

MOTIVATIONS AND OBSTACLES FOR SENIORS TO ADOPT SOCIAL NETWORK SERVICES

Yuzheng Gu, School of Creative Media, City University of Hong Kong, Hong Kong,
yuzhenggu2-c@my.cityu.edu.hk

Ayoung Suh, School of Creative Media and Department of Information Systems, City
University of Hong Kong, Hong Kong, ahysuh@cityu.edu.hk

Lili Liu, School of Creative Media, City University of Hong Kong, Hong Kong,
llili2@cityu.edu.hk

Abstract

In light of the analysis framework including Political and governmental support, Economical and commercial support, Social and communities support and Technology support (PEST), this study identified motivations and obstacles for seniors' use of social network services (SNS). Scenario simulation interviews based on four steps in which the seniors built strategies for learning about social media, were conducted through focus groups in China to determine the main motivations and obstacles for their adoption of SNS. Each interview included three sections – a) Introducing, b) Responding, and c) Engagement – and each participant was provided with a personal device. Theoretically, the study focused on exploring the model of motivation, psychological and physical difficulties for seniors' adoption of SNS. Drawing on the model of continuous online SNS usage, we developed a model consists of motivation and obstacles for seniors' SNS adoption and tested the model using the focus-group interview method. The results revealed that seniors' SNS adoption is determined more strongly by negative social influences than by positive social influences. The results also indicated that while the main motivation for seniors' SNS adoption involves communication convenience and social connections, the obstacles are related to negative social influences and to the physical and psychological barriers of technology usage.

Key words: Gerontology; Social media; Social network service; Silver users; Technology Adoption.

1. INTRODUCTION

The growth of aging populations has become one of the issues caused high attention in the 21st century. The majority of developed areas, such as Japan, Germany, and other countries in Western Europe, are trying to overcome the aging problem by many different means, including increasing immigration or encouraging birth rates. In mainland China, because of the influence of the birth control policy and the huge population base, the aging population has grown exponentially. Studies in China have shown that this causes problems in different domains, ranging from financing, medical, and hospitalization insurance to social welfare. In particular, seniors' mental health needs more attention because their lifespans have been extended. Modern society emphasizes that new approach which helps seniors to remain energetic and self-sufficient and that their social value should be recognized.

Benefiting from the assistance of technology, elderly people are able to fulfil their self-value through communicating without others' help. The United Nations Economic Council for Europe (UNECE) called for innovative and empowering strategies for senior care in a policy brief on aging in February 2015. As UNECE suggested, innovative communication methods for senior care are shifting from institution-oriented to home-based care or "telecare," which provides online services without a physical presence. Information and communication technology (ICT) is contributing to care tasks by increasing social interactions and exchanges among older people. More specifically, UNECE suggested that social network services (SNS) also offer seniors great benefits, such as empowerment, an international sense of connectedness, effective self-control, and self-efficacy. Moreover, these silver users of SNS are willing to put persistent effort in order to maintain social connections with their friends or families, based on an American report (Aaron & Smith 2014).

In order to improve our understanding of silver users' SNS adoption, this study explores the motivation and obstacles which affects seniors' satisfaction and continuous usage intention of SNS. We conducted our study by constructing an adjusted framework in which both motivation and obstacles for seniors' SNS adoption are included. Then, we interviewed a focus group consists of 12 seniors and summarized the motivation and obstacles they reported. In conclusion, responses from seniors indicate the capability of our framework in capturing antecedents of silver users' SNS adoption. This study is the first attempt to investigate silver users' SNS usage. In doing so, we seek to provide advices for both theories and practices.

Remainders of this paper are organized as follows. First, we review relative literature on seniors' SNS adoption. Next, we present our research framework. Then we describe our research design, present the results of our interviews, and conclude the paper with implications, limitations, and suggestion for future study.

2. BACKGROUND AND LITERATURE REVIEW

2.1 Political and Governmental Support

SNS for seniors is a field with great potential for research. Although few national strategies support the development of Internet access for seniors, some cities' governments have put forward collaborative projects with companies or communities in helping seniors to make a first attempt on the Internet. Before the Beijing Olympic Games, many communities organized workshops to help older people surf online, and arranged an Internet skills competition for seniors (Xie 2008). Similar programs are more popular in Hong Kong among non-governmental organizations, with the purpose of encouraging seniors to enhance their value and skills online in modern society (Lam & Lee 2005). Supported by Hong Kong's government, a Smart Elder Project of IT Fest used several events and incentive systems to help elderly people develop their digital skills in 2013 and 2014. During the program, Internet skills were taught through lectures and participants got real practice through, among other means, a digital photo sharing competition, a website design competition¹.

2.2 Economic and Commercial Support

One way in which nations have encouraged the “silver industry” is providing more economic support. In 2014, there were three elderly people oriented exhibitions in China. Companies from the financial service industry for the elderly, those that made products for the elderly, social service organizations for the elderly, and the senior sector of the real estate industry held exhibitions in Beijing, Guangzhou, and Shanghai. During the exhibitions, the China Research Centre on Aging released a report on the development of the silver industry, predicting that annual expenditure by the elderly will grow from 4 trillion CNY in 2014 to 106 trillion CNY in 2050. The report also reflected the fact that several companies in different domains were gradually realizing this and considering their responsibilities to solve aging population problems. Telecommunications and technology companies have spared no efforts in promoting their Internet devices and services among the whole world. For example, in 2009, China Mobile, one of the monopolized telecom companies in China, began promoting their low price plan for seniors to enhance their market shareⁱⁱ. In Japan, NTT DOCOMO, the biggest telecom company, developed a special version of the SNS “LINE” in their elderly-focused Raku Raku Smartphone series (Irie et al. 2005).

2.3 Sociology Research and Communities Support

By using SNS, seniors can access a free and indiscriminate Internet world, searching for information according to the way they like. Social media platforms (e.g., Facebook) with either personal mobile devices or computers have been popularized as an essential part of contemporary daily life. The desire for interfaces which is simplified and easy to control also helps to organize a suitable community environment for silver users (seniors) to join the world of social network services (Leitao & Silva 2012). As reported in a study conducted by the Pew Internet and American Life Project (Zickuhr & Madden 2012), 2012 was the first time that more than half (53%) of seniors aged 65 and older in America were online, and it was said that once they joined the Internet, they would enjoy the digital world and treat it as a major part of their daily life. Historically, this figure was only 35% in 2008, which means seniors are the fastest-growing group of Internet users; it also showed a tendency to expand, as it had increased to 59% in 2014 as reported by the same institution (Smith 2014). In terms of hardware, 47% of seniors said they had a broadband connection at home, and 77% owned cell phones (Smith 2014).

The 34th National Statistical Report of the Internet Development in China, released by the China Internet Network Information Center (CNNIC)ⁱⁱⁱ, stated that 2.1% of Internet users were over 60 years old, which was 0.2% greater than the number in 2013. By a rough calculation, this represented approximately 12.6 million people, corresponding to 6.23% of seniors in China. Despite being much lower than the corresponding number in America, it did show a potential tendency to grow, pointing to possibilities for future development in China. With the rapid development of mobile networks and the help of the burgeoning local SNS, silver users will be connected to the rest of the world.

2.4 Technology Support

Technology assistance is required to encourage seniors’ adoption of SNS. In 2011, the mobile software firm TalkTalk developed a safe Internet service for youngsters called HomeSafe^{iv}. This surprisingly gained loyalty from seniors thanks to its convenient features, such as an Internet-based virus scan. It could scan all emails and websites from the server side, preventing seniors from the threat of junk emails, Trojans viruses, cookies, malicious plug-ins and phishing sites. The technological support enabled users to surf online with lower psychological anxiety.

Nevertheless, seniors still face many physical obstacles, and consequently, program developers and user interface designers are joining the community to overcome these difficulties with programming and design strategies. People who find Internet activities inconvenient especially seniors or people with disabilities, could benefit from different techniques for surfing online. Those designing or programming techniques help seniors and people with disabilities to overcome obstacles, thus motivating their adoption of computer-based technology such as SNS.

2.5 Preconditions for SNS Adoption

In order to adopt SNS, seniors should meet some preconditions. For instance, access to the Internet is the first prerequisite of SNS adoption. The Pew report about seniors and technology in 2014 stated that nearly 60% of seniors (ages 65 or older) surfed online. In addition, 47% of these online seniors had a broadband connection at home, and 77 % owned cell phones (Smith 2014). In the 2012 report (Zickuhr & Madden 2012), they found that, for the first time, more than half (or 53%) of seniors aged 65 and above accessed the Internet. Nearly seven in ten (69%) silver users owned a cell phone, while the percentage in 2010 was only 57% (Madden 2010).

Besides hardware, the essential for seniors using SNS were summarized and divided into 1) functional capacities, 2) adoption of ICT-related (Information Communication Technology) and social media-related knowledge, and 3) attitudes towards SNS adoption (Leist 2013). These prerequisites could also be classified into categories including physical challenges, psychological difficulties and motivations.

2.6 Physical and Psychological Obstacles VS Behaviour and Attitude difference

Physical challenges are the primary difficulties elderly people encounter when using SNS. Sceptical attitudes towards the benefits of the Internet and difficulties of learning about new technology have been regarded as secondary but important difficulties (Smith 2014).

Elderly people often suffer from different levels of physical difficulties, and their adoption of SNS is hindered by psychological anxiety or techno-stress, as evidenced by their different behavior on the Internet. Senior Internet users preferred using traditional ways to communicate, such as face-to-face and emails (Jones & Fox 2009) to learning about newer technologies like SNS (Lenhart & Fox 2009). Many studies have provided similar results. The majority (91%) of wired older adults used email as a digital communication method, but only 34% of them used SNS (Zickuhr & Madden 2012). Meanwhile, a 2010 Pew report stated that seniors' main online activities were limited to reading online news and checking emails, while few seniors were active users of SNS (Madden 2010).

Besides the communications platform differences, the way in which they use and treat SNS also differs. Some elderly people disagreed that they were missing out on important information from the Internet (Smith 2014). They also thought multi-media functions (e.g., video and hypertext) were too complex for them to comprehend (Preil et al. 2009). Meanwhile, elderly SNS users reported that they were puzzled by menu bars included in other menus (Leist 2013), and it has been reported that seniors preferred having fewer friends, gathering information, and using a stable interface. Consequently, the auto-suggestion of friends and frequently changed interfaces increased their anxiety and confusion (Dumbrell & Steele 2014).

We posit that seniors' attitudes towards SNS may be one of the reasons why they behaved totally differently from other groups of people, and thus prevented them from using SNS. For example, SNS may generate new psychological difficulties for seniors in special physical situations, which leads them to feel they lack control when they first adopt SNS, meaning they turn to less functional platforms such as email.

The social function of SNS has created a positive perspective on self-disclosure. However, this perception mainly causes anxiety to older adults. In addition, privacy concerns turn out to be the main SNS-induced stressors for seniors. Only a few users aged over 65 regularly update their profiles on SNS (Lenhart 2009). Dumbrell and Steele (2014) identified privacy concerns as one of the key barriers to seniors' adoption of SNS and declared that although privacy settings may increase the security, their complexity -could be a challenge.

Based on a SNS-related Knowledge Learning Process designed for seniors, which provided instructions for SNS concepts and functions, one study found that the perceived attitudes of seniors gradually changed from overwhelmingly negative to more positive and engaged (Xie et al. 2012). However, while the attitude differed, problems remained the same. Most elderly SNS users were worried about financial and privacy problems (Xie 2012). In particular, the SNS-related Knowledge Learning Process for seniors applied a four-step strategy: a) gradually introducing social media

concepts to web site functions; b) responding to the concerns of users; c) building relevant engagement with their lives; d) manipulating the individual devices for their purposes (Xie et al. 2012). Online communities also help seniors to learn new knowledge in their own way with the affordable (or free) and self-controlled services provided by Internet communication technology (Thomas 2007; McCormack 2010). On the other hand, the lack of understanding and the negative social influence directly stopped the seniors from SNS adoption. Researchers have summarized the obstacles of senior Internet use as: a) bias to the brand of SNS; b) lack of understanding of informal codes on SNS; c) lack of understanding of self-disclosure and self-representation on SNS; d) lack of personal relevance; e) lack of control (Leist 2013).

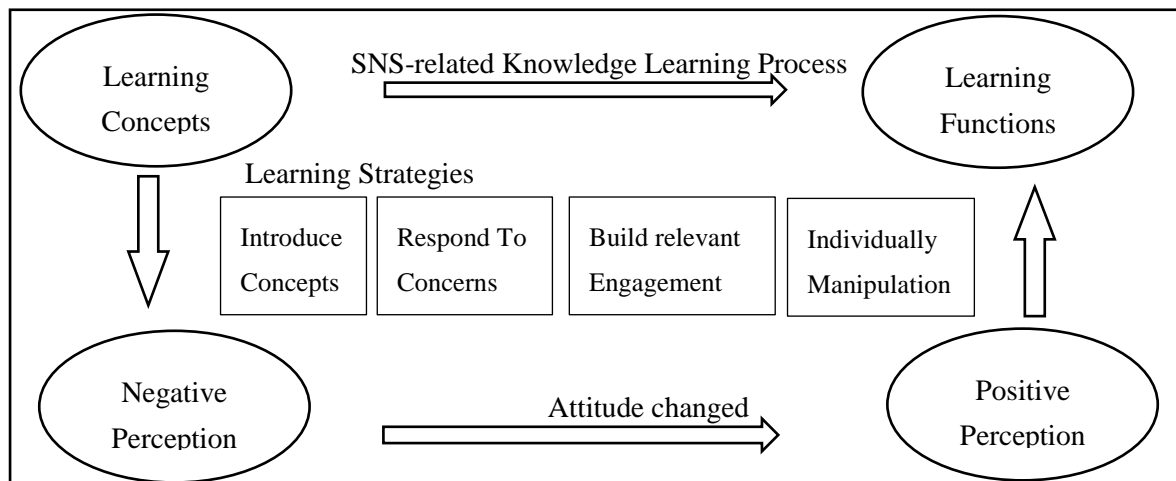


Figure 1. SNS-related Knowledge Learning Process for seniors (Xie et al. 2012)

2.7 Advantages and Motivations

Given that seniors had enough knowledge related to SNS adoption, they were expected to enjoy more benefits of SNS. Furthermore, current studies on ageing people's use of SNS mainly focus on advantages and motivations of its adoption. Specifically, the psychological motivations for seniors to use SNS can be divided into three types: a) enjoyment; b) engaging in social contact; and c) providing and receiving social support (Leist 2013). Moreover, benefits for clinical were summarized as: 1) life satisfaction; 2) well-being; 3) connectedness; and 4) empowerment (Leist 2013). Online participation will help seniors actively control their offline personal lives (McMellon & Schiffman 2002; Xie 2003). The Pew report in 2010 emphasized the advantages of SNS from the social aspects. Firstly, it can help people reconnect and renew their contacts, especially for the retired adults. Secondly, the online support of chronic disease attracted those disease carriers who badly needed help. Finally, the use of SNS is beneficial to filling in generation gaps (Madden 2010). Above mentioned benefits and motivations could change the attitudes and beliefs of the seniors and then their adoption intentions.

However, these studies only paid attention to seniors who had already connected with the Internet, and their adoption of the new technology. Little research has extensively examined senior users' desires from their own perspectives. In this study, the original and the core motivation is to understand seniors' requirements for using SNS and their difficulties of initially and continuously using SNS.

3. FRAMEWORK OF CONTINUOUS SNS USAGE

In order to apply the technology adoption model to the field of SNS adoption, we draw on the model of continuous SNS usage (Maier et al. 2012), which had been adjusted and combined with the Post-Acceptance model from Bhattacharjee (2000) and the Model of Adoption of Technologies in Households (MATH) from Venkatesh and Brown (2001).

Bhattacharjee (2001) based his research on the expectation-confirmation theory (Oliver 1980) and developed the Post-Acceptance model (Maier et al. 2012). The model presented two main divisions influencing the satisfaction and then the continuous usage intention; one is the perceptual beliefs and the other is the disconfirmation. Satisfaction was considered the major and ultimate factor influencing the continuous usage intention. Within the model, satisfaction is negatively influenced by the disconfirmation, which refers to the discrepancy between the expectation and perceived beliefs (Lankton & McKnight 2012). On the other hand, the satisfaction is positively affected by the perceived beliefs.

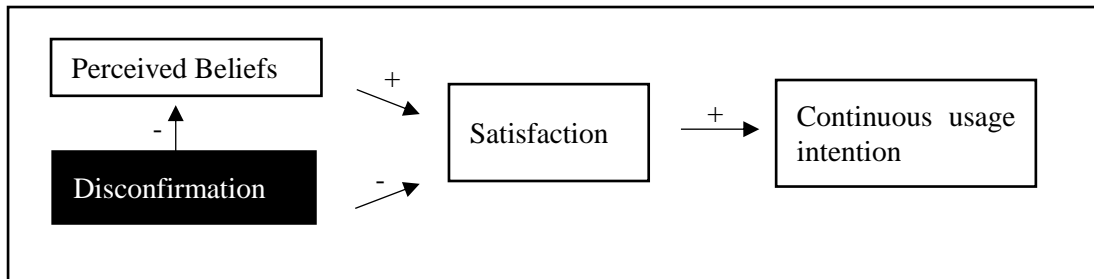


Figure 2. Post-Acceptance model (Bhattacharjee 2000)

In the model of continuous SNS usage, the perceptual beliefs were divided into three factors, Attitudinal Belief, Normative Belief, and Control Belief, based on the MATH. The model also specified the technology adoption in SNS adoption by including the factor of techno-stress in the Control Belief.

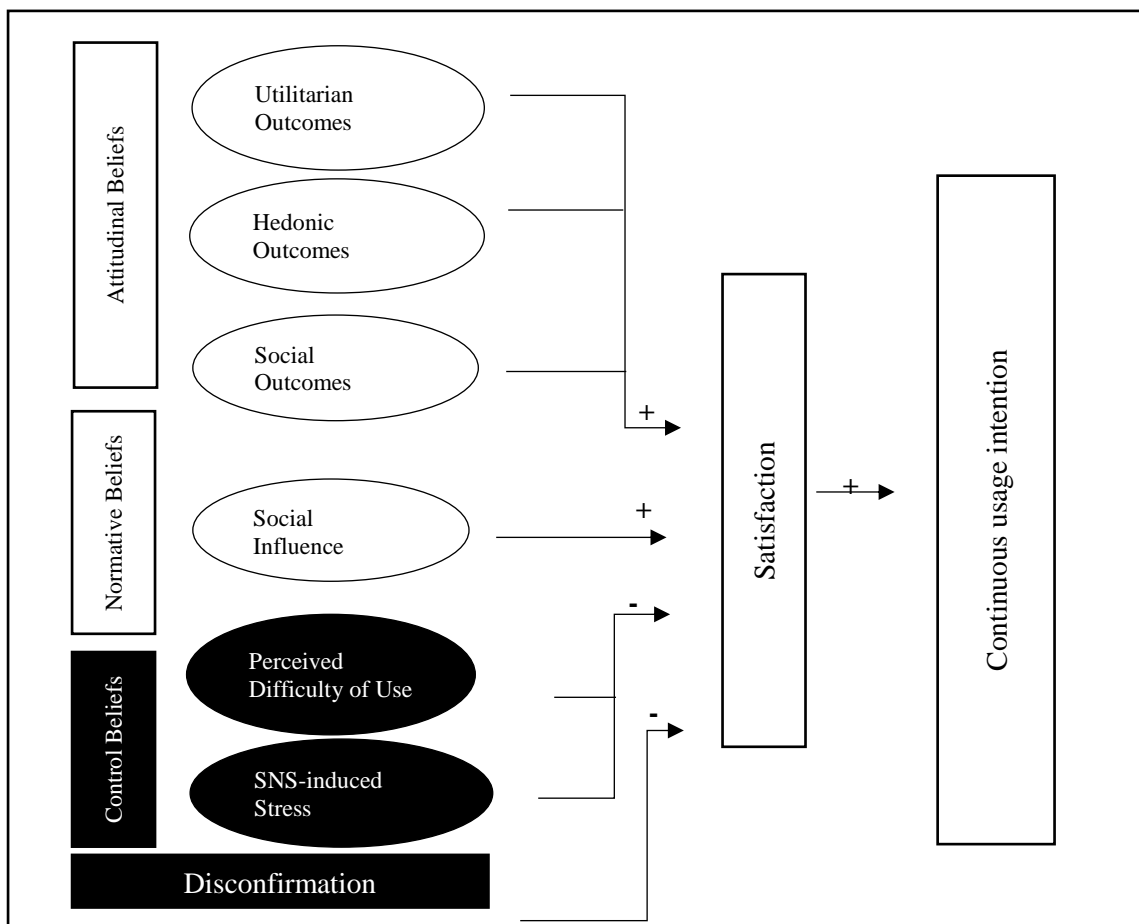


Figure 3. Model of Continuous SNS Usage (Maier et al. 2012)

The Attitudinal Belief refers to the negative or positive evaluation of the outcomes of behaviors that could be evaluated by: 1) utilitarian outcomes, which refer to the degree of effectiveness and utility; 2) hedonic outcomes, which refer to the degree of fun and pleasure; and 3) social outcomes, which refer to the degree of power, status and knowledge resulting from using a technology (Venkatesh & Brown 2001). Normative Beliefs represent the influence of families, friends, and acquaintances; in other words, social influences (Venkatesh & Brown 2001). Control Beliefs are reflected in the perceived difficulties and refer to the gap between the physical efforts and the outcomes when an individual continuously used the new technology. The new factor of techno-stress was also mentioned in the model of continuous SNS usage and represented by SNS-induced distress, which refers to the psychological degree of uncertainty and complexity generated by the new SNS (Venkatesh & Brown 2001).

3.1 Applying the Model to Seniors' SNS Adoption

In applying the model to the context of seniors' SNS adoption, each factor was given a corresponding meaning. Motivation mentioned in the previous research could be summarized into different subthemes in the factors of Attitudinal Beliefs while barriers could be sorted into physical difficulties (perceived difficulty of use) and psychological difficulties (SNS-induced stress and disconfirmation) associated with Control Beliefs and disconfirmation. However, we propose that the factors associated with Normative Beliefs should be specified more precisely and separated into positive and negative social influences according to the practical effect.

The precondition of hardware is a factor in the perceived difficulty of use. Elderly people would exaggerate their difficulties of getting themselves online, while some non-Internet seniors would say they had no personal computers or individual mobile phone. However, more than half of them had Internet access (Smith 2014). The functional capacities and physical challenges were also included in the perceived difficulties of use. Adoption-related knowledge could be considered one form of positive social influence in the Normative Beliefs category. The attitude towards SNS was separated into different factors of perceived beliefs.

The psychological obstacles fit into different dimensions depending on their features. First, the fear of SNS usage and the difficulties of learning about new technology are associated with Control Beliefs. The majority of seniors have experienced anxiety caused by the complexity of SNS when surfing online. Seniors' preference of simpler but less convenient emails, which substitute for SNS as their main communication tools, revealed their discomfort with the new technology. Moreover, the excessive amount of uncorrelated friends and the self-disclosure of SNS also raised their privacy concerns, as they are worried about protecting their personal information from illegal use. All of these concerns were generated by the new technology and resulted in psychological anxiety, thus we regard them as SNS-induced stressors. Second, the complicated SNS interface and settings are overwhelming for seniors according to their relatively slow reactions. Furthermore, simultaneously changing and flickering multi-media resulted in their lack of control. These psychological difficulties were also generated by the SNS and resulted in stress. However, these difficulties were associated with the physical and objective control problems; thus, we consider them as perceived difficulties of use. Finally, the skeptical attitudes towards the benefits of SNS increase their impracticable expectations, which ultimately results in disappointment. The misunderstandings about SNS and the Internet, such as the lack of personal relevance and the misunderstanding of online humor, also contributed to the imbalance between expectation and reality, resulting in the following disconfirmation.

The advantages and motivations were included in the Attitudinal Beliefs and positive Normative Beliefs. The strength of self-control, learning new and useful information, ease of communication were benefits deriving from the effective communication and efficient organizing manner of SNS. Hence, we identified these factors as the utilitarian outcomes from the Attitudinal Beliefs. In addition, enjoyment, life satisfaction and well-being were the results of fun and pleasure which was regard as hedonic outcomes from the Attitudinal Beliefs. Furthermore, engaging in social contact, elimination of generation gaps, empowerment, and connectedness were the advantages and motivation of social aspects, thus reflected the social outcomes of Attitudinal Beliefs. On the other hand, benefits in terms of adoption of related knowledge, providing and receiving social support, and cooperative help were

identified as social outcomes encouraged by SNS, hence reflected the positive social influence from the Normative Beliefs.

Original continuous SNS usage model failed to capture the negative social influence in the Normative Beliefs. According to the previous experience, people will consult their friends and families for suggestion before they make a decision. Once they received negative suggestion, they would think more carefully or reject the adoption of SNS at most situations. Even though they had received more support and positive suggestion from others, they only considered them as misunderstandings. Consequently, we added the discouraging social influence in the Normative Beliefs and conclude them as Negative Social Influence as an opposite to Positive social Influence. The rumors to the brand of social media and the negative suggestion from friends may be the main negative influence in the Normative Belief of SNS. Figure 4 depicts our research framework that summarize the motivations and obstacles for seniors' SNS adoption.

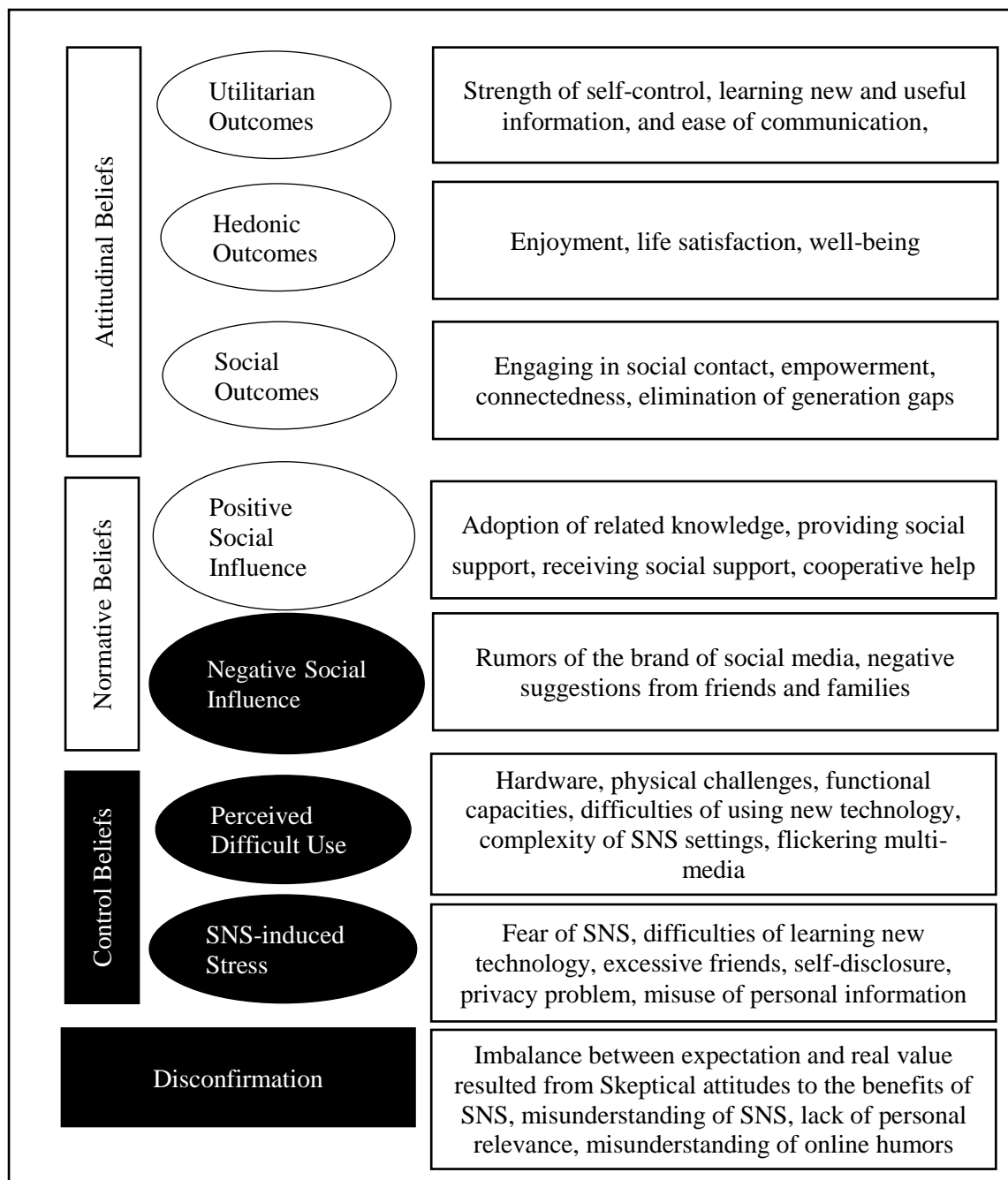


Figure 4. *Framework of Motivation and Obstacles for seniors' SNS adoption*

4. METHODS

In the preliminary stage of this research, four focus groups were invited and interviewed with simulated scenarios to validate the framework we built. For some of the interviewees, we had simulated the learning process during the interviews. The focus groups included three senior adults who were born in each of these timeframes: 194–1949, 1950–1954, 1955–1959, and 1960–1964. Overall, six females and six males participated in the research. The population divisions mainly corresponded to the social classification of the 50s generation in China and younger boomers, older boomers, and the silent generation in the population classification of Strauss-Howe generational theory in America (Strauss & Howe 1991).

According to the SNS-related Knowledge Learning Process for seniors (Xie et al. 2012), each interviewer largely followed the timeline schedule of a) Introducing; b) Responding; and c) Engaging. During the simulations, one iPad mini (tablet with iOS 7), one Acer laptop (laptop with Windows 8 operating system), and one iPhone 6 Plus (mobile device with iOS 8) were prepared for participants' individual manipulations. During the interviews, the seniors could ask each other and the interviewer for help and support others as they like. The interview lasted for an hour and the conversations were recorded. In the first session, local SNS cases were shown in the forms of applications or websites, and details of every function repeated at least two times. After the first impression of SNS, seniors were asked to answer semi-open questions orally after all technological problems were addressed. The tests mainly asked the participants to answer questions regarding their basic motivations and potential challenges in using SNS. During the tests, their first intuition desires were recorded, like the issues of profile (which personal aspects they want to share online), friends (who they want to connect with on social media), content (what kinds of content they desire), and comments, Like, collect, and share (what they do with contents). In the second session, participants talked about their worries of using SNS and their anticipation of controlling difficulties. After a full discussion among participants on every topic, the interviewer responded to each topic by giving details of current situations and solutions. Then, targeted to the responses, previous topics were repeated. After the second session of responding, the interviewer noticed that all of the questions and fundamental worries were resolved. Finally, the interviewer helped all participants to register their own SNS accounts with their permissions. In the final session, all participants practiced using SNS for about half an hour. After their first trial following the learning process, participants discussed their difficulties with, and enjoyment of SNS.

5. PRELIMINARY FINDINGS OF INTERVIEWS

By reviewing all recorded elements and conversations of our interview, we verified the validity of the framework of motivation and obstacles for seniors' SNS adoption. We summarized the results of the analysis as shown in Table 5. During the interviews, the different groups mentioned a range of different motivations and obstacles. In order to keep the interviews and the learning process more fluent, conclusive ideas were excluded. However, we did identify some common features, and attempted to incorporate those raised frequently into the model.

5.1 Motivations

With the social nature of SNS, convenient communication was recognized as the utilitarian outcomes encouraging seniors to adopt SNS. The interviewees often mentioned that the communication had bridged the gap time, place, and age. At the same time, all of them hoped to renew contact with their old lives by searching for old friends or sharing old information like photos. In the first session of the scenario simulation, the majority of interviewees mentioned that they were willing to connect to the rest of the world and talk to their children or grandkids through SNS. "As all my grandkids were talking on SNS, I hope to know more about their happiness through this thing," a retired interviewee

said. “They connected my old classmates who had immigrated to the USA,” a 56-year-old woman said in amazement.

Curiosity about the new information online attracted the interviewees as all content online was brand new to them. Some of them even shared online jokes and cyber-words. The relatively younger seniors enjoyed the online platforms more and had more fun using SNS games.

Their desire to connect with the world and learn new things surpassed all other motivations. Moreover, some of them were eager to find new friends or discover new hobbies. Their scrupulous attitudes toward SNS, and their sincere behaviour online (e.g., the use of real photos) strengthened their self-identification in social communities. We found that nearly all of the interviewees (11 of 12) thought it was necessary to verify all network users with real identifications.

One of them said “I learnt about adjusting the photos and sharing the videos for our friends’ gathering.”

All of them knew about SNS before, as they had received SNS-related information and received support from family members, friends, and communities. Communities usually help to spread computer skills among silver users with technology lectures and by providing online assistance regarding the elder’s actual needs.

| Motivations and obstacles for seniors’ SNS adoption | | |
|---|---|--|
| Attitudinal Beliefs | Utilitarian Outcomes | 1 Strength of self-control, |
| | | 2 Learn new and useful information |
| | | 3 Ease of communication |
| | Hedonic Outcomes | 1 Get healthier (younger) and more up-to-dated |
| | | 2 Have fun with online humour |
| | | 3 Enjoy playing SNS games |
| | Social Outcomes | 1 contact with new friends, reconnection and renewable of old contacts |
| | | 2 Elimination of generation gaps |
| | | 3 Strengthen self-identification |
| Normative Beliefs | Positive Social Influence | 1 Learn SNS related knowledge |
| | | 2 Learn computer skills |
| | | 3 Receive online community support |
| | Negative Social Influence | 1 Negative influences like online violence, etc. |
| | | 2 Online rumors |
| | | 3 High financial loss or cost |
| Control Beliefs | Perceived Difficulty of Use | 1 Difficulties with complex interfaces, settings, manipulations, applications and learning processes |
| | | 2 Difficulties in owning a personal devices with Internet access |
| | | 3 Physical difficulties in using devices |
| | SNS-induced Stress | 1 Worry about privacy problems |
| | | 2 Annoyance with excessive uncorrelated friends |
| | | 3 Worry about the illegal use of SNS |
| Disconfirmation | 1 Inherent preference for offline communications | |
| | 2 Lack of personal relevance and friends online | |
| | 3 Lack of understanding or interest of concepts or functions of SNS | |

Table 5. Preliminary outcomes of motivation and obstacles for seniors’ SNS adoption

5.2 Obstacles

“I think other people would tell me I must lose money if I use SNS.” “Online information is deceiving.” Two of interviewees clearly mentioned the negative suggestions from other people, while others also expressed their anxiety about negative social influence.

The interviewees mentioned that their friends often shared warnings about the misuse of personal information gathered from SNS. The fear, which mainly came from their sincere attitudes towards SNS, finally resulted in SNS-induced stress. This meant they were willing to express personal opinions while unwilling to share personal information. Three of them expressed their worries about violence, and four revealed their concerns about online rumours.

We also found that hardware such as wireless router was essential for seniors to adopt SNS. All interviewees owned personal Internet-access devices, but they seldom actually used the function of SNS. On the one hand, we found that the social obstacles for some of them were over-resistance to rumours about the Internet. On the other hand, their resistance was oriented to the practical difficulties, such as the high cost of Internet service. Furthermore, the results show that their eyesight problems, less flexible fingers and other physical obstacles did directly hinder SNS adoption. Interestingly, one focus group (born in 1955–1960) especially reported their confusion over excessive updating. They said when they got used to the old versions of interfaces, they would be told to update and should adapt from the beginning. This also reflected the complexity of SNS settings.

Although main difficulties originated in the psychological difficulties and incomprehension, none of them reported that they were not interested in SNS. However, while relative young seniors had fun with SNS, older interviewees had more disconfirmation and misunderstanding of them. In the third session, they also talked about their familiar friends who seldom used the Internet and had their “common” way of communication, which to some extent decrease their intention to adopt SNS.

6. CONCLUSION

In our framework, motivations and obstacles reflected seniors’ expectation towards SNS were summarized and proposed. While the fundamental functions of communications prompted these seniors’ first involvement, further usage was determined by their attitudinal beliefs (utilitarian outcomes, hedonic outcomes, social outcomes), normative beliefs (positive social influence). Besides these motivations, we found significant obstacles, which is represented by negative social influences, the physical and subjective conditions or psychological techno-stress. In order to encourage seniors’ adoption as well as continuance intention to use SNS, we may make great effort to broadcast the potential outcomes and positive social influence. As our interview shown, seniors were interested in SNS and would more likely to initiate and continue their usage once they have an opportunity to try SNS and know the advantages of SNS. On the contrary, lack of capabilities and some misunderstandings discouraged seniors’ SNS adoption. In respond to the negative social influence and misunderstanding of SNS, a strategy for promoting reputation and group sharing should be emphasized in the first place in future SNS development for seniors. Contents online, to some extents, were found too complex for seniors to understand at once. Hence, appropriate guidance is needed in SNS to guide seniors to the new things and fulfil their special desire. Furthermore, a special function should be especially designed for older adults such as repeatable user manuals or less frequently updated systems.

The preliminary framework summarizes and highlights both positive and negative antecedents for seniors’ SNS adoption. Based on an interview with simulated scenarios, we validated proposed detailed beliefs and disconfirmations which capture users’ motivations and obstacles in SNS usage. However, with limited time and resources, it is still under a preliminary development period. The scale of interviewees is limited in a small groups and the interview process was highly relied on or even influenced by the compare. Consequently, a quantitative hypothesis testing is urgently needed in the next stage. Moreover, it is required to conduct a more clear distinction and discussion among different factors in the framework.

Acknowledgment

This research was supported by grant No. 21500714 from the Research Grants Council of the Hong Kong SAR, China.

References

- Abdulrazak, B., Malik, Y., Arab, F. & Reid, S. (2013). PhonAge: Adapted smartphone for aging population. In *Inclusive Society: Health and Wellbeing in the Community, and Care at Home* (pp. 27-35). Springer Berlin Heidelberg.
- Arch, A. (2009). Web accessibility for older users: successes and opportunities (keynote). In *Proceedings of the 2009 International Cross-Disciplinary Conference on Web Accessibility (W4A)* (pp. 1-6). ACM.
- Bhattacharjee, A. (2001) Understanding Information systems continuance: An Expectation-Confirmation model, *MIS Quarterly*, 25, 351–370.
- Irie, T., Matsunaga, K. and Nagano, Y. (2005). Universal design activities for mobile phone: Raku Raku phone. *Fujitsu Scientific and Technical Journal* 41(1), 78-85.
- Kang, J. (2013). The Singapore Government: Policy-Making to Bridge the Digital Divide. *Aging Society and ICT: Global Silver Innovation*, 5, 49.
- Lam, J. and Lee, M. (2005). Bridging the digital divide-The roles of Internet self-efficacy towards learning computer and the Internet among elderly in Hong Kong, China. In *System Sciences, 2005. HICSS'05. Proceedings of the 38th Annual Hawaii International Conference on* (pp. 266b-266b). IEEE.
- Lenhart, A. and Fox, S. (2009). Twitter and status updating. Washington, DC: Pew Internet and American Life Project. Available at <http://www.pewinternet.org/2009/02/12/twitter-and-status-updating/>.
- Lenhart, A. (2009). Adults and social network Websites. Washington, DC: Pew Internet and American Life Project. Available at <http://www.pewinternet.org/2009/01/14/adults-and-social-network-websites/>.
- Leist, A. K. (2013) Social media use of older adults: a mini-review. *Gerontology* 59(4): 378–384.
- Leitao, R. and Silva, P. (2012). Target and spacing sizes for smartphone user interfaces for older adults: design patterns based on an evaluation with users. In *Proceedings of the 19th Conference on Pattern Languages of Programs (PLoP 2012)*.
- Madden, M. (2010). Older adults and social media. Washington, DC: Pew Internet and American Life Project. Available at. <http://www.pewinternet.org/2010/08/27/older-adults-and-social-media/>.
- Maier, C., Laumer, S., Eckhardt, A. and Weitzel, T. (2012). Online social networks as a source and symbol of stress: an empirical analysis. In *Proceedings of the 33rd International Conference on Information Systems (ICIS)*, Orlando, FL.
- McMellon, C. A. and Schiffman, L. G. (2002). Cybersenior empowerment: How some older individuals are taking control of their lives. *Journal of Applied Gerontology*, 21, 157–175.
- McCormack, A. (2010). Individuals with eating disorders and the use of online support groups as a form of social support. *Computers Informatics Nursing: CIN* 28(1), 12-19.
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of marketing research*, 460-469.
- Pfeil, U., Arjan, R. and Zaphiris, P. (2009). Age differences in online social networking—A study of user profiles and the social capital divide among teenagers and older users in MySpace. *Computers in Human Behavior*, 25(3), 643-654.
- Shih, C. C., Lin, T. M., & Luarn, P. (2014). Fan-centric social media: The Xiaomi phenomenon in China. *Business Horizons*, 57(3), 349-358.
- Smith, A. (2014). Older Adults and Technology Use, Adoption is increasing, but many seniors remain isolated from digital life. Washington, DC: Pew Internet and American Life Project. Available at <http://www.pewinternet.org/2014/04/03/older-adults-and-technology-use/>.
- Strauss, W. & Howe, N. (1991). *Generations: The history of America's future, 1584 to 2069* (pp. 279-316). New York, NY: Morrow.

- Thomas, C. M., (2007). Bulletin boards—A teaching strategy for older audiences. *Journal of Gerontological Nursing*.
- Venkatesh, V. and Brown, S. A. (2001). A longitudinal investigation of personal computers in homes: adoption determinants and emerging challenges. *MIS quarterly*, 71-102.
- Xie, B. (2003). Older adults, computers, and the Internet: Future directions. *Gerontechnology*, 2(4), 289-305.
- Xie, B. (2008). Civic engagement among older Chinese Internet users. *Journal of Applied Gerontology*.
- Xie, B., Watkins, I., Golbeck, J. and Huang, M. (2012). Understanding and changing older adults' perceptions and learning of social media. *Educational gerontology*, 38(4), 282-296.
- Zickuhr, K. (2010). *Generations 2010*. Washington, DC: Pew Internet and American Life Project. Available at <http://www.pewinternet.org/2010/12/16/generations-2010/>.

Notes

ⁱ Smart Elderly IT Star Awards. Retrieved from http://www.ogcio.gov.hk/en/community/smart_elderly/

ⁱⁱ Easy Own for Elderly of China Mobile. (2013). Retrieved from <http://www.sh.10086.cn/sh/support/cs/tstc/2013/03/2013-03-296478.html>.

ⁱⁱⁱ The 34th National Statistical Report of the Internet Development in China. Retrieved from <http://www1.cnnic.cn/IDR/ReportDownloads/201411/P020141102574314897888.pdf>

^{iv} TalkTalk HomeSafe. Retrieved from <http://www.talktalk.co.uk/security/homesafe-demo.html>.