population over 74 million, and Chinese millennial population takes up to 33 million, accounted for 45% of the total population among these four cities (National Bureau of Statistics, 2019). Thirdly, according to CNNIC (2017), more than 74% of people in the first-tier cities use the smartphone to connect the internet. Thus, the sample of this paper may bring valuable information for achieving the research objectives.

In terms of the sample size, the author is going to adopt the formula of minimum size according to Saunders et al. (2009), $n = p\% \times q\% \times (\frac{Z}{e\%})^2$, where n is the minimum sample size required, p% is the proportion belonging to the specified category, q% is the proportion not belonging to the specified category, z is the z value corresponding to the level of confidence required, e% is the margin of error required. According to the latest report released by China Internet Network Information Centre (CNNIC) in Jul 2018, the number of mobile internet users in China had reached 788 million and age between 20 -39 years old people had reached 408 million and accounted for 51.7%, which can be rounded as 52%. The level of confidence of this research will be 95% certain at the level of confidence, and when the level of confidence is at the 95% certain, the value of 'z' and 'e%' will be 1.96 and 5% respectively (Saunders et al. 2009), and due to the proportion of Chinese Generation Y out of the total amount of Chinese mobile Internet users is 54%, r% and q% in the formula will be 52% and 48% respectively: $n = p\% \times q\% \times (\frac{Z}{e\%})^2 = 52\% \times 48\% \times (\frac{1.96}{5\%})^2 = 383$

Therefore, the minimum sample size of this research will be 383, however, considered the possibility of data invalidity after questionnaire distribution and collection (e.g. incomplete questionnaires or no responses), the author is going to send out 500 surveys through the Chinese survey platform, WJX.

5.5.2 Qualitative sampling technique

On the other hand, in this research, the qualitative interviews are applied to provide supplemental support of the evidence found in quantitative analysis. What's more, the designed detailed investigation during the interview reveals more behaviour information that is valuable to the study. Given these facts, a higher number of participants to the interview is redundant while the collected interview samples already provided rich evidence for the study, as Collis & Hussey (2009) suggested, the detailed investigation that is needed for each participant with the focus being on the extraction of maximum knowledge from the included participants rather than including higher number of participants. Therefore, the author is going to carry out six semi-structured interviews with the participants, which serves as a supplementary tool for quantitative methods and aims to encourage the individuals to express their true knowledge and perception towards mobile shopping.

This interview will set up with open-ended questions, so that the interviewees could interpret themselves more comfortably and which enables the author to record deeper and more specific feedback. A one-on-one interview with the participants will be held through online video calls with the Chinese millennial who have been keeping using mobile shopping, as these people are associated with mobile shopping will be the most suitable participants to gain an understanding of the issues involved in this research. Since the research will aim for a limited number of interviews that can effectively and efficiently provide the information needed to address the research questions, these participants will be selected through a purposive sampling technique. Purposive sampling is also called judgment sampling in a simple way to explain is that “the researcher decides what needs to be known and sets out to find people who can and are willing to provide the information by virtue of knowledge or experience” (Tongco, 2007, p.147).

Purposive sampling is a non-probability sampling technique, Creswell (2003) expressed that the researcher choose sample to be included in the survey, because she or he believes that they are representative of the population of interest or are otherwise appropriate. Therefore, the participants that will be chosen based on the judgment of the author for their knowledge and perception towards mobile shopping to provide the best inputs related to this study.

5.6 Questionnaire Design

5.6.1 Validity and reliability of questionnaire

The key quality issues of a research instrument (such as questionnaires) are its ability to measure the aspects that the research needs to measure (also known as validity) and its ability to generate the same results at different times to ensure accurate measurement, this is also called reliability (Creswell, 2003). This is especially applicable when the research is collating information about the interviewee's views and attitudes because changes in environmental factors should not lead to changes in the research results (Saunders et al., 2009).

By ensuring that the questionnaires are consistent with theoretical concepts, the validity of the questionnaire can be improved (Saunders et al., 2009). For research questionnaires, the factors included in the conceptual framework need to be broken down into statements that can appropriately represent these factors. For this reason, past research related to the UTAUT and six hedonic shopping motivation in the research context of mobile commerce is applied for reference (Arnold and Reynold 2003; Venkatesh et al., 2003; Chang et al., 2009; Goi and Ng, 2011; Venkatesh et al., 2012; Yang and Kim, 2012; Ahmad., 2012; Chen et al., 2018; Chopdar et al., 2018; and Ariffin, 2019).

On the other hand, reliability can be ensured through a questionnaire design that is easy to understand, and as being neutral as possible. One way to improve the reliability of questionnaires is to use pilot studies to assess whether respondents not only understand the questions but also ensure that the length and order of the questionnaires are appropriate and so that will not obstruct the data collection process (Creswell, 2003). The cover letter provided to the survey participants with the survey link is expected to improve reliability because the research background has been clearly explained to the survey participants and it is expected that they are able to better understand the question asked (Saunders et al., 2009). However, the reliability of the questionnaire will also be determined by Cronbach's alpha value, which is used to measure the internal consistency of the scale used by the research tool (Saunders and Lee, 2005). It was found that Cronbach's alpha can effectively evaluate the reliability of multi-item scales in consumer research (Saunders and Lee, 2005).

5.6.2 Translation of Questionnaire

The questionnaire was designed in English and distributed in Beijing, Shanghai, Guangzhou, and Shenzhen, China. The content validity of the questionnaire was carefully reviewed and assessed by the supervisory team. Afterward, a back and forth translation has been required and it has been done by the author's classmate from his Master study in the University of Exeter (Tongrong Dai), the author produced the questionnaire in the English version and translated it into the Chinese version, Dai translated the survey from Chinese version back to English, to ensure the two versions are identical. In this way, the process of back and forth translation is ensured. The process of back and forth translation allowed identification and alteration of ambiguous phrases within some questions and options. After the alteration, all translated questions and options were easily understood by the participants, so that they could precisely express the meaning of original questions. Both the English and Chinese version of the questionnaire is placed in Appendix A

During the process of back-and-forth translation, no difficulties were encountered. The translation of the questionnaire in the Chinese version considered the reference of another useful resource to minimize the ambiguity of the expression. In China, online survey services are provided by a number of providers, and the WJX platform is the only platform that considered by the author because it exhibited the appealing advantage such as the researchers have free access to a considerable number of Chinese questionnaires in the area of consumer behaviour and intentions of mobile shopping users. By referring to those survey written in Chinese, enabled the translator and the author of this research questionnaire to effectively finalized the translated Chinese version and to a great extent that minimized the ambiguity and uncertainty of expression in the survey, and maximized the participants' comprehension of the survey. In addition, the WJX platform is the earliest and currently the largest national online survey platform, since its launch in 2006, it has released more than 47 million questionnaires, more than 90% of its users come from universities and research institutes in China (WJX.com). Thus, this study chose the WJX platform for producing questionnaires, distribution, and collection. The whole process of developing the final questionnaire involved the author, a translator (Chinese but with excellent understanding and use of English), and pilot questionnaire (to identify any underlying issues). This ensured the quality of the final questionnaire before its official launch on the WJX platform.

5.6.3 Scale used

The five-point Likert scale is adopted in this research. That means, each item is measured on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). There are several reasons for using the Likert scale instead of others. The Likert scale is the most famous, straightforward, and practical scale, and is commonly used by researchers while collecting data (Viswanathan, Sudman and Johnson, 2004). Furthermore, a large amount of literature on IS research can be found to support this scale (Venkatesh et al., 2003; Venkatesh, Thong and Xu, 2012; Bhattacherjee, 2001b). A five-point Likert scale therefore is used in this research. Additionally, the questionnaire survey includes some demographic information, covering factors, such as users' gender, education, and income. These factors are measured through nominal scales (see Appendix B).

In addition, each construct is measured by four measurement items. The measurement items for PE, EE, FC, SI and BI are developed by Venkatesh et al., (2003) and Vekatesh et al. (2012), as shown in Table 10-13 and Table 21.

Based on the research of previous studies (Lu, 2005; Bhatti, 2007; Yang et al., 2012; and Li, 2016), the survey question designed for the variable PII is shown in the Table14.

The measurement items for PAS, PSS, PGS, PIS, PRS, and PVS are originally developed by Arnold and Reynold (2003), and based on the previous studies by Kim (2006), and Yang and Kim (2012), the survey questions designed for these six variables are shown in the Table 15-20.

Table 10 - Measures for PE

Constructs	Measurement items		Resources
Performance Expectancy (PE)	PE1	I find mobile shopping useful in my daily life	Venkatesh *et al.* (2003); Venkatesh, Thong and Xu (2012)
	PE2	Mobile shopping enhances my shopping effectiveness	
	PE3	While using mobile shopping, I find that many new functions are very helpful	
	PE4	Mobile shopping helps me make better shopping decisions	

(Source: made by author 2020)

Table 11 - Measures for EE

Constructs	Measurement items		Resources
Effort Expectancy (EE)	EE1	I find mobile shopping easy to use	Venkatesh *et al.* (2003); Venkatesh,

	EE2	I am skillful at using mobile shopping	Thong and Xu (2012)
	EE3	Mobile shopping is more effortless than traditional shopping	
	EE4	Mobile shopping is easy for me to browse for the products and services that I want	

(Source: made by author 2020)

Table 12 - Measure for FC

Constructs	Measurement items		Resources
Facilitating Condition (FC)	FC1	I go mobile shopping because I have regular access to smart devices.	Venkatesh *et al.* (2003); Venkatesh, Thong and Xu (2012)
	FC2	I have the knowledge to use mobile shopping	
	FC3	I can get help from others when I have difficulties using mobile shopping	
	FC4	Usually, I find problems encountered during mobile shopping easy to solve	

(Source: made by author 2020)

Table 13 - Measure for SI

Constructs	Measurement items		Resources
Social Influence (SI)	SI1	The wide offering of mobile shopping from brands affects my willingness to adopt mobile shopping.	Venkatesh *et al.* (2003); Venkatesh, Thong and Xu (2012)
	SI2	Wider peer group (e.g. friends, classmates, colleagues and social groups) influence my decision to adopt mobile shopping.	
	SI3	People who are close to me (e.g. best friends and family members) influence my decision to adopt mobile shopping.	
	SI4	Many people around me have used mobile shopping for a long time	

(Source: made by author 2020)

Table 14 - Measure for PII

Constructs	Measurement items		Resources
Perceived Individual Innovativeness (PII)	PII1	I am feeling happy when I use new technologies	Lu (2005); Bhatti (2007); Yang et al. (2012); Li (2016)
	PII2	I find mobile shopping interesting because I like trying new things	
	PII3	I like to receive new information about new products or services faster than people around me.	
	PII4	I usually use the new products or services earlier than people around me.	

(Source: made by author 2020)

Table 15 - Measure for PAS

Constructs	Measurement items		Resources
Perceived adventure shopping (PAS)	PAS1	I enjoy exploring various mobile shopping applications and features	Arnold and Reynold (2003); Kim (2006); Yang and Kim (2012)
	PAS2	I enjoy using new shopping services and features which are only available on mobile shopping platform	
	PAS3	I find shopping on mobile stimulating	
	PAS4	I find mobile shopping brings me into an exciting online shopping world	

(Source: made by author 2020)

Table 16 - Measure for PSS

Constructs	Measurement items		Resources
Perceived social shopping (PSS)	PSS1	Shopping on the mobile is an opportunity to bond with others	Arnold and Reynold (2003); Kim (2006); Yang and Kim (2012)
	PSS2	I enjoy sharing shopping experience with others through mobile shopping	
	PSS3	I enjoy exchanging opinions with others through mobile shopping	
	PSS4	I enjoy socializing with others through mobile shopping	

(Source: made by author 2020)

Table 17 - Measure for PGS

Constructs	Measurement items		Resources
Perceived gratification shopping (PGS)	PAS1	Through mobile shopping, which enables me to feel better whenever I am in a low mood	Arnold and Reynold (2003); Kim (2006); Yang and Kim (2012)
	PAS2	To me, mobile shopping is a way for stress relief	
	PAS3	I go mobile shopping when I wish to have a special treat to myself as soon as possible	
	PAS4	Mobile shopping enables my shopping needs to be satisfied instantly	

(Source: made by author 2020)

Table 18 - Measure for PIS

Constructs	Measurement items		Resources
Perceived idea shopping (PIS)	PIS1	I like receiving trend news through mobile shopping push notifications	Arnold and Reynold (2003); Kim (2006); Yang and Kim (2012)
	PIS2	I use mobile shopping to keep up with new fashions	
	PIS3	Mobile shopping enables me to keep up with trends constantly	
	PIS4	I use mobile shopping to regularly check what new products are available	

(Source: made by author 2020)

Table 19 - Measure for PRS

Constructs	Measurement items		Resources
Perceived role shopping (PRS)	PRS1	I like shopping on the mobile for others because, when they feel happy, I feel happy	Arnold and Reynold (2003); Kim (2006); Yang and Kim (2012)
	PRS2	I enjoy shopping on mobile for families and friends when they cannot find things that they want in stores	
	PRS3	I enjoy shopping on the mobile to find the perfect gift for someone	
	PRS4	Mobile shopping enables me to satisfy other's shopping needs	

(Source: made by author 2020)

Table 20 - Measure for PVS

Constructs	Measurement items		Resources
Perceived value shopping (PVS)	PVS1	Mobile shopping offers wide ranges of discounts	Arnold and Reynold (2003); Kim (2006); Yang and Kim (2012)
	PVS2	I like receiving exclusive mobile discounts and limited period offers	
	PVS3	I enjoy hunting for bargains when I go mobile shopping	
	PVS4	It is cheaper to buy via mobile shopping than from the physical stores	

(Source: made by author 2020)

Table 21 - Measure for BI

Constructs	Measurement items		Resources
Behavioural intention (BI)	BI1	I intend to continue to use mobile shopping.	Venkatesh *et al.* (2003); Venkatesh, Thong and Xu (2012)
	BI2	I will always use mobile shopping	
	BI3	I consider mobile shopping channel to be my first choice for shopping in the future	
	BI4	I am willing to recommend to others to adopt mobile shopping.	

(Source: made by author 2020)

5.7 Interview Design

In order to reinforce the results obtained quantitatively and to investigate beyond what the respondents answered in the survey questionnaires, the author decides to conduct face-to-face interviews to complement the quantitative data. The author intends to specifically investigate a series of questions during the interview to firstly, better understand the divergence of collecting quantitative data against the research hypotheses, if there is any; and secondly, to leave a space for allowing the unexpected findings to emerge apart from the survey questionnaire.

The interviews were conducted with six Chinese millennial from different Tier-1 cities in China in order to be consistent with the criteria of survey Interviewees selection, which to help the research achieve its objectives. Each interview took between 10 to 15 minutes to complete

and was held separately through an online video chat through a well-known and widely used app, WeChat . The recording was also carried out with the knowledge of the interviewees and was essential for the accuracy of the analysis of the interviews (Weiss, 1995).

5.8 Procedures for data collection

5.8.1- Procedure for quantitative data collection

The procedure for the quantitative data collection has been shown in Figure 9 as follows:

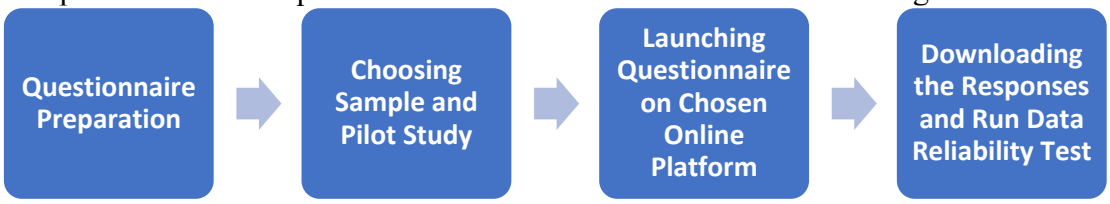

Figure 9 - Procedure for quantitative data collection

(Source: made by the author, 2020)

Step 1 – Questionnaire Preparation

- Start by producing the questionnaire to be answered and ensure the survey questions are related to research questions. By doing so, to ensure that the effectiveness of the questionnaire that it does not contain any unrelated questions.
- The questionnaire has been written in Mandarin and English, as this questionnaire will be mainly distributed through the Internet in mainland China.
- Back translation will be required and it has been done by the author's classmate from his Master study in the University of Exeter (Tongrong Dai), the author produced the questionnaire in the English version and translated it into the Chinese version, Dai translated the survey from Chinese version back to English, to ensure the two versions are identical.
- the author avoids putting any technical terms or specific jargons into survey questions to assure that all the respondents are able to fully understand the questions.
- There is no sensitive question appear in the survey, which enables the respondents to provide the information at their best knowledge and a stress-free mood.
- The types of questions in the survey consist of multiple choices, open-ended question, and Likert scale; Semantic scale is not selected in this survey mainly because the author considers it is difficult to quantify in this research, as there is no "Neutral" answer in Semantic Scale, which makes the author unable to quantify the answer so that it is complicated to determine the relationship between IVs and DVs in the later stage.

Step 2 – Choosing the Sample and Pilot Study

- According to the formula of a minimum size in Saunders et al (2009), more details about the formula have been given in section 5.5. The total sample size for this research will be 383, as follows: n = p%×q%×$(\frac{Z}{e\%})^2$=54%×46%×$(\frac{1.96}{5\%})^2$=383.
- The targeting respondents are Chinese Ger-Y who live in tier 1 cities in China (e.g. Beijing, Shanghai, Shenzhen, and Guangzhou), ideally, the proportion of the population are preferred to be equally chosen from these four cities, for instance, 25% of sample population collected from each city.
- The convenience and snowball sampling are both deployed in this research. The author himself belongs to the group of targeting population for this research, hence the author's social circle is an efficient group to distribute the survey.
- After the survey design, the author is launching a pilot study with 10 researchers' friends who are able to understand both English and Chinese through WeChat, predicted survey completion time at average 3-5 minutes.
- The author will evaluate the feasibility and reduce any errors such as improper expressions lead to any misunderstandings.

Step 3 - Launching Questionnaire on Chosen Online Platform

- Upon completion of the pilot study and approval from the supervisory team, expected to be the end of October (25th) 2019, the questionnaire will be formally launched on the WJX platform，which is the earliest and currently the largest national online survey platform, since its launch in 2006, it has released more than 47 million questionnaires, more than 90% of its users come from universities and research institutes in China.
- The author is going to launch the survey questionnaire on this platform, expected duration aims for 2-4 weeks depending on the speed of responses collection, once the number of responses hit 400, which has covered the required minimum sample size of this research, the author will terminate the survey link.

Step 4 – Downloading the Responses and Run Data Reliability Test

- Download all the responses from the website to the author's laptop and upload all the data to the Apple Cloud for storage, meanwhile, to keep all the collected data in an external password protected device as an alternative way to secure the data. To ensure the reliability

of data in the survey, the author is going to adopt Cronbach's alpha to test the data reliability, which is the most widely used technique by researchers to measure the data reliability, Cronbach's alpha of 0.7 or greater is considered acceptable for further analysis (Burns and Burns, 2008).

5.8.2- Procedure for qualitative data collection

The procedure for the qualitative data collection has been shown in Figure 10 as follows:

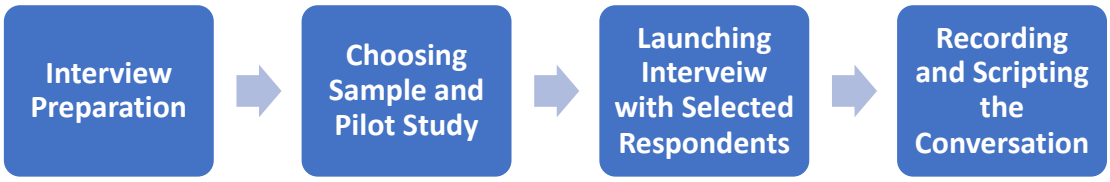

Figure 10 - Procedure for qualitative data collection

(Source: made by the author, 2020)

Step 1 – Interview Preparation

- Based on the survey questionnaire, asking similar questions and yet cannot be comprehensively and freely answered in the questionnaire, to enable the unexpected/new findings to emerge.

Step 2 – Choosing the Sample and Pilot Study

- The targeting respondents are Chinese Ger-Y who live in tier 1 cities in China (e.g. Beijing, Shanghai, Shenzhen, and Guangzhou).
- Since the research will aim for a limited number of persons that can effectively and efficiently provide the information needed to address the research questions, these participants will be selected through a purposive sampling technique.
- The author is going to carry out 2 interviews as a pilot study online, the purpose of doing this is first to evaluate the quality of interview questions (whether it is necessary to ask during the interview) and to check if there are any unexpected issues may raise with the online interview.

Step 3 – Launching Interview with Selected Respondents

- 3 days prior to the actual interview, the selected respondents will be informed that the interview will be voice recorded for an analytical reason at a later stage, and for those who

will not be comfortable with talking in front of the camera are able to refuse the interview invitation.

Step 4 - Recording and Scripting the Conversation

- The author will upload the recorded voice audio and scripts to Apple iCloud as well as an external password protected device to ensure the safety of data storage.

5.9 Data analysis process

Due to the research is conducted as explanatory research, a detailed analysis of both survey data and interviews will be conducted. Quantitative data will be encoded in the Social Science Software Statistical Package (SPSS) for statistical analysis. The data will be re-encoded into numeric values, with each response corresponding to a specific value. Demographic variables will be analysed using the descriptive analysis to understand the sample composition and distribution and to determine whether the sample represents the desired population. Data corresponding to research variables in the conceptual framework such as performance expectancy, effort expectancy, social influence, facilitating conditions, perceived individual innovativeness, perceived adventure shopping, perceived social shopping, perceived gratification shopping, perceived idea shopping, perceived role shopping, perceived value shopping, and behavioural intention, however, will be subjected to detailed analysis. Besides the descriptive analysis used to describe these variables, an associative analysis will be carried out to determine if the correlations between these variables are as suggested per the literature. This would then be followed by regression analysis and will help in evaluating the combined impact of research variables (Collins and Hussey, 2009) in determining the behavioural intention of the Chinese millennials towards the adoption of mobile shopping needs.

On the other hand, for qualitative research, recorded interviews will be transcribed, and thematic analysis will be used to analyse the data (Creswell, 2003). The author will examine the rejected hypotheses in the quantitative analysis and apply the interview as a supplementary tool, to explore the reasons why the hypotheses were rejected in this research context, and to reinforce the results, all the rejected hypotheses will be identified as a single theme, and each theme will be discussed separately in the results section, and the meaning of the theme will be directly quoted in the interview (Bryman, 2012). The results of quantitative surveys and

qualitative interviews will then be analysed in combination to address research questions. A more specific data analysis has been given in the next chapter.

5.10 Ethical Consideration

Researchers are focused to conduct investigations to generate new knowledge and add it to the existing knowledge of the research topic, however, the consideration of ethical issues is essential for appropriate data collection and establish a climate of trust between researchers participants, and the readership (Saunders et al., 2009). During and after data collection, ethical considerations related to protecting human participants, providing them with sufficient information necessary for them to choose to participate in research, and obtaining their consent, which is essential for conducting effective and meaningful research (Creswell, 2013). It is further suggested that participants should be aware of the risks associated with research and should not be forced to participate, as this will enable researchers to fully ensure their security and create a trustworthy atmosphere for data collection (Oates 2005).

This research adopted both quantitative and qualitative research methods in the form of questionnaire-based survey and semi-structured interviews, some of the ethical considerations associated with these approaches were related to the protection of participants' privacy, rights, dignities, sensitivities, no deception or harm or stress to the participants, appropriate consent and choice to withdraw from the process when desired (Saunders et al., 2009). Moreover, the participants needed to be aware of the scope of the research, usage of data collected, its storage and confidentiality as well as profiles of people who would have access to the data or the results of the research (Bryman, 2012). The informed consent, confidentiality, and anonymity were ensured as three main ethical practices for this study. Moreover, this research only collected data that were relevant and important to achieve the research goals (Cooper et al., 2006). The research process also ensured an absolute voluntariness through the whole process of information sharing and informed consent. The consent statement (as shown in Appendix A & B) was made to collect quantitative data through questionnaire surveys and qualitative interviews. In addition, before carrying out the data collection, the ethics approval of this study was granted by the author's institution. Furthermore, qualitative interviews were also made participants aware of their right to withdraw from the interview at any time during the research process. The privacy of the collected data was ensured through controlled access to the data and the participants were informed. Privacy issues were also resolved by using virtual names

to express the identities of interviewed participants. Besides, research data would not be used for commercial purposes, the raw data would not be shared with any other parties outside of the academic needs of the project, and would be deleted once the study finished.

5.11 Chapter Summary

This chapter discussed the research methodology used to carry out the research as well as discuss the research choices related to the decisions needed to design the research. The research will be carried out as explanatory mixed-methods research that will be abductive and use survey questionnaires and interviews for quantitative and qualitative research respectively. The research will be designed based on the philosophies of pragmatism, a combination of positivism and interpretivism, and will use convenience and snowball sampling in the survey questionnaire and purposive sampling method in the interview to collect the research sample. In terms of data collection, the survey questionnaires will be distributed on a Chinese survey platform, the WJX, which is the earliest and currently the largest national online survey platform in China; and the semi-structured interview will be carried out with six participants based on a purposive chosen. The data analysis will involve the descriptive, correlation, and regression analysis for the quantitative survey and thematic analysis for the qualitative interviews. In addition, the chapter also discussed the ethical considerations and limitations of the research.

CHAPTER 6 DATA ANALYSIS AND RESULTS

6.1 Introduction

This chapter contains the results of the quantitative survey carried out amongst the Chinese millennials and the qualitative interview with selected participants. This chapter is aiming for presenting the analysis and results, a specific discussion is provided in the next Chapter.

The quantitative analysis carried out the descriptive analysis, reliability test, correlation analysis, as well as regression analysis to determine the significant influence between independent and dependent variables; on the other hand, the thematic analysis has been applied for the qualitative interview the to categorize the themes for further discussion.

6.2 Quantitative Analysis

6.2.1 Reliability Analysis of Scale Items

A compute variable was used based on the average score of several items for the constructs in the framework, as each construct was measured by at least four items in the questionnaire, which will be used in further analysis (such as regression and correlation) (Burns and Burns, 2008). Reliability is the degree to which a set of variables is consistent with that it aims to measure, it is a measure of error, as reliability test measures the amount of data that are free from random error (Burns and Burns, 2008). According to Malhortra and Birks (2006), Cronbach's alpha coefficient is a highly significant statistic used to measure reliability. Cronbach's alpha values above 0.7 are significant, values below 0.7 suggest the presence of unsatisfactory internal consistency within the scale (Malhortra and Birks, 2006). Internal consistency of the measurements can be evaluated using Cronbach Alpha which calculates the average of various coefficients which are obtained through multiple splitting of the scale items (Malhotra, Birks, Palmer, and Koenig-Lewis, 2000). A measurement with a Cronbach Alpha value of more than 0.7 is considered to be reliable. In the current research, Cronbach Alpha has been used to determine the reliability of various scales used in the research, Cronbach Alpha coefficients have been calculated for all the scales included in the model and the value was higher than 0.7 for all the twelve scales. The reliability of the scale used in the study is illustrated in the above table. The overall Cronbach's alpha coefficient is 0.917, and other individual scales are also above the suggested value of 0.7. Therefore, the scales used have reliable internal consistency, and thus, the datasets are appropriate for further analysis. The Cronbach's Alpha values have been summarised in the Table 22 at below:

Table 22 - Cronbach's Alpha Test

Variables Overall	Cronbach's Alpha 0.917	No. of Item 48
Performance Expectancy (PE)	0.725	4
Effort Expectancy (EE)	0.761	4
Facilitating Conditions (FC)	0.767	4
Social Influence (SI)	0.709	4
Perceived Individual Innovativeness (PII)	0.802	4
Perceived Adventure Shopping (PAS)	0.726	4
Perceived Social Shopping (PSS)	0.821	4
Perceived Gratification Shopping (PGS)	0.813	4
Perceived Idea Shopping (PIS)	0.721	4
Perceived Role Shopping (PRS)	0.848	4
Perceived Value Shopping (PVS)	0.783	4
Behavioural Intention (BI)	0.756	4

(Source: generated from SPSS, 2020)

6.2.2 Descriptive Analysis

For data collection, an online survey questionnaire was distributed over 4 weeks, from 14th January 2020 to 20th February 2020. The questionnaire was sent to participants who owned and used smartphones and who adopted and has been familiar with mobile shopping in Tier 1 cities in China.

The validity of the collected questionnaires was determined based on three criteria. 1) There was two confirmatory questions, one at the entry link of this questionnaire, the respondents who were not born between 1980 – 1999 (including 1980 and 1999) were not able to join the link and to participate in the survey; the other one at the beginning of the questionnaire, the respondents who have never shopped on the mobile shopping platform were not included, as they are not the main focus of this study. 2) All the questionnaire answers were completed. If one or more than one question was not answered, the questionnaire was invalid. 3) If ten or more questions were completed with the same answers, the questionnaire was invalid. For example, if a respondent chooses "5" (strongly agree) for ten or more questions, the questionnaire was taken as invalid and dropped. A lot of people may somehow get exhausted

finishing a questionnaire and after a point begin giving the same answer or they may not even read the question. If anyone of these criteria above was met, the questionnaire was considered as invalid and unsuitable for further analysis.

According to Saunders et al. (2009), the minimum sample sizes for this research are 383. The questionnaire sent to participants received 514 attempted responses, of which 473 were valid, 41 were disqualified for this study due to the criteria set above. The total sample size has already met the requirement set by Saunders et al. 2009, and the valid response rate was 92%. Previous studies in technology acceptance sectors have had a similar or lower sample size and much lower response rate, a study of Yen et al. (2010) showed 231 participants with a response rate of approximately 70%, and another study showed 389 participants with a response rate of approximately 43% (Rauniar et al., 2014).

A summarised table has been given below to show the descriptive analysis, more detailed elaborations for each variable have been given followed by the Table 23:

Table 23 - Descriptive Analysis

Variables	Categories	Frequency	Valid Percent
Gender	Female	240	50.7
	Male	233	49.3
Qualification	High school and below	18	3.8
	Bachelor degree	366	77.4
	Master degree	66	14.0
	Doctoral degree	6	1.3
	Others	17	3.6
Monthly Income	Less than ¥5,000	84	17.8
	¥5,001- ¥10,000	202	42.7
	¥10,001-¥15,000	122	25.8
	¥15,001-¥20,000	44	9.3
	Greater than ¥20,000	21	4.4
Occupation	Students	37	7.8
	Company Staff	300	63.4

Engineers	40	8.5
Educational Sector	28	5.9
Self-employed	32	6.8
Public Servant	15	3.2
Others	21	4.4

(Source: generated from SPSS, 2020)

As mentioned above, due to the nature of this research, Chinese millennial focused, all the respondents' age have been confirmed and filtered by the online survey platform, a screening question was set up, " Were you born between 1980-1999? " If the respondents satisfy this criteria, they will then be able to join the link and to participate in the survey, otherwise, they cannot get access to the link, therefore all the respondents' age of this research fall into the category of Chinese millennial (age between 20 – 39 by the time they received the questionnaire).

As shown in the Figure 11 below, out of 473 respondents, 240 were women, taking 50.7% of the total number of respondents, and 233 were men, occupying 49.3% of the total number of respondents.

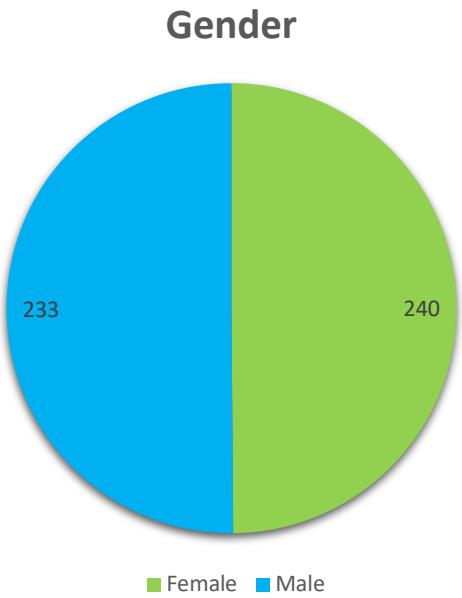

Figure 11 - Gender Pie Chart

(Source: summarised and made by the author, 2020)

18 respondents attended high school and below (3.8%), the majority, 366 respondents obtained a bachelor degree, of which taking 77.4% of total respondents, 66 respondents achieved a

master degree, and 6 respondents obtained a doctoral degree, respectively taking 14.3% and 1.3% to total respondents, 17 participants achieved received other qualifications such as diploma, which take 3.6% to total respondents, as shown in Figure 12 below:

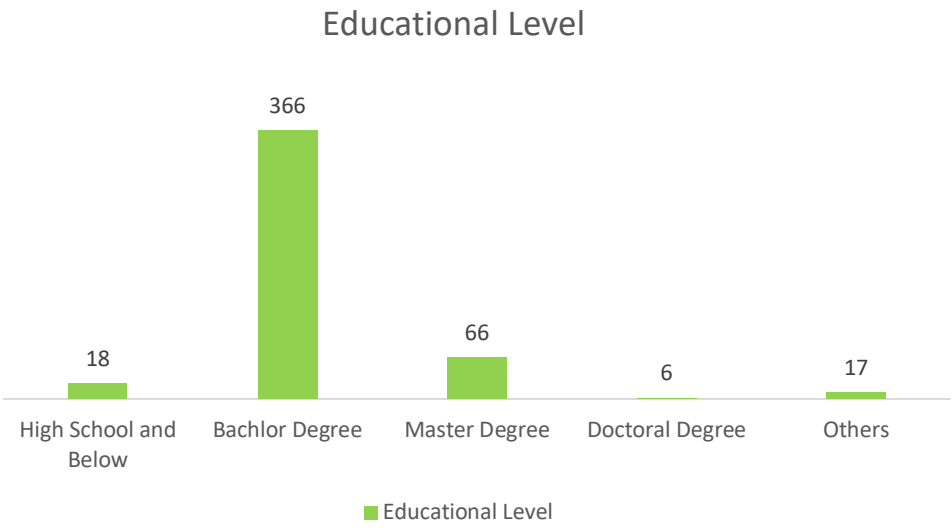

Figure 12 - Education Bar Chart

(Source: summarised and made by the author, 2020)

The monthly income of respondents varies, 42.7% of the respondents had a monthly income between 5000 – 10,000 RMB, occupying the largest group. The second largest group were respondents with a monthly income between 10,001 – 15,000 RMB, taking up 25.8% of the total, followed by 17.8% of respondents with a monthly income of less than 5000 RMB. The respondents with a monthly income between 15,001 – 20,000 and over 20,000 RMB were 44 and 21, respectively account for 9.3% and 4.4% of the total respondents, as shown in Figure 13 below:

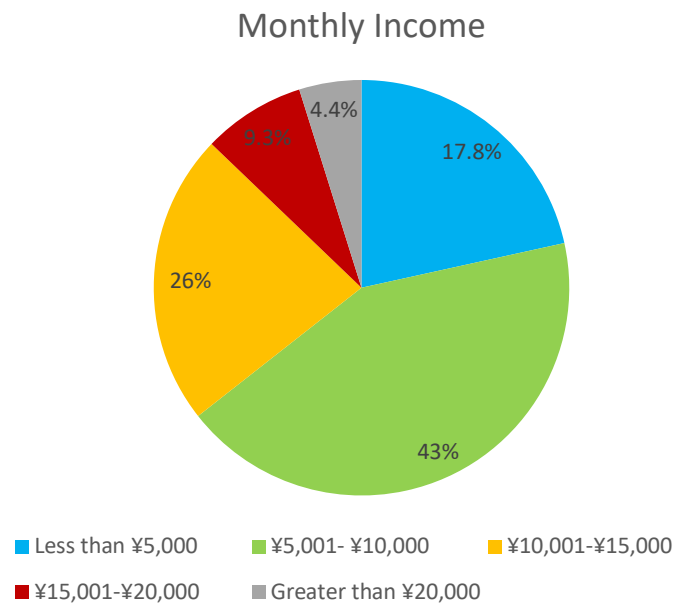

Figure 13 - Income Pie Chart

(Source: summarised and made by the author, 2020)

As for the occupation of the respondents, which include 37 students (7.8% of the total respondents), 300 company staffs (63.4%), 40 engineers (8.5%), 28 educational services workers (5.9%), 32 self-employed (6.8%), 15 public servants (3.2%), 21respondents (4.4%) come from different and a wide range of service sections, as shown in Figure 14 below:

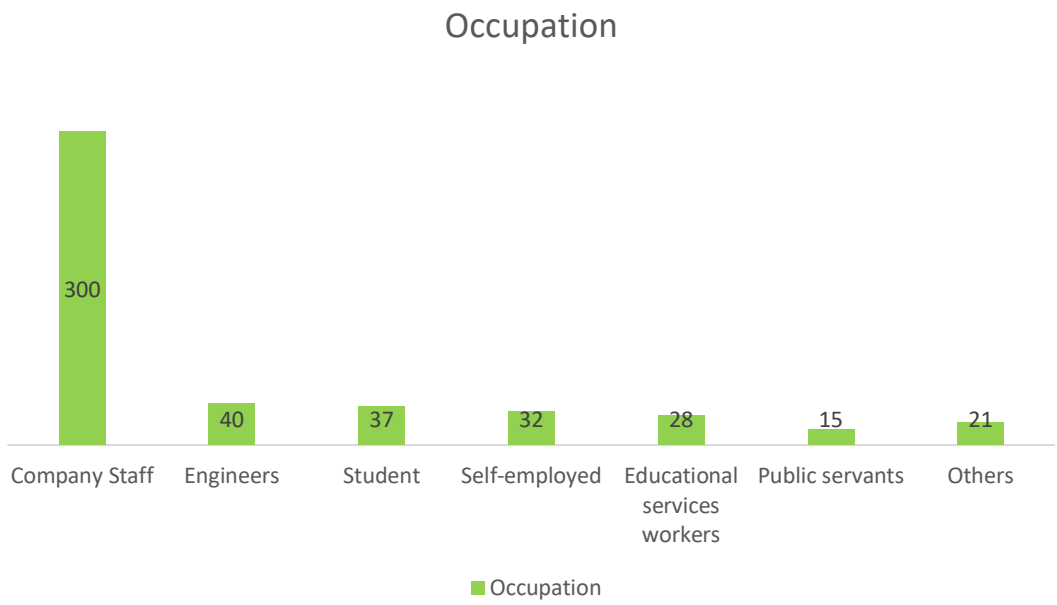

Figure 14 - Occupation Bar Chart

(Source: summarised and made by the author, 2020)

Overall, it is worth noting that the sample includes various occupations such as students, company staff, and educational service workers, etc. Therefore, this sample can effectively express the views of a wide range of people from different occupations on mobile shopping adoption. In addition, the proportion of income groups shows that the sample's income structure is reasonable. Therefore, the demographics of the sample represent the demographic characteristics of the Chinese population.

Descriptive analysis across all variables

The below Table 24 shows the descriptive values for the variables used in this research and describes the mean, standard deviation. Other than that, it also provids the skewness and kurtosis of the variables in the table above (which will be discussed in the following section).

Table 24 - Descriptive statistics with Skewness and Kurtosis values

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
PE	473	4.2183	0.42255	-1.045	0.112	2.177	0.224
EE	473	4.3108	0.46416	-1.32	0.112	2.9	0.224
FC	473	4.0544	0.52362	-0.684	0.112	0.313	0.224
SI	473	3.8224	0.66357	-0.707	0.112	0.34	0.224
PII	473	3.6691	0.74286	-0.462	0.112	-0.333	0.224
PAS	473	3.4355	0.73651	-0.265	0.112	-0.477	0.224
PSS	473	3.4461	0.89815	-0.435	0.112	-0.688	0.224
PGS	473	3.7976	0.74173	-0.847	0.112	0.373	0.224
PIS	473	3.7516	0.71372	-0.768	0.112	0.345	0.224
PRS	473	3.8737	0.61413	-0.662	0.112	0.393	0.224
PVS	473	4.0798	0.56617	-0.789	0.112	0.742	0.224
BI	473	4.379	0.49683	-1.056	0.112	1.267	0.224

(Source: generated from SPSS, 2020)

The mean values for the variables in the table also indicate the level of agreement of the respondents on the given parameters for the mobile shopping technology. The respondents have rated the variables related to the use of mobile shopping technology on a scale of 1 to 5 where 1 represents strong disagreement and 5 means strong agreement. For specific items under each scale has been provided as Appendix C.

- Performance Expectancy (PE) (Mean = 4.2, S.D = 0.42) indicates the perception of the users regarding the benefits offered by the use of mobile shopping as against other options.
- Effort Expectancy (EE) got the most elevated scores (Mean=4.31, S.D=0.46) out of the considerable number of independent variables, which implies that the respondents see the utilization of mobile shopping to be particularly simple to use.

- Facilitating Condition (FC) (Mean = 4.05, S.D = 0.52) and Facilitating Conditions is a cognitive construct, used to measure how mobile shopping users perceive the availability and facilitating effects of mobile shopping.
- Social Influence (SI) (Mean = 3.82, S.D = 0.66) refers to how mobile shopping users are affected by companies and their social groups such as their families, friends, and colleagues.
- Perceived Individual Innovativeness (PII) (Mean =3.67, S.D = 0.74) is defined as the willingness of an individual to try out any new technologies before other making actions.
- Perceived Adventure Shopping (PAS) (Mean =3.44, S.D=0.73) refers to shopping for excitement, adventure, and stimulation on a mobile platform.
- Perceived Social Shopping (PSS) (Mean =3.45, S.D=0.89) refers to the social benefits of shopping on mobile to establish a relationship with others and review the product information by other comments.
- Perceived Gratification Shopping (PGS) (Mean =3.80, S.D = 0.74) refers to mobile shopping as a means to create a positive feeling, that is, to feel better or give a special treat to oneself.
- Perceived Idea Shopping (PIS) (Mean =3.75, S.D = 0.71) refers to using mobile shopping to gather information about new trends, fashions, and products.
- Perceived Role Shopping (PRS) (Mean =3.87, S.D=0.61) The Perceived Role Shopping (PRS) refers to the enjoyment that mobile shopping users derive from using mobile shopping for others.
- Perceived Value Shopping (PVS) (Mean = 4.07, S.D = 0.57), while Perceived Value Shopping (PVS) refers to the perceived value of using mobile shopping such as receiving the discounts and hunting bargains or similar benefits.
- The scores for dependent Behavioural Intention (M=4.37, S.D=0.50) indicate neutral to strong agreement of the respondents on these variables. Behavioural Intention refers to their intention of using mobile shopping for their shopping requirements.

Normality Test

Normality is defined by the assumption that the shape of the data distribution is an asymmetrical and bell-shaped curve (Hair et al., 2010; Pallant, 2010). Assessing the severity of non-normality is based on two perspectives: the shape of offending distribution; and the sample size (Hair et al., 2010, p.71). The shape of the distribution can be assessed by kurtosis and skewness (Hair et al., 2010, p.71). Normal distribution occurs when the value of skewness and kurtosis is zero, which is rare in social science (Pallant, 2010). Furthermore, (Tabachnick and Fidell, 2007,p.80) stated that, with reasonably large samples, skewness will not make a substantive difference in the analysis, and the risk is reduced with a large sample size of over 200. Hair et al. (2010) added that the severity of normality is also based on the sample size, which reduces the negative effects of non-normality. For sample sizes 200 or more, the non-normality effect may be negligible. In this research, the practical sample size is 473, as illustrated in Table. Therefore, the author may not be concerned about non-normal variables (Hair et al., 2010, p.72).

As shown in the above Table 24:

- According to Pallant (2010, p.57), skewness is an indication of the symmetry of the distribution, The skewness for all the variables is negative, which shows that the information is inclining towards the left (Bai and Ng, 2005) or lower esteems for every one of the factors and demonstrates that a higher number of individuals have appraised the above factors at the lower end. McDonald and Bookstaber (1991) recommend that skewness between - 2 and 2 is adequate for measurable examination. As found in the above table, the skewness for all the factors is inside this range and is subsequently adequate.
- Kurtosis refers to the peakedness or flatness of the distribution compared to the normal distribution (Hair et al., 2010, p.71)A lower kurtosis coefficient shows compliment bends while higher qualities demonstrate unmistakable tops in the information. Kurtosis values for the examination factors range from - 0.7 to 4.45, which demonstrate a blended top for the factors. McDonalds and Bookstaber (1991) recommend that a kurtosis coefficient estimation of up to 6 is worthy for measurable examination.

Since all the variables in the table above fall inside the worthy range, the data is appropriate for further statistical analysis that assumes the normality of data.

6.2.3 Testing for Multicollinearity

When the correlation among variables in a regression model is relatively high, then multicollinearity occurs (Hair *et al*., 2010). Multicollinearity has been defined by Pallant (2010, pp.151) as " the relationship among the independent variables". In order to check the multicollinearity between the predictor variables, the correlation matrix should be inspected, and both Tolerance and Variance inflation factor (VIF) should be applied and used to assess the multicollinearity problem. Pallant (2010,pp.158) defines Tolerance as "how much of the variability of the specified independent is not explained by the other independent variables in the model", and Variance inflation factor (VIF) as " just the inverse of the Tolerance value". Multicollinearity may cause a problem if VIF values are more than 10 and tolerance values are less than 0.1 (Kline, 2015).

As shown in Table 25 below, all VIF values were less than 10 and tolerance values were greater than 0.1, indicating that multicollinearity is not problematic in this study. Furthermore, if correlation coefficients exceed 0.9, then multicollinearity may cause a problem in the study (Field, 2009 and Hair *et al*., 2010).

Table 25 - Multicollinearity test

Multicollinearity test		
Factors	Collinearity Statistics	
	Tolerance	VIF
PE	0.629	1.59
EE	0.637	1.57
FC	0.645	1.551
SI	0.666	1.501
PII	0.491	2.036
PAS	0.436	2.292
PSS	0.472	2.121
PGS	0.582	1.718
PIS	0.507	1.971
PRS	0.548	1.826
PVS	0.726	1.377

(Source: generated from SPSS, 2020)

6.2.4 Correlation Analysis

As mentioned above, compute variable was used based on the average score of a number of items for the constructs in the framework, as each construct was measured by several items in the questionnaire, which will be used in further analysis (such as regression and correlation) (Burns and Burns, 2008). A correlation analysis has been carried out to evaluate whether the relationships between the research variables as included in the research framework also existed for the research data collected from the Chinese millennial mobile shopping users.

Pearson r correlation was run to determine the relationship between independent constructs (PE, EE, FC, SI, PII, PAS, PSS, PGS, PIS, PRS, PVS) and the dependent construct (BI), as shown in the Table 17. According to Mukaka (2012), when the correlation coefficient (r) is lower than 0.3, it should be considered as negligible correlation; Cohen (1988, pp.79-81) also suggests that the correlation coefficient value (r) with a range from 0.10 to 0.29 is considered weak, from 0.30 to 0.49 is considered medium; and from 0.50 to 1.0 is considered strong.
Table 26 below indicates the results of that correlation between the variables employed in the research. As seen below, all the variables had a positive correlation with one and another, and a positive correlation between all the independent variables (PE, EE, FC, SI, PII, PAS, PSS, PGS, PIS, PRS, PVS) and dependent variables (BI). However, in the correlation table, it can be seen that the following variables Perceived Individual Innovativeness (PII), Perceived Adventure Shopping (PAS), Perceived Social Shopping (PSS), Perceived Idea Shopping (PIS) were observed as a weak positive correlation coefficient (r), which respectively showed 0.255, 0.165, 0.199, and 0.282. The rest of independent variables were found as a moderate to strong positive correlation and statistical significance between PE ($r = 0.48$, $p < 0.01$), EE ($r = 0.58$, $p < 0.01$), FC ($r = 0.44$, $p < 0.01$), SI ($r = 0.33$, $p < 0.01$), PGS ($r = 0.35$, $p < 0.01$), PRS ($r = 0.42$, $p < 0.01$) , PVS ($r = 0.40$, $p < 0.01$) and behavioural intention (BI) to adopt mobile shopping. Overall, this indicates that all the independent variables moved in the same direction as the Behavioural Intention towards the use of technology by the respondents and possibly contributed to the overall Behavioural Intention of the Chinese millennial towards the adoption of mobile shopping.

Table 26 - Correlations Analysis

Correlations Analysis													
		PE	EE	FC	SI	PII	PAS	PSS	PGS	PIS	PRS	PVS	BI
PE	Pearson Correlation	1	.489**	.430**	.314**	.361**	.261**	.293**	.282**	.323**	.393**	.390**	.477**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
EE	Pearson Correlation		1	.398**	.321**	.269**	.135**	.144**	.302**	.198**	.347**	.382**	.581**
	Sig. (2-tailed)			0.000	0.000	0.000	0.003	0.002	0.000	0.000	0.000	0.000	0.000
FC	Pearson Correlation			1	.384**	.433**	.359**	.286**	.345**	.351**	.421**	.319**	.441**
	Sig. (2-tailed)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SI	Pearson Correlation				1	.341**	.385**	.418**	.378**	.417**	.379**	.372**	.331**
	Sig. (2-tailed)					0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PII	Pearson Correlation					1	.617**	.515**	.433**	.551**	.508**	.237**	**.255****
	Sig. (2-tailed)						0.000	0.000	0.000	0.000	0.000	0.000	0.000
PAS	Pearson Correlation						1	.616**	.534**	.562**	.455**	.270**	**.165****
	Sig. (2-tailed)							0.000	0.000	0.000	0.000	0.000	0.000
PSS	Pearson							1	.458**	.585**	.536**	.223**	**.199****

	Correlation												
	Sig. (2-tailed)								0.000	0.000	0.000	0.000	0.000
PGS	Pearson Correlation								1	.515**	.471**	.308**	.353**
	Sig. (2-tailed)									0.000	0.000	0.000	0.000
PIS	Pearson Correlation									1	.461**	.247**	**.282****
	Sig. (2-tailed)										0.000	0.000	0.000
PRS	Pearson Correlation										1	.328**	.417**
	Sig. (2-tailed)											0.000	0.000
PVS	Pearson Correlation											1	.403**
	Sig. (2-tailed)												0.000
BI	Pearson Correlation												1
	Sig. (2-tailed)												
** Correlation is significant at the 0.01 level (2-tailed).													

(Source: generated from SPSS, 2020)

6.2.5 Regression analysis

While the correlation analysis suggests that a significant correlation exists between the research variables as per the theoretical framework used in the research, there is a further necessity to evaluate the relationship and to determine the impact of the research variables on each other. The significant influence will determine the exact reason of changes in the dependent variable behavioural intention, with the changes in independent variables, and help evaluate if the significant influence is as per the research framework suggested (Cohen et al., 2013). The significant influence can be determined through regression analysis to identify the research variables that are leading to changes in behavioural Intention towards the use of mobile shopping among Chinese millennial. For the research data, multiple regression analysis has been used to test the association of the factors in the model with the behavioural intention of the users' perception toward mobile shopping.

Multiple regression analysis

The multiple regression analysis was employed to test the hypotheses between BI and PE, EE, FC, SI, PII, PAS, PSS, PGS, PIS, PRA, and PVS. The conceptual framework developed for the research also indicates a significant influence of PE, EE, FC, SI, PII, PAS, PSS, PGS, PIS, PRA, and PVS to BI, as Venkatesh stated that the UTAUT model takes an approach that emphasizes the importance of utilitarian value (extrinsic motivation) (Venkatesh, 2012), and Arnold and Reynold 2003 expressed the significance of hedonic value (intrinsic motivation) thus the strong utilitarian and hedonic motivation of the individuals towards a shopping technology leads to their behavioural intention to adopt mobile shopping technology. The regression analysis has thus been carried out with PE, EE, FC, SI, PII, PAS, PSS, PGS, PIS, PRA, and PVS as independent and BI as a dependent variable to evaluate if the influence is significant at a significance level of 0.05.

The first important sub table below is Model Summary. Multiple correlation R of +0.683 represents the combined correlation of all the independent variables. THE adjusted R square value of 0.454 indicates that 45.4% of the variation in behavioural intention can be explained by variation in the eleven independent variables taken together, which means the model is able to predict 45.4% of the variation in the behavioural intention of Chinese millennial towards mobile shopping technology adoption (Burns and Burns, 2008; Cohen et al., 2013).

In the ANOVA sub table, it showed the F value of 36.633 which is significant with $p < 0.001$. This tells that the eleven independent variables taken together as a set are significantly related to the dependent variable. The chance of obtaining these results assuming the null hypothesis to be correct is less than 1 in 1000 (Burns and Burns, 2008). Thus, these multiple correlations are highly significant. Furthermore, the Coefficients sub table reveals the significant regression coefficients, namely PE（p=0.001）, EE（p=0.000）, FC（p =0.000）, PAS (p=0.017), PGS （p=0.011）,PRS（p=0.001）and PVS（p=0.005）.These significance levels indicate that seven variables uniquely contribute to the regression equation, thereby making a significant contribution to the prediction. However, the Coefficients sub table also reveals the insignificant regression coefficient respectively, SI (p=0.431), PII (p=0.226), PSS (p=0.361), and PIS (p=0.124). These significance levels indicate that these four variables were not significant, which means that they could not make a significant contribution to the regression equation.

The unstandardized coefficients showed in the sub-table below, PE (β=0.171)，EE (β=0.356)，FC (β=0.142)，PGS (β=0.076)，PRS (β=0.125), and PVS (β=0.099)，we can interpret the B as indicating that for one unit increase in the independent variables, the dependent variables increase by that amount. For instance, the Effort Expectancy has the most impact on building a positive behavioural intention towards the use of mobile shopping technology. This explains with every one unit improvement in the perceived Effort Expectancy of the mobile technology use for shopping, the behavioural intention towards the mobile shopping adoption will improve by 0.356 points, and likewise respectively increase of one point in the PE, FC, PGS, PRS, and PVS will lead to 0.171, 0.142, 0.076, 0.125, and 0.099 points variation in the behavioural intention towards the mobile shopping technology adoption.

Nevertheless, while it is also noted that the variable PAS (p=0.017) showed significant contribution to the regression model, its unstandardized coefficients indicated as a negative value, PAS (β=-0.083), which represented that for one unit increase in the perceived adventure shopping, the behavioural intention towards mobile shopping adoption will decrease by 0.083 points, which is contradicted to this research hypothesis of “Perceived Adventure Shopping will have a positive influence on behavioural intention of adopting mobile shopping in China”. Thus, it would be appropriate to exclude the variable in the final revised theoretical model. As VIF data suggested above, the collinearity is not a problem as the figures are well below 10 for each variable. The Regression Model Summary, Regression Anova and Regression Coefficients have been given below as shown in Table 27, Table 28 and Table 29:

Table 27 - Regression Model Summary

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.683a	0.466	0.454	0.36722	1.927
a Predictors: (Constant), SI, PE, FC, EE, PII, PAS, PSS, PGS, PIS, PRA, PVS					
b Dependent Variable: BI					

(Source: generated from SPSS, 2020)

Table 28 - Regression Anova

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	54.341	11	4.940	36.633	.000
	Residual	62.167	461	0.135		
	Total	116.508	472			
a Dependent Variable: BI						
b Predictors: (Constant), SI, PE, FC, EE, PII, PAS, PSS, PGS, PIS, PRA, PVS						

(Source: generated from SPSS, 2020)

Table 29 - Regression Coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	0.597	0.201		2.971	0.003
	PE	0.171	0.050	0.145	3.388	0.001
	EE	0.356	0.046	0.333	7.813	0.000
	FC	0.142	0.040	0.150	3.531	0.000
	SI	0.025	0.031	0.033	0.788	0.431
	PII	-0.039	0.032	-0.059	-1.213	0.226
	PAS	-0.083	0.035	-0.124	-2.401	0.017
	PSS	-0.025	0.027	-0.045	-0.914	0.361
	PGS	0.076	0.030	0.114	2.557	0.011
	PIS	0.051	0.033	0.074	1.543	0.124
	PRS	0.125	0.037	0.155	3.365	0.001
	PVS	0.099	0.035	0.113	2.834	0.005
a Dependent Variable: BI						

(Source: generated from SPSS, 2020)

6.3 Qualitative Analysis

In order to reinforce the results obtained quantitatively and to investigate beyond what the respondents answered in the survey questionnaires, the author decides to conduct face-to-face semi-structured interviews to supplement the quantitative data. It is also in line with the chosen research design – abductive approach of this study, to quantitatively and qualitatively evaluate the mobile shopping adoption among Chinese millennial.

These interviews covered the rejected hypotheses in the survey questionnaire, including social influence (SI), perceived individual innovativeness (PII), perceived adventure shopping (PAS), perceived social shopping (PSS), and perceived idea shopping (PSI).

The interviews were conducted with six Chinese millennial from different tier-1 cities in China in order to be consistent with the criteria of survey Interviewees selection, which to help better understand the reason of rejected hypotheses in the proposed research model in this study, the demographic information about the interviewees can be found in below table. Each interview took between 10 to 15 minutes to complete and was held separately through an online video chat through a well-known and widely used app, WeChat. The recording was also carried out with the knowledge of the interviewees and was essential for the accuracy of the analysis of the interviews (Weiss, 1995). The recordings were scripted by the author to be able to classify the quotes of the interviewees relevant to the research. Transcribed data were also coded, and the frequency of the codes determined from the transcribed data to be able to identify themes that could be related to the rejected hypotheses from the research framework such as social influence (SI), perceived individual innovativeness (PII), perceived adventure shopping (PAS) and perceived social shopping (PGS), and perceived idea shopping (PIS).

Miles & Huberman (1994) proposed that the coding process contributes to the quality of the qualitative data analysis where coding facilitates the later analysis of the data and ensures both the accuracy and relevancy of the analysis, hence the qualitative data must be coded (Sekaran & Bougie, 2010). The analysis of qualitative data in this research was carried out using thematic coding practices that fits the semi-structured interviews conducted in this research. According to Crabtree and Miller (1999), thematic analysis offers an outline that captures the richness of the data and also supports organizing the gathered data into a framework, which involved coding of all qualitative findings to defined categories. Braun and Clarke (2006) proposed that thematic analysis is a process used in identifying, examining and reporting patterns and themes

within data, which was undertaken in order to develop emergent themes from the patterns identified in the studies.

By conducting the thematic analysis, the author intends to specifically investigate a series of questions to firstly better understand the reasons for the hypotheses being rejected and secondly, to leave a space for allowing the unexpected findings to emerge apart from the survey questionnaire if there is any. Furthermore, this section is more focused on the description of the qualitative data collected, and a specific discussion is provided in the section 7.3.5 to maintain the logical fluency of this study. The summarised interview participants information has been shown in the Table 30 below:

Table 30 - Summarised Interview Participants Information

Interviewee	Gender	Age	City Based	Job Title	Years of using mobile shopping	Language used
A	Male	30	Beijing	Financial Analyst	8 years	Chinese Mandarin
B	Male	33	Guangzhou	Lawyer	6 years	Chinese Mandarin
C	Male	30	Shenzhen	Securities and Fund Manager	5 years	Chinese Mandarin
D	Female	29	Shenzhen	Marketing Manager	6 years	Chinese Mandarin
E	Female	31	Shanghai	Self-employed	9 years	Chinese Mandarin
F	Female	32	Beijing	Industry Research Analyst	5 years	Chinese Mandarin

(Source: summarised and made by the author, 2020)

6.3.1 Thematic analysis and discussion

This section covers the results of the interviews based on the analysis of the interview data related to the understanding of rejected hypotheses to fulfill the research questions. Key themes that were created from the interview data as followed, each theme represents a rejected hypotheses, remained consistent outcome with the quantitative analysis, and explained the rejections.

1. Social Influence – Adoption of mobile shopping was not influenced by the important ones, but self-realization towards its usefulness and conveniences.

2. Perceived Individual Innovativeness - Early adoption and adaptability to mobile shopping is not a way to demonstrate one's innovativeness.
3. Perceived Adventure Shopping - Mobile shopping only has a short effect on people's curiosity towards the virtual shopping world.
4. Perceived Social Shopping - Unnecessary socializing on the shopping platform tend to be avoided and refused.
5. Perceived Idea Shopping – Mobile shopping was not a channel for consumers to keep up with the new fashion and trends.

Theme 1 - Adoption of mobile shopping is a voluntary social activity because of its usefulness and conveniences

Although Venkatesh et al.2003 and 2012 found that social influence was a significant predictor towards behavioural intention, Shaw and Sergueeva, 2019 argued that this construct was significant in mandatory scenarios but not in voluntary use. This suggests that the probability of people fulfilling the expectations of others is rather weak in the voluntary use of technology. Consumer adoption of mobile commerce is an intentional activity and is frequently led to performance (Shaw and Sergueeya, 2019). The non-significance of social influence also agrees with other studies, (Morosan and DeFranco, 2016; Alalwan et al., 2017; Shareef et al., 2017; Merhi, Hone, and Tarhini, 2019). The result of this study for social influence agrees with the above statement and is in line with the previous studies, as shown in below:

"I use mobile shopping simply because I found it is very useful and convenient for me to do shopping, even if these people who are important to me think that I should not use mobile shopping for whatever reasons, I will still use it." - Interviewee A

"I will not be influenced by anyone on the matter of using mobile shopping. Mobile shopping to me is more of a personal shopping method choice, the reason that I chose to use mobile shopping was simply because of its usefulness and convenience." - Interviewee C

Interviewee D mentioned that "Mobile shopping is quite easy to use and most importantly, it is so convenient, with a few clicks on your mobile screen, the shopping is completed." And Interviewee E expressed that "I adopted mobile shopping because I believed that was a new form of shopping, and its functions are very useful and easy to use."

From the above statements, we can interpret that reason behind these four interviewees' adoption of mobile shopping is a voluntary action and often conducted solo. Whereas the other two interviewees possessed the different opinions, as shown in below:

"initially I didn't trust the mobile shopping in terms of the product quality as well as payment security, and when the Chinese celebrities started using it, I was then convinced by the form of mobile shopping."
- Interviewee B

Interviewee F added that "I just need to be confirmed that mobile shopping will not harm me by consulting to others."

Theme 2 - Early adoption and adaptability to mobile shopping is not a way to demonstrate one's innovativeness

The past literature stated that Individual innovativeness is defined as developing, adopting, or implementing an innovation (Yuan and Woodman, 2010). Innovators have several prerequisites that enable them to respond to innovations earlier than their peers. They have the ability to understand and apply complex technical knowledge; they have the ability to cope with high levels of uncertainty about innovation when adopting it (Rogers, 2003).

However, our Interviewee A stated that:

"to the best of my knowledge, I was the first person who adopted mobile shopping in my family and social group, which included my friends and classmates, back in 2012, I used Taobao on mobile for shopping"

Interviewee A was certain that he was the first person who adopted mobile shopping in his family and social group. Although he is rather adaptive to mobile shopping comparing with people around him, he would not consider adopting a mobile shopping is a way to form or to demonstrate his innovativeness, he continued: "I would not consider adopting a mobile shopping is a way to form or to demonstrate my innovativeness nowadays, since the mobile shopping itself has become a lifestyle globally".

Interviewee B mentioned that:

"I was not the first person who adopted mobile shopping among people around me, when most of my family members and my friends start using mobile shopping, then I adopted mobile shopping because I do not wish to be left out simply."

When most of Interviewee B's family members and friends start using mobile shopping, he adopted mobile shopping, and he has been using mobile shopping for years, more adaptive than others to use mobile shopping, as he stated that:

"I had a friend who quit mobile shopping years ago, but I remember he adopted mobile shopping earlier than me, and for some reasons he stopped, picked up again only till last year."

He also disagreed that mobile shopping can demonstrate his innovativeness, as he added

"I do not think to use mobile shopping can demonstrate my innovativeness, and I do not think of myself as an innovative individual either. But I think those people who lead the mobile shopping are innovative, as they can accept new technology much faster than others."

He believed that those people who lead the mobile shopping were innovative.

Similar opinions occurred from our Interviewee E, "I am confident about this, I am the only one who adopted mobile shopping among people around me." She was confident that she was the only one who adopted mobile shopping among people around her, and she adapted to mobile shopping more quickly than others, and yet she did not see mobile shopping adoption is a way to demonstrate one's innovativeness, she had an opinion that "frankly speaking, I would say people who invented mobile shopping were innovative individuals. "

Furthermore, Interviewee C expressed people around him had started using mobile shopping earlier than him, mainly because his consumption habit has not reached to using mobile to shop, however, as mobile shopping in a way is considered as an App adoption behaviour, it can be said that those who were familiar with frequent App use, were more familiar with mobile shopping. He continued "if most people using mobile shopping, it becomes a phenomenal behaviour, less individual innovativeness can be observed."

Interviewee D also showed a strong attitude that she expressed "I think just because people who adopted mobile shopping earlier than me does not necessarily mean that they are innovative." Even if she adopted mobile shopping at an early stage and believed she is more adaptive than others to use it, she does not consider herself an innovative individual, especially when mobile shopping has become a worldwide phenomenon.

Interviewee F believed that it was a farfetched statement that people who use mobile shopping are innovative individuals, since the mobile shopping has become nationwide behaviour in China, it is not a way to demonstrate one's innovativeness anymore. Although, she started

using mobile shopping until she realized that almost every person around her was using mobile shopping, even till today, she still considers:

"mobile shopping sometimes can be complicated for me, the operational page is always a mess, too many products displays as well as service and features pop-up windows at once, which could easily confuse me what to do next while I am shopping."

Through above statement that we could observe that the Interviewee F showed late adoption behaviour for mobile shopping as well as consider herself as a less innovative individual specially in the context of mobile shopping.

Theme 3 - Mobile shopping only has a short effect on people's psychological excitement and curiosity towards the virtual shopping world

Adventure shopping refers to shopping for excitement, adventure, and stimulation. It also refers to experiencing a different environment that stimulates the senses （Arnold and Reynold, 2003. It could be argued that since the mobile shopping channel is a relatively new shopping medium compared with traditional online and offline shopping channels, consumers would be interested in playing with new shopping services and features that are only available in the mobile-technology mediated environment. Exploring various mobile shopping applications and features would increase consumer shopping enjoyment in the mobile shopping channel. However, after the quantitative and qualitative analysis, the findings disproved these argument.

Our Interviewee A discussed that ;

"For the very first time that I used mobile shopping, I found it exciting and simulating psychologically, but this freshness faded away after two to three times of using mobile shopping."

Although, interviewer A enjoys exploring different services and features that are only available on mobile, yet this would not be the main reason to adopt the mobile shopping and comparing mobile shopping with treasure-hunting activities, mobile shopping and treasure-hunting activities sometimes share the same attributes as there are always uncertainties but it is still rather a weak effect.

Interviewee B stated that Mobile shopping does not make him feel excited or stimulated, but only convenient and gratified, this finding is well aligned with the accepted variables (Facilitated Condition and Perceived Gratification) in this proposed research model. He continued that:

"the biggest advantage of mobile shopping to me is to save time, spending time on exploring the more services and features is conflicted to the purpose that I use mobile shopping."

Apart from conveniences, he would not care about any other features or services, spending time on exploring more services is contradicted to use mobile shopping - saving time. Nevertheless, he also shared that when it comes to the comparison between mobile shopping and adventure activity, he was the only interviewee who believed the mobile shopping was similar to an adventure:

"I would have the curiosity to the psychological uncertainty during the shopping process, as sometimes I do not even know what I am keen to buy, it can satisfy my curiosity and brings me gratification after I bought something that I like, in this sense, it seems to be aligned with the adventure, satisfying curiosity and bringing gratifications."

Interviewee C expressed that mobile shopping is a normal, common scenario nowadays, excitement generated by mobile shopping only last a few minutes. He continued that he intended to stick to an App for a long period, as long as the delivery promptness is satisfied, convenience is provided, he would look into the service or features that the platform provided. He strongly believed that mobile shopping is not an adventure:

"mobile shopping is not an adventure, even if there are some uncertainties exist in the mobile shopping, but it is not equivalent to the uncertainties in the adventure. In my opinion, especially from my shopping habit, it's purposes oriented, I know what I am going to buy, and I will buy it. I will not do any shopping without any shopping purposes, or just for the sake of shopping."

It is worth noting that from his shopping habit, it's purposes oriented, he knows what he is going to buy, whereas adventure often does not have a certain purpose.

Interviewee D expressed that mobile shopping does not appear to be exciting, but convenient only. She believed the biggest advantage of mobile shopping is saving time rather than spending extra time on shopping, therefore she does not explore any services and features. She continued that "They do have a few similarities, as you can expect the surprise from the products you bought online, but it is still rather a weak effect."

Interviewee E denied that mobile shopping is an exciting or stimulating, but a little expecting for unknown surprise:

"I don't think it is an exciting or stimulating, but I do feel it is a bit of expecting for unknown surprise because I don't know what I am going to receive in terms of the quality."

She enjoys discovering the services and features that are available on mobile shopping platform, she also mentioned that mobile shopping share a little similarity with adventure, but she emphasized that "it is depending on the time, with the time passing by, the similarity between mobile shopping and adventure shows less and less significant."

Interviewee F mentioned that mobile shopping does not excite her or stimulate her, she has no special feeling about mobile shopping, mostly just because of the convenience. She prefers the shopping platform to be simple and clear, complicated services and features might satisfy others' apatite, "*if I know what I am going to buy and how to buy it, I will just simply complete that action.*" She also expressed that:

"although there are some uncertainties and sometimes I may confront surprise from mobile shopping in terms of the convenience mobile shopping offered, and yet I do not see it as an adventure activity, because adventure takes time, whereas mobile shopping saves time."

Theme 4 - Unnecessary socializing on the shopping platform tend to be avoided and refused

Arnold and Reynold (2003) defined that social shopping refers to the enjoyment of shopping with friends and family, socializing while shopping, and bonding with others while shopping. Since consumers consider shopping as an opportunity to socialize with others (Cardoso and Pinto, 2010) through communications and social interaction in the shopping context (Guido, 2006), in the aspect of social motive, the internet-enabled mobile phone is a great platform for communication to connect with others socially (Jones and Issroff, 2007). Such consumers will be motivated to participate in mobile shopping to conveniently get others' opinions via their mobile phones. Further, the communication functions (e.g. social network connections, text messaging, and multimedia messaging) enable consumers to exchange ideas and interact with others via the mobile shopping channel. When consumers learn that they can satisfy their needs for social interaction via features of social commerce in the mobile shopping channel, they may be motivated to shop by mobile phone. Especially, the Millennials prefer to use the mobile primarily for social networking, that is, to keep in close contact with their friends and family members (Shankar, et al. 2010). However, the past literature and theories are convincing, the data analysis tells them otherwise.

Interviewee A clearly stated he would pay much more attention to others' opinions when he encountered new brand and new products, he would care about others' opinions. However, he

would not share an opinion on the shopping platform, he might rate the product or brand, but he would not leave any comments about his personal opinions. He even would reject to socialize with any people on the shopping channels, this might relate to the personality he believed, he added:

"I will always ask what the purpose is for adding me, and further evaluate if it is necessary to become a friend. But in most cases, my answer is no."

Interviewee B expressed the same feeling that he cares about others' opinions and that opinions would influence his buying decisions, he would share the opinions with people close to him, but not sharing opinions with other people on the platform. Because "it wastes my time to leave a comment online, and most of the time I simply do not know what to say", he added. His answer to socializing with others on the shopping channel was also no, except in one occasion: "the products that I bought is my hobby related, for instance, I am into photographing, when I bought a certain type of camera lens, I might communicate with others who bought this before or who are going to buy this, I will add them as friends if necessary, but the purpose is not socializing or making friends with others, it is more of opinions-exchanging based on the products, still it is very rare."

Interviewee C also mentioned that he would consider others' opinions, whether it's a positive or negative thought on the products would highly affect his buying decision, "to a great extent, the products that I have bought must receive more than 80% of good comments." And yet, he would not share his opinions, as he thought that it is unnecessary to do so. He also would not join others as friends or accepting others' friend requests, "when I use mobile shopping, mainly just about buying products rather than socializing, as it does not fit in my social behaviour".

Interviewee D shares the same thoughts, she values others' opinions on the products, as she has not seen the actual products before, she could only rely on others' experiences. Similarly, she would not leave any comments or share her opinions with others on the shopping channel, only if in one exceptional scenario, "in an extreme situation where I am extremely satisfied or extremely unsatisfied, then I would leave my comments accordingly." Besides, she would refuse any friends' requests on the platform, as she believed it was not necessary to her, and she added "I am feeling insecure to become friends with people that I have never met before".

Interviewee E mentioned that she will consider others' opinions on certain products, because "I am the type of person that intends to trust the public opinions, the public opinions influence

me to a certain degree". However, the same situation occurred with interviewee D, she added "I would not leave comments on the products unless the products make me extremely satisfied or unsatisfied, otherwise, I am unwilling to spend time on writing a comment." She further stated that she intended to reject and avoid those unnecessary socializing.

Interviewee F possessed the similar attitudes with above all, she mentioned that:
"others' opinions toward a certain product matters, since I could not physically touch and see the products that I am going to pay for, others' shopping experiences become the only judgment that I could reply on."
The reason for her not to leave comments or share opinions with others was that she thought that would be unnecessary, because "there were already a lot of comments under the products review, I don't see the point for me to leave one." Although she considered herself a socializing person: "I still resist socializing in a virtual world, I don't know what their motives are to become friends with me without having seen them or properly talking to them." She would feel uncomfortable in this case.

Theme 5 - Mobile shopping was not a channel for Chinese millennials to keep up with the new fashion and trends

Idea shopping refers to the desire to keep up with trends and new fashions and to see new products and innovations (Arnold and Reynolds, 2003). One of its significant perspectives is novelty chasing, which is characterized as an inclination to look for new encounters and novel upgrades and to attempt new items or change brands for expanding incitement and assortment, consumers often use the possession of new products and innovations as a way to express their uniqueness and self-identity (Tian, Bearden, and Hunter, 2001).

However, in this study, the idea of shopping is found insignificant. The interviewee A expressed that:
"I use mobile shopping is to satisfy my shopping needs in a more effective way, it has nothing to do with keeping up with fashions and trends", and he continued that ", I will check the details of the product and compare the price, but not looking for the product availabilities."
He also shared that mainly because he is not a person who pursuit of fashion, therefore he did not care about any trend and fashion, the purpose of using mobile shopping is to satisfy his needs.

Our interviewee B stated that "I will read fashion magazines, watch fashion shows or pay close attention to the celebrities that I am following to keep up with new fashions and trends", and "I will obtain the fashion information from other channels, and to use mobile shopping with a sole purpose is to search and buy if the products are available."

Interviewee C mentioned:

"I only buy the products that satisfy my needs, even if the product is outdated, I would not mind that as well. Using mobile shopping is because of the conveniences it provides to instantly satisfy my shopping needs."

Interviewee C also stated that "I will not regularly check, I will check it only if I have something that I wish to buy", he expressed that he will not only check the product availability, but also check the price that provided by different retailers and quality reviews by other consumers.

Interviewee F clearly stated that:

"I get to know about the fashion and trends by occasionally reading Vogue and Elle, but that is not something that I am interested in. To me, I don't think mobile shopping is a way to keep up with fashion or trend as it is just a shopping method."

She mentioned that situation where she uses mobile shopping only because she has to, and mobile shopping is more of purposes oriented:

*"*for example, I know what products are available on which platforms, then I will simply go on to that platform to complete that action of buying, and that's the end of mobile shopping."

The four interviewees expressed the same perception towards mobile shopping, which that mobile shopping is not a channel or medium for consumers to follow up with the fashion and trends, but more related to a personal choice of shopping methods that provide effectively and conveniences.

On the other hand, the other two interviewees D and E shared otherwise. Interviewee D believed that:

"different mobile shopping apps will send me the notifications with the recent hottest products, and these products become the most popular ones because they are current fashions and trends related, so I could keep up with the newest fashion mind", and "the product normally run out quite quickly, so I will have to constantly check when and if the product will become available again in order to buy it".

Interviewee E expressed that:

"I believe mobile shopping in a way has assisted me to stay ahead of my friends in terms of newest fashions and trends, because it updates the products very quickly and will send me the push-up notifications, which keeps me informed what products are most popular ones.", and "I will still enjoy discovering and browsing around in different mobile shopping platforms, so I am always informed about what products are new and if they are available."

6.3.2 Interview Summary

As mentioned earlier, these interviews aimed to investigate further what the respondents answered and the reasons that those hypotheses were rejected in the survey questionnaires, and to further provide induction-based possible alternative explanations on the rejected hypotheses, therefore to better understand the results obtained from quantitative analysis, based on six Chinese millennials' perspectives on mobile shopping adoption. The finding from the interviews offered huge support and extra insights for the proposed model, the following themes were identified:

- Theme 1 - Adoption of mobile shopping is a voluntary social activity because of its usefulness and conveniences
- Theme 2 - Early adoption and adaptability to mobile shopping is not a way to demonstrate one's innovativeness
- Theme 3 - Mobile shopping only has a short effect on people's psychological excitement and curiosity towards the virtual shopping world
- Theme 4 - Unnecessary socializing on the shopping platform tend to be avoided and refused
- Theme 5 - Mobile shopping was not a channel for Chinese millennials to keep up with the new fashion and trends

These themes not only showed a great alignment with the outcome of quantitative analysis but further explained the reasons why the rejected hypotheses of social influence (SI), perceived personal innovativeness (PII), perceived adventure shopping (PAS), perceived social shopping (PSS) and perceived idea shopping (PIS) failed to demonstrate the direct effect on the behavioural intention to adopt mobile shopping among Chinese millennials.

6.4 Chapter Summary

This research aims to investigate the motivation of Chinese millennials adoption motivation towards mobile shopping, and to propose the predictors of the behavioural intention to use such technology by integrating six hedonic shopping motivations (Arnold and Reynold, 2003) into the UTAUT (Venkatesh, 2003). Different tests were applied, including reliability test, normality test, correlation test, and regression test, to examine the proposed model, and testing the related hypotheses. In addition, the model in this research was tested with a survey using a web-based mail questionnaire involving 473 respondents.

The empirical findings indicate the important role of performance expectancy ($\beta = 0.171$, $p = 0.001$), effort expectancy ($\beta = 0.356$, $p = 0.000$), facilitating condition ($\beta = 0.142$, $p = 0.000$), perceived gratification shopping ($\beta = 0.076$, $p = 0.011$), perceived role shopping ($\beta = 0.125$, $p = 0.001$) and perceived value shopping ($\beta = 0.099$, $p = 0.005$) in influencing Chinese millennials intention to adopt mobile shopping. However, three research hypotheses were rejected which were social influence ($\beta = 0.025$, $p = 0.431$), perceived individual innovativeness ($\beta = -0.039$, $p = 0.226$), perceived adventure shopping ($\beta = -0.083$, $p = 0.017$), perceived social shopping ($\beta = -0.025$, $p = 0.361$), and perceived idea shopping ($\beta = 0.051$, $p = 0.124$) were found insignificant to influence the Chinese millennials intention to use mobile shopping in China. Finally, the thematic analysis was employed for the semi-structured interview, to examine and validate the results obtained quantitatively and to investigate beyond what the respondents answered in the survey questionnaires.

CHAPTER 7 FINDINGS AND DISCUSSION

7.1 Introduction

This chapter is divided into four parts, the first part discussed the testing results of hypotheses that derived from the research framework and provided a summary table of accepted and rejected hypotheses. The second part discussed the impact of each construct of the research framework on the behavioural intention in details and reasons behind the accepted and rejected hypotheses as well as linking them to the previous literature; and the next section is followed by a comparison of the initial and revised the research framework, which can be seen that changes have been made inside the framework after the data analysis. The final parts concluded this chapter.

7.2 Hypotheses test

H1: Performance expectancy will have a positive and significant influence on the behavioural intention to adopt mobile shopping among Chinese millennials. (PE - BI)

This research validates that performance expectancy has a positive significant effect on users' behavioural intention in the context of mobile shopping among Chinese millennial. The correlation analysis indicates a moderate positive correlation between performance expectancy and behavioural intention (r=.477, p=.000). The relationship was found to be both positive and significant and thus the relationship between the two variables was established. However, to determine the a significant influence as in whether performance expectancy caused an improvement in the behavioural intention towards the adoption of mobile shopping, a regression model was developed with performance expectancy as an independent variable and behavioural intention as the dependent variable. The regression analysis on these models indicate that as the performance expectancy of the mobile shopping, it will lead to a positive impact on the overall behavioural intention of the users towards the mobile shopping adoption, the unstandardized beta coefficient value for performance expectancy was 0.171 with $p = 0.001$. This indicates that there is a positive impact of performance expectancy on the behavioural intention towards the use of mobile shopping and thus this hypothesis is accepted.

H2: Effort expectancy will have a positive and significant influence on the behavioural intention to adopt mobile shopping among Chinese millennials. (EE - BI)

In this research, effort expectancy was found to have a positive and significant correlation with the behavioural intention towards the use of mobile shopping ($r = 0.581$, $p = 0.000$), which indicated that an improvement in effort expectancy of mobile shopping may lead to an improvement in the positive behavioural intention towards mobile shopping. The significant influence was determined through the help of regression models created with effort expectancy as an independent variable and behavioural intention as a dependent variable. The unstandardized beta coefficients for effort expectancy were found and indicated to be positive and significant between EE and BI, which means that a positive change in EE will lead to an improvement in the BI towards mobile shopping. While EE had an unstandardized beta coefficient of 0.356 and $p = 0.000$, this indicates that there is a positive and significant influence of EE on BI and the hypothesis is thus accepted. In the qualitative research, the above statement was also supported, three interviewees out of six believed that the biggest advantage and only purpose of mobile shopping are saving time rather than spending extra time on it. More details will be given in the section of 7.3.6 and 7.3.7 below.

H3: Social influence will have a positive and significant influence on the behavioural intention to adopt mobile shopping among Chinese millennials. (SI - BI)

In the quantitative analysis of this research, the corresponding analysis that will help evaluate the hypothesis is the correlation and the regression analysis carried out with the two variables. The correlation analysis between the two values led to a Pearson's r-value of 0.331 and $p = 0.000$ indicating a strong positive and significant correlation between these two variables. This means that a positive change in social influence may lead to a positive change in the behavioural intention of mobile shopping. The research framework and the hypothesis test however require the determination of a significant influence between these two variables, where a positive or negative change in social influence will lead to a positive or negative change in the behavioural intention in mobile shopping. The regression model thus developed with SI as an independent variable and BI as a dependent variable led to an unstandardized beta coefficient value of 0.025 and $p=.431$, surprisingly indicating a significant influence between SI and BI cannot be found, thus, this hypothesis is rejected for the current research.

H4: Facilitating conditions will have a positive and significant influence on the behavioural intention to adopt mobile shopping among Chinese millennials. (FC - BI)

The relationship between facilitating conditions and behavioural intention towards mobile shopping can be tested through correlation and regression analysis. The correlation analysis between the two variables led to a Pearson's coefficient (r) of 0.441 and p = 0.000 indicating a strong positive and significant influence between the two variables. The significant influence of the relationship was determined through the regression analysis with facilitating conditions as an independent variable and behavioural intention as a dependent variable. The unstandardized beta coefficient value for FC in the regression model was found to be 0.142 with p=.000 indicating a positive and significant impact of the facilitating conditions on the behavioural intention of the users towards the use of mobile shopping. This thus leads to the acceptance of the hypothesis that as the mobile shopping technology improves in the facilitating conditions for the users, there will be an improvement in the behavioural intention towards the use of mobile shopping.

H5: Perceived individual innovativeness will have a positive and significant influence on behavioural intention to adopt mobile shopping among Chinese millennials . (PII - BI)

The relationship between PII and BI has been analysed through the correlation between the two variables and the regression model to evaluate if the influence of PII on the BI is significant. Although Pearson Correlation for PII indicates 0.255, it shall be considered as a weak correlation as it below 0.3 (Cohen, 1988; Makuka, 2012), the sig value however still shows 0.000, which means it is still significant even at the significance level of 0.01. The regression analysis has thus been carried out with PII as the independent variable and BI as the dependent variable to evaluate if the influence is significant at a significance level of 0.05. The results indicates a regression coefficient of -0.039 (p=.226), this relationship is negative and insignificant. Thus, this hypothesis is rejected.

H6: Perceived adventure shopping will a positive and significant influence on behavioural intention to adopt mobile shopping among Chinese millennials. (PAS - BI)

The correlation analysis between PAS and BI, these two variables for the use of mobile shopping has been carried out, the analysis results between the two variables showed a Pearson's r-value of 0.165 and p = 0.000 indicates a weak positive correlation, it shall be considered as a weak correlation as it below 0.3 (Cohen, 1988; Makuka, 2012), the sig value however still shows 0.000, which means it is still significant even at the significance level of

0.01. The regression analysis has thus been carried out with PAS as the independent variable and BI as the dependent variable to evaluate if the influence is significant at a significance level of 0.05. The relationship has been evaluated through a regression equation. The regression analysis led to an unstandardized beta coefficient value of - 0.083 and p= 0.017, indicating a negative and significant influence between PAS and BI among Chinese millennial rather than a positive one. Although the analysis result showed a significant influence between the two variables, it contradicted to the research objective, to identify the motivational factors behind the mobile shopping adoption among Chinese Generation Y. In this research, it proved an obstructing factor rather than a driving one. Therefore, this hypothesis is also rejected.

H7: Perceived social shopping will have a positive and significant influence on behavioural intention to adopt mobile shopping among Chinese millennials. (PSS - BI)

This relationship has been evaluated in the current research through a correlation and regression analysis between the two variables, perceived social shopping and behavioural intention. The variable PSS has evaluated the perceived social activities during online shopping for the users of mobile shopping in China and thus a positive relationship between the two will indicate that as the perceived social activities with technology go up, it leads to a positive behavioural intention towards the mobile shopping. Nevertheless, a positive Pearson's r value at 0.199 and p = 0.000 indicate that there is a rather weak positive and significant correlation between the two variables. According to Cohen 1988 and Makuka 2012, it shall be considered as a weak correlation if the Pearson coefficient is below 0.3, the sig value however still shows 0.000, which means it is still significant even at the significance level of 0.01. Thus, a regression analysis has thus been carried out with PSS as an independent variable and BI as a dependent variable to evaluate if the influence is significant at a significance level of 0.05. The relationship has been evaluated through a regression equation. The regression analysis led to an unstandardized beta coefficient value of - 0.025 and p= 0.361. Since the beta coefficient is negative and the P-value is greater than 0.05, which indicating that the influence between PSS and BI was not significant, further indicated that PSS did not have a significant impact on the BI, and PSS could not be one of the factors that help determine the variation in the BI values in the research. Thus, the hypothesis suggesting the positive impact of PSS on the behavioural intention of using mobile technology for shopping among Chinese millennial is rejected.

H8: Perceived gratification shopping will a positive and significant influence on behavioural intention to adopt mobile shopping among Chinese millennials. (PGS - BI)

In this research, perceived gratification shopping was found to have a positive and significant correlation with the behavioural intention towards the use of mobile shopping ($r = 0.353$, $p = 0.000$), which indicated that an improvement in perceived gratification shopping of mobile shopping may lead to an improvement in the positive behavioural intention towards mobile shopping. The significant influence of this relationship was determined through the help of regression models created with perceived gratification shopping as an independent variable and behavioural intention as a dependent variable. The relationship has been evaluated through a regression equation. The unstandardized beta coefficients for perceived gratification shopping were found and indicated to be positive and significant between PGS and BI, which means that a positive change in PGS will lead to an improvement in the BI towards mobile shopping. While PGS had an unstandardized beta coefficient of 0.076 and $p = 0.011$, this indicates that there is a positive and significant influence of PGS on BI, a positive relationship between the two will indicate that as the perceived gratification shopping goes up, it leads to a positive behavioural intention towards the mobile shopping adoption, and the hypothesis is thus accepted.

H9: Perceived idea shopping will have a positive and significant influence on behavioural intention to adopt mobile shopping among Chinese millennials. (PIS - BI)

Perceived idea shopping has also been cited as a key factor influencing the behavioural intention of users towards new technology and for the current study, the impact of perceived idea shopping of the users has been evaluated for a relationship with the behavioural intention. The correlation analysis for the two variables led to a Pearson's r-value of 0.382 and p=.000 indicating a moderate positive and significant correlation between the two variables, as the perceived idea of shopping improves, the behavioural intention to use the technology increased. This means that the perceived idea of shopping with the other factors that a user is used to affect the generating of positive behavioural intention towards the use of mobile shopping. The influence has been evaluated through a regression equation, the unstandardized beta coefficient value in the Regression Model for perceived idea shopping in this model was 0.051 with $p = 0.124$. Since the unstandardized coefficient is negative and the P-value is greater than 0.05, which indicating that the influence between PIS and BI was not significant, further indicated that PIS did not have a significant impact on the BI, and PIS could not be one of the factors that help determine the variation in the BI values in the research. Therefore, the hypothesis stating that improvement in perceived idea shopping will lead to improvements in BI of the users towards using mobile shopping in China is rejected.

H10: Perceived role shopping will have a positive and significant influence on behavioural intention to adopt mobile shopping among Chinese millennials. (PRS - BI)

This research validates that perceived role shopping has a positive significant effect on users' behavioural intention in the context of mobile shopping among Chinese millennial. The correlation analysis indicates a moderate positive correlation between the perceived role of shopping and behavioural intention (r=.417, p=.000). The relationship was found to be both positive and significant and thus the relationship between the two variables was established, indicating that there is a strong positive and significant correlation between the two variables, which means that as the perceived role shopping improves, the behavioural intention to use the technology increased. However, to determine the significant influence of this relationship as in whether perceived role shopping caused an improvement in the behavioural intention towards the adoption of mobile shopping, a regression model was developed with perceived role shopping as an independent variable and behavioural intention as the dependent variable. The significant influence has been evaluated through a regression equation. The regression analysis on these models indicates that as the perceived role shopping of the mobile shopping, it will lead to a positive impact on the overall behavioural intention of the users towards the mobile shopping adoption, the unstandardized beta coefficient value for perceived role shopping was 0.125 with p = 0.001. This indicates that there is a positive impact of perceived role shopping on behavioural intention towards the use of mobile shopping and thus this hypothesis is accepted.

H11: Perceived vale shopping will have a positive and significant influence on behavioural intention to adopt mobile shopping among Chinese millennials. (PVS - BI)

Perceived value shopping is an important consideration for users who opt for mobile shopping and thus has been found to impact the behavioural intention of the users. This relationship has been explored in the current research through a correlation and regression analysis involving the two variables. The Pearson's r value for the two variables at 0.403 with p = 0.000 indicates a very strong positive correlation between the two variables. This in turn means that an improvement in the perceived value shopping associated with mobile shopping may develop a positive behavioural intention towards using the technology. The relationship in turn has been evaluated through a regression equation. The unstandardized beta coefficient value for perceived value shopping was found to be 0.099 with p = 0.005 indicating a positive and significant influence of the perceived value shopping, the beta coefficient value of 0.099

indicates that with every one-point improvement in the perceived value shopping of mobile technology, the behavioural intention will improve by 0.099 points. This hypothesis is thus accepted for the research.

H12: Demographic variables

H12a: Gender has a moderating effect on the relationship between all independent variables and BI

The current research, gender did not show any significant moderating effect on the independent variables towards behavioural intention according to the moderation analysis in this research, the discussion has been given at section 7.3.12, and analysis has been provide in Appendix D

H12b: Income has a moderating effect on the relationship between all independent variables and BI

According to the moderation analysis in this research, the moderating effect of income on the independent variables towards behavioural intention was not observed in the current research, the discussion has been given at section 7.3.12, and analysis has been provide in Appendix D

H12c: Education has a moderating effect on the relationship between all independent variables and BI

According to the moderation analysis in this research, the moderating effect of education on the independent variables towards behavioural intention was not observed in the current research, the discussion has been given at section 7.3.12, and analysis has been provide in Appendix D.

Summary of hypotheses testing results

A summarised table of the hypotheses testing results has been shown in Table 31:

Table 31 - Results of hypotheses testing

Accepted Hypotheses			β	**P-Value**
		Moderators		
H1	PE - BI	*None*	0.171	0.001
H2	EE - BI	*None*	0.356	0.000
H3	FC - BI	*None*	0.142	0.000
H8	PGS - BI	*None*	0.076	0.011
H10	PRS - BI	*None*	0.125	0.001
H11	PVS - BI	*None*	0.099	0.005
Rejected Hypotheses				
H4	SI - BI	*N/A*	0.025	0.431
H5	PII - BI	*N/A*	-0.039	0.226
H6	PAS - BI	*N/A*	- 0.083	0.017
H7	PSS - BI	*N/A*	- 0.025	0.361

H9	PIS - BI	*N/A*	0.051	0.124

(Source: summarised and made by author, 2020)

7.3 Discussion of research findings

7.3.1 Performance Expectancy (PE)

This current research found a significantly positive relationship between the performance expectancy and the behavioural intention of the Chinese millennials towards such technology. The performance expectancy in the UTAUT model proposed by Venkatesh *et al*. (2003) has been considered as one of the most important antecedents of behavioural intention. Although this is due to the direct connection between the performance expectancy and the impact on the productivity of the employees in the UTAUT. However, in a study on the mobile commerce in Singapore, Yang and Fang (2004) found a positive correlation between the performance expectancy and behavioural intentions to adopt the new technologies. Furthermore, in the later research of Venkatesh et al. 2012, the UTAUT 2 once again has confirmed that the performance expectancy to be a strong antecedent of behavioural intention in the context of individual consumers rather than the organizational employees. In the similar studies have confirmed that performance expectancy has a significant and positive impact upon users' acceptance of mobile technology adoption (Luo *et al*., 2010; Oliveira *et al*., 2014).

In the context of mobile shopping, Yang and Forneey (2013) have concluded that performance expectancy is the strongest predictor of intention to use mobile shopping in the research framework. Similarly, in a cross-cultural study on mobile shopping continuance intention, the performance expectancy was confirmed as a significant determinant of mobile shopping continuance intention, and especially the performance expectancy seemed to be the stronger predictor in the Chinese sample than in the US (Lu et al., 2017). In another most recent research, performance expectancy was also found to positively influence on behavioural intention to adopt mobile shopping among students in Nanjing, China, according to Pratama and Jin (2019), performance expectancy succeeded in impressing the students in terms of enhancing shopping efficiency so that the students to have the intention to adopt mobile shopping.

Mobile shopping enables users to buy the products as per their convenience and effectiveness. The finding of this research confirmed previous studies which suggested that performance expectancy significantly influenced the behavioural intention to use mobile shopping, this

result demonstrated that the millennial mobile shopping users in China believe that mobile shopping will enhance their shopping performance when comparing with other shopping methods. Mobile shopping not only provides with wider and better product descriptions, prices, and after-sales services but also offers users with specific products or services in a much faster and more convenient way, thus mobile shopping greatly enhances shopping efficiency in lives.

7.3.2 Effort Expectancy (EE)

Somewhat surprisingly, of the main predictor of adoption that is fundamental to the late information technology acceptance theory, a study on the consumer intention to use mobile commerce in Malaysia, Wei et al (2009) however confirmed that perceived ease of use (effort expectancy) was found to have an insignificant effect on consumers' adoption of m-commerce. Miladinovic and Hong (2016) also came to the same that there was no significant influence between the effort expectancy of m-commerce and consumer intention to use mobile shopping in Sweden, they argued the difficulty level of using the mobile shopping apps is not a significant predictor of the behavioural intention, as people in Sweden are experienced with technology and have a good foundation of knowledge on how to use the technology and mobile shopping apps. In another study that demonstrated the same outcome, the effort expectancy was not validated as a significant predictor of intentions for the consumer to adopt mobile shopping (Morosan and DeFranco, 2016). Furthermore, Shaw and Sergueeva (2019) also concluded that the effort expectancy did not have a significant influence on the intention of adoption. The non-significance of effort expectancy in the above studies may be explained by the ubiquity of smartphones and the similarity of their most common features.

Nevertheless, this study indicated that effort expectancy has been proven to be a statistically significant factor that influences the behavioural intention to adopt mobile shopping, which is consistent with previous studies that found the effort expectancy had a significant and positive impact on users' behavioural intention (Venkatesh et al., 2003; Carlsson et al., 2006; Im, Hong and Kang, 2011; Venkatesh et al., 2012). In a more recent study, perceived effort expectancy was the strongest predictor of mobile shopping intention among the Chinese sample (Lu et al., 2017), this result is consistent with the finding of this research when comparing the impact of effort expectancy and performance expectancy on the behavioural intention of mobile shopping among Chinese millennial, the effort expectancy has a slightly higher impact on the behavioural intention than the latter. This is because firstly, people wish to maximize the marginal benefit, that is, by putting minimal effort to achieve the expected shopping expectations (Lu, 2017). Secondly, the simpler the shopping process is, the easier it is for users

to perceive that using mobile shopping can save their time, improve their shopping efficiency, and satisfying their shopping desires faster. Finally, the Chinese millennials' pace of life and work is accelerating, especially in the Tier 1 cities in China, they do not intend to spend more time and efforts on a complicated shopping process, therefore, the easier and simpler the mobile shopping is, the more likely that Chinese millennial were to adopt mobile shopping.

7.3.3 Facilitating Conditions (FC)

It has been found by previous studies that facilitating conditions have a significant effect on behavioural intention (Venkatesh et al., 2003; Crabbe *et al*., 2009; Yu, 2012; Zhou, Lu and Wang, 2010; Venkatesh et al., 2012; Oliveira *et al*., 2014). This research found that facilitating conditions could exert significant influence on behavioural intention, which is consistent with the previous studies. However, in the context of mobile shopping, Chopdar et al. (2018) reported that the impact of facilitating condition was insignificant on behavioural intention in the adoption of mobile shopping apps in India, the explanation they provided was that the young generation is adapted to new technologies and feel confident in using shopping apps so that the importance to various supporting factors no longer matter. Shaw and Sergueeva (2019) found the facilitating condition was not a significant factor to influence the behavioural intention, they argued that facilitating conditions could be confounded with ease of use, which was also stated in Venkatesh, 2003. They believed that mobile apps were requiring very little assistance and relatively simple to use, so long as the stable connectivity is ensured by the network providers and app developers build their apps intuitive (Shaw and Sergueeva, 2019).

This paper argues that the influence of facilitating conditions on behavioural intention in mobile shopping in China is identified, as it is suggested by the findings of this study that facilitating conditions have a significantly positive effect on the behavioural intention to adopt mobile shopping, the possible explanation is that even if the mobile shopping in China has a good and stable internet connection, many users who have a lot of knowledge with respect to the use of mobile shopping, are still willing to assist the new mobile shopping users when they face any troubles in using this technology. The previous study done by Miladinovic and Hong (2016) confirmed this implication, consumers find it important to have the necessary support and help while using mobile shopping apps, and the more support, and guidelines they have the more they are willing to use mobile shopping apps. This can be simply understood as if users are technically supported or have access to many necessary resources and can be assisted

by others when they have difficulties using mobile shopping, they would demonstrate a strong intention to adopt it.

In addition, compared with other shopping methods, mobile shopping has a higher degree of freedom in the dimension of time and space. In the current social environment where competition is fierce and the pace of life is constantly accelerating, it is difficult for many consumers to specifically make time for entering a physical store or sit in front of a desktop computer, carefully browse the web, view product descriptions, and compare product features. Whereas mobile shopping due to its convenience characteristics, this problem can be well solved. There are already many areas fully covered with the Internet in China, as long as people own a mobile device such as a mobile phone or tablet, they can make their full use of fragmented time while they are commuting, or during meals, etc., and to browse and purchase their favourite products. Therefore, the higher degree that the user's perception towards the convenience of mobile shopping, the more inclined to adopt the mobile shopping method, and to a certain extent accelerate the user's consumption behaviour while using mobile shopping.

7.3.4 Social Influence (SI)

The research finding indicated the impact of social influence on behavioural intention was insignificant, which is inconsistent with the relationship between social influence and behavioural intention in the unified theory of acceptance and use of technology (UTAUT) model proposed by Venkatesh *et al*. (2003). The UTAUT model suggests that social influence has a direct significant impact on behavioural intention (Venkatesh *et al*., 2003). Needless to say, in the sufficient amount of previous studies, social influence, as thus, is commonly used as a popular significant construct to predict behavioural intention (Venkatesh *et al*., 2003; Chong, Chan and Ooi, 2012; Chong, 2013; Venkatesh et al., 2012; Lu et al., 2017). The results have been noticed differently for what has been proposed in the conceptual model of the current study, and the below section will specifically discuss the contrary result, as the social influence was not a significant determinant towards the intention of mobile shopping adoption.
In order to reinforce and further investigate the result, this research therefore has carried out a semi-structured interview as a supplementary support, which led the emergence of Theme 1 - Adoption of mobile shopping is a voluntary social activity because of its usefulness and conveniences

Four interviewees were unanimous in regarding this variable of social influence to conclude the following: the adoption of mobile shopping is a voluntary action and often conducted solo among Chinese millennials, as discussed in section 5.9. Indeed, the social impact could not represent any factual change in the conduct aim to embrace mobile shopping which implies that Chinese millennial appears to be less intrigued by the suggestions and perspectives of their references groups or important ones (for example, family, friends, and colleagues) in forming their intention to adopt mobile shopping. In an early previous study confirmed that, when a technology adoption is not mandatory, subjective norm and sense of image seem to work through perceptions rather than intention, and stated that most potential and early adopters are more likely to base their adoption intentions on perceptions integrating their opinions from their informal social network, rather than blindly following the trend or merely for showing off in public and among friends (Lu et al., 2005). The insignificant impact of social influence on behavioural intention, also appeared in the study of Hew et al. (2015) suggested that mobile shopping users' social network could not influence their beliefs and behaviour. Chopdar et al. (2018) conducted a cross-country study on mobile shopping adoption intention between USA and India, the social influence was also not found to impact the behavioural intention of consumers significantly, they posited that mobile shopping is perceived as a highly personal activity, people around the consumers could not influence their beliefs and behaviour for both the countries and denied collectivist cultures are socially oriented and value the opinions of the group more than themselves (De Mooij and Hofstede, 2010). Furthermore, Yang (2013) and Miladinovic and Hong (2016) investigated mobile application's acceptance and found that social influence could not affect the behavioural intention to use mobile shopping apps, and posited mobile shopping users were not affected by the opinions and suggestions of family and friends who think they should or should not use mobile shopping apps. This may be due to the mobile shopping reviews and expert opinions are made available online, hence users can make decisions if to use mobile shopping based on these reviews without having to consult relatives and friends. Similarly, Shaw and Sergueeva (2018) argued that social influence was significant in mandatory scenarios but not in voluntary use. This suggests that the probability of people fulfilling the expectations of others is rather weak in the voluntary use of technology. Consumer adoption of mobile commerce is an intentional activity and is frequently led to performance (Shaw and Sergueeya, 2018). The other findings also went against the original UTAUT model and found that there was no significant effect of social influence on behavioural intention. (Gerrard and Gunningham, 2003; Lu, Yao and Yu, 2005; Riffai, et al., 2012; Wang and Yi, 2012; Hew et al., 2015; Morosan and DeFranco, 2016; Alalwan et al., 2017; Shareef

et al., 2017; and Merhi, Hone, and Tarhini, 2019). Therefore, this research concludes the finding that mobile shopping is a voluntary and intentional social activity, the effect of social influence on mobile shopping intention among Chinese millennial is rather unobservable.

7.3.5 Perceived Individual Innovativeness (PII)

According to Ruvio and Shoham (2007), innovators are a valuable resource to firms introducing new products. Yang et al., 2012 conducted a study that confirmed the above statement and stated that since the innovativeness of an individual was a persistent trait, personal innovativeness was found significant to affect behavioural intention directly and indirectly via relative benefit perceptions towards mobile commerce. Thakur and Srivastava (2014) also found innovativeness to affect users' intentions meanwhile the innovativeness had a slightly stronger influence for those with knowledge of mobile commerce than those without. Similarly, Lu, (2014) provided positive empirical support to the long-term psychological influence of personal innovativeness on continuance intention towards mobile commerce, and specifically emphasized on its effect in the post-adoption context. Built upon these findings, Slade et al. (2015) indicated that the innovativeness was found to positively affect behavioural intention to adopt mobile payment, suggesting that individual characteristics typically important in this context. However, in this research of Chinese millennial the results showed that the influence of perceived individual innovativeness on behavioural intention to use mobile shopping is somewhat insignificant. This finding is similar to Lu et al. (2005) earlier research, where the positive direct influence of personal innovativeness over intentions to adopt mobile technology was not supported by the analysis. They believed that was because of the educational level of the sample, the participants might tend to base their decision intentions more on rationality than on pure curiosity and bravery. Similarly, Wong et al. (2012) Malaysia, carried out research and the results of their study showed that personal innovativeness did not have a significant impact on the intention to adopt mobile shopping. Once again, they believed that one possible explanation was due to the educational background of the respondents where it was revealed that 77 percent hold at least a degree. Thus, the participants' decisions have not been based on the curiosity and bravery but more on rationality and logic such as usefulness, ease of use, functionality, etc (Wong et al., 2012).

This study believes that one of the main reasons for this finding could be as suggested by the previous studies, the participants' educational background plays an important role when

assessing the personal innovativeness, the majority of 366 participants obtained a bachelor degree, of which taking 77.4% to total respondents, as shown in Table-10. This implied when they perceive mobile shopping, they are more attracted by its practical features such as the utilitarian or hedonic benefits rather than curiosity itself. In addition, another aspect is that although many people have formed mobile shopping behaviours, consumers with stronger perceived individual innovativeness have not shown stronger intention to adopt mobile shopping than consumers with less perceived individual innovativeness. This result is consistent with the previous studies carried out by Li (2016), research on influencing factors of consumer mobile online shopping behaviour. In a more recent study, a research conducted on consumer attitude towards mobile shopping application in Indonesia reported that there was an insignificant influence between personal innovativeness and attitude towards mobile shopping (Berlian and Balqiah 2019), as they explained that participants were statistically reflected as a non-early adopter of mobile shopping.

This result caught on the author's attention, therefore a further investigation has been carried out by conducting a semi-structured interview, aimed to discover the reasons behind the rejection of this hypothesis. After the qualitative analysis, it led to the conclusion that adoption and adaptability to mobile shopping is no longer a way to demonstrate one's innovativeness since mobile shopping has become a phenomenon, as shown in section 5.9, Theme 2. Six interviewees have shared the same thoughts that since mobile shopping itself has become a lifestyle globally, if most people using mobile shopping, it becomes more of a phenomenal behaviour, less individual innovativeness, therefore they would not agree that using mobile shopping can demonstrate one's innovativeness. Whereas those people who invented mobile shopping or led mobile shopping to become a trend were innovative individuals. These findings are aligned with the past literature, which stated that individual innovativeness is defined as developing an innovation (Yuan and Woodman, 2010), and innovators have several prerequisites that enable them to respond to innovations earlier than their peers. They have the ability to understand and apply complex technical knowledge; they have the ability to cope with high levels of uncertainty about innovation when adopting it (Rogers, 2003).

In addition, Although the study of Lu (2014) found that among well-educated m-commerce users in the USA, personal innovativeness was the determinant of initial adoption and remained a strong determinant of user intention. This is not the case in the current study. This is because it has long been contended that US cultural values are more individualistic and Chinese values

more collectivistic (Hofstede 2001; De Mooij and Hofstede, 2010). In individualistic cultures, people are more "I" conscious and express private opinions. They want to differentiate themselves from others and prize individual decisions more highly than group decisions. People in collectivistic cultures are more "we" conscious, with one's identity-based in one's family and other social networks. Plus, as mobile shopping has become a phenomenon in China, it has become a people's habit and lifestyle, therefore the traits of individual innovativeness may no longer necessarily influence on the behavioural intention.

7.3.6 Perceived Adventure Shopping (PAS)

Adventure shopping refers to shopping for excitement, adventure, and stimulation. It also refers to experiencing a different environment that stimulates the senses （Arnold and Reynold, 2003）. The author argues that since the mobile shopping channel is a relatively new shopping medium compared with traditional online and offline shopping channels, consumers would be interested in playing with new shopping services and features that are only available in the mobile technology-mediated environment. Exploring various mobile shopping applications and features would increase consumer shopping enjoyment in the mobile shopping channel. Yang and Kim (2012) confirmed in their research that adventure shopping played a significant determinant for mobile shoppers, implied that adventure shopping is one of the driving factor for mobile shopping. However, a paper conducted by Blázquez (2014) has found that in the context of mobile shopping, the significance of adventure shopping could not be observed, which is consistent with the result of this paper.

The Theme 3, emerged from the qualitative analysis has caught the author's attention. One of the interviewees possessed a unique view on this issue, and this interviewee was the only one who believed that mobile shopping was similar to an adventure. He also shared that when it comes to the comparison between mobile shopping and adventure activity, he would possess the curiosity towards the psychological uncertainty during the shopping process, which can satisfy his curiosity and bring the gratification after he bought something that he likes, in this sense, it seems to be aligned with the adventure, satisfying curiosity and bringing gratifications.

Nevertheless, the other five interviewees were unanimous in regarding this variable of perceived adventure shopping. They firstly discussed that when the first time they used mobile shopping, found it exciting and stimulating psychologically, but this freshness feeling faded away after two to three times of using mobile shopping. Mobile shopping does not make them

feel excited or stimulated, but only convenient and gratified, this finding is well aligned with the accepted hypothesis (PGS-BI) in the research model. As mobile shopping has become a frequent and normal, common scenario nowadays, the excitement generated by mobile shopping only lasts a few minutes. Secondly, they all agreed that the biggest advantage of mobile shopping to them was to save time, spending time exploring more services and features are conflicted with the purpose that they utilize mobile shopping - saving time. Finally, they believed when comparing mobile shopping with adventure activities, even if some uncertainties exist in mobile shopping, but it is not equivalent to the uncertainties in the adventure.

Adventure and mobile shopping share the same attributes as there are always uncertainties but it is still rather a weak effect. It is worth emphasizing here again that the impact between perceived adventure shopping and behavioural intention to adopt mobile shopping was observed as significant, however, it showed a negative relationship, which means the more adventure shopping experience desired by the Chinese millennials, the fewer chances for them to choose mobile shopping.

7.3.7 Perceived Social Shopping (PSS)

Arnold and Reynold (2003) defined that social shopping refers to the enjoyment of shopping with friends and family, socializing while shopping, and bonding with others while shopping. Since consumers consider shopping as an opportunity to socialize with others (Cardoso and Pinto, 2010) through communications and social interaction in the shopping context (Guido, 2006), in the aspect of social purpose, the internet-enabled mobile phone is a great platform for communication to connect with others socially (Jones and Issroff, 2007). Such consumers will be motivated to participate in mobile shopping to conveniently get others' opinions via their mobile phones. Further, the communication functions (e.g. social network connections, text messaging, and multimedia messaging) enable consumers to exchange ideas and interact with others via the mobile shopping channel. When consumers learn that they can satisfy their need for social interaction via features of social commerce in the mobile shopping channel, they may be motivated to shop by mobile phone. Especially, the millennials prefer to use the mobile primarily for social networking, that is, to keep in close contact with their friends and family members (Shankar, et al. 2010).

However, the above literatures laid in contrast to the current research, as it is identified that perceived social shopping has varying or limited influences on the intention to use mobile shopping among Chinese millennials. The Theme 4 from qualitative analysis discovered the reason behind the rejection. After the qualitative analysis, it led to a result that unnecessary external or socializing on the shopping platform tend to be avoided and refused. All the interviewees would pay more attention to others' comments regarding the products, and to a great extent, the products that they have purchased online must receive more than 80% of positive comments. Their buying decisions were heavily relying on people's comments, and however, they were cautious of privacy and their private identity, therefore not willing to share any idea about the products they purchased, they believed it was a time-wasting to leave comments or personal idea, only in some exceptional scenarios they would leave the comments where if the products they purchased made them feel extremely satisfied or unsatisfied. Lastly, they all resisted socializing with others while using mobile shopping, as they believed that mobile shopping was only just about buying products rather than socializing, and it will be feeling insecure to become friends with people that they never met before because they could not tell what people's motivation was to become a friend without having seen them or properly talked to them.

When mobile shopping channels provide consumers with communication and social interaction features, social shopping motivation may become significant (Yang and Kim, 2012). This managerially implied the retailers could develop a social shopping function with ensured personal privacy and security, the function can be aiming at shopping with friends to get the best price for the products so that to increase social interactions.

7.3.8 Perceived Gratification Shopping (PGS)

Gratification shopping refers to shopping as a mean to create a positive feeling, that is, to feel better or give a special treat to oneself (Arnold and Reynold, 2003). Jin et al. (2015) stated that Malaysian citizens are moving towards adopting internet shopping as one of the shopping channels to substitute traditional shopping in some way while craving for some gratification through online shopping.

The current research found a strong positive significant influence between the perceived gratification shopping and the behavioural intention of the Chinese millennials towards mobile

shopping. The research result is also consistent with the previous study done by Yang and Kim (2012), the importance of satisfying shopping in the mobile shopping channel was supported. Since mobile phones are extremely personalized devices that users carry most of the time, retailers can send personalized and personalized messages or promotional information through an App push notification. In addition, the instant purchase function is a common feature of mobile shopping services, which fulfils the consumers' needs for instant satisfaction. When consumers receive personalized shopping information according to their needs, they may feel the special treatment of retailers and interact with retailers or brands (Yang and Kim, 2012). Further, according to Parker and Wang (2016), the gratification was one of the most important determinants within their study, as the strong influence of gratification feeling caused by stress, it stimulates the motivation of consumers to shop on mobile shopping apps, this indicates that as mobile shopping app preferred participants, they will be more relax and dependent on mobile shopping apps when they were stressed.

Furthermore, in this research, it is found although technology-mediated mobile shopping can be designed to provide functional benefits to facilitate the shopping process for Chinese millennial on the move, they are more likely to be driven by the perceived gratification shopping that enhances the use of mobile shopping features and functions. However the instancy at which this gratification is received is important. This is dependent upon the mobile shopping technical capabilities, therefore, as seen in the qualitative interview themes, there is a blurring between the innovativeness of the inventor and the consumer. This is linked to how quickly consumers are able to perceive gratification and the novelty factor of this made capable through technical functions. Therefore, when creating a good user experience in the development of mobile shopping services, the experiential and entertainment aspects should be critical considerations. The results support the view that consumers' shopping experience often involves both utilitarian and hedonistic motives (Babin et al. 1994).

7.3.9 Perceived Idea Shopping (PIS)

Idea shopping refers to shopping to gather information about new trends, fashions, and products (Arnold and Reynold, 2003), when consumers may participate in gathering information about new trends and fashions, this type of shopping activity is so-called idea shopping. Needless to say, in the mobile shopping channel, it is easy to obtain the latest information and promotions about products and services by simply browsing the different

mobile shopping platforms, which can enable shoppers to discover various product information and services. Yang and Kim (2012) confirmed the significance of idea shopping in their study and suggested that mobile shoppers enjoy browsing to obtain product information, and the mobile shopping channel is a place to get information about new trends, fashion, and product, price information. This result was validated by Parker and Wenyu (2019), the e-commerce shopping preference in China was influenced by idea shopping, the explanation of the findings however in their paper was rather unclear and ambiguous. Consumers can seek product information when they are on the go and can customize mobile shopping applications for receiving push notification regarding the products based on their personal preferences (Yang and Kim, 2012).

However, the current research identified that perceived idea shopping has no significant influence on the intention to use mobile shopping among Chinese millennials. Parker and Wang (2016) found their participants preferred to gather fashion information from other channels such as social media, blogs, magazines, and physical stores, which were consistent with the findings of this paper. Thus, according to the interview, four interviewees were unanimous in regarding this variable of perceived idea shopping, they expressed the same perception towards the mobile shopping, which was that mobile shopping is not a channel or medium for consumers to follow up with the fashion and trends, they would choose fashion magazines and advertisements or celebrities blogs to follow up with newest trends and fashion, mobile shopping is more related to a personal choice of shopping methods that provide effectively and conveniences, as the Theme 5 in section 6.3.1 suggested, mobile shopping was not a channel for Chinese millennial to keep up with new fashion and trends . In the research of Horváth and Adıgüzel (2018), they found that idea shopping is a central motivation for compulsive buyers to engage in shopping in an offline environment such as a shopping mall or leisure centre. Therefore, idea shopping is not found significant in this research context.

7.3.10 Perceived Role Shopping (PRS)

Role shopping emphasizes shopping for others to successfully find the right gift (Arnold and Reynolds, 2003). Jones and Issroff (2007) emphasized that role shopping refers to the shopping experience of selecting the right gift/products for others. According to the previous studies, the significant impact between the role shopping and intention to adopt mobile shopping could not be observed and the significant influence between the two variables was not able to be

successfully established (Yang and Kim, 2012; Parker and Wang, 2016; Parker and Wenyu, 2019).

However, the current research found a strong positive significant influence between the perceived role of shopping and the behavioural intention of the Chinese millennials towards mobile shopping. It could be argued that this is associated with the collectivistic culture of China, as it has been long traditional to exchange gifts in a wide range of interactions with family and friends, business acquaintances, and others in one's social networks (Chan, et al., 2003; Qian, et at., 2007; Blake, et al., 2017). In this case, finding a gift for others before gift exchanging is becoming the key action. When role shopping is applied to the mobile shopping context, the personal property of the mobile phone provides mobile shoppers with a strong sense of ownership, showing the person's role in sharing information and opinions on the mobile shopping channel (Jones and Issroff, 2007), and especially, the perceived role shopping reflects the enjoyment felt when shopping for others as well as finding the perfect gift (Arnold and Reynold, 2003).

In addition, the nature of a mobile device such as mobile phone or tablet enables mobile shoppers to receive product information without any limitation of time and place, which further enhancing a consumer's role to find out the perfect product for others so long as it is Internet-connected. Furthermore, the role shopping features could also be promoted whether it is on the websites for mobile shopping or mobile shopping Apps, to provide specific shopping functions for gift concept on special seasons or festivals to encourage consumers finding the right gift for others based on their own needs.

7.3.11 Perceived Value Shopping (PVS)

Value shopping refers to the consumer shopping process of focusing on bargain hunting as well as discount seeking behaviour (Arnold and Reynolds, 2003) and Wanger 2007 expressed the value shopping as the desires of consumers for inexpensive shopping opportunities. Although the impact of value shopping on the intention to adopt mobile shopping could not be observed as significant in the past literature (Yang and Kim, 2012; Parker and Wenyu, 2019), the current study found a positive and significant influence between the perceived role shopping and the behavioural intention of the Chinese millennials towards mobile shopping adoption, the result is consistent with the previous study conducted by Holmes et al. (2014), they posited for all

the products, the mobile channel is important for consumers to engage in pre-purchase activities such as evaluating alternatives, checking stock availability and most importantly finding a discount voucher or promotion. Consumers buying intention and behaviour via mobile devices are encouraged by retailers' discounts information and communication (Agrebi and Jallais 2015). Similarly, Parker and Wang, 2016, they emphasized that the value shopping in their study was reported to be able to affect the participants' behaviour to shop through mobile shopping apps, and strongly indicated an important role of this variable for mobile shopping engagement.

Consumers may feel a sense of personal achievement and be gratified with their shopping process in receiving bargain and discounts (Babin et al., 1994). In relation to value shopping motivation, from a mobile shopping perspective, consumers are enabled to obtain both emotional satisfaction and external benefit regarding the value of a product, this could lead to actual adoption of mobile shopping (Yang and Kim, 2012).

With respect to mobile shopping channels, consumers can obtain bargains and discounts through mobile Apps' push notification while they are on the move. In addition, a large number of mobile shopping platforms enable consumers to share discount information with other members and to form up as Group-buy, so that they can easily find special offers through mobile shopping channels while receiving the discounts on a product to a greater extent. Moreover, to enhance value shopping applications and features for finding special product offers or discounts with minimal time consumption can improve the value shopping motivation of potential mobile shoppers.

7.3.12 Demographic variables

Gender

As per UTAUT recommended, males will be more concerned with the performance of technology due to their higher orientation towards the task while the females will be more influenced by the effort required as well as the social influence to accept the new technology (Venkatesh et al., 2003), and the dependence on facilitating conditions is of greater importance to older women because they place greater emphasis on reducing the learning effort required in using a new technology (Venkatesh et al., 2012). Arnold and Reynold (2003) also suggested

that in their study, females scored higher on the hedonic shopping motivation subscales than do males in an offline shopping research context, Yang and Kim (2012) also stated the demographic profile of mobile shoppers suggests that male consumers are major mobile shoppers derived from adventure and gratification shopping motivation.

According to the moderation analysis in this research, there is no moderating effect from gender observed in the analysis. A possible explanation for this might be in the context of mobile commerce, males and females are found to be equally using mobile shopping (Goswami and Dutta, 2015). Bigne, Ruiz, and Sanz (2005) highlighted that gender does not exhibit a significant difference when it comes to mobile shopping. Jaradat and Rababaa (2013) carried research focused on the acceptance and use of mobile commerce services in Jordan, they did not find any of their constructs were moderated by gender. Likewise, Alkhunaizan and Love (2013) in Saudi Arabia, conducted a study on the effect of demographics on mobile commerce had yielded a similar result. Thus, as suggested in the previous literature gender may be conceptualized as psychological constructs (Chiu et al., 2005), male and female consumers are not at bipolar extremes on such dimensions as technology adoption, and they might vary based on degrees of femininity or masculinity (Bem, 1981). Especially since mobile shopping has already become a phenomenon in China, so the impact of gender is not observed in this study.

Income

According to the moderation analysis in this research, there is no moderating effect from income observed in the analysis. Wang et al. (2015) suggested that income may be correlated with mobile adoption, they explained that the positive effect of mobile shopping on subsequent purchase behaviour is more prominent on customers with low spending prior to mobile adoption, and they theorized that mobile devices provide convenience, so that causes increased spending. In addition, mobile shoppers are located at the income range of middle to high and often use their mobile phones exclusively for private shopping purposes (Yang and Kim, 2012). The previous studies have addressed that income had significant effect towards mobile shopping, this research however found otherwise. The possible explanation for such result might be that most participants are well educated, Dennis et al. (2009) proposed that individuals with high income are also highly educated, as mentioned above, in this research, only a few sample was qualified at high school level and correspondingly, most of the participants' income level were at a higher level, and therefore they tend to shop more online whether through mobile or non-mobile platform as they perceive lower implicit risks in undertaking an online

purchase (Hernández et al., 2011), furthermore, as the Chinese millennial, the participants in this research are actual users of mobile shopping and apparently educated and mobile technology literate regardless of their earning power, therefore the moderating effect of income was not observed in this research.

Education

According to the moderation analysis in this research, there is no moderating effect from education observed in the analysis. Samudra and Phadtare (2012) observed that people with post-graduated qualification prefer mobile commerce, furthermore, Yang and Kim (2012) also reported that mobile shoppers suggested that consumers with college degrees are major mobile shoppers. However, the current research did not observe any significant difference in the research variables across the educational qualifications. The possible explanation for this could be that most participants in this research were highly educated, according to Rogers (2003), individuals with a high level of education lean more positively towards a novel technology. Bigne, et al. (2005) further indicated that individuals with higher level of education showed a high probability to use and adopt mobile shopping compared to those who with lower educational background, regardless of the ease of use of mobile shopping, it also requires logical understanding and skills to facilitate the process. In this research, only a small sample was qualified at high school level while all others were at least university graduated and thus were educated enough to be positively oriented towards mobile shopping technology.

7.4 Conceptual Framework Revisited

7.4.1 Initial proposed research framework

As demonstrated in section 4.3, the UTAUT plays purely on a utilitarian based (extrinsic motivation), this paper has added the six dimensions of hedonic motivation (intrinsic motivation) as well as perceived individual innovativeness so as to construct a research model that is suitable for the purpose and direction of this research. In the proposed model, factors in the green frames were kept and extracted from the original UTAUT model, whereas the factors in the blue frames were new added in order to fulfil the research objectives of this study Showing in the below Figure 15:

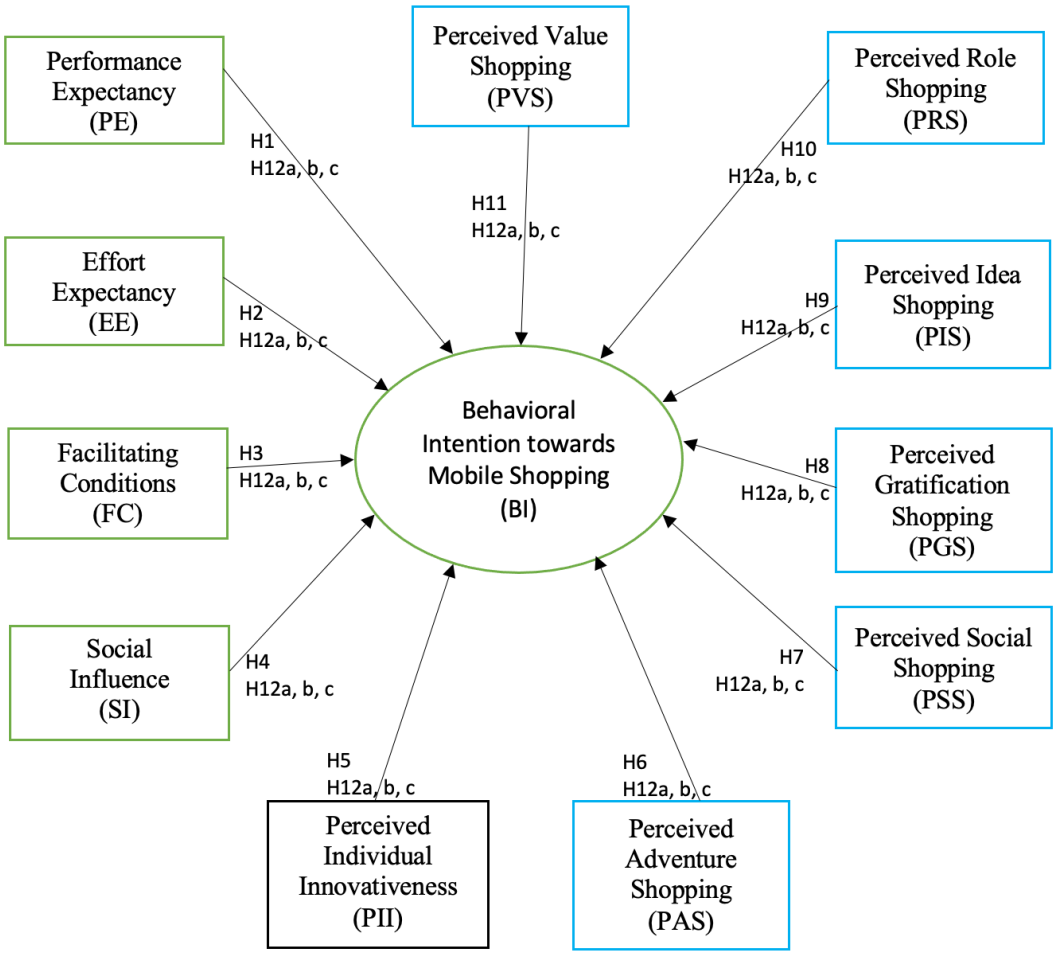

Figure 15 - Initial proposed research framework

(Source: made by the author, 2020)

7.4.2 Revised research framework

Nevertheless, after the data analysis and discussion, the findings indicated that accepted hypotheses were performance expectancy(H1), effort expectancy (H2), facilitating conditions (H3), perceived gratification shopping (H8), perceived role shopping (H10), and perceived value shopping (H11). Although the detailed discussions have been provided in the 7.3, a summary of key findings based on the revised research framework will be demonstrated in section 8.3 once again, along with the achievement of research objectives. The values of the research variables have been highlighted and summarised in Figure 16.

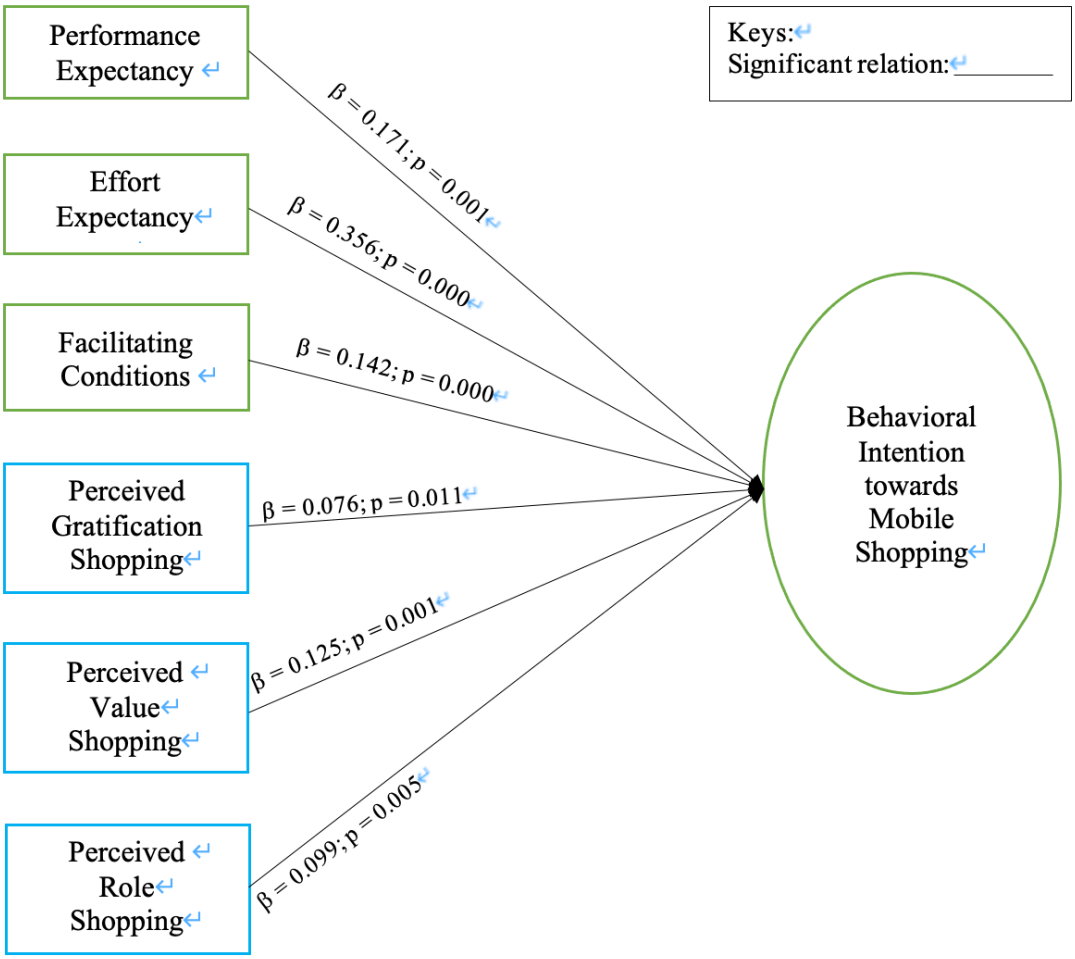

Figure 16 - Finalized Research Model

(Source: made by the author, 2020)

7.5 Chapter Summary

In this chapter, the test results of 12 hypotheses developed for this research were discussed from the following two sections. First, it was explored statically based on each hypothesis on the test of correlation and regression analysis and provided the confirmation of accepted and rejected hypotheses. The second section provided a detailed discussion of each hypothesis, the reasons for accepting and rejecting them were justified and linked the past literature to discuss and analyse the current findings, such as similarities and differences between the test results and findings of other studies, along with providing the rational explanations for the research results. The final section provided a comparison of the initial and revised research framework based on the findings.

CHAPTER 8 CONCLUSION

8.1 Introduction

This chapter aims at concluding the research and is based on the preceding chapters that covered the results, analysis, and the discussion of the research findings. The research aimed at evaluating the behavioural intention of Chinese millennial towards the use of mobile shopping. While theoretical frameworks have been developed to explain the phenomenon of innovative technology adoption, these frameworks need to be contextually applied to identify whether the influenctial relationships between the behavioural intention and their determinants remain true across varied contexts (McFarland and Hamilton, 2006). Through the identification of these relationships, marketers such as the mobile shopping app firms can develop strategies to influence the behavioural intention of users towards using mobile shopping. A conceptual framework was developed as part of this research in which relationships between the research variables were established to be tested through the quantitative research with four hundred and seventy-three survey questionnaires collected as well as the qualitative research carried out in the form of semi-structured interviews with six Chinese millennial.

Based on the research framework, a summary of key findings along with the achievement of research objectives has been established in the sections below. In addition, this chapter also covers the contribution of the research findings to the existing literature and theory on the subject as well as its implications for the managers of commercial companies based in China and other countries that are interested in targeting the Chinese millennial as their consumers. This chapter finally concluded with the limitations of this research and the possibilities for further research on this field.

8.2 Summary of key findings

In terms of the relationships between the variables, the following section describes the research framework based on the research findings. The first key finding relevant for the research framework is for the relationships contained in the theoretical frameworks proposed by Venkatesh et al. (2003), the model of UTAUT, the findings indicate that the significant influences as expected under the model were true for the adoption of mobile shopping in China, apart from the social influence which was ambivalent and varied, all other variables included

in the UTAUT were satisfied when it comes to predicting the Chinese millennials' behavioural intention of adoption of mobile shopping.

The second key finding of the research was in relation to the determinants of the hedonic shopping motivation (Arnold and Reynold, 2003), perceived gratification shopping, perceived role shopping, and perceived value shopping were found to be the motivation of Chinese millennial towards mobile shopping adoption.

The third key finding of this study was related to the identification of insignificant factors for mobile shopping adoption among Chinese Generation Y. The behavioural intention was found to be insignificantly influenced by the perceived individual innovativeness of the users regarding the mobile shopping. This result is well-aligned with findings in the thesis of Li (2016), as while the research participants shared the mobile shopping behaviours, the participants with strong personal innovativeness have not shown a stronger willingness to adopt mobile shopping than participants with less innovativeness. In addition, the social influence was found to be insignificant towards behavioural intention, as when it comes to voluntary use in the acceptance of technology, the probability of people fulfilling the expectations of others is rather weak. Moreover, the perceived adventure shopping and perceived social shopping, and perceived idea shopping were also found to be insignificantly influencing factors, as adventure shopping, social shopping, and idea shopping requires different medium to demonstrate its special attributes, thus the offline shopping may be more applicable than the online platform for the three variables to have more influential abilities.

These findings, therefore, presents a framework that can be used by marketers in promoting mobile shopping services to their customers. Any application developed as part of the mobile shopping platform needs to emphasize apart from the perceived utilitarian value, but perceived hedonic value as well in developing a high behavioural intention towards such technology. The variations in the behavioural intention of the Chinese millennial towards the technology are not as significantly influenced by factors such as social influence, perceived individual innovativeness, perceived adventure shopping, perceived social shopping, and perceived idea shopping. This indicates that the marketers need to pay attention to fast-changing technological environments that are impacting consumer behaviour and in this case, specifically m-shopping to improve the practicality and novelty factors of the mobile shopping process – With the existing process as well as the technological infrastructure available with the consumers in

China. Moreover, perceived gratification shopping, perceived role shopping, and perceived value shopping are the key determinant of behavioural intention, and this means that a mobile shopping platform is more likely to be used for its perceived hedonic shopping benefits than as a standard shopping platform. Thus, if marketers intend to increase the utilization of their mobile shopping platforms, they are suggested to consider the users who are more fun-originated and thus need to use this shopping platform.

8.2.1 Meeting research objectives and questions

The research objectives and questions in this study were achieved and answered by using two different research approaches. First, an extensive literature review was conducted to understand the field of consumer behaviours in the context of mobile shopping, the subject related theoretical models have also been reviewed and adopted two theoretical models on a purpose to achieve the research objectives. Second, mixed methods were conducted by primarily using SPSS statistic programs such as descriptive analysis, correlation test, and multiple regression tests to determine the different relationships existed; and semi-structured interviews were also conducted to validate and complement the result obtained quantitatively by using thematic analysis. Below Table 32 summarised the how each research objectives and questions were achieved.

Table 32 - Meeting research objectives and questions

Research Objective 1	
Identify and examine the key factors that influence Chinese Generation Y's mobile shopping adoption.	The first objective was achieved by conducting a comprehensive literature review in three areas: consumer behaviours - attitude and intention, technology acceptance models, mobile shopping, and shopping motivation in order to understand the phenomena. These areas were specifically addressed in Chapters 2 and 3.
Research Objective 2	
Develop a conceptual framework on Chinese Generation Y's mobile shopping behaviour by integrating six dimensions of hedonic shopping motivation to UTAUT.	The second objective was achieved by conducting the main field study and the related statistics tests such as reliability, descriptive, correlation, and regression test., and eventually succeeded in integrating the UTAUT and six hedonic shopping motivations, since there was no prior research to combine these two theories, the final revised model was able to predict the variation in the behavioural intention of

	Chinese millennial towards mobile shopping technology adoption, this has been addressed in Chapter 7.
Research Objective 3	
Make recommendations to help marketers develop marketing strategies, and to provide fine-grained insights.	The third objective was achieved by critically evaluating the research model in Chapter 7, came up with the identified factors that would influence Chinese millennials' mobile shopping adoptions, and therefore discussed the strategies shall be considered in the section of 8.3.2
Research Question 1	
With regard to the use of mobile technology (smartphones or other smart devices) for online shopping, what are the motivational factors that drive Chinese Generation Y to adopt mobile shopping?	the motivational factors that drive Chinese millennials to adopt mobile shopping were the key influencers of the use of mobile shopping are the performance expectancy, effort expectancy, facilitating condition, perceived gratification shopping, perceived role shopping, and perceived value shopping based on the research framework.
Research Question 2	
Does utilitarian and hedonic motivation simultaneously drive Chinese Generation Y to adopt mobile shopping?	The answers to the research questions were satisfied, the perceived utilitarian and hedonic motivation toward mobile shopping was simultaneously played the important roles, this can be found in chapter 7, where a concluded the how utilitarian and hedonic factors influence the Chinese millennials intention to adopt mobile shopping.
Research Question 3	
What strategies marketers and retailers could and should implement to capture this specific consumption group?	To remain competitive for both online and offline retailers, there are three important implications need to be considered, customer experience, the product attribute need to cover both utilitarian and hedonic features, and customer positioning, the more specific discussions can be found in the below section, in 8.3.2

(Source: made by the author, 2020)

8.3 Contributions

The research identified positive and high behavioural intention to use mobile shopping amongst Chinese millennial, which indicates their acceptance of this innovative technology. The research framework described above has also highlighted the relationships between the various research variables that would be of significance for both the academicians and the practitioners interested in using mobile shopping platform for marketing activities in China. The sections

below describe the contributions of the research to the existing theory on technology and mobile technology adoption as well as for the marketers involved or interested in practicing mobile shopping technology into their business.

8.3.1 Theoretical contributions

The research has added to the existing knowledge and theories related to the adoption of mobile shopping by consumers with the specific context of Chinese millennial. As mentioned in section 3.7, existing studies have not previously attempted to integrate these two theories (UTAUT and Six hedonic motivations) to form a new and evolving theoretical model in the context of fast-moving dynamic mobile shopping in China – One of the world's largest online community and fastest adopting technological environments in the world. This study is aimed to apply this evolving and novel combination to help marketers and academicians to better examine mobile shoppers as more of utilitarian or hedonic as well as how utilitarian and hedonic motivations play the same importance simultaneously with the time passing by.

This research validated the relationships defined by the theoretical frameworks of UTAUT (Venkatesh et al., 2003) in the research context of mobile shopping and integrated the six dimensions of hedonic shopping motivation developed by Arnold and Reynold (2003), and finally developed a conceptual framework that could be used to evaluate the adoption and motivation of mobile shopping among Chinese millennials in China. The findings of the research are not exactly as per the relationships defined by the UTAUT as well as six dimensions of hedonic shopping motivation, and thus the unique findings in the context of mobile shopping technology used amongst Chinese millennial have contributed to the development of mobile technology adoption framework.

The first contribution of the research to the existing theory is an establishment of an innovative integrated model, which is related to the empirical evidence on the applicability of technology adoption models to the adoption of mobile shopping in China. The research found that the unified theory of acceptance and use of technology (UTAUT) can be modified and integrated with the six dimensions of hedonic shopping motivation, and therefore to specifically investigate which of these dimensions influence the Chinese millennial in terms of adopting mobile shopping technology in China. The initial framework however could not be empirically validated through the quantitative as well as the qualitative research, these findings suggest

that in an environment of adoption intention of innovative technology, all the variables may not collectively determine the variation in behavioural intention but only some variables, such as in this study, performance expectancy, effort expectancy, social influence, facilitating conditions, perceived gratification shopping, perceived role shopping, and perceived value shopping may determine their intention to use the new technology. These findings can help move the theory forward; consideration of using this integrated model can help scholars examine evolving factors that might have an influence on the mobile shopping adoption intention in China and among a generation who are more accustomed to technology as compared to previous generations.

The second key contribution of the research is the demonstration of the factors that have a great influential impact on the mobile shopping adoption among a specific generation, in this case the Chinese millennials. This consumption group has made an enormous impact on the retailing market in China, thus deemed worth studying with regards to their mobile shopping motivations. Having understand of the motivational factors for mobile shopping adoption behind this group can not only help existing mobile shopping platform providers focus on optimizing their services based on each factor to meet Chinese millennials needs, but also enhance the effectiveness when it comes to stagey-making for other new market entrants, by looking at these factors, at least provide them with a direction of why Chinese millennial to shop on mobile and what needs wish to be satisfied. The observed significant generational factors included performance expectancy, effort expectancy, facilitating conditions, perceived gratification shopping, perceived role shopping, and perceived value shopping. The former three were adopted from the original UTAUT model and considered purely utilitarian attribute based (Venkatesh et al., 2012), whereas the latter three were emerged from the six hedonic shopping motivations (Arnold and Reynold, 2003) and played a hedonic role in the mobile shopping adoption among Chinese millennials. This implied that Chinese millennials' mobile shopping motivations are served simultaneously by utilitarian and hedonic value – This leads to the third contribution

The third contribution is the praxis of utilitarian and hedonic variables at play during consumption. From the utilitarian perspective, (1) mobile shopping enables the Chinese millennials to buy the products as per their convenience and effectiveness, mobile shopping not only provides with wider and better product descriptions, prices, and after-sales services but also offers Chinese millennials with specific products or services in a much faster and more

convenient way so that greatly enhances shopping efficiency in lives. (2) Furthermore, Chinese millennials wish to maximize the marginal benefit, that is, by putting minimal effort to achieve the expected shopping expectations. As the Chinese millennials' pace of life and work is accelerating, using a mobile shopping can save their time, improve their shopping efficiency, and satisfying their shopping desires faster, they lack of patience to spend more efforts on a complicated shopping process, therefore, the easier and simpler the mobile shopping is, the more likely that Chinese millennial were to adopt mobile shopping. (3) Finally, since the mobile shopping has a higher degree of freedom in the dimension of time and space, therefore Chinese millennials possess a mobile device such as a mobile phone or tablet, they can make their full use of fragmented time to browse and purchase their favourite products.

On the other hand, from a hedonic perspective, (1) Chinese millennials are gratified when receiving personalized shopping information according to their needs, they may feel the special treatment from retailers and brands, and most importantly, the instant purchase function is a common feature of mobile shopping services, which fulfil the Chinese millennials' needs of instant satisfaction. (2) Mobile shopping in a way offered the personal property of the mobile shoppers with a strong sense of ownership, showing the person's role in sharing information and opinions on the mobile shopping channel, which also leads to the happiness felt by Chinese millennials when shopping and finding the perfect gift for others. The emergence of this enjoyment may be related to the collectivistic culture of China (Chan, et al., 2003; Qian, et at., 2007), as it has been long traditional to exchange gifts in a wide range of interactions with family and friends, business acquaintances, and others in one's social networks. (3) Needless to say, another biggest hedonic feature of mobile shopping is great value for the money. Chinese millennials can obtain bargains and discounts through mobile Apps' push notification while they are on the move, many mobile shopping platforms also allow Chinese millennials to share discount information with other members, and to form up as Group-buy to receive the discounts on a product to a greater extent, therefore, Chinese millennials are enabled to obtain both emotional satisfaction and external benefit such as the products purchased were great value for money.

The fourth key contribution of the research is time as an important factor – relating to the theme of generations. In this case, the demonstration of the factors that no longer have any impact on mobile shopping adoption among Chinese millennials, because of the adoption intention of mobile shopping technology in its evolution over a period of time. UTAUT has developed seven-teen years ago when the consumers were getting familiar with using

electronic technologies as part of their daily lives, but over a period of time, the technological evolution has changed the influential factors of adoption intention of innovative technologies (Bouwman and Van de Wijngaert, 2009). In the case of China, in particular, factors such as social influence was found to have an insignificant impact on the adoption of mobile shopping, as the adoption of mobile shopping is a voluntary action and often conducted solo among Chinese millennials. This suggested that Chinese millennials were not affected by the opinions and suggestions from their important ones that think they should or should not use mobile shopping, implicated that the probability of Chinese millennials fulfilling the expectations of others is rather weak in the voluntary use of technology. On the other hand, the six hedonic shopping motivations were also developed more than a decade ago, on a basis of the offline shopping environment (Arnold and Reynold, 2003), thus certain constructs may demonstrate less influential abilities than one another in the context of the online shopping environment. In this research, for instance, the perceived adventure shopping, perceived social shopping, and perceived idea shopping was not found to significantly influence the behavioural intention of the users towards mobile shopping technology, arguably this is due to the change of carrier form, from offline to online. For instance, perceived adventure requires the attributes of physically being on the scene, the more adventure shopping experience desired by the Chinese millennials, leading to fewer hedonistic reasons to choose mobile shopping. It can be said that the mobile shopping could not offer the same level of sensory stimulation that a shopping mall could offer.

Moreover, the perceived social shopping features did not transfer well into the context of mobile shopping, as mobile shopping was perceived to be a shopping channel only - Much less about bonding with others as suggested by the definition. Socializing with others on the mobile shopping platform was strongly resisted by the Chinese millennials as the insecure feeling drives them to reject to become friends with people that they never met before. This demonstrated that privacy and the blurring of a public and private identity became crucial factors in the motivation to adopt mobile shopping among this generation. This reflects the evolving landscape of technological developments in China and the role that privacy and protection will play in this.

The perceived idea shopping also played an insignificant role in determining the mobile shopping adoption, Chinese millennials follow up with the newest trends and fashion by reading fashion magazines and celebrities blogs, and more influenced by the commercial

advertisements, the degree to which the idea of shopping was lower in the context of mobile shopping. It could be said that this related to the notion that idea shopping is a central motivation for impulse buying predominately in offline shopping environment such as malls or leisure centre.

In addition, the perceived individual innovativeness was also found to be a statistically insignificant impact within this specific consumption group. It was illustrated that Chinese millennials tend to base their adoption intentions more on rationality than on pure novelty and curiosity to try new things, this also indicated that this consumption group could be considered as a more rational generation when it comes to the decision of adoption for technology.
Furthermore, the current research, however, did not find any significant difference in the research variable across the two genders, this may due to the gender is conceptualized as psychological constructs (Chiu et al., 2005), male and female consumers are not at bipolar extremes on such dimensions as technology adoption. This is also linked to the emergence of gender-neutral trends as well as the sheer ubiquity of mobile shopping in China and the increase in use among both genders.

To sum up, the initial framework used was the integration of modified UTAUT and six dimensions of hedonic shopping motivation. After the analysis, the author was able to arrive at the six significant factors as opposed to eleven initially. It is worth emphasizing that eliminating these factors would simplify the theoretical framework in this research not only would it be more effective and clearer, but also creating room for other researchers to add extra constructs for conducting future studies. Though, it should be noted that the elimination of factors does not suggest a discarding of previous contribution, but more so an evolution of the model suitable for a younger generation and a specific cultural context.

8.3.2 Managerial implications

The research highlighted various aspects of consumer behaviour that need to be considered by the managers of the mobile shopping platform providers in designing and implementing their mobile shopping market strategies in China. The factors identified through the research process have highlighted the drivers that need to be considered by these managers to promote the use of mobile shopping services for the Chinese millennial, and gain benefits through higher effectiveness, and efficiency at the consumer end. Having understood the customer group and

preference towards the adoption of mobile shopping, mobile shopping service companies shall be able to form up new ideas to satisfy the consumption groups' potential needs. Three managerial directions shall be considered: customer experience, product attributes, and customer positioning, and each direction can be summarised across the two aspects of utilitarian and hedonic perspectives.

Customer experience

From a utilitarian perspective, the data analysis of this research indicated that performance expectancy, effort expectancy as well as facilitating conditions have a positive effect on consumers' mobile shopping adoption intention. Mobile shopping merchants can take a series of measures to improve the usefulness, ease of use, and convenience of mobile shopping. For instance, improving mobile shopping overall performance, so that consumers can easily perceive the benefits of mobile shopping services, emphasizing the efficiency of consumers' shopping, and eventually make consumers feel that mobile online shopping is useful to them. Furthermore, to increase consumer shopping experience, mobile shopping merchants should mobilise capabilities to answer all questions raised by consumers through the shopping platforms, whether the shopping process is before, during, or after-sales.

By doing this, so that to increase the mobile shopping population and to maximize the profits of the mobile shopping service companies. Considerations should be made to invest in research and development of platforms to enable processes such as digital chatbots or similar to capture and engage with customers at all processes of consumption.

From a hedonic perspective, research analysis demonstrated that perceived gratification is positively affecting consumers' mobile online shopping behaviour. Therefore, if consumers believe that online merchants possess a poor service or the problems in the mobile shopping process occurred frequently during the shopping process, which to a great extent to obstruct their needs of instant satisfaction, the perceived gratification will be reduced, thus the overall customer experience will be decreased and further may cause the termination of this mobile shopping behaviour. In addition, businesses must learn to attract consumers online, so as to achieve the goal of customer expansion. Therefore, mobile shopping merchants can place some preferential activities to increase consumers' cognitive experience while increasing consumers' willingness to adopt mobile shopping.

It is recommended that marketers increase O2O capabilities so to increase gratification, for instance m-shopping can be combined with other vendor channels such as brand blog and fashion pages, or social media channels that focus less on selling but are crucial in endorsing and driving engagement to the brands.

Product attributes

The second managerial implication is related to the product attributes, 'product' here refers to mobile shopping platform itself, what qualities and features that platform possesses, in order to enhance the Chinese millennials' behavioural intention towards mobile shopping service, what platform or service attributes need to be covered.

From a utilitarian perspective, the research found that performance expectancy, effort expectancy, and facilitating conditions played key roles in determining the mobile shopping adoption in China. This is implied that the managers of the mobile shopping platform should be encouraged to constantly optimizing the mobile shopping platform service with an emphasis on features such as effectiveness, efficiency, and effort-free, simplify the shopping process by eliminating all the unnecessary and sophisticated steps to maximize the utilitarian benefits.

From the hedonic perspective, this research identified perceived role shopping and perceived value shopping played important roles in the mobile shopping adoption. Managers of the shopping platform shall consider these two factors when forming up a market strategy, to emotionally satisfying the Chinese millennials while ensuring the practical benefits such as offering more product promotions and discounts. The manager is also encouraged to add a specific section of gift-buying, by considering the motivation of perceived role shopping to stimulate and encourage the consumption of Chinese millennials, this might be of help increasing the sales of the companies.

In addition, although the research findings showed that perceived social shopping was an insignificant influencing factor, the author believes if the mobile shopping platform offers an activity during mobile shopping such as leaving a product comment to get a reward (coupons or discounts), will greatly enhancing the Chinese millennials to interact more with other customers, so as to improve their perceived social shopping motivation in the context of mobile shopping, as the Chinese millennials buying decisions towards a product were heavily relying

on others' comments, and yet, they were not willing to share any idea about the products they purchased, as they believed it was a time-wasting to leave comments or personal ideas.

Customer positioning

The third implication relates to the customer positioning, as mentioned above, understanding the customer group and preference towards adoption of mobile shopping, their potential needs can be satisfied, and especially, the demographic characteristics of education and income can provide practical insights into this.

As Dennis et al. (2009) suggested, individuals with higher income are also highly educated, the following insights might be worthy of considering, for those mobile shopping companies considering the business expansion, other than the first-tier cities in China, the Chinese millennials who live in other well-developed cities such as second-tier could also become the geographical targeting customers, as highly educated individual tend to live and work in the well-developed and large urban areas (Brinkman, 2015) including Tier 2 cities. Furthermore, there is an opportunity to provide user learning opportunities across marketing channels in under-developed cities, marketers can consider educating their customers with regards to technology and their brands in a novel way to increase engagement and ultimately sales.

In addition, Chinese millennials with greater disposable income are easy to pursue impulse buying and seek instant satisfaction, as they tend to be less concerned about savings. Therefore, satisfying needs instantly become significantly essential. It is recommended that companies monitor the monthly or quarterly spending of the personal mobile shopping carts, to identify those Chinese millennials with higher income, to personalize their product preferences, and to make a unique product portfolio by reasonably adjusting the price of that product-mix, the aim of this is to satisfy these consumption group's shopping needs while maintaining profitability for the business. It is recommended that marketers and brand adopt sophisticated data analytics software and capabilities to identify patterns of consumption to maximise engagement and profits.

To summarise, it is crucial that managers of mobile shopping services pay careful attention to the positive customer experience related to mobile shopping and to develop appropriate technical, data capturing and market strategies based on its customers' preferences and demography to maximise profits and grow their businesses.

8.4 Limitations and Areas for Further Research

8.4.1 Limitations of the research

It is inevitable that this study has some limitations which can be addressed in future studies. In this part, the limitations are discussed from three aspects as followed:

This research has been conducted as cross-sectional research, this led to the data collected during a certain and limited period of time in order to examine the relationship between the dependent variable and independent variables. Therefore, the identified relationships cannot reflect the variance from the responses of participants at another single time point. Whereas the longitudinal research on the other hand could help determine the change in the attitude or behavioural intention as the generation cohort evolves and intersects with future generations and new technical m-shopping capabilities.

Moreover, a limitation is the cultural context. Although this research is carried out on a focus of Chinese millennials, the research did not include any cultural factors into the research model. This is because (1) it was deemed important to explore unanswered question left by past literature that whether the mobile shoppers become more hedonic or utilitarian as time progresses, or hedonic and utilitarian motivation plays the same importance simultaneously, and thus to create an evolving and integrated theoretical model that encompasses both utilitarian and hedonic factors for the specific research context. The motivation and the interest of the author set out to extend the initially proposed research model to including eleven factors. It was deemed that adding extra factors may cause multicollinearity in the model, as a strong correlation between any two independent variables will cover up and overlap the true effect to the dependent variables. The research place emphasis on social influence, which covers the cultural and subjective norm, and therefore cultural aspect was not left completely untouched, however was treated as part of the wider social context. However, there is potential for a more specific interdisciplinary business studies and cultural and humanities based-analysis and exploration on this regard to be developed.

Furthermore, the scope of the research is limited, as the findings of the research may only be applicable to the Chinese mobile shopping millennial context. Thus the findings cannot be generalized to other generational cohorts such as baby boomers, generation X, and Z in China, as the different generational cohorts may possess varying perceptions towards mobile shopping

adoption. Furthermore, the findings of this research might not easily translate to other countries. Millennials from other countries may demonstrate different attitudes, perceptions, and adoption intention towards mobile shopping. Therefore, it is suggested to take caution when researchers generalize the findings of this research to another generational and geographical context.

8.4.2 Possibilities for further research

Having identified and summarised the limitations of the current study, in order to add to the knowledge generated by this research. This section provides some possibilities for future research on the behavioural intentions of mobile shopping among Chinese millennials or in similar research contexts.

To overcome the time-based issue of the research, future studies can be carried out as longitudinal research, as the longitudinal study can be applied to measure the intention changes of Chinese millennials across different time points. Therefore, to obtain a new picture of the Chinese millennials' mobile shopping adoption intention. However, the feasibility of such a method needs to be considered, especially the time consumption as well as economic cost.

For overcoming the cultural limitations of the study, future researchers are suggested to apply the integrated model of this study. It would be beneficial to conduct a cross-culture research to compare and examine the millennials mobile shopping motivation in different countries, by adding the Hofstede five cultural dimensions (1984) to evaluate to what extent that cultural factors play a significance in determining the mobile shopping motivation and technology driven consumption contexts. In addition, the initial proposed model of this research can be also applied once again in the context of cross-culture research, to further validate the result of this research. For instance, the interviews with the participants of this research uncovered that the perceived adventure shopping and social shopping can only be truly experienced through physical shopping centres rather than the virtual world, and the participants' perceived conveniences and perceived instant satisfaction is higher for the mobile shopping is because of the absence of patience. Such circumstances can be investigated in detail through future research into the relevance and transferability of physical versus digital consumption, as well as the rise in concepts such as 'phygital' retailing – A concept which accepts the blurring of physical and digital experiences, and the importance of the two among millennials.

Finally, as this research only focuses on the adoption intention of Chinese millennials in China, thus the scope can be increased to other generational cohorts such as Baby Boomers, Generation X and Generation Z, so as to develop more generalist models related to the adoption intention of mobile shopping in China. In addition, the city where the survey distributed were among urban and tier-1 cities in China. Geographical and demographic factors may also affect the adoption intention of mobile shopping, because the consumption levels and consumption concepts of residents in different cities or rural and urban contexts and may vary and among different social classes and those with or without access to technology and Internet connectivity. Conducting a nationwide range of research across rural and urban contexts, as well as urban and different classes may enable the research conclusions to be more comprehensive in the context of mobile shopping adoption intention among Chinese millennials. Last but not least, extending the scope would require enriching the sample size. Although the research was conducted among a representative and robust sample of 473 survey participants and 6 semi-structured interviewees, there is a potential to widen the research sample size to allow for unexpected new findings.

8.5 Summary of Conclusion

This chapter has finished up the research as far as the key discoveries of the research and their suggestions for both the academicians as well as practitioners of mobile shopping. The chapter has gathered the key findings of the research to build up the research framework and assess the connections between the research variables to complete comparison with the initial conceptual framework that was created dependent on the past literature review. Also, the research objectives and questions were successfully achieved and answered. The Chinese millennials' behavioural intention toward mobile shopping adoption could be significantly determined by the performance expectancy, effort expectancy, social influence, facilitating conditions, perceived gratification shopping, perceived idea shopping, perceived role shopping, and perceived value shopping, while indicating a non-significant contribution of perceived individual innovativeness, perceived adventure shopping and perceived social shopping to their behavioural intention toward mobile shopping adoption. Subsequently, this section has also discussed the contribution of the thesis to both academic as well as practical field, and additionally covered that the research likewise had a few limitations because of the research design and scope, and this can be improved in the future, through an expansion in the scope

and cultural context of the research to empower an advanced research framework for mobile shopping. The research limitations on the contrary lead to recognizable value and contribution of the current research and proof of further research prospects. The research can likewise be structured as longitudinal research to assess change in the behaviour of the consumers, with the adjustments in the technological framework over a period of time.

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Appendixes

Appendix A – Survey Questionnaire

Questionnaire in English version

Survey Invitation Letter

Dear sir/madam,
Thank you for your patience in reading this. I am a Doctoral student at the University of Wales Trinity Saint David in the UK. I would like to invite you to participate in the survey, which aims to study the factors that influence Chinese millennial's motivation to adopt mobile shopping services.
I would much appreciate it if you could spare about 8 minutes of your time to complete this online questionnaire. The research outcomes are anonymous and will only be used for my academic research. Your personal information provided here is safe and will never be used for any other activities. There is no right or wrong for these options, and please fill them according to your true conditions. Your true thoughts and valuable suggestions will be highly helpful for this research.
If you have any further queries, please contact me directly:
1602344@student.uwtsd.ac.uk
yangheng114@gmail.com
Thank you very much for your participation.

Part I, Confirmation Question
1. Do you shop on your mobile?
□Yes (Go to question 3)
□No (Go to question 2)
2. The reason why you do not shop on mobile is because (You will be directed to the exit of this survey after this question, thank you for your participation)
□High cost
□Concerning personal privacy
□Concerning the product quality
□It is difficult to use
□Nobody around me is using mobile shopping
□Others (please specify): _____

Part II, General information
3.What is your gender:
□Male
□Female
4.What is your highest education background:
□High school and below
□Bachelor's degree
□Master degree
□Doctoral degree
□Other： _____
5.What is your occupation:
_____
6. What is your monthly income?
□ Less than ¥5,000

□ ¥5,001- ¥10,000
□ ¥10,001-¥15,000
□ ¥15,001-¥20,000
□ Greater than ¥20,000

Part III, General Mobile Shopping Usage in Chinese millennial

7. How long have you been using mobile shopping?
□less than 1 year
□ 1-2 years
□ 3-4 years
□More than 4 years

8. How frequently do you shop on your mobile per month?
□ Less than 1 time
□ 1-2 times
□ 3-4 times
□ 5-6 times
□ More than 6 times

9. What is your average spend through mobile shopping?
□ Less than ¥100
□ ¥100-¥500
□ ¥501-¥1,000
□ ¥1,001-¥1,500
□ Greater than ¥1,500

Part IV, Perception of Mobile Shopping

For the following questions, please answer them according to your personal experience， to what extent you agree or disagree with each statement.

Measure Items	1.Strongly disagree	2.Disagree	3.Neutral	4.Agree	5.Strongly agree
Performance Expectancy					
1. I find mobile shopping useful in my daily life					
2. Mobile shopping enhances my shopping effectiveness					
3. While using mobile shopping, I find that many new functions are very helpful					
4. Mobile shopping helps me make better shopping decisions					
Effort Expectancy					
5. I find mobile shopping easy to use					
6. I am skillful at using mobile shopping					

7. Mobile shopping is more effortless than traditional shopping					
8. Mobile shopping is easy for me to browse for the products and services that I want					
Facilitating Condition					
9. I go mobile shopping because I have regular access to smart devices.					
10. I have the knowledge to use mobile shopping					
11. I can get help from others when I have difficulties using mobile shopping					
12. Usually, I find problems encountered during mobile shopping easy to solve					
Social Influence					
13. The wide offering of mobile shopping from brands affect my willingness to adopt mobile shopping.					
14. Wider peer group(e.g. friends, classmates, colleagues and social groups) influence my decision to adopt mobile shopping.					
15. People who are close to me (e.g. best friends and family members) influence my decision to adopt mobile shopping.					
16. Many people around me have used mobile shopping for a long time					
Perceived Individual Innovation					

17. I am feeling happy when I use new technologies					
18. I find mobile shopping interesting because I like trying new things					
19. I like to receive new information about new products or services faster than people around me.					
20. I usually use the new products or services earlier than people around me.					
Perceived adventure					
21. I enjoy exploring various mobile shopping applications and features					
22. I enjoy using new shopping services and features which are only available on mobile shopping platform					
23. I find shopping on mobile stimulating					
24. I find mobile shopping brings me into an exciting online shopping world					
Perceived social shopping					
25. Shopping on the mobile is an opportunity to bond with others					
26. I enjoy sharing shopping experience with others through mobile shopping					
27. I enjoy exchanging opinions with others through mobile shopping					
28. I enjoy socializing with others through mobile shopping					
Perceived gratification					

29. Through mobile shopping, which enables me to feel better whenever I am in a low mood					
30. To me, mobile shopping is a way for stress relief					
31. I go mobile shopping when I wish to have a special treat to myself as soon as possible					
32. Mobile shopping enables my shopping needs to be satisfied instantly					
Perceived idea shopping					
33. I like receiving trend news through mobile shopping push notifications					
34. I use mobile shopping to keep up with new fashions					
35. Mobile shopping enables me to keep up with trends constantly					
36. I use mobile shopping to regularly check what new products are available					
Perceived role shopping					
37. I like shopping on the mobile for others because, when they feel happy, I feel happy					
38. I enjoy shopping on mobile for families and friends when they cannot find things that they want in stores					
39. I enjoy shopping on the mobile to find the perfect gift for someone					

40. Mobile shopping enables me to satisfy other's shopping needs					
Perceived value shopping					
41. Mobile shopping offers wide ranges of discounts					
42. I like receiving exclusive mobile discounts and limited period offers					
43. I enjoy hunting for bargains when I go mobile shopping					
44. It is cheaper to buy via mobile shopping than from the physical stores					
Behavioural intention towards mobile shopping					
45. I intend to continue to use mobile shopping.					
46. I will always use mobile shopping					
47. I consider mobile shopping channel to be my first choice for shopping in the future					
48. I am willing to recommend to others to adopt mobile shopping.					

Thank you for your participation

If possible, would you please send the link of this questionnaire to your friends and colleagues, and I will be very grateful for your initiative in doing so.

Questionnaire in Chinese version

尊敬的先生/女士,

您好，首先感谢您的耐心阅读。我是英国威尔士三一圣大卫大学的博士学生，我想邀请您参加这项调查，该调查旨在研究影响中国千禧一代（1980-1999 年出生）使用移动购物服务动机因素。

如果您能抽出大约 8 分钟的时间来完成此在线问卷，我将不胜感激。 研究结果是匿名的，仅用于我的学术研究。 您在此处提供的个人信息是安全的，并且绝不会用于任何其他活动。 这些选项没有对与错，请根据您的实际情况填写。 您的真实想法和宝贵建议将对这项研究非常有帮助。如您有任何问题，请通过以下方式与我联系：

1602344@student.uwtsd.ac.uk

yangheng114@gmail.com

非常感谢您的参与

第一部分 确认题

1.您是否有使用过移动网络购物?

□有 （直接跳到第 3 题）

□没有 （答第 2 题）

2.您不使用移动网络购物的主要原因有(答完此题后，您将被引导退出本次调查，感谢您的参与。)

□高成本

□担心个人信息泄露

□怀疑网购的商品质量

□用起来复杂

□身边没有人用

□其他（请说明）：_____

第二部分 基本信息部分

3.您的性别:

□男

□女

4.您的最高学历背景是:

□高中及以下

□本科

□硕士

□博士

□其他: _____

5.您目前所从事的职业

_____

6.你的月薪是

□不到 5,000 元

□5,001-10,000 元

□10,001-15,000 元

□15,001-20,000 元

□20,000 元以上

第三部分 中国千禧一代移动网络购物使用情况的调查

7.您使用移动网络购物有多长时间了
□不到 1 年

□ 1-2 年

□ 3-4 年

□5 年及以上

8.您每月平均使用移动网络购物的次数
□少于 1 次

□1-2 次

□3-4 次

□5-6 次

□6 次以上

9.您在移动网络购物中平均每一单的消费金额是多少
□小于 100 元

□100-500 元

□501-1,000 元

□1,001-1,500 元

□大于 1,500 元

第四部分 手机购物的实际感知

以下各题，请根据实际经验作答，选择您对每项描述的同意程度：

题项描述	1 非常不同意	2 不同意	3 不同意也不反对	4 同意	5 非常同意
10. 移动网络购物在我的日常生活中很有用					
11. 移动网络购物提高了我的购物效率					
12. 使用移动网络购物时，我发现很多新的功能非常有用					
13. 移动网络购物能帮我做出更好的购物决定					
14. 对我来说使用移动网络购物很容易					
15. 我能够熟练地使用移动网络购物					
16. 移动网络购物相比实体店购物更省心省力					
17. 移动网络购物能够很快找到我想要的商品或服务					
18. 我使用移动网络购物因为我有移动设备等资源					
19. 我懂得如何使用移动网络购物					
20. 当我使用移动网络购物遇到困难时，我可以从其他渠道获得帮助					
21. 通常情况下，移动网络购物过程中遇到的问题对我来说都很好解决					
Social Influence					
22. 商家提供广泛的移动购物服务影响了我使用移动购物的意愿。					
23. 我的社交圈（朋友，同学和同事）会影响我使用移动网络购物的决定					

24. 对我重要的人（家人和挚友）会影响我使用移动网络购物的决定					
25. 我周围的人使用移动网络购物都有很长时间了					
26. 当我使用新科技时我会感到很快乐					
27. 我最初使用移动网络购物是因为喜欢尝试新事物					
28. 我喜欢比周围的人更先收到新产品或服务的信息					
29. 我通常比周围人更早使用新的产品或服务					
30. 我喜欢探索各式各样的移动网络购物软件及其功能					
31. 我喜欢只能通过移动网络购物才能使用的新购物服务和功能					
32. 我觉得使用移动网络购物很刺激					
33. 我觉得移动网络购物带我进入了一个令人激动的的网络购物世界					
34. 使用移动网络购物是一次与他人建立关系的机会					
35. 我喜欢在移动网络购物过程中通过手机分享我的购物体验					
36. 我喜欢在移动网络购物过程中通过手机与他人交流意见					
37. 我喜欢通过移动网络购物与他人进行社交					
38. 通过移动网络购物，可以使我在心情低落时感觉好一些					
39. 移动网络购物让我在整个购物过程中很开心					
40. 对我来说，移动网络购物是解压的一种方式					
41. 当我想第一时间买东西犒赏自己时，我会使用移动网络购物					
42. 移动网络购物可以立即满足我的购物需求					
43. 我喜欢接收移动购物程序的推送通知了解潮流趋势的新闻					
44. 使用移动网络购物可以让我跟上新的时尚					
45. 使用移动网络购物可以让我持续地跟上潮流					
46. 使用移动网络购物可以让我定期查看新品的上架					
47. 我喜欢帮别人移动网络购物，因为当别人开心时，我也会开心					

48. 当家人和朋友在实体店内找不到心仪商品时，我喜欢用移动网络购物帮他们完成商品购买					
49. 我喜欢使用移动网络购物为某人找到一份完美的礼物					
50. 移动网络购物能够让我满足他人的购物需求					
51. 移动网络购物提供很广泛的购物折扣					
52. 我喜欢获得移动网络购物上的独家折扣和限时优惠					
53. 当我使用移动网络购物时，我喜欢寻找一些打折的商品					
54. 通过移动网络购物获得的产品价格比实体商店的产品价格便宜					
55. 我打算继续使用移动网络购物					
56. 我将会一直使用移动网络购物					
57. 移动网络购物渠道将是我未来购物渠道的首选					
58. 我愿意向他人推荐使用移动网络购物					

再次感谢您的参与

如果可能，请您将此问卷的链接发送给您的朋友和同事，我将非常感谢您的支持

Appendix B - Interview Questions

Interview in English version

Opening Statement

Dear sir / madam,

This interview is part of my DBA Thesis at University of Wales Trinity Saint David. It is designed to understand Chinese Generation Y's motivation to adopt mobile shopping.

Your participation is voluntary and will contribute in survey success and it is appreciated .

This interview will take approximately 20 to 30 minutes of your valuable time and the provided information will be confidential and used only for this research purpose.

If you have any concerns, please do not hesitate to contact me:

07500045737

1602344@student.uwtsd.ac.uk

1. Do you use mobile shopping because of those people whose opinions matter to you believe that you should use mobile shopping and why?
2. Do you agree people who are close to you (e.g. best friends and family members) will influence your decision to adopt mobile shopping and why?
3. Do you consider yourself adopting mobile shopping earlier than people around you? Please specify.
4. Do you consider yourself more adaptive to use mobile shopping when comparing to people around you and what are the reasons?

5. Do you agree mobile shopping adoption is a form of demonstrating your own innovativeness and why?
6. Do you agree shopping on mobile exciting and stimulating in your onions?
7. Do you enjoy exploring new shopping services and features which are only available on mobile shopping platform, and why?
8. Do you agree mobile shopping is similar to an adventure activity? Please specify.
9. When you shopping on your mobile, will you take others' opinions as a factor to influence your buying decision, what are the reasons?
10. When you shopping on your mobile, will share your opinions with others and how do you feel?
11. Will you become a friend with the people who shared opinions with you in your social median accounts and what are the reasons?

12. Do you use mobile shopping to keep up with new fashions and trends constantly, or any other methods?

13. Do you use mobile shopping to regularly check what new products are available and why?

Interview questions in Chinese version

调研参与者知悉

尊敬的先生/女士，

这次采访是我在威尔士大学圣三一大学的DBA 论文的一部分。旨在了解Y 一代中国人采用移动购物的动机。您的参与是自愿的，将有助于调查的成功，我们将不胜感激。这次访谈将花费您宝贵的时间大约20 到30 分钟，并且所提供的信息将是机密信息，仅用于此研究目的。

如果您有任何疑问，请随时与我联系：

07500045737

1602344@student.uwtsd.ac.uk

1. 您是否使用移动购物是因为那些对您重要的人认为您应该使用移动购物，为什么？

2. 您是否同意与您亲近的人（例如，最好的朋友和家人）会影响您使用移动购物的意愿，为什么？

3. 您是否认为自己更早于周围的人使用手机购物？请明确说明。

4. 和周围的人相比，您是否认为自己更能适应使用手机购物？原因是什么？

5. 您是否同意手机购物是展示您个人创新性的一种形式，为什么？

6. 在您看来，您是否认同手机购物很刺激这一说法？

7. 您是否享受在手机购物平台上探索不同的服务和功能？为什么？

8. 您是否同意手机购物和探险活动有相似性？？请明确说明。

9. 在手机购物时，您是否会考虑他人的意见作为影响购物决定的因素？原因是什么？

10. 在手机购物时，您是否会和他人分享购物意见？您的看法是什么？

11. 您是否会在您的社交媒体账号与和您分享购物意见的人成为朋友？原因是什么？

12. 您是否使用移动购物或其他任何方式来跟上新的潮流趋势？

13. 您是否使用手机购物定期查看是否有新货到架，为什么？

Appendix C – Statistical Analysis Process

C1. Descriptive analysis with Skewness and Kurtosis

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
PE	473	4.2183	0.42255	-1.045	0.112	2.177	0.224
EE	473	4.3108	0.46416	-1.32	0.112	2.9	0.224
FC	473	4.0544	0.52362	-0.684	0.112	0.313	0.224
SI	473	3.8224	0.66357	-0.707	0.112	0.34	0.224
PII	473	3.6691	0.74286	-0.462	0.112	-0.333	0.224
PAS	473	3.4355	0.73651	-0.265	0.112	-0.477	0.224
PSS	473	3.4461	0.89815	-0.435	0.112	-0.688	0.224
PGS	473	3.7976	0.74173	-0.847	0.112	0.373	0.224
PIS	473	3.7516	0.71372	-0.768	0.112	0.345	0.224
PRS	473	3.8737	0.61413	-0.662	0.112	0.393	0.224
PVS	473	4.0798	0.56617	-0.789	0.112	0.742	0.224
BI	473	4.379	0.49683	-1.056	0.112	1.267	0.224

C2. Multicollinearity Test

Multicollinearity test		
Factors	Collinearity Statistics	
	Tolerance	VIF
PE	0.629	1.59
EE	0.637	1.57
FC	0.645	1.551
SI	0.666	1.501
PII	0.491	2.036
PAS	0.436	2.292
PSS	0.472	2.121
PGS	0.582	1.718
PIS	0.507	1.971
PRS	0.548	1.826
PVS	0.726	1.377

C3. Correlation Analysis

Correlations Analysis													
		PE	EE	FC	SI	PII	PAS	PSS	PGS	PIS	PRS	PVS	BI
PE	Pearson Correlation	1	.489**	.430**	.314**	.361**	.261**	.293**	.282**	.323**	.393**	.390**	.477**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
EE	Pearson Correlation		1	.398**	.321**	.269**	.135**	.144**	.302**	.198**	.347**	.382**	.581**
	Sig. (2-tailed)			0.000	0.000	0.000	0.003	0.002	0.000	0.000	0.000	0.000	0.000
FC	Pearson Correlation			1	.384**	.433**	.359**	.286**	.345**	.351**	.421**	.319**	.441**
	Sig. (2-tailed)				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SI	Pearson Correlation				1	.341**	.385**	.418**	.378**	.417**	.379**	.372**	.331**
	Sig. (2-tailed)					0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PII	Pearson Correlation					1	.617**	.515**	.433**	.551**	.508**	.237**	**.255****
	Sig. (2-tailed)						0.000	0.000	0.000	0.000	0.000	0.000	0.000
PAS	Pearson Correlation						1	.616**	.534**	.562**	.455**	.270**	**.165****
	Sig. (2-tailed)							0.000	0.000	0.000	0.000	0.000	0.000
PSS	Pearson Correlation							1	.458**	.585**	.536**	.223**	**.199****
	Sig. (2-tailed)								0.000	0.000	0.000	0.000	0.000
PGS	Pearson Correlation								1	.515**	.471**	.308**	.353**
	Sig. (2-tailed)									0.000	0.000	0.000	0.000
PIS	Pearson Correlation									1	.461**	.247**	**.282****

	Sig. (2-tailed)										0.000	0.000	0.000
PRS	Pearson Correlation										1	.328**	.417**
	Sig. (2-tailed)											0.000	0.000
PVS	Pearson Correlation											1	.403**
	Sig. (2-tailed)												0.000
BI	Pearson Correlation												1
	Sig. (2-tailed)												
** Correlation is significant at the 0.01 level (2-tailed).													

C4. **Multiple Regression Model Summary**

a Dependent Variable: BI					
b Predictors: (Constant), SI, PE, FC, EE, PII, PAS, PSS, PGS, PIS, PRA, PVS					
Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.683a	0.466	0.454	0.36722	1.927
a Predictors: (Constant), SI, PE, FC, EE, PII, PAS, PSS, PGS, PIS, PRA, PVS					
b Dependent Variable: BI					

Multiple Regression Anova

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	54.341	11	4.940	36.633	.000
	Residual	62.167	461	0.135		
	Total	116.508	472			

Multiple Regression Coefficients Table

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	0.597	0.201		2.971	0.003
	PE	0.171	0.050	0.145	3.388	0.001
	EE	0.356	0.046	0.333	7.813	0.000
	FC	0.142	0.040	0.150	3.531	0.000
	SI	0.025	0.031	0.033	0.788	0.431
	PII	-0.039	0.032	-0.059	-1.213	0.226
	PAS	-0.083	0.035	-0.124	-2.401	0.017

	PSS	-0.025	0.027	-0.045	-0.914	0.361
	PGS	0.076	0.030	0.114	2.557	0.011
	PIS	0.051	0.033	0.074	1.543	0.124
	PRS	0.125	0.037	0.155	3.365	0.001
	PVS	0.099	0.035	0.113	2.834	0.005
a Dependent Variable: BI						

Appendix D – Moderation Analysis

D1. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : PE
    W  : EDU

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R       R-sq        MSE          F        df1        df2          p
     .4841      .2344      .1902    47.8555     3.0000   469.0000      .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant    2.1923      .6744     3.2509      .0012      .8671     3.5175
PE           .5496      .1593     3.4493      .0006      .2365      .8627
EDU         -.0880      .2880     -.3057      .7600     -.6539      .4778
Int_1        .0069      .0679      .1014      .9193     -.1265      .1402

Product terms key:
 Int_1    :        PE       x        EDU

Test(s) of highest order unconditional interaction(s):
       R2-chng          F        df1        df2          p
X*W      .0000      .0103     1.0000   469.0000      .9193

************************ ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000
------ END MATRIX -----
```

D2. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : EE
    W  : EDU

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R      R-sq       MSE         F       df1       df2         p
     .5820     .3387     .1643   80.0825    3.0000  469.0000     .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant   1.8527     .5139    3.6051     .0003     .8428    2.8625
EE          .5982     .1215    4.9216     .0000     .3594     .8370
EDU        -.0652     .2143    -.3045     .7609    -.4863     .3558
Int_1       .0097     .0510     .1903     .8491    -.0906     .1100

Product terms key:
 Int_1    :       EE      x       EDU

Test(s) of highest order unconditional interaction(s):
      R2-chng         F       df1       df2         p
X*W      .0001     .0362    1.0000  469.0000     .8491

************************ ANALYSIS NOTES AND ERRORS
************************

Level of confidence for all confidence intervals in output:
  95.0000
------ END MATRIX -----
```

D3. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : FC
    W  : EDU

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R       R-sq        MSE          F        df1        df2          p
     .4444      .1975      .1994    38.4683     3.0000   469.0000      .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant     3.0693      .5429     5.6538      .0000     2.0025     4.1361
FC           .3398       .1381     2.4606      .0142      .0684      .6111
EDU          -.1713      .2332     -.7344      .4631     -.6295      .2870
Int_1        .0348       .0596      .5833      .5599     -.0824      .1520

Product terms key:
 Int_1    :       FC       x        EDU

Test(s) of highest order unconditional interaction(s):
      R2-chng          F        df1        df2          p
X*W      .0006      .3403     1.0000   469.0000      .5599

************************ ANALYSIS NOTES AND ERRORS
************************

Level of confidence for all confidence intervals in output:
  95.0000
------ END MATRIX -----
```

D4. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : PGS
    W  : EDU

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R       R-sq        MSE          F        df1        df2          p
     .3611      .1304      .2160    23.4437     3.0000   469.0000      .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant   3.0390     .3769     8.0633     .0000     2.2984     3.7796
PGS         .3788     .1026     3.6905     .0003     .1771      .5805
EDU         .2009     .1608     1.2492     .2122     -.1151     .5169
Int_1      -.0647     .0443    -1.4613     .1446     -.1518     .0223

Product terms key:
 Int_1    :       PGS      x       EDU

Test(s) of highest order unconditional interaction(s):
      R2-chng          F        df1        df2          p
X*W      .0040     2.1353     1.0000   469.0000      .1446

************************ ANALYSIS NOTES AND ERRORS
************************

Level of confidence for all confidence intervals in output:
  95.0000
------ END MATRIX -----
```

D5. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : PRS
    W  : EDU

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R      R-sq       MSE         F       df1       df2         p
     .4205     .1768     .2045    33.5808    3.0000   469.0000     .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant    3.2575     .4357    7.4757     .0000    2.4012    4.1137
PRS          .3099     .1135    2.7314     .0065     .0869     .5328
EDU         -.0807     .1830    -.4411     .6594    -.4403     .2789
Int_1        .0117     .0479     .2453     .8063    -.0823     .1058

Product terms key:
 Int_1    :       PRS      x       EDU

Test(s) of highest order unconditional interaction(s):
      R2-chng         F       df1       df2         p
X*W      .0001      .0602     1.0000   469.0000      .8063

************************ ANALYSIS NOTES AND ERRORS
************************

Level of confidence for all confidence intervals in output:
  95.0000
------ END MATRIX -----
```

D6. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : PVS
    W  : EDU

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R      R-sq       MSE         F       df1       df2         p
     .4078     .1663     .2071    31.1834    3.0000   469.0000     .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant    3.2137     .4988    6.4425     .0000    2.2335    4.1939
PVS          .3055     .1257    2.4300     .0155     .0585     .5526
EDU         -.1233     .2114    -.5832     .5600    -.5386     .2921
Int_1        .0213     .0535     .3980     .6908    -.0839     .1265

Product terms key:
 Int_1    :       PVS      x       EDU

Test(s) of highest order unconditional interaction(s):
      R2-chng         F       df1       df2         p
X*W      .0003      .1584     1.0000   469.0000      .6908

************************ ANALYSIS NOTES AND ERRORS
************************

Level of confidence for all confidence intervals in output:
  95.0000
------ END MATRIX -----
```

D7. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : PE
    W  : Income

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R       R-sq        MSE          F        df1        df2          p
     .4776      .2281      .1918    46.1989     3.0000   469.0000      .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant     2.1369      .5120     4.1734      .0000     1.1308     3.1431
PE           .5387      .1212     4.4463      .0000      .3006      .7768
Income       -.0563      .2001     -.2812      .7787     -.4494      .3369
Int_1        .0103      .0471      .2190      .8268     -.0822      .1028

Product terms key:
 Int_1    :       PE      x       Income

Test(s) of highest order unconditional interaction(s):
      R2-chng          F        df1        df2          p
X*W      .0001      .0480     1.0000   469.0000      .8268

************************ ANALYSIS NOTES AND ERRORS
************************

Level of confidence for all confidence intervals in output:
  95.0000

------ END MATRIX -----
```

D8. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : EE
    W  : Income

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R       R-sq        MSE          F        df1        df2          p
     .5851      .3423      .1634    81.3644     3.0000   469.0000      .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant     2.4584      .4498     5.4660      .0000     1.5746     3.3423
EE            .4498      .1042     4.3164      .0000      .2450      .6546
Income       -.3295      .1793    -1.8372      .0668     -.6819      .0229
Int_1         .0745      .0414     1.7981      .0728     -.0069      .1558

Product terms key:
 Int_1    :       EE       x        Income

Test(s) of highest order unconditional interaction(s):
      R2-chng          F        df1        df2          p
X*W      .0045     3.2333     1.0000   469.0000      .0728
----------
    Focal predict: EE       (X)
          Mod var: Income   (W)

Conditional effects of the focal predictor at values of the moderator(s):

    Income     Effect         se          t          p       LLCI       ULCI
    1.0000      .5243      .0679     7.7216      .0000      .3909      .6577
    2.0000      .5988      .0423    14.1547      .0000      .5156      .6819
    3.0000      .6732      .0490    13.7480      .0000      .5770      .7694

************************ ANALYSIS NOTES AND ERRORS
************************
```

Level of confidence for all confidence intervals in output:
  95.0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

------ END MATRIX -----

D9. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : FC
    W  : Income

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R      R-sq       MSE         F       df1       df2         p
     .4427     .1960     .1997    38.1025    3.0000   469.0000     .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant    3.0298     .4316    7.0205     .0000    2.1817    3.8778
FC           .3398     .1060    3.2056     .0014     .1315     .5480
Income      -.1487     .1689    -.8800     .3793    -.4806     .1833
Int_1        .0336     .0412     .8163     .4148    -.0473     .1145

Product terms key:
 Int_1    :       FC      x       Income

Test(s) of highest order unconditional interaction(s):
      R2-chng         F       df1        df2          p
X*W      .0011      .6663     1.0000   469.0000      .4148

************************ ANALYSIS NOTES AND ERRORS
************************

Level of confidence for all confidence intervals in output:
  95.0000
------ END MATRIX -----
```

D10. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : PGS
    W  : Income

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R       R-sq        MSE          F        df1        df2          p
     .3560      .1267      .2169    22.6886     3.0000   469.0000      .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant   3.7646      .2970    12.6748      .0000     3.1809     4.3482
PGS         .1672      .0770     2.1707      .0305      .0158      .3186
Income      -.1203      .1159    -1.0380      .2998     -.3480      .1074
Int_1       .0292      .0297      .9834      .3259     -.0292      .0876

Product terms key:
 Int_1    :       PGS      x        Income

Test(s) of highest order unconditional interaction(s):
      R2-chng          F        df1        df2          p
X*W      .0018      .9670     1.0000   469.0000      .3259

*********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000
------ END MATRIX -----
```

D11. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : PRS
    W  : Income

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R       R-sq        MSE          F        df1        df2          p
     .4231      .1790      .2040    34.0841     3.0000   469.0000      .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant     3.5683      .3252    10.9712      .0000     2.9292     4.2074
PRS          .2123       .0843     2.5182      .0121      .0466      .3780
Income       -.2067      .1232    -1.6777      .0941     -.4487      .0354
Int_1        .0518       .0317     1.6343      .1029     -.0105      .1142

Product terms key:
 Int_1    :       PRS      x       Income

Test(s) of highest order unconditional interaction(s):
      R2-chng          F        df1        df2          p
X*W      .0047     2.6708     1.0000   469.0000      .1029

************************ ANALYSIS NOTES AND ERRORS
************************

Level of confidence for all confidence intervals in output:
  95.0000
------ END MATRIX -----
```

D12. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : PVS
    W  : Income

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R       R-sq        MSE          F        df1        df2          p
     .4041      .1633      .2079    30.5040     3.0000   469.0000      .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant   3.0270     .3724     8.1280     .0000     2.2952     3.7588
PVS         .3263     .0912     3.5786     .0004     .1471      .5055
Income      -.0365    .1347     -.2713     .7863     -.3012     .2281
Int_1       .0111     .0331     .3347      .7380     -.0539     .0760

Product terms key:
 Int_1    :       PVS      x        Income

Test(s) of highest order unconditional interaction(s):
      R2-chng          F        df1        df2          p
X*W      .0002      .1120     1.0000   469.0000      .7380

************************ ANALYSIS NOTES AND ERRORS
************************

Level of confidence for all confidence intervals in output:
  95.0000
------ END MATRIX -----
```

D13. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : PE
    W  : Gender

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R       R-sq        MSE          F        df1        df2          p
     .4770      .2276      .1919    46.0559     3.0000   469.0000      .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant     2.1420      .6136     3.4911      .0005      .9363     3.3477
PE           .5346      .1447     3.6933      .0002      .2502      .8190
Gender       -.0907      .4119     -.2203      .8257     -.9001      .7186
Int_1        .0186      .0971      .1917      .8481     -.1723      .2095

Product terms key:
 Int_1    :        PE       x        Gender

Test(s) of highest order unconditional interaction(s):
       R2-chng          F        df1        df2          p
X*W      .0001      .0368     1.0000   469.0000      .8481

************************ ANALYSIS NOTES AND ERRORS
************************

Level of confidence for all confidence intervals in output:
  95.0000
------ END MATRIX -----
```

D14. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : EE
    W  : Gender

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R       R-sq        MSE          F        df1        df2          p
     .5829      .3398      .1640    80.4576     3.0000   469.0000      .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant    1.6101      .5348     3.0108      .0027      .5593     2.6610
EE           .6586      .1238     5.3206      .0000      .4154      .9018
Gender       .0526      .3515      .1495      .8812     -.6382      .7433
Int_1       -.0230      .0810     -.2845      .7762     -.1822      .1361

Product terms key:
 Int_1    :       EE       x        Gender

Test(s) of highest order unconditional interaction(s):
      R2-chng          F        df1        df2          p
X*W      .0001      .0809     1.0000   469.0000      .7762

************************ ANALYSIS NOTES AND ERRORS
************************

Level of confidence for all confidence intervals in output:
  95.0000

------ END MATRIX -----
```

D15. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : FC
    W  : Gender

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R       R-sq        MSE          F        df1        df2          p
     .4453      .1983      .1992    38.6723     3.0000   469.0000      .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant    2.0788      .4981     4.1733      .0000     1.1000     3.0576
FC           .5783      .1223     4.7306      .0000      .3381      .8186
Gender       .4085      .3218     1.2693      .2050     -.2239     1.0409
Int_1       -.1079      .0787    -1.3712      .1710     -.2625      .0467

Product terms key:
 Int_1    :       FC       x       Gender

Test(s) of highest order unconditional interaction(s):
      R2-chng          F        df1        df2          p
X*W      .0032     1.8801     1.0000   469.0000      .1710

************************ ANALYSIS NOTES AND ERRORS
************************

Level of confidence for all confidence intervals in output:
  95.0000

------ END MATRIX -----
```

D16. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : PGS
    W  : Gender

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R      R-sq       MSE         F       df1       df2         p
     .3608     .1302     .2161    23.3957    3.0000   469.0000     .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant    2.8821     .3651    7.8944     .0000    2.1647    3.5995
PGS          .3857     .0936    4.1191     .0000     .2017     .5696
Gender       .3864     .2246    1.7205     .0860    -.0549     .8276
Int_1       -.0965     .0580   -1.6642     .0967    -.2105     .0174

Product terms key:
 Int_1    :       PGS      x       Gender

Test(s) of highest order unconditional interaction(s):
      R2-chng         F       df1        df2          p
X*W      .0051     2.7695     1.0000   469.0000      .0967
----------
    Focal predict: PGS      (X)
          Mod var: Gender   (W)

Conditional effects of the focal predictor at values of the moderator(s):

    Gender     Effect        se         t         p       LLCI       ULCI
    1.0000     .2891     .0424     6.8138     .0000     .2058     .3725
    2.0000     .1926     .0395     4.8718     .0000     .1149     .2703

************************ ANALYSIS NOTES AND ERRORS
************************
```

Level of confidence for all confidence intervals in output:
  95.0000

------ END MATRIX -----

D17. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : PRS
    W  : Gender

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R       R-sq        MSE          F        df1        df2          p
     .4212      .1774      .2043    33.7177     3.0000   469.0000      .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant    2.5352      .4108     6.1712      .0000     1.7279     3.3425
PRS          .4742      .1045     4.5394      .0000      .2689      .6795
Gender       .3688      .2670     1.3814      .1678     -.1558      .8935
Int_1       -.0942      .0681    -1.3828      .1674     -.2280      .0397

Product terms key:
 Int_1    :        PRS      x        Gender

Test(s) of highest order unconditional interaction(s):
      R2-chng          F        df1        df2          p
X*W      .0034     1.9121     1.0000   469.0000      .1674

************************ ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

------ END MATRIX -----
```

D18. Run MATRIX procedure:

```
*************** PROCESS Procedure for SPSS Version 3.5.3 ***************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : BI
    X  : PVS
    W  : Gender

Sample
Size:  473

**************************************************************************
OUTCOME VARIABLE:
 BI

Model Summary
        R      R-sq       MSE         F       df1       df2         p
     .4040     .1632     .2079    30.4895    3.0000   469.0000     .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant    2.7388     .4629    5.9163     .0000    1.8292    3.6485
PVS          .4036     .1123    3.5946     .0004     .1829     .6242
Gender       .1399     .3113     .4494     .6533    -.4718     .7516
Int_1       -.0353     .0756    -.4673     .6405    -.1839     .1133

Product terms key:
 Int_1    :       PVS      x       Gender

Test(s) of highest order unconditional interaction(s):
      R2-chng         F       df1        df2          p
X*W      .0004      .2183     1.0000   469.0000      .6405

************************ ANALYSIS NOTES AND ERRORS
************************

Level of confidence for all confidence intervals in output:
  95.0000

------ END MATRIX -----
```