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Understanding Undergraduate Chinese International Student Perceptions and Usage of Facebook

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**UNDERSTANDING UNDERGRADUATE CHINESE
INTERNATIONAL STUDENT
PERCEPTIONS AND USAGE OF FACEBOOK**

by

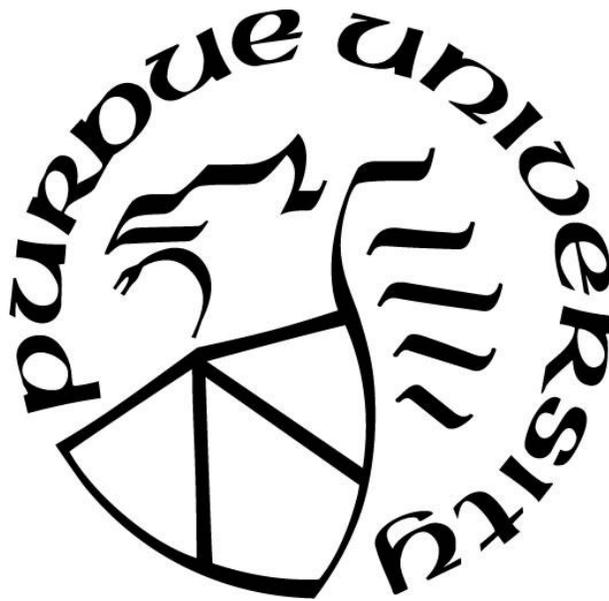
Yushan Wei

A Thesis

Submitted to the Faculty of Purdue University

In Partial Fulfillment of the Requirements for the degree of

Master of Science



Department of Computer Graphics Technology

West Lafayette, Indiana

August, 2018

THE PURDUE UNIVERSITY GRADUATE SCHOOL
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To my daughter, Yinuo—for choosing me to be her Mom.

To my parents—for the support along the years.

To my husband—for persuading me to start this degree.

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ABSTRACT

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Title: Understanding Undergraduate Chinese International Student Perceptions and Usage of Facebook

Major Professor: James Mohler

The study tried to understand undergraduate Chinese international student perceptions and usage of Facebook. Ten undergraduate Chinese international students from a Midwestern university were recruited in this study. Half of them were senior and half of them were freshmen. Semi-structured interviews and survey were used in collecting data. Based on the analysis of data from all data source, several themes emerged and were categorized under purpose, adoption and usage. Moreover, data also provided explanation of the decline of Facebook usage among undergraduate Chinese international students as they stayed in the U.S. Findings of this study included the usability issues of Facebook such as information redundancy, separation between the Facebook App and Messenger App, privacy settings, visualization and so on. In hopes of improving product design and adoption in a different cultural environment, implications for product design were also mentioned.

CHAPTER 1. INTRODUCTION

Social network sites (SNS), through which people can develop their personal network online, are widely used among college students in the United States. As one of the popular social networking sites, Facebook was used most often by college students (Pempek, Yermolayeva, & Calvert, 2009). A survey by Wiley and Sisson (2006) illustrated that 91% of college students in several Midwest universities confirmed their use of Facebook. With the large population of Facebook users in college, it's important to explore student perceptions in choosing Facebook as the platform and their behavior pattern in using it.

As a group between two cultures, undergraduate Chinese international students are a unique population to study. Previous cross-cultural usability research on SNS only focused on citizens in different countries. Although some studies have demonstrated cultural differences in user motivations and behavior patterns in using social network sites (Kim, Sohn, & Choi, 2011; Vasalou, Joinson, & Courvoisier, 2010) as well as the time they invest on the sites (Chang & Zhu, 2012), international students were excluded as the participants from these studies. The open doors report shows 328,547 Chinese international students were studying in United States with an annual increase as high as 8.1% during the year 2015 (Institute of International Education, 2016). As a large group between home culture and host culture, their perceptions and usage of Facebook are essential for designers in understanding how culture affects user motivations and behavior patterns.

1.1 Significance

Culture is the man-made part of the human environment (Hofstede, 1980). One of the most important features about culture is: it's changing (Rapoport, 1983). By selecting students who study and live in the U.S. at different time lengths, this study aimed to investigate how cultural assimilation (or host culture) impacts undergraduate Chinese international student perceptions and usage of Facebook. Because Facebook has been blocked in mainland China since 2009 (Li & Chen, 2014), most people in mainland China do not have access to it, not to

mention use it. Focusing on undergraduate Chinese international students can also help to explore the continuous effect of home culture upon user perception in technology adaptation.

Cross cultural related research states that information systems should be sensitive to culture (Watson, Ho, & Raman, 1994). Simon (2000) also find that perception and satisfaction differences exist between the cultural clusters. However, with a complex term like culture, how can impact be measured? Popular cultural dimensions such as power distance and uncertainty avoidance only represent dominant cultural values while ignoring other subcultural factors in a national culture (Sun, 2006). Thus, this thesis tried to analyze the impact of culture through structural equation model (Arteaga Sánchez, Cortijo, & Javed, 2014) and Sun's cultural usability framework.

Understanding how culture affects user motivations and behavior patterns has both academic and practical significance. Previous studies have demonstrated the existence of cultural differences and their effects on user motivations and time investments for using social network sites (Chang & Zhu, 2012; Kim et al., 2011; Vasalou et al., 2010). However, these studies are based on quantitative approaches while neglecting the reason behind the phenomenon. Moreover, failure cases of technology products in the real-world market show that identifying the needs of people in different cultural environments is essential in product design. As “schemata, gambits, and precedent” (Lawson, 2004, p.1) affect our decisions both in using and designing SNS in the present and future, the unconscious cultural assumptions and values embedded both in users and designers are still there waiting to be discovered (Sengers, Boehner, David, & Kaye, 2005). Therefore, this study tried to fix the gap through a qualitative case study of undergraduate Chinese international students perceptions and usage of Facebook.

According to enrollment and statistical reports provided by Office of International Students and scholars at Purdue University, Purdue's total international student enrollment ranks 3rd among U.S. public institutions and 2nd in the Big Ten (International Students and Scholars Office, 2017). Among all the international students, 40.5% are Chinese. Among all Chinese international students, 61% are undergraduate Chinese international students (International Students and Scholars Office, 2017). Although undergraduate Chinese international students account for a large population at the university, little research was done about this group. Therefore, it was important to fill the gap and dig into undergraduate Chinese international students perceptions and usage of social networking sites such as Facebook.

1.2 Research Question

The research question in this study is: What are undergraduate Chinese international student perceptions and usage of Facebook?

1.3 Assumptions

The assumptions of this study are as following:

1. Participants shared their feelings, experiences, and perceptions honestly and accurately during the interview process regarding Facebook usage.
2. The number of participants in this study is adequate for a qualitative exploration in Chinese undergraduate international student perception and usage of Facebook.

1.4 Limitations

The limitations of this study are as following:

1. This study was limited to undergraduate Chinese international students at the West Lafayette campus of Purdue University.
2. Although there are a lot of Social Networking Sites in the market, this study will only explore the perception and usage of Facebook.

1.5 Delimitations

The delimitation of this study is the diversified background of Chinese international students. With the popularity of global education, there might be a small portion of some Chinese international students who attend high schools in U.S. or attend international high schools back in China. To better understand the impact of culture and college education towards undergraduate Chinese international student perception and usage of Facebook, this study will not exclude those students.

1.6 Definitions of Key Terms

social network sites – web-based services through which people can build a public or

semipublic profile within a bounded system and develop their personal network within that system (D. M. Boyd & Ellison, 2007).

1.7 Summary

This chapter introduced the background of the study and highlighted the significance to explore undergraduate Chinese international student perceptions and usage of Facebook. Next chapter will analyze the existing literature of Facebook studies related to the research question.

CHAPTER 2. LITERATURE REVIEW

When Mark Zuckerberg launched Facebook in 2004, it immediately caught the attention of scholars with the rapid adoption in universities. Earlier scholars focused on Facebook's threats to privacy (Jones & Soltren, 2005) and students' awareness of it (Bornoe & Barkhuus, 2011; Govani & Pashley, 2005). Later, researchers shifted to understand and identify Facebook users' characteristics (Ross et al., 2009; Ryan & Xenos, 2011), why users preferred to use Facebook (Cheung, Chiu, & Lee, 2011; Ellison, Steinfield, & Lampe, 2007), and how they used it (Hamat, Embi, & Hassan, 2012; Kabilan, Ahmad, & Abidin, 2010; Wise, Skues, & Williams, 2011). Because Facebook started from a university and was widely used by college students (Selwyn, 2009; Stutzman, 2006), a significant amount of literature explored the use of Facebook in higher education. Scholars were interested in figuring out the relationship between Facebook use and student engagement (Barczyk & Duncan, 2013; Heiberger & Harper, 2008; Junco, 2012) as well as academic performance (Arteaga Sánchez et al., 2014; Hamat et al., 2012; Irwin, Ball, Desbrow, & Leveritt, 2012; Wise et al., 2011).

This chapter aims to outline the perception and use of Facebook by reviewing past scholarly work. In consideration of the research question, the literature is grouped into the two sections: Facebook literature in higher education; and culture differences in Facebook and SNS use. This approach to analyze the existing literature is chosen to grasp the breadth and depth of international students' perception and use of Facebook.

2.1 Facebook Literature in Higher Education

As the cradle of Facebook, the university had a high rate of Facebook adoption during mid-2000s (Selwyn, 2007, 2009). The rapid adoption of the new SNS on college campuses was astonishing and Selwyn (2009) even warned university administrations that "Facebook owns your campus" (Stutzman, 2006, p.3). This section will review Facebook literature in higher education in three aspects: Perception of Facebook; Facebook use and student engagement and Facebook use and academic.

2.1.1 Perception of Facebook

Three trends on students' perception of Facebook is greatly debated in scholarly work: Perception on Facebook privacy settings; motivations and usage of Facebook use and Changes in use and perception of Facebook.

2.1.1.1 Privacy Settings

Jones and Soltren (2005) used a user survey and direct data collection from Facebook to investigate usage patterns and users' interaction with Facebook at MIT. According to Jones and Soltren (2005), there were several interesting findings. First, students signed up for Facebook before arriving on campus. Second, most undergraduates have a Facebook account and they were not only quick at updating but also more willing to share personal information on Facebook. Third, active users preferred to disclose more information; and most importantly users were not fully informed about privacy. Most students were not aware of who could read their profile.

Bornoe and Barkhuus (2011) interviewed 52 students (48 undergraduates and 4 graduate) at a large public university in the US. They used qualitative data to understand student users' sense of privacy in using Facebook. It was found that, student users liked to expose information, they did not practice privacy management, and they had little knowledge about it (Bornoe & Barkhuus, 2011).

Govani and Pashely (2005) conducted a pilot survey on student awareness of Facebook privacy issues at Carnegie Mellon University. The participants were 50 undergraduate students at the University who use Facebook (Govani & Pashley, 2005). Govani and Pashely (2005) found that most students were aware of the privacy issues and Facebook's privacy setting, but few of them used it. Compared with theft and stalking, information protection is not a student primary privacy concern (Govani & Pashley, 2005). Moreover, they felt comfortable to share personally identifiable information and did not step forward to protect this information (Govani & Pashley, 2005). As a result, Govani and Pashely (2005) concluded that awareness did not increase privacy protection action and privacy setting function in Facebook was underutilized.

All these studies had a focus on undergraduate students. One reason for this as mentioned by Jones and Soltren (2005) was that undergraduate students participated and updated more actively in Facebook. Because the undergraduate student population takes up a large part of the

student population, and undergraduate students are at a younger age in average compared with graduate students. More importantly they use Facebook more than graduate students. As a result, it's important to understand their perception towards privacy protection in Facebook, in consideration of the potential risk they would encounter.

In addition to the privacy implications, Govani and Pashely (2005) also explored the reason why students use Facebook. Their data shows friend recommendations and peer pressure together with relationship management such as keeping in touch, and finding classmates are major reasons students join Facebook (Govani & Pashley, 2005). More literature on motivations of Facebook use is reviewed in the following section.

2.1.1.2 Motivations and Usage

Motivation and usage research of Facebook use goes into two directions: individual and group. Some scholars focused on group studies and compared motivation and usage of people in different cultural environments to investigate the variables that affect their choices (Guo, Li, & Ito, 2014; Kabilan et al., 2010; Li & Chen, 2014; Saw, Abbott, Donaghey, & McDonald, 2013; Sin & Kim, 2013), which is discussed in section 2.3. Other scholars examined the individual approach to identify Facebook users' characteristics (Ross et al., 2009; Ryan & Xenos, 2011), and analyzed the influence of social capital (Ellison et al., 2007).

Cheung, Chiu, and Lee (2011) introduced the We-Intention model in evaluating the impact of social influence, social presence and the uses and gratifications paradigm on use of Facebook. The uses and gratification paradigm included purposive value, self discovery, maintaining interpersonal interconnectivity, social enhancement and entertainment value (Cheung et al., 2011). While social influence contained subjective norm, group norms and social identity (Cheung et al., 2011). It was found that social presence has the strongest influence over other variables in students' intention to use Facebook (Cheung et al., 2011). The We-Intention model provides a framework to organize all potential intentions and helps to analyze and interpret data.

Ellison, Steinfield, and Lampe (2007) conducted an empirical study upon 286 undergraduate students at Michigan State University to investigate the relationship between social capital formation and maintenance and Facebook use. This study used random sampling, which is more convincing than previous studies that used convenience sampling. Bridging social

capital and bonding social capital were found to have strong association with Facebook use (Ellison et al., 2007). More importantly, subjective well-being might be improved with the Facebook use in students who are experiencing low self-esteem (Ellison et al., 2007).

Kalpidou, Costin, and Morris (2011) stated that a positive relationship exists between Facebook usage and social adjustment in their research of undergraduate college students. According to their research, Facebook variables can help undergraduate students to achieve psychological well-being (Kalpidou et al., 2011).

2.1.1.3 Changes in Use and Perception of Facebook

As a growing social networking site, Facebook went through a lot of refinement. Lampe, Ellison, and Steinfield (2008) recorded the change of Facebook use and perception using surveys they conducted in 2006, 2007 and 2008. In-depth interviews were also included to track the change of use and perception. They analyzed the change in three ways: Use of Facebook, perception of audience, and attitudes towards Facebook (Lampe et al., 2008). As for use of Facebook, Lampe, Ellison, and Steinfield (Lampe et al., 2008) found that very little had changed over the three years. However, privacy awareness had been aroused in these years when the News Feed was introduced in 2006 and the browse menu was removed between 2006 and 2007 (Lampe et al., 2008). According to Lampe, Ellison, and Steinfield (2008), positive attitudes towards the sites were found in the survey during the years. In addition, the importance of the site increased significantly between 2006 and 2007 (Lampe et al., 2008).

Boyd and Hargittai (2010) conducted a survey on the privacy implication of first-year students at the University of Illinois, Chicago. Modifications of privacy setting were found to have increased (Boyd & Hargittai, 2010), which supported the findings of Lampe, Ellison, and Steinfield (2008). Furthermore, internet skills together with frequency of Facebook use affect the action of modification in privacy settings (Boyd & Hargittai, 2010). Gender differences (Boyd & Hargittai, 2010) has also been mentioned as a variable that affects privacy modification.

2.1.2 Facebook Use and Student Engagement

Although student engagement in the offline environment is a hot topic in higher education (Pascarella, Terenzini, & Feldman, 2005), little research addressed on student engagement in social media (Junco, 2012). Junco (2012) took the initial attempt by exploring the

relationship between student engagement and the frequency of Facebook use. Using a sample as large as 2368 students, Junco (2012) measured student engagement with a survey that included: “a 19-item scale based on the national Survey of Student Engagement, time spend preparing for class, and time spent in co-curricular activities” (Junco, 2012, p. 162). Although the data relied on self-reporting, the results showed a positive prediction between the frequency of Facebook use and time spent in co-curricular activities. However, they had not specify the relation between co-curricular activities and student engagement.

Wise, Skues, and Williams (2011) divided engagement into social and academic and insisted that Facebook has a limited role in promoting student engagement. They stated that Facebook has a “distracting influence” (Wise et al., 2011, p. 1332) over academic engagement. Regarding social engagement, Wise, Skues, and Williams (2011) admitted that the use of Facebook could promote social engagement (Wise et al., 2011). Additionally, they proposed that Twitter, which aims to be brief and topical, might potentially help to increase academic engagement.

2.1.3 Facebook Use and Academic

Student attitudes towards pedagogical use of Facebook varies across different studies. Barczyk and Duncan (2013) indicate that students’ attitudes towards Facebook-enhanced courses were “neutral and mildly favorable” (p. 9). Their data shows 74% of students thought Facebook had enhanced their classroom participation and 65% students believed Facebook is a convenient tool for classroom discussion (Barczyk & Duncan, 2013). Social learning and connectedness were also measured in their studies (Barczyk & Duncan, 2013). According to Barczyk and Duncan (2013), female students had a higher sense of learning community than male students and, students who are older than 25, scored higher than younger students.

Irwin, Ball, Desbrow and Leveritt (2012) examined student perceptions over course-specific Facebook pages. Based on blended learning, their research targeted at evaluating whether course specific Facebook pages could facilitate learning activities and promote interactive learning environments in university (Irwin et al., 2012). It was found that students are “receptive to incorporate Facebook into academic lives” (Irwin et al., 2012, p. 1230). However, the authors failed to provide the demographic information of the participants. As Harigittai (2007) indicated, gender, race and ethnicity, and parental educational background all have

influence over SNS adoption. Were there any differences of the students who have different demographic backgrounds? How about the students who did not have a current Facebook account? Would that affect their perceptions on effectiveness of course-specific Facebook pages?

Arteaga Sanchez, Cortigo, and Javed (2014) argued about the worthwhileness for faculty to incorporate Facebook into their teaching. Social influence for adoption and social relations for purpose were measured in the study (Arteaga Sánchez et al., 2014). Furthermore, structural equation model (Mazman & Usluel, 2010) was applied in collecting and analyzing data. According to Arteaga Sanchez, Cortigo, and Javed (2014, p. 140), “the model consists of three latent variables and eleven observable variables”. Three latent variables in structural equation model are adoption, purpose and educational usage (Arteaga Sánchez et al., 2014). Adoption was evaluated in five perspectives, usefulness, ease of use, social influence, facilitating conditions and community identification (Arteaga Sánchez et al., 2014). With these five perspectives, adoption was well observed and demonstrated in their research. Purpose was measured through social relations, daily activity and work related (Arteaga Sánchez et al., 2014). These categories included the most important elements that affect users’ choice of SNS. And educational usage was examined through communication, collaboration and material and resource sharing (Arteaga Sánchez et al., 2014), which covered most popular channel in educational setting.

The data showed social influence is the most significant factor in Facebook adoption while social relation is of great emphasis regarding the purpose of using Facebook. This research not only clearly separated motivation variables from adoption variables, but also showed the trustworthiness of using a structural equation model in analyzing motivation research of Facebook use (Arteaga Sánchez et al., 2014).

A research study conducted at the University Sains Malaysia (USM), Penang indicated that the use of Facebook can facilitate English language learning (Kabilan et al., 2010). Quantitative and qualitative data were collected to demonstrate the improvement of students’ language skills and confidence, motivation, and attitudes associated with English language learning (Kabilan et al., 2010). Slight differences between reading English and writing English were reported in improving language skills with Facebook use (Kabilan et al., 2010).

2.2 Culture Differences in Facebook and SNS use

Hamat, Embi, and Hassan (2012) indicated the perception and use of SNS among a Malaysian university students for the purpose of informal learning. The results of their study stated that although students used SNS to communicate with peers, only half of them used SNS to contact their instructors. However, they did not touch on the cultural aspects of Facebook use nor did they compare behavior patterns of their students with students in other countries.

Sin and Kim (2013) investigated the relationships of demographics, personality traits and SNS use in “international students’ everyday information seeking” (p. 107). However, this research only analyzed the individual differences such as gender, age, personality among international students. Cultural elements, student nationality and backgrounds haven’t been studied in this research.

Vasalou, Joinson, and Courvoisier (2010) conducted a questionnaire research based on the behavior chain model in five different countries (the United States, the United Kingdom, Italy, Greece, and France). There were two parts of the questionnaire: demographic information and motivation (Vasalou et al., 2010). The data were analyzed in two user characteristics: experience with the site and culture (Vasalou et al., 2010). The study focused on the “true commitment” in Facebook and several cross-cultural differences were identified such as groups were rated high in UK compared to US; groups, games and applications attracted Italian users more than US users; And status updates were found less important among Greek users etc. (Vasalou et al., 2010). Vasalou, Joinson, and Courvoisier (2010) filled the gap in literature by pointing out cultures’ influences on motivations of Facebook use. Whereas, culture had not been defined in their study. Furthermore, among the five countries they chosen, four are European countries, which limited their finding. Therefore, to answer the influence of culture on Facebook use, more research is needed.

2.3 Summary

This chapter reviewed previous Facebook literature in higher education. Perceptions, motivations, usage, and changes of Facebook were highlighted in this chapter. Moreover, student engagement, academic usage and culture differences in usage were also discussed. Next chapter will focus on methodology of the study.

CHAPTER 3. METHODOLOGY

This research sought to understand why undergraduate Chinese international students chose to use Facebook, how they used Facebook, and the outcome of using it. Regarding the breadth and depth of the research question, qualitative methods were applied in this research to explore the decision-making process and user habits of Facebook adoption. As previously described in chapter two, most Facebook research used quantitative research methods to grasp the big picture of Facebook usage; this research filled a gap by focusing on why and how. Thus, qualitative methods served a better role in digging out the hidden variables that affect Facebook usage and adoption.

This chapter outlines the research methodology, sampling strategy, survey and interview structure and data analysis method of the research. In addition, the trustworthiness of the researcher and the triangulation of the data is also covered.

3.1 Research Framework

Three methodologies were used in this research, one was phenomenology due to the nature of research question. Then structural equation model (Mazman & Usluel, 2010) is used to define the variables. And thematic analysis is adapted to analyze the data from survey and interviews.

Phenomenology is chosen because, the perception and usage of Facebook among Chinese undergraduate students is a lived experience (Patton, 2002). According to Moustakas (1994), reflection method is a systematic approach to analyze and synthesize people's experience and therefore helps to understand the phenomenon. Therefore, interviews were used to explore participant reflection of their Facebook usage.

Structural equation model is an excellent model to analyze purpose, adoption and usage (Mazman & Usluel, 2010), which has also been demonstrated in previous Facebook studies (Arteaga Sánchez et al., 2014). Structural equation model was mainly used to analyze quantitative data. However, in this study a structural equation model was used to analyze both quantitative and qualitative data. The three categorical variables: purpose, adoption and usage were essential for understanding undergraduate Chinese international student perceptions and

usage of Facebook. And, the relationship between these categories and the length of living aboard was an interesting topic to explore.

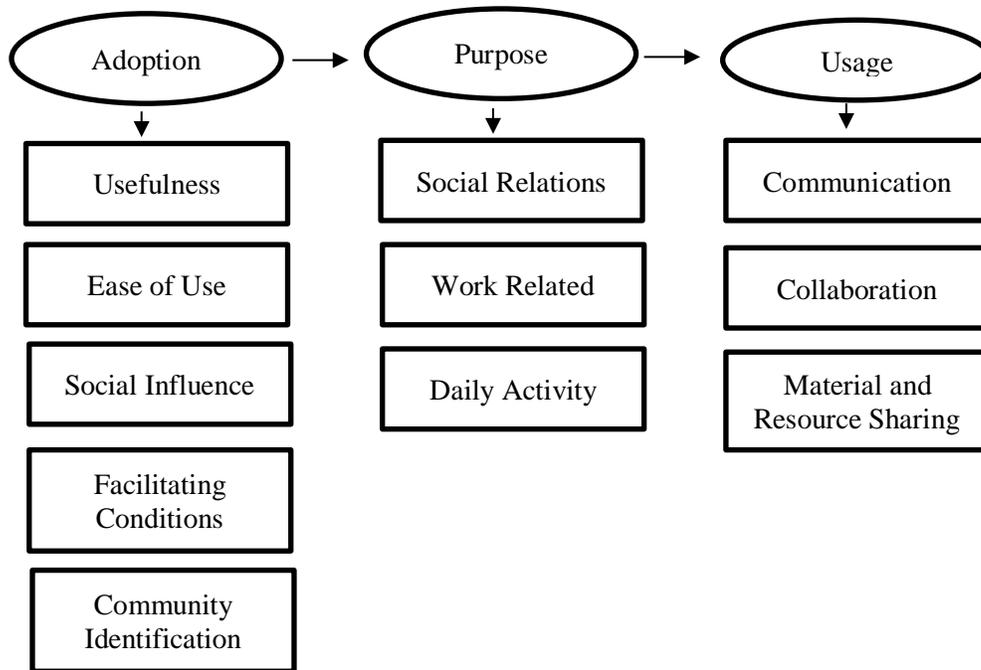


Figure 3-1 Structural equation model (Mazman & Usluel, 2010, p.446)

Thematic Analysis is extensively used to analyze qualitative data, it helps to identify data set and provide insights of the patterns found (Braun, V., Clarke, V., & Terry, G., 2014). It allows researcher to focus on meaning and shared it with others. Thematic Analysis is chosen to analyze qualitative data of this study in hope of finding similar patterns of the data set.

3.2 Sampling Strategy

Snowball sampling was used to identify the participants with the rich information (Patton, 2002) in this research. Ten undergraduate Chinese international students were recruited according to their age, length living in the United States, frequency of Facebook use, and number of SNS used. Among these students, five of them were freshmen, while another five of them were senior students. I purposefully mixed students with diversified backgrounds and students with abundant or limited usage in the sampling in order to get a full understanding of their

perception and usage over Facebook. The diversified backgrounds of the participants also helped to increase the breadth of the study.

3.3 Survey and Interview Structure

Interviews were the main method to collect data in this research. However, a questionnaire was also used before and after the interviews to collect demographic data and cultural awareness data. The pre-interview questionnaire focused on demographic information while the post-interview questionnaire was targeted on culture awareness.

Semi-structured interviews were selected in this research to explore the variables affecting the choice, adoption and behavior patterns in using Facebook. As a result, interview questions could be divided into three sections: purpose; adoption; and usage. All the interviews were based on previous experience of participants and their reflection upon their experience. Each interview lasts from 25 to 30 mins. The following are some of the questions that were covered in the interview:

Purpose:

1. What kind of social networking software you used?
2. Why you choose Facebook to use?
3. How Facebook fulfill your demands?
4. Who do you communicate with through Facebook?
5. Who will visit your Facebook page?

Adoption:

6. When will you use Facebook?
7. Could you describe how you use Facebook in a regular day?
8. Is Facebook easy to use? What do you feel about using Facebook?
9. Do you think Facebook is useful? And why?

Usage:

10. How do you use Facebook?
11. What are the functions in Facebook you liked or disliked? And why?
12. Could you put the functions you mentioned in the order from the most frequently use to the least frequently use?

3.4 Data Analysis Method

Interview data was transcribed into texts and analyzed under the three major threads (adoption, purpose and usage) in the structural equation model (Mazman & Usluel, 2010). Then thematic analysis was used to sort the qualitative data into different categories to better interpret the perception and usage of undergraduate Chinese international student upon Facebook. Moreover, questionnaire data will complement qualitative data in identifying of cultural awareness.

3.5 Credibility of Researcher

My previous master's degree in multicultural education equipped me with an in-depth understanding of how culture could affect students' perception. And my working experience with Apple Inc., a leading technology company, provided me with a unique sense to grasp the potential needs and struggles of the user. Moreover, as a Chinese international student myself, I understand the transaction of SNS use in different cultures. Having been exposed in both cultures (China and U.S.), I am familiar with the background and context of the research. Fluent in both Chinese and English, I can communicate with undergraduate Chinese international student in the way they are comfortable with, which is quite helpful in the interview procedure.

3.6 Triangulation

Triangulation of the study shows in three aspects. First, the recording of the interview is assigned to two people in transcribing in order to maintain accuracy. In addition, data analysis is also assigned to two researchers with the same training of thematic analysis to eliminate researcher bias. Second, researchers kept doing research memos throughout the study for reflexivity. And researcher's background and bias are also presented in the paper. Third, this study gathered participants who were both study aboard for the first time and attended high school aboard. Therefore, the participant of the study represented the diversity of current undergraduate Chinese international students in U.S.

3.7 Summary

This chapter described the framework and methodology of the research, including sampling strategy, survey and interview structure, data analysis method, the trustworthiness of the researcher and the triangulation of the data. Next chapter will cover data collection and data analysis of the research.

CHAPTER 4. PRESENTATION OF DATA

As described in previous chapters, the purpose of this research was to understand the perception and usage of Facebook among undergraduate Chinese international students. In order to grasp the essence of the research question, in-depth knowledge of undergraduate Chinese international students' choices in technology adoption was needed. Thus, semi-structured interview and survey were used to collect data. This chapter starts by introducing each participant. Then it presents the data from both survey and interview. At the end of the chapter, the themes of the data are also discussed.

4.1 Participant Descriptions

The following section introduces each participant in this study. As covered in chapter 3, ten undergraduate Chinese international students at Purdue University were recruited using a snowball sampling strategy in this study. Seven of them were male students, while three of them were female students. Students with diversified backgrounds and students with abundant or limited usage were purposefully mixed in the sampling to give a complete understanding of undergraduate Chinese international students' perception and usage over Facebook. Among these ten students, five of them were freshmen, four of them were senior students, while another one was a junior student who was planning to graduate as a junior. Their ages ranged from 18 to 23 years and their length of living in United States varied from less than one year to three or four years. Although all the participants had Facebook accounts, their frequency of Facebook use differed. Some of them used Facebook on a daily basis while others merely use it occasionally. The information about each participant presented in the following sections is based upon the data provided on demographic questionnaire as well as interviews.

4.1.1 Participant 1

Participant 1 was a 22-year-old male student major in computer graphics technology. He was a senior student who lived in United States for 4 years. He usually had class in morning. Normally he got up at 8 AM, took a shower and prepared for his class. After class, he had lunch.

And then, he went to library with his friend every afternoon if he didn't have class. After dinner, he did homework or played video games. He claimed that he has some SNS apps in his phone but he seldom uses it such as Instagram. As he reports, he signed up for Facebook after he arrived at U.S. and his frequency of Facebook use changes from daily to weekly in the years he lives at United States.

Table 4-1 Participant Description

Participant ID#	Age	Year	Gender	Major	Length of Living	Frequency of Use
#p1	22	Senior	Male	CGT	4 years	From daily to weekly
#p2	21	Senior	Female	Hospitality	3.5 years	Weekly
#p3	20	Junior	Female	Industry Engineering	2.5 years	From weekly to daily then weekly or even monthly
#p4	18	Freshman	Male	Supply Chain Management	3-4 years	Daily
#p5	20	Senior	Male	Liberal Arts	3.5 years	Seldom
#p6	18	Freshman	Female	Brain and Behavior Science	0.5 year	From daily to weekly
#p7	18	Freshman	Male	College of Engineering	0.8 year	Daily
#p8	18	Freshman	Male	CGT	0.4 year	Daily to weekly
#p9	22	Senior	Male	Supply Chain and Finance Management	3 years	Monthly
#p10	19	Freshman	male	Agriculture Economy	0.3 year	Daily

4.1.2 Participant 2

Participant 2 was a 21-year-old female student major in hospitality. She was a senior and was going to graduate in the following semester. She lived at United States for three years and half. during her first year. Her class were always in the afternoon. As a result, she usually went to school in the afternoon and she went back home immediately after school. If she wanted to study, she normally came to school in the morning. She had Facebook account when she was back in China. Facebook was banned in China at that time and she used VPN to connect. She claimed that she did not use it quite often, normally on a weekly routine. She only used it to find people that she might know in the future. After she came to U.S., she used Facebook and

Messenger with American friends or American classmates especially those who did not have her phone number or other communication methods

4.1.3 Participant 3

Participant 3 was a 20-year-old female student. She was a junior majoring in industry engineering, and she was a Teaching assistant for CGT 1763. She had been at United States for two and a half years. She had been BGR team leader international and BGR team supervisor international for two years. She was pretty busy this semester with lots of finals. She had class from 7:30 until 5:30. She only got two hours lunch break daily. She signed up for Facebook after she arrived at Purdue. She reported her use of Facebook was determined by her term leader job at BGR. She seldom used Facebook for personal stuff other than job requirements. Her frequency of Facebook use changed from weekly to daily then weekly or even monthly.

4.1.4 Participant 4

Participant 4 was an 18-year-old male student. He was a freshman majoring in supply chain management. Besides normal academic life, he usually worked out during casual time. Weekly, he connected with his family and friends back home through facetime. He attended high school at U.S. and he lived at United States for three to four years. He signed up for Facebook at U.S. and used it daily during the first year at high school. However, he claimed that his usage of Facebook decreased after he entered college.

4.1.5 Participant 5

Participant 5 was a 20-year-old male student. He was a senior majoring in liberal arts. During the interview, he expressed his loneliness as a foreign student. He had Facebook account when he first came to American for an exchange semester in primary school. But he seldom used it after. He used a similar website name RenRen back home. But gradually, he stopped use social networking software. According to his reflection, he lost the interest and joy of using social networking sites maybe because he did not know how to use them well. He thought that it was a waste of time to check and find people on social networking apps. He claimed that he tried to live without these apps and find his true self. He described his life now as an old people's life.

4.1.6 Participant 6

Participant 6 was an 18-year-old female student. She was a freshman majoring in brain and behavior science under human health department. She usually got up around 8 am in the morning and then had classes. After lunch break, she studied for a while. She normally messaged her family through WeChat in the morning and contacted her friends through WeChat during the day. She liked photography, as a result, the visualization of SNS was quite important to her. She signed up for Facebook account back in China using VPN when she was in high school. And she reported her use of Facebook decreased in college.

4.1.7 Participant 7

Participant 7 was an 18-year-old male student. He was a Freshman in College of Engineering and his major was not decided yet. His day usually started around noon time. Besides study, he liked sports and playing video games. He used WeChat to call his family and friends back home, while used Message and GroupMe to communicate with American friends. He signed up for Facebook when he had summer camp in 2014 at U.S. He thought Facebook was messy and wished Facebook only had Messenger app.

4.1.8 Participant 8

Participant 8 was an 18-year-old male student. He was a Freshman in computer graphics technology and his would choose game design as his future direction. He had AP credits, so he was considered as a sophomore. He had class in morning and afternoon. between the times, he usually took a nap or finishes his homework. Besides that, he joined some clubs and went to excise in most of the afternoons. he stayed at home for most evenings. As he reported, he did not quite communicate with others unless there were something needed to be communicated. As for family, he usually contacted them during weekend. He signed up for Facebook account 2 years ago, when he first came to U.S. for high school. According to his reflection, his frequency of Facebook usage decreased gradually after he came to Purdue. And he assumed a lot of Chinese international students at Purdue was part of the reason he dropped Facebook.

4.1.9 Participant 9

Participant 9 was a 22-year-old male student. He was a senior in supply chain and finance management. He came from Hunan province, and he liked playing soccer. He was a famous team member in Chinese international students' soccer team. He viewed himself as a quiet person and reluctant to share his information with others through SNS. He opened Facebook account about 2 to 3 years ago for the convenience to sign up for other websites. And currently, he logged into Facebook on a monthly routine.

4.1.10 Participant 10

Participant 10 was a 19-year-old male student. He was a freshman majoring in agriculture economy. He had Facebook account 4 years ago when he was a high school student. he attended an international high school back at China at that time and was preparing to study abroad. He said he was quite curious about the world outside, so he signed up FB using VPN at that time. According to his reflection, he used Facebook weekly at first and daily after he came to US. He claimed that he likes social and he would play with friends after finishing his homework.

4.2 Data from Interview

As mentioned in Chapter 1, the goal of this study was to understand the perception and usage of Facebook among undergraduate Chinese international students at Purdue. In order to get into the essence of the question, semi-structured interviews were conducted among 10 undergraduate Chinese international students. 12 primary questions were asked during the interviews with more in-depth follow up questions. The following section presents data from semi-structured interviews of each participant.

4.2.1 Participant 1 Interview Description

Participant 1 recalled on social networking software he used. He said:

WeChat, I use most. I have some apps in my phone but I seldom use them like Facebook. And I have Instagram account but I never use it.

Participant 1 described his frequency of using Facebook decreased in the years at Purdue. He said:

During the first year, I just open the APP and view the post. I view all the post once a day when I first entered Purdue. I will click the button on some videos or posts if I like it. Once a day, on a daily basis. Now, if I receive a friend request, I will go to Facebook. Or some recommend friend, I will go to Facebook. Otherwise, I seldom use it.

I asked him whether he used Facebook before he came to Purdue. He said:

I never used it before coming to US, because it is blocked in China and I never try to use VPN to connect.

Curious about why student choose Facebook to use, I asked participant 1 to recall the first time he use it and the reason he choose Facebook over other SNS. He said:

I downloaded it when I first come here three and a half years before, so it's in 2014. I was thinking because Facebook is a kind of symbol of American. At that time, I want to merge into the culture. And I think Facebook kind of represent their culture. And I want to add some friends in it. But I found lots of my friends don't use it. So, I don't use it quite often.

I kept asking him to clarify the friends he mentioned in the interview. He said:

Most of my friends are from China, and they don't use it.

In order to figure out his purpose in choosing Facebook, I asked him what kind of person he added in his Facebook account? He answered:

Maybe my teammates from BGR or some classmates

Furthermore, I asked him through Facebook who does he interact with. He answered friends first and then think for a while and said:

But actually, not a friend. For example, when I win a price from a competition. And they want to share the photo we took together with me, and he only have Messenger. And I will share photo with them through Messenger, but only few sentences.

As for who will visit his Facebook page, he said:

I don't know. I never post on Facebook and I don't think anyone will visit my Facebook page.

When I asked him how Facebook fulfill his demands, he said:

Because Students who are not Chinese, they don't know WeChat. Most of them have Facebook. I never talk to them through Facebook, but I feel that I can know their lives, know about their things. Maybe, when we meet we can have more common topics to talk.

Participate 1 reported that Facebook is easy to use and easy to understand. Then, I asked him why he stopped use it gradually. He answered:

For my friends, I talked most every day, they don't use Facebook, they use WeChat. So, I stopped use it gradually. It's because my friend, I think that's the most reason.

For the usefulness of Facebook, he said:

Yes, I think Facebook is useful. I found there lots of groups. Like I have learned a group for an online course named Codepass, an online programing course. They are sharing some posts about programing and their lectures, which is useful to me.

Participant 1 acknowledged that he used WeChat, a social networking site which is quite popular in China. He said,

I use WeChat a lot of times a day. Because it has all the functions of Facebook, Chat with each other, like and reply to post. My friends use WeChat a lot and my family back in China cannot use Facebook. So, I need to use WeChat to communicate with them.

When asked why he preferred to use WeChat instead of Facebook, he said:

Facebook focus on posting, while chatting is an add-on function. I think Facebook and WeChat they have different main functions. To me, the primary function of Facebook is to share post. But WeChat focus on communication, to chat with a friend. I prefer WeChat because I can chat with my friend while sharing the post. Besides, I have more friends on WeChat since I used it for a longer time. I exposure to WeChat earlier than Facebook and Instagram. I used WeChat in high school. But I used Facebook and Instagram in college when I came to U.S.

Participant 1 acknowledged that he did not know about all the functions Facebook, he only used basic functions. And he did not to use Facebook to chat with friends because he needed to download Messenger, a separate app. He said:

I don't know about their functions. I only use the function like search for a friend and their group sharing. And I can see their birthday. Personally, the overall is good. But I need to download Messenger to chat with friends, which is a separate app. If I send a message to my friend through Facebook, I don't know what will happen if they don't open the webpage on computer or if they don't have Messenger app on his phone. Since Facebook is not focusing on chatting with others, I don't use this one quite often to talk with my friends.

I asked him to put Facebook functions he mentioned in the order from the most frequently use to the least frequently use in a whiteboard. He put:

Birthday reminder > search a friend > group sharing

4.2.2 Participant 2 Interview Description

Participant 1 described the social networking sites she used. She said:

My friends are most Chinese, so I use WeChat more. I use Sina Weibo to read news and Facebook to communicate with American friends.

Participant 2 signed up for Facebook in China. She said:

I have Facebook account when I was back in China. Facebook was banned in China, I used VPN to connect. However, I did not use it quite often. I only use it to find people that I might know in the future. After I came to U.S. I only use Facebook and Messenger with American friends or American classmates.

Participant 2 acknowledged that she only used Facebook to interact with “American friends and classmates who do not have my phone number or other communication methods”. She said:

With U.S. friends, I use Messenger and GroupMe. I downloaded Messenger only for my U.S. classmates.

Participant 2 reported her use of Facebook decreased. She said

I seldom use it now, only when I receive emails from Facebook. Probably once a month.

Participant 2 complained that Facebook is “messy with lots of advertisements and reposts” and “not easy to read”. However, she still thought Facebook is useful. She said:

It is useful if I want to know organization information or restaurant information. I can search them on Facebook and read the reviews

Reflecting on why she preferred WeChat over Facebook, she said:

I think culture is an important part in choosing which app to use. WeChat is more private with personal life while Facebook is more public information with lots of ads, news. Most Chinese are shier, and we are not willing to share a lot of videos and posts in every aspect of life. While Americans are more open, they will post a lot of private information or pictures. And they will be surprise over a little thing which I don't think is funny. I still feel the culture gap between my U.S. classmates and me. The first year, I still tried to merge into the U.S. culture, so I used Facebook for a little while. Then, gradually, I let it go. Also, chatting and scanning barcode is much easier in WeChat than Facebook and GroupMe.

Participant 2 reported that Facebook forced her to read irrelevant information. She said:

Don't like the alerts and emails of Facebook. Filter is needed in Facebook. And I feel like Facebook forced me to read the irrelevant information

I asked participant 2 what Facebook functions she used most. She said:

I read information of groups that I joined. And I post photos only. Sometimes I use Facebook to sign in other websites.

4.2.3 Participant 3 Interview Description

Participant 3 is quite active in student association. She described social networking software she used immediately after introduction. She said:

WeChat, GroupMe, Snapchat, I rarely use Facebook right now since I am not in BRG like I used. I use we chat most, because all my Chinese friends are using that and also my parents are using WeChat. That's the only app I can use in China. Other than that, talking with my friends, which consider to be foreigner, Snapchat is a lot better, because you can see the face of people.

Participant 3 signed up Facebook immediately after she got a phone at Purdue. She said:

I have Facebook account during my BRG year as a freshman, in August 2015. Once I got a phone, I registered for Facebook. Because my team leader wanted to add us together in the Facebook. But I rarely use it during that year.

She thought for a second or two and added the reason she needs to use Facebook. She said:

Besides that, I am a foreigner right now. In U.S., I have to get used to the app here. Second, I am not only make Chinese friends, I also have friends from other countries. You should not make friends in your nationality, right? I basically download it if someone want to add me. And I also working in dining hall for two years. I have friends from other countries. Facebook is a common thing except in China. You know what, I just download it.

As for who she interacted with through Facebook. She responded:

I do not interact to anyone because Facebook have another app called Messenger. In Facebook, we just like each other, pictures. But like the one I interact with, the BGR people, the social media, the dinning court. Since this semester, I am so busy, I seldom use it.

When asked about the people visit her Facebook page. She said:

I don't know, I think BGR people if I post something new. But I haven't update for a while. I am little tired to put my selfie on Facebook.

I asked her why she use WeChat more often than Facebook. She gave a lot of reasons including culture, personality, differences between two applications. She said:

One is because of Friends circle, eventually we are in different culture. We got different habits in using different apps. Another important thing about Facebook. Yes, they do have Message app, but that's a separate app as Facebook. However, WeChat has one app with function of both. Basically, you can chat with your friend, you can do free video call, voice call, like skype. And you can see their posting in a moment. You don't need to transfer from one app to another. Once you go through it, it's easier in WeChat and also they are lots of things in WeChat that is better simplifier of Facebook. *To me, Facebook is something you see how your friends goes and connect with each other. But WeChat is an app that you really talk to your friends.* Because they focus on different things. Even though I got Americans or whoever use Facebook or Messenger a lot, I do believe they use text message more than Facebook. That's a thing! Therefore, I prefer WeChat message rather than Facebook message. Basically, because Facebook and Messenger are two apps and WeChat is one app.

In WeChat, right now, they got a new function that you can hide your recent moments to nearby three days. It means if you don't post in three days, they cannot see anything you post. I didn't set that, but I can set that easily. In Facebook, I think you need to transfer every post into private, which is a lot of work. And you cannot set your whole account to private. Then, none of your friends can see it.

Personality probably is another issue. For Facebook, their information displacement is way too much. It is a lot of information like who is your mom, who is your dad, where are you from. I know people like that to find out who is in the same city with you and things like that. For me, I like WeChat displacement that just telling what is a profile picture, what's the name of you, what's your ID. That's all you can see when you don't know someone. But in Facebook, even if you don't know her, you don't add her as a friend, or she does not accept it. You can still see part of her life but for WeChat you

cannot. I like WeChat's protection of privacy. I personally don't like Facebook been that open, even though I know it's a first step of communication.

I have both American friend and Chinese friend. Most American friends stay with Facebook. I would say they prefer Snapchat better than Facebook. But they are using Facebook a lot as well as posting pictures. For my Chinese friend, there are one or two use Facebook frequently. But other than that, most of my friends are still using WeChat. Because that's the thing we use even before we come here. We use WeChat since middle school, even if we come to U.S., we will still use it more.

When asked Facebook functions she likes or dislikes, participant 3 gave a lot of insights. She said:

Facebook is not bad. I know it's a free app, but I don't like the Facebook ad it put out. Because these ad, they are like stupid. And sometimes you know it's fake, but Facebook still put it there. I don't like that. And I can see one Facebook post again and again just because someone who post it comment on their own. I don't want to see it, but I cannot delete this friend either. It's kind of odd, but overall, it's not bad.

She thought for a moment and added:

It will be wired if I say I just don't like Facebook app. I know you can hide information. But if you don't know how to do this. Your information is totally exposure to others. Once they click, they will know if you are single or not, your family information things like that. I know you can set it, but I don't like that.

Participant 3 reported upload pictures, comments like wow, yea, also the one facial reorganize function are the top three Facebook functions she used. For facial reorganize function, she said "it's cool, but it should be developed more". I asked her to put Facebook functions she

mentioned in the order from the most frequently use to the least frequently use in a whiteboard. She put:

Upload the pictures > Add words> Facial reorganization > Comment

4.2.4 Participant 4 Interview Description

Participant 4 had Facebook account four years ago. Referring to his onboarding experience with Facebook, he said:

when I came to US for high school, my classmates all use Facebook. I use Facebook to communicate with local people and post stuff. We also had a residential community on Facebook. Back at the time, I used it a lot especially Messenger. I also search local events through Facebook. Sometimes, I search sports bar to watch soccer game, I go through Facebook.

When asked his contacts on Facebook, he answered:

Friends mainly American friends, and teachers from high school. I don't know who will visit I think Facebook do not have a tool to track who will visit my page.

He also described a decrease in using Facebook. He said:

I used it daily when I first came to U.S. however, my usage of Facebook decreased after I entered college. I think probably because Purdue has a lot of Chinese students.

I kept asking him why he used Facebook less often than before. He answered:

I could say, back at that time, Facebook is just Facebook. Then, they create the message thing, then we need to download two apps, I think it's kind of complex.

As for the ease of use and effectiveness, he said:

Very convenient. I think Facebook helped me to build my circle. People still post things on Facebook and sharing their stories. In this way, people connect with each other.

Participant 4 acknowledged that he need to constantly switch from WeChat and Facebook. He said:

The social media I use actually quite based on people around me and regions. If most friends are local people, I probably use Facebook. But if I have more domestic friends, I will tend to use the app in my country like WeChat. For me, I need to constantly switch from these two or three apps to maintain two circles.

Participant 4 think Facebook is good in general. However, he also pointed out several usability issues of Facebook. He said:

The good thing about Facebook is you can know whether people read your message or not on Messenger. You can see whether your friends are online or offline. However, WeChat is more convenient. For example, I need to download two apps using Facebook. Basically, when you view things people posted, you go through Facebook. When you try to talk to people, send them a message, you need click and switch to Messenger app. It's not like one app, it's like between two apps. I feel switching between two apps is not a good experience. And Facebook and Messenger are linked, if you download one, you need to download the other. It's like a package. But, if I don't post Facebook anymore, why should I download it? Why can't I just have Messenger instead.

Since participant 4 mentioned WeChat, I kept asking him why he think WeChat is more convenient. He said:

WeChat is one app but it likes multiple apps combined, for me, WeChat is like the combination of Facebook and Instagram. Through WeChat you can do everything you

could image such as the quick pay method. Back in my country, you can scan everything and pay it through WeChat. I don't use the payment function in Facebook. I need to download two apps. I don't post anything on Facebook recently like 2 years ago. People don't do that anymore. People around me switch to other apps. I noticed it gradually. Also, WeChat have a community thing like friend circle. For example, you may have tons of friends. But some of them are not friends, and they might not know each other. In WeChat, they cannot see each other's comments on your friend circle. So, I feel like I have more privacy in WeChat. But everyone can view your page and other stuff and see all your comments in Facebook.

4.2.5 Participant 5 Interview Description

As I mentioned in participant description, participant 5 is a unique interviewee. He constantly showed frustrating and loneliness as a foreign student during the interview. He had Facebook account since primary school when he first came to U.S. for an exchange semester. He said:

I have Facebook account when I first came to American for an exchange semester in primary school. But I seldom use it after. I use a similar website named RenRen back home. But gradually, I stopped use social networking software, maybe because I don't know how to use it well, so I lost the interest and joy of using it. I think it's a waste of time to check and find people on social networking apps. I tried to life without these apps and find my true self. It's like experience old people's lives.

When asked about the reason to sign up Facebook, he said:

Facebook is a new thing when I download it, a lot of things appear at that time like apple product. I registered it to have a try, however, I don't have the social circle in America, so I rarely use it.

Participant 5 also reported other social networking sites used such as WeChat and Instagram. He said:

Normally WeChat, I use WeChat for general communication like call people through WeChat, or message them. I seldom post things on WeChat. But I did not use it quite often as I used to since I am in a foreign country right now. I seldom use Facebook and Instagram, because their ways of adding friends are complicated for me.

He did not think Facebook is useful. He said:

I don't think FB is useful, I tried to not use it. It's a waste of time to go through others' stories.

Participant 5 acknowledged that WeChat is simply than Facebook:

Facebook have too many functions, that I don't even want to know. I don't know how to use it, so I don't use it. Also, I don't like the visualizing on the phone. I like simplicity, which Facebook lacks.

However, he also pointed out the advantage of Facebook:

Facebook is not doing very well, but they have a very good market share. Lot of people use it, and the date and information of others are valuable. It's has a good strategy to connect with other websites. For example, if you need to register on other website, you can just use your Facebook account. For many years, I don't see a lot improvement on Facebook, they haven't change.

4.2.6 Participant 6 Interview Description

Participant 6 used several SNS such as WeChat, Instagram, GroupMe, Facebook, Weibo. I asked her to put the SNS she used in the order from the most frequently use to the least frequently use in a whiteboard. She wrote:

WeChat> Instagram/Weibo> Snapchat> GroupMe> Facebook

Then, she said:

I normally use Instagram other than Facebook, because I like the visualization of Instagram and I like to take pictures. I don't use Facebook a lot, because it's time consuming to post the same thing on two places. And Instagram is enough for me.

As for the onboarding experience of Facebook, she said:

I used it during high school, back in china using VPN. I download Facebook because I knew I would study aboard. And properly I can make some foreign friends through FB. I used it twice a week during the period when I got the offer letter from Purdue and had not come to college. I used Facebook to check group club information at Purdue before I came to west Lafayette. However, I only check Facebook once in two or three weeks, when I came to U.S.

When asked about her contacts on Facebook, she said:

I don't know quite know, but I think my friends' friends might visit my page. Most of them are Chinese.

I asked her how she feels about using Facebook. She thought for a moment and mentioned the language issue with Facebook. She said:

I think FB is not easy to use. The writing of my friends on FB is too serious (maybe because of second language thing or privacy thing that everyone can see it). While the things they post on WeChat is more personal. I think we have an unfamiliar feeling of Facebook. Because we use it later in our lives after accepting other apps. As the second language, I need to think more in posting on Facebook. First, it's wired to post Chinese on Facebook as some of your friends might not understand it. Second, you need to check the grammar every time you post something, and I will be embarrassed if I post something wrong. it's kind of pressure for me. Third, I don't even know who will read my post.

For the usefulness of Facebook, she said:

Normally, my friends have Facebook page, but they do not use it quite often. They use snapchat and GroupMe. So, I don't think FB is useful.

Participant 6 also pointed out privacy and visualization issues of Facebook. She said:

I don't know how to set up privacy function in Facebook. However, it's quite convenient to set up who can see your moments and who cannot in WeChat. WeChat is much easier in managing your friends.

I don't like the function that everyone can add me on FB. THEY are strangers to me, I don't even know how they find me on FB. I don't understand why they send me a lot of message.

The pictures on Facebook is wired. If you post more than two pictures on Facebook, they system will choose two and put it as large view and the others as small. However, in WeChat, you can actually arrange picture order by yourself and post them in same size. It's more beautifully in same size.

Finally, she recounted her current use of Facebook. She said:

I only go through the notification on Facebook during lunch time or between the breaks now. Besides, I sometimes search stores on Facebook to see the pictures of their food.

4.2.7 Participant 7 Interview Description

Participant 7 had used WeChat, GroupMe, Facebook, Instagram and QQ. In response to how he used these SNS, he said:

I use WeChat to communicate with Chinese friends here and at home, use phone message to communicate with local friends, and GroupMe to communicate with classmates. I have the feeling that Americans use Facebook less and less than before.

He signed up for Facebook when he had summer camp in 2014 at U.S. to connect with American friends. He normally views his own Facebook page at night to check friends' birthday and find interested things around.

When asked about his impression of Facebook, he said:

I feel FB is messy. You can say it's a communication app, but it's not actually; you can also say it's an entertainment app, but it's not actually. FB have a lot functions, whereas, it does not have a focus. Maybe it's suitable for people here, however, I don't like to use it. For me, FB like Sibuxiang (The Père David's deer), "like none of the four". Compared with Facebook, WeChat is more simple and convenient, it does not have lot of messy information that I don't like. I use it to chat with my family and friends. Moments, public group information.

I did not stop him, and he continued to talk about the things he did not like about Facebook. He said:

The privacy function in Facebook is not good. It's wired that everyone can add me on FB. How could they find me on FB? Normally, they add me and they did not communicate with me at all.

And it has a lot of redundancy information. For example, Facebook will notify me to read my friends' friend's post which might have my friend on it. I don't want to read that, Facebook have too many information about others, which I don't like.

Advertisements are easy to see on FB while you use it. And it's annoyed to be interrupted by these advertisements. And I don't know how to stop these advertisements appearing on my page.

The website version is not the same as the mobile version. FB website have more functions and it's messier. And the mobile version is kind of simpler, however, they are two apps FB and message. I only download Messenger app. I like Messenger a lot, I wish Facebook only has Messenger.

I asked him to put Facebook functions he used in the order from the most frequently use to the least frequently use in a whiteboard. He put:

Messenger > Home > New website register > Group information

4.2.8 Participant 8 Interview Description

Participant 8 has used Snapchat, Facebook, twitter, Instagram, WeChat and QQ. He reported that he had not used QQ for a while. For classmates, He used WeChat and Messenger to communicate. For my family, they use Facetime. He described his onboarding experience with Facebook:

I signed up for Facebook account 2 years ago, when I first came to U.S. for high school. At that time, I want to have some American friends, and Facebook is the software local people use.

When asked about the frequency of using Facebook, he said

At the beginning, I used it daily, and updated my status once a while. Now, I haven't updated for a long time. And I only checked it once every 2 or 3 days. Normally, I checked it in the evenings.

As for the function he used, he said:

I always check my friends' update to know them more. Besides, I also use messenger app to chat with my classmates. I won't spend a lot of time on Facebook. I use Facebook account when sign up for other websites or apps.

His used a comparison in describing his feelings toward Facebook. He said:

I think Facebook is just so so. There are too many functions in Facebook, which is a mess. I won't go through the selling advertisements in Facebook. I have a mixed feeling for Facebook. On one hand, it's a good app to connect with others, on the other hand, it's too messy. I would say Facebook is like American food, I can eat it, but it's not my favorite dish.

In the meantime, he also confronted that Facebook did help him to some extent. He said:

I feel Facebook helped to some extent in merging into American culture. A lot of communication with Americans happened during my first year.

In addition, he pointed out several insightful usability issues of Facebook. He said:

First, there are lot of things on Facebook that I would not like to see. For example, if one of my friends favors one posting which I might not want to have a look, but Facebook will constantly remind me what happens with others. Second, I also don't like the friend management on Facebook. The system will constantly suggest some friends to me but I

don't know them at all. Third, I am bored with the notification functions Facebook provided. I joined a Facebook club several month ago, and I only knew two people in it. But Facebook always sent me notification of what happened in that group. And I don't even know how to turn it off.

When asked to put Facebook functions he used in the order from the most frequently use to the least frequently use in a whiteboard. He put:

Check updates of friends > chat with friends > Use Timeline to send birthday greetings

4.2.9 Participant 9 Interview Description

Participant 9 used WeChat, Facebook, Messenger, Facetime. His Facebook onboarding experience is interesting. He said:

I opened FB account about 2 to 3 years ago. I was supposed to log into a website, but I don't have google account, Microsoft account, and other social media accounts, so I need to create one. I opened FB account in order to sign up for other websites.

He reported that he logged into Facebook on a monthly routine. He explained:

As a quite person, I reluctant to share my information with others. Why should I care a stranger's daily life? I prefer to pay attention to people nearby instead of a person online.

Normally he used Facebook in PC. And if he needs to use it on mobile, he only uses Messenger app. During the interview, he mentioned about the switch cost in using another app. He said:

I use WeChat more than Facebook because I don't have many people to connect in Facebook. If I have more friends in Facebook, I probably use Facebook more. I use WeChat for a long time, the switch cost is quite high if I change to another chatting app. I need to get familiar with the other one and I don't want to spend time on that.

As for the ease of use, he said:

I don't think FB is easy to use. I am not supposed to exposure to so many information. I would say WeChat is a simplify version. I received a lot of notification about others, which I don't like. I know probably there are somewhere in Facebook I can uncheck it. But I don't know where is it and I don't have time to find it.

When asked about the functions he used. He stopped for ten seconds to think. Besides timeline and Messenger app, he also joined a Facebook group. Since he did not use Facebook quite often, it's quite difficult for him to put them in a high to low frequency order.

4.2.10 Participant 10 Interview Description

Participant 10 used WeChat, GroupMe, Messenger and Instagram. He reported that he used WeChat a lot, then Facebook. Because his family use WeChat and a lot of his friends use WeChat. and he thought WeChat is more convenient than Facebook. Although he downloaded Instagram, he merely used it. He described his Facebook onboarding experience:

I have Facebook account 4 years ago when I was a high school student. I was in an international high school back at China at that time and was preparing to study aboard. I would say I was quite curious about the world outside. So, I signed up Facebook using VPN at that time.

In response to who he interacted through Facebook. He answered:

American friends I met at college and high school.

His frequency of Facebook use increased after he came to U.S. He said:

Weekly at first and daily after I came to US. Twice a day probably.

He felt there was not a lot of choice in SNS to communicate with Americans. He said:

I feel Facebook is just OK. Because there are no other SNS that we can use to chat with Americans. I also use GroupMe, but I only use it to communicate project information with group members at class. Compared with GroupMe, I use FB more. Because no personal communication is involved in GroupMe.

He reported Facebook did help him to get to know more about American culture. He said:

Normally I will check my friends' updates, and I feel I gradually get familiar with their culture by doing that.

There is no function in Facebook that he particularly interested or favored. As for the functions he did not like, he pointed out the notification alerts are quite annoying. He said it's a redundancy.

When asked to put Facebook functions he used in the order from the most frequently use to the least frequently use in a whiteboard. He put:

Home page > Messenger > Facebook news

4.3 Themes

An overview of the data reveals several themes in purpose, adoption and usage. This section provides explanation to these themes emerged from data sources.

4.3.1 Theme 1: Purpose and Adoption

Merging into American culture and communicating with classmates and friends from other countries are two major motivations in participants' Facebook onboarding experience. As for students who signed up Facebook back in China, studying abroad weights a lot in motivation. In addition, participants have different views over VPN.

4.3.1.1 Merging into American Culture

One of the motivation in signing up Facebook is merging into American culture. All the participants mentioned about their willingness to merge into American culture when they are preparing to study aboard or starting to study aboard. And this seems to be the strongest motivation. Among ten participants, seven signed up Facebook in U.S. when they first came for college or high school. Participant 1 said:

I was thinking because Facebook is a kind of *symbol of American*. At that time, I want to merge into the culture. And I think Facebook kind of represent their culture.

Participant 10 reported Facebook help him to merge into American culture. He said:

Normally I will check my friends' updates, and I feel I gradually get familiar with their culture by doing that.

Participant 8 also echoed with participant 10. He said:

I feel Facebook helped to some extent in merging into American culture. A lot of communication with Americans happened during my first year.

4.3.1.2 Finding and Communicating with Local People

Communicating with local people such as classmates and friends from other countries is another reason participant downloaded Facebook. Participant 3 said:

Besides that, I am a foreigner right now. In U.S., I have to get used to the app here. Second, I am not only make Chinese friends, I also have friends from other countries. You should not make friends in your nationality, right? I basically download it if someone want to add me. And I also working in dining hall for two years. I have friends

from other countries. *Facebook is a common thing except in China.* You know what, I just download it.

Participant 8 added:

At that time, I want to have some American friends, and *Facebook is the software local people use.*

Participant 4 said:

I think Facebook helped me to build my circle. People still post things on Facebook and sharing their stories. In this way, people connect with each other.

However, most of them confessed that this motivation dropped as time goes on. Some participants thought it was because their friends are most Chinese. Participant 4 said:

I used it daily when I first came to U.S. however, my usage of Facebook decreased after I entered college. *I think probably because Purdue has a lot of Chinese students.*

4.3.1.3 Studying Aboard

Three of them signed up Facebook back in China using VPN. Although Participant 2, participant 6 and participant 10 had Facebook account back in China, they all confirmed that they were planning to study aboard at that time. Participant 2 signed up for Facebook in China. She said:

I have Facebook account when I was back in China. Facebook was banned in China, I used VPN to connect...I only use it to find people that I might know in the future.

Participant 6 said:

I use it during high school, back in china using VPN. *I download FB because I knew I would study aboard.* And properly I can make some foreign friends through FB.

Participant 10 said:

I have FB account 4 years ago when I was a high school student. I was in an international high school back at China at that time and *was preparing to study aboard.* I would say I was quite curious about the world outside. So, I signed up FB using VPN at that time.

4.3.2 Theme 2: Usage

Although Facebook usage varies in different participants, some trends merged from data source. First, participants' frequency of use differs between senior students and freshman students. Senior students reported that they used Facebook on a weekly or monthly routine. While freshman used it daily or twice a week. It seems that the longer they stayed, the less they use. Second, according to participants reports, the functions they use are similar with each other.

4.3.2.1 Frequency of Use Decline

Data shows a decline in Facebook usage in the years stayed at Purdue. Senior students reported that they used Facebook less and less compared with the first year they arrived at Purdue. Participant 1 said:

I view all the post once a day when I first entered Purdue...on a daily bias. Now, if I receive a friend request, I will go to Facebook. Or some recommend friend, I will go to Facebook. Otherwise, I seldom use it.

Participant 2 said:

I seldom use it now, only when I receive emails from Facebook. Probably once a month.

Freshman who attended high school at U.S. also addressed the decline in Facebook usage.

However, their frequency of use is still higher than senior students. Participant 4 said:

I used it daily when I first came to U.S. however, *my usage of Facebook decreased after I entered college.*

Participant 8 said:

At the beginning, I used it daily, and updated my status once a while. Now, I haven't updated for a long time. And I only checked it once every 2 or 3 days.

Moreover, participant 7 not only noticed himself used it less than before but also observed others' behavior change. He said:

I have the feeling that Americans use Facebook less and less than before... *I don't post anything on Facebook recently like 2 years ago. People don't do that anymore. People around me switch to other apps.* I noticed it gradually.

Although most of the participants acknowledged a decrease in using Facebook, participant 10 claimed his Facebook usage increased. He signed up Facebook back in China during his high school years, and he also claimed that he likes social. He said:

Weekly at first and daily after I came to US. Twice a day probably.

4.3.2.2 Function of Use

When asked to put Facebook functions they used in the order from the most frequently use to the least frequently use in a whiteboard, Messenger, Facebook home page, and website

register are the top three participants referred. Participant 7 even said “I like Messenger a lot, I wish Facebook only has Messenger.”

4.3.3 Theme 3: Why They Use Facebook Less and Less?

Information redundancy in notification, separation between Facebook App and Messenger App, visualization, and privacy setting are the five major design issues that most participant mentioned. In addition to these, sociocultural context such as language, social circle and switch cost, and VPN are also appeared in the interview.

4.3.3.1 Information Redundancy in Notification

Information redundancy refers to notifications of reposts. Participant 7 said:

It has a lot of redundancy information. For example, Facebook will notify me to read my friends' friend's post which might have my friend on it. I don't want to read that, Facebook have too many information about others, which I don't like.

Participant 3 said:

And I can see one Facebook post again and again just because someone who post it comment on their own. *I don't want to see it, but I cannot delete this friend either.* It's kind of odd.

Participant 9 said:

I received a lot of notification about others, which I don't like. *I know probably there are somewhere in Facebook I can uncheck it. But I don't know where is it and I don't have time to find it.*

Participant 2 suggested filter, she said:

Don't like the alerts and emails of Facebook. Filter is needed in Facebook. And *I feel like Facebook forced me to read the irrelevant information.*

Participant 10 also thought the notification alerts are quite annoying. He said it's a redundancy.

4.3.3.2 Separation between Facebook App and Messenger App

Inconsistency between website version and mobile version was mentioned by several participants. And Separation between Facebook App and Messenger App on mobile interface also caused problem for users. Participant 7 said:

The website version is not the same as the mobile version. FB website have more functions and it's messier. And the mobile version is kind of simpler, however, they are two apps FB and Messenger. I only download Messenger app. I like Messenger a lot, I wish Facebook only has Messenger.

Participant 1 said:

I need to download Messenger to chat with friends, which is a separate app. *If I send a message to my friend through Facebook, I don't know what will happen if they don't open the webpage on computer or if they don't have Messenger app on his phone.*

Participant 4 said:

I need to download two apps using Facebook. Basically, when you view things people posted, you go through Facebook. When you try to talk to people, send them a message, you need click and switch to Messenger app. It's not like one app, it's like between two apps. *I feel switching between two apps is not a good experience.* And Facebook and Messenger are linked, if you download one, you need to download the other. It's like a

package. But, if I don't post Facebook anymore, why should I download it? Why can't I just have Messenger instead?

Participant 3 said:

Another important thing about Facebook. Yes, they do have Message app, but that's a separate app as Facebook. However, WeChat has one app with function of both. Basically, you can chat with your friend, you can do free video call, voice call, like skype. And you can see their posting in a moment. You don't need to transfer from one app to another. Once you go through it, it's easier in WeChat and also they are lots of things in WeChat that is better simplifier of Facebook. *To me, Facebook is something you see how your friends goes and connect with each other. But WeChat is an app that you really talk to your friends.* Because they focus on different things. Even though I got Americans or whoever use Facebook or Messenger a lot, I do believe they use text message more than Facebook. That's a thing! Therefore, I prefer WeChat message rather than Facebook message. Basically, because Facebook and message are two apps and WeChat is one app.

4.3.3.3 Visualization

Another issue some participants complained is visualization. Participant 6 is a female who likes to take pictures. She preferred Instagram than Facebook. She said:

I normally use Instagram other than Facebook, because I like the visualization of Instagram and I like to take pictures... *The pictures on Facebook is wired. If you post more than two pictures on Facebook, they system will choose two and put it as large view and the others as small.* However, in WeChat, you can actually arrange picture order by yourself and post them in same size. It's more beautifully in same size.

Participant 5 had the same feeling, she said:

I don't like the visualizing on the phone. *I like simplicity, which Facebook lacks.*

It's interesting that "simplicity", "simple", and "simplify" appeared a lot of times in the interviews when comparing Facebook with WeChat. Participant 3 said "lots of things in WeChat that is better simplifier of Facebook."

4.3.3.4 Privacy Setting

Privacy setting is one of the differences undergraduate Chinese international students noticed in Facebook usage. All the participant talked about it to some extent. Some complained Facebook is too open, others suggested privacy setting should be improved especially in friend management and timeline. Several participants acknowledge that the dislike of Facebook's privacy setting probably due to culture differences or their oriental personality. Participant 2 said:

I think culture is an important part in choosing which app to use. WeChat is more private with personal life while Facebook is more public information with lots of ads, news. Most Chinese are shier, and we are not willing to share a lot of videos and posts in every aspect of life. While Americans are more open, they will post a lot of private information or pictures. And they will be surprise over a little thing which I don't think is funny. I still feel the culture gap between my U.S. classmates and me. The first year, I still tried to merge into the U.S. culture, so I used Facebook for a little while. Then, gradually, I let it go.

Like Participant 2, Participant 3 elaborated the differences between Facebook and a popular SNS WeChat. She said:

In WeChat, right now, they got a new function that you can hide your recent moments to nearby three days. It means if you don't post in three days, they cannot see anything you post. I didn't set that, but I can set that easily. In Facebook, I think you need to transfer every post into private, which is a lot of work. And you cannot set your whole account to private. Then, none of your friends can see it.

Personality probably is another issue. For Facebook, their information displacement is way too much. It is a lot of information like who is your mom, who is your dad, where are you from. I know people like that to find out who is in the same city with you and things like that. For me, I like WeChat displacement that just telling what is profile picture, what's the name of you, what's your ID. That's all you can see when you don't know someone. But in Facebook, even if you don't know her, you don't add her as a friend, or she does not accept it. You can still see part of her life but for WeChat you cannot. I like WeChat's protection of privacy. I personally don't like Facebook been that open, even though I know it's a first step of communication.

Participant 4 described another difference in privacy setting between WeChat and Facebook. He said:

WeChat have a community thing like friend circle. For example, you may have tons of friends. But some of them are not friends, and they might not know each other. In WeChat, they cannot see each other's comments on your friend circle. So, *I feel like I have more privacy in WeChat.* But everyone can view your page and other stuff and see all your comments in Facebook.

Participant 7 said:

I don't know how to set up privacy function in Facebook. However, it's quite convenient to set up who can see your moments and who cannot in WeChat. *WeChat is much easier in managing your friends.*

I don't like the function that everyone can add me on FB. THEY are strangers to me, I don't even know how they find me on FB. I don't understand why they send me a lot of messages.

Participant 9 said:

I don't think FB is easy to use. I am not supposed to exposure to so many information. I received a lot of notification about others, which I don't like. I know probably there are somewhere in Facebook I can uncheck it. But I don't know where is it and I don't have time to find it.

4.3.3.5 Language

Last but not least, language was also mentioned by participants. Most of the participants reported they mainly used English for their postings on Facebook. Only two students confessed that they sometimes used Chinese in their postings. For Chinese international student, English is the second language. Participant 1 acknowledged that although using English, he only wrote short sentences. Participant 6 expressed her concerns of language using in Facebook. She said:

The writing of my friends on Facebook is too serious (maybe because of second language thing or privacy thing that everyone can see it). As the second language, I need to think more in posting on Facebook. First, it's wired to post Chinese on Facebook as some of your friends might not understand it. Second, you need to check the grammar every time you post something, and I will be embarrassed if I post something wrong. *it's kind of pressure for me.* Third, I don't even know who will read my post.

4.3.3.6 Social Circle and Switch Cost

Social circle is mentioned by participant 4 as one of the important points in choosing SNS. He acknowledged that as an international student he need to switch between several apps to maintain two circles. He said:

The social media I use actually quite based on people around me and regions. If most friends are local people, I probably use Facebook. But if I have more domestic friends, I will tend to use the app in my country like WeChat. For me, *I need to constantly switch from these two or three apps to maintain two circles.*

Like participant 4, participant 1 said:

I found lots of my friends don't use it. So, I don't use it quite often.

In the meanwhile, participant 9 pointed out the switch cost is quite high. He said:

I use WeChat more than Facebook because I don't have many people to connect in Facebook. If I have more friends in Facebook, I probably use Facebook more. I use WeChat for a long time, *the switch cost is quite high if I change to another chatting app*. I need to get familiar with the other one and I don't want to spend time on that.

In addition, participant 4 also pointed out that Purdue's large Chinese international students body affect his frequency of Facebook use.

I used it daily when I first came to U.S. however, my usage of Facebook decreased after I entered college. *I think probably because Purdue has a lot of Chinese students*.

4.3.3.7 VPN

Although three participants signed up Facebook back in China using VPN. Several participants mentioned their frustration in using VPN. As a result, they never used Facebook when they were traveling back in China. Participant 1 confronted that he never tried to use VPN to connect when back in China. Participant 3 also said VPN cost more money, so she did not use it.

4.3.3.8 Others

There are also other reasons that participants gradually dropped Facebook. The following is a list using their own words:

“Messy with lots of advertisements and reposts”

“I still feel the culture gap between my U.S. classmates and me.”

“FB have a lot functions, whereas, it does not have a focus. Maybe it’s suitable for people here, however, I don’t like to use it. For me, FB like Sibuxiang (The Père David's deer), ‘like none of the four’.”

4.4 Summary

This chapter presented the data collected from interview and survey. Themes merged from data analysis were also discussed. Next chapter will summarize the study and provide implication for technology adoption in different cultures and recommendation for future studies.

CHAPTER 5. FINDINGS AND CONCLUSIONS

This study focused on real life experience of undergraduate Chinese international students' Facebook perception and usage. Because Facebook had been blocked in mainland China since 2009, undergraduate Chinese international students provided a unique angle in understanding technology adoption in different cultures. The study tried to reveal the phenomenon in hopes of improving product design and adoption in different culture environment. In conclusion, this chapter provides a summary of the study. Then it addresses the implications for technology adoption in different cultures. It ends with recommendation for future studies.

5.1 Review of This Study

This study engaged undergraduate Chinese international student at Purdue university, a large public university, in survey and semi structured in-depth interviews. As a group between two cultures, I believe undergraduate Chinese international students perception and usage of Facebook carries unique insight in technology adoption. The research question in this study is: What are undergraduate Chinese international student perceptions and usage of Facebook?

Ten undergraduate Chinese international students were recruited using snowball sampling. Senior students and freshmen were chosen as typical representation of undergraduate Chinese international student with different living length in U.S.

Three methodologies are used in this research: Phenomenology due to the nature of research question, structural equation model (Mazman & Usluel, 2010) to define variables, and thematic analysis in analyzing qualitative data. The tool used in this study are in-depth interview and survey.

Survey data was incorporated in participant description. And transcripts from each interview were coded and analyzed to better understand undergraduate Chinese international students' perceptions and usage. Several themes emerged, and they were categorized and presented under purpose, adoption and usage. Based on the data source, analysis around the

decline of Facebook usage among undergraduate Chinese international students were also discussed.

5.2 Implications for Product Design

According to the data, several implications were found for product design as showed in figure 5.1.

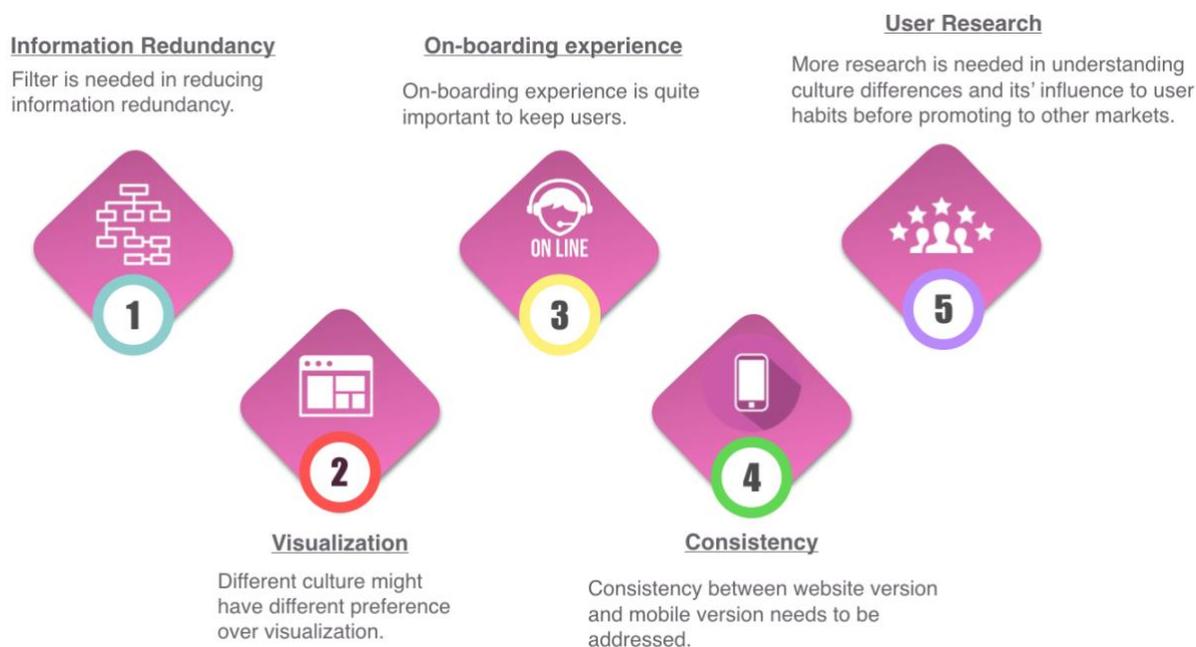


Figure 5-1 Implications for product design

First, filter is needed in reducing information redundancy. As mentioned by several participants, information redundancy in Facebook is annoying. One participant even said she felt Facebook forced her to see unrelated information which she did not know how to shut it off. Therefore, even if filter is designed, it should be put in places users can easily use.

Second, different culture might have different preference over visualization and information architecture. According to participants' feedback, "simply" and "simplify" frequently appeared in describing WeChat, an SNS popular in China. While "complex" and "complexity" are mentioned in referring Facebook.

Third, on boarding experience is important in keeping users. As a result, product designers not only need to work on their product but also pay attention to on boarding experience of customers.

Fourth, consistency between website version and mobile version needs to be addressed. Separation between Facebook App and Messenger App is reflected by undergraduate Chinese international student for a lot of times. In addition, every participant mentioned WeChat simultaneously during the interview. Compared with Facebook, a web-based SNS, WeChat started from mobile and gradually had its web version. However, the two SNS has completely different information architecture, which is also interesting implication for product design.

Fifth, more user research is needed in understanding culture differences and its influence on user habits before promoting to other markets. As discussed in Chapter 4, culture differences such as language and privacy setting do cause difficulty and uncomfortable to users from another culture. Social circle and switch cost seems to pull away students in adopting technology that they are not familiar with. Even the preference of visualization might be different among cultures.

5.3 Recommendation for Future Studies

Looking back, there are many things that can be improved.

First, observation over participants' usage is needed for accurate tracking. During the interview, I noticed participant do have difficulty in recalling the frequency they use it and remembering the functions they normally use. Self-report does have limits in this setting, and observation or dairy log probably will be a better way to track their usage.

Second, follow ups are preferred if time allowed. It will be interesting if researcher can follow up with the freshman and check their usage after three years to see the outcome. Currently, comparison between freshman and senior has individual differences. If time allowed, these differences could be eliminated with follow up data.

Third, participants in different areas should be included in future studies. This research is limited to undergraduate Chinese international students at the West Lafayette campus of Purdue University. It would be interesting to see whether participants in large city area have similar thoughts towards Facebook adoption.

5.4 Summary

This chapter summarized the study by recalling the major endeavors. Then, the implication for technology adoption in different cultures was discussed. Finally, it ends with recommendation for future studies. It is hoped that this study fixed the gap by providing a qualitative view sight to cultural differences and their effects on user motivations and time investments for using social network site such as Facebook.

REFERENCES

- Arteaga Sánchez, R., Cortijo, V., & Javed, U. (2014). Students' perceptions of Facebook for academic purposes. *Computers & Education, 70*, 138–149.
<https://doi.org/10.1016/j.compedu.2013.08.012>
- Barczyk, C. C., & Duncan, D. G. (2013). Facebook in higher education courses: An analysis of students' attitudes, community of practice, and classroom community. *International Business and Management, 6*(1), 1–11.
- Bornoe, N., & Barkhuus, L. (2011). Privacy management in a connected world: Students' perception of Facebook privacy settings. In *ACM conference on Computer Supported Cooperative Work* (pp. 19–23). Retrieved from
<http://www.bornoe.org/papers/CSCW2011-Collaborative-Privacy-Workshop-bornoe.pdf>
- Boyd, D., & Hargittai, E. (2010). Facebook privacy settings: Who cares? *First Monday, 15*(8). Retrieved from <http://journals.uic.edu/ojs/index.php/fm/article/view/3086>
- Boyd, D. M., & Ellison, N. B. (2007). Social network sites: definition, history, and scholarship. *Journal of Computer-Mediated Communication, 13*(1), 210–230.
<https://doi.org/10.1111/j.1083-6101.2007.00393.x>
- Braun, V., Clarke, V., & Terry, G. (2014). Thematic analysis. In *Qual Res Clin Health Psychol* (Vol. 24, pp. 95–114).
- Chang, Y. P., & Zhu, D. H. (2012). The role of perceived social capital and flow experience in building users' continuance intention to social networking sites in China. *Computers in Human Behavior, 28*(3), 995–1001. <https://doi.org/10.1016/j.chb.2012.01.001>
- Cheung, C. M. K., Chiu, P.-Y., & Lee, M. K. O. (2011). Online social networks: Why do students use facebook? *Computers in Human Behavior, 27*(4), 1337–1343.
<https://doi.org/10.1016/j.chb.2010.07.028>
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of facebook “friends:” Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication, 12*(4), 1143–1168. <https://doi.org/10.1111/j.1083-6101.2007.00367.x>

- Govani, T., & Pashley, H. (2005). Student awareness of the privacy implications when using Facebook. *Unpublished Paper Presented at the "Privacy Poster Fair" at the Carnegie Mellon University School of Library and Information Science*, 9, 1–17.
- Guo, Y., Li, Y., & Ito, N. (2014). Exploring the predicted effect of social networking site use on perceived social capital and psychological well-being of Chinese international students in Japan. *Cyberpsychology, Behavior And Social Networking*, 17(1), 52–58.
<https://doi.org/10.1089/cyber.2012.0537>
- Hamat, A., Embi, M. A., & Hassan, H. A. (2012). The use of social networking sites among Malaysian university students. *International Education Studies*, 5(3), 56.
- Hargittai, E. (2007). Whose space? Differences among users and non-users of social network sites. *Journal of Computer-Mediated Communication*, 13(1), 276–297.
<https://doi.org/10.1111/j.1083-6101.2007.00396.x>
- Heiberger, G., & Harper, R. (2008). Have you facebooked Astin lately? Using technology to increase student involvement. *New Directions for Student Services*, 2008(124), 19–35.
<https://doi.org/10.1002/ss.293>
- Hofstede, G. (1980). Culture and organizations. *International Studies of Management & Organization*, 10(4), 15–41. <https://doi.org/10.1080/00208825.1980.11656300>
- Institute of International Education. (2016). Top 25 Places of Origin of International Students, 2014/15-2015/16. *Open Doors Report on International Educational Exchange*. Retrieved from Retrieved from <http://www.iie.org/opendoors>
- International Students and Scholars Office. (2017). *Fall 2017 Enrollment and Statistical Report*. Retrieved from http://www.iss.purdue.edu/Resources/Docs/Reports/ISS_StatisticalReportFall17.pdf
- Irwin, C., Ball, L., Desbrow, B., & Leveritt, M. (2012). Students' perceptions of using Facebook as an interactive learning resource at university. *Australasian Journal of Educational Technology*, 28(7). <https://doi.org/10.14742/ajet.798>
- Jones, H., & Soltren, J. H. (2005). Facebook: Threats to privacy. *Project MAC: MIT Project on Mathematics and Computing*, 1, 1–76.
- Junco, R. (2012). The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. *Computers & Education*, 58(1), 162–171.
<https://doi.org/10.1016/j.compedu.2011.08.004>

- Kabilan, M. K., Ahmad, N., & Abidin, M. J. Z. (2010). Facebook: An online environment for learning of English in institutions of higher education? *The Internet and Higher Education*, 13(4), 179–187. <https://doi.org/10.1016/j.iheduc.2010.07.003>
- Kalpidou, M., Costin, D., & Morris, J. (2011). The relationship between Facebook and the well-being of undergraduate college students. *Cyberpsychology, Behavior And Social Networking*, 14(4), 183–189. <https://doi.org/10.1089/cyber.2010.0061>
- Kim, Y., Sohn, D., & Choi, S. M. (2011). Cultural difference in motivations for using social network sites: A comparative study of American and Korean college students. *Computers in Human Behavior*, 27(1), 365–372. <https://doi.org/10.1016/j.chb.2010.08.015>
- Lampe, C., Ellison, N. B., & Steinfield, C. (2008). Changes in use and perception of Facebook. In *Proceedings of the 2008 ACM Conference on Computer Supported Cooperative Work* (pp. 721–730). New York, NY, USA: ACM. <https://doi.org/10.1145/1460563.1460675>
- Lawson, B. (2004). Schemata, gambits and precedent: some factors in design expertise. *Design Studies*, 25(5), 443–457. <https://doi.org/10.1016/j.destud.2004.05.001>
- Li, X., & Chen, W. (2014). Facebook or Renren? A comparative study of social networking site use and social capital among Chinese international students in the United States. *Computers in Human Behavior*, 35, 116–123. <https://doi.org/10.1016/j.chb.2014.02.012>
- Mazman, S. G., & Usluel, Y. K. (2010). Modeling educational usage of Facebook. *Computers & Education*, 55(2), 444–453. <https://doi.org/10.1016/j.compedu.2010.02.008>
- Moustakas, C. (1994). *Phenomenological Research Methods*. SAGE.
- Pascarella, E. T., Terenzini, P. T., & Feldman, K. A. (2005). *How college affects students* (Vol. 2). Jossey-Bass San Francisco, CA. Retrieved from https://edocs.uis.edu/Departments/LIS/Course_Pages/LIS301/papers/How_college_effects_students_534-545.pdf
- Patton, M. Q. (2002). *Qualitative Research & Evaluation Methods*. Thousand Oaks, CA: SAGE.
- Pempek, T. A., Yermolayeva, Y. A., & Calvert, S. L. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*, 30(3), 227–238. <https://doi.org/10.1016/j.appdev.2008.12.010>
- Rapoport, A. (1983). Development, culture change and supportive design. *Habitat International*, 7(5–6), 249–268. [https://doi.org/10.1016/0197-3975\(83\)90076-0](https://doi.org/10.1016/0197-3975(83)90076-0)

- Ross, C., Orr, E. S., Sisic, M., Arseneault, J. M., Simmering, M. G., & Orr, R. R. (2009). Personality and motivations associated with Facebook use. *Computers in Human Behavior*, 25(2), 578–586. <https://doi.org/10.1016/j.chb.2008.12.024>
- Ryan, T., & Xenos, S. (2011). Who uses Facebook? An investigation into the relationship between the Big Five, shyness, narcissism, loneliness, and Facebook usage. *Computers in Human Behavior*, 27(5), 1658–1664. <https://doi.org/10.1016/j.chb.2011.02.004>
- Saw, G., Abbott, W., Donaghey, J., & McDonald, C. (2013). Social media for international students – it’s not all about Facebook. *Library Management*, 34(3), 156–174. <https://doi.org/10.1108/01435121311310860>
- Selwyn, N. (2007). “Screw Blackboard... do it on Facebook!”: an investigation of students’ educational use of Facebook. *Ponencia. En: Poke*. Retrieved from <http://startrekdigitalliteracy.pbworks.com/f/2g19b89ezl6ursp6e749.pdf>
- Selwyn, N. (2009). Faceworking: exploring students’ education-related use of Facebook. *Learning, Media and Technology*, 34(2), 157–174. <https://doi.org/10.1080/17439880902923622>
- Sengers, P., Boehner, K., David, S., & Kaye, J. “Jofish.” (2005). Reflective design. In *Proceedings of the 4th Decennial Conference on Critical Computing: Between Sense and Sensibility* (pp. 49–58). New York, NY, USA: ACM. <https://doi.org/10.1145/1094562.1094569>
- Simon, S. J. (2000). The impact of culture and gender on web sites: An empirical study. *SIGMIS Database*, 32(1), 18–37. <https://doi.org/10.1145/506740.506744>
- Sin, S.-C. J., & Kim, K.-S. (2013). International students’ everyday life information seeking: The informational value of social networking sites. *Library & Information Science Research*, 35(2), 107–116. <https://doi.org/10.1016/j.lisr.2012.11.006>
- Stutzman, F. (2006). Student life on the Facebook. *Online], Http://Www. Ibiblio. Org/Fred/Facebook/Stutzman_fbook. Pdf (Retrieved June 3, 2008)*. Retrieved from http://www.academia.edu/download/7361174/stutzman_wp3.pdf
- Sun, H. (2006). The triumph of users: Achieving cultural usability goals with user localization. *Technical Communication Quarterly*, 15(4), 457–481. https://doi.org/10.1207/s15427625tcq1504_3

- Vasalou, A., Joinson, A. N., & Courvoisier, D. (2010). Cultural differences, experience with social networks and the nature of “true commitment” in Facebook. *International Journal of Human-Computer Studies*, 68(10), 719–728.
<https://doi.org/10.1016/j.ijhcs.2010.06.002>
- Watson, R. T., Ho, T. H., & Raman, K. S. (1994). Culture: A fourth dimension of group support systems. *Commun. ACM*, 37(10), 44–55. <https://doi.org/10.1145/194313.194320>
- Wiley, C., & Sisson, M. (2006). Ethics, accuracy and assumption: The use of Facebook by students and employers. In *Southwestern Ohio Council for Higher Education Special Topics Forum, Dayton, OH*.
- Wise, L. Z., Skues, J., & Williams, B. (2011). Facebook in higher education promotes social but not academic engagement. *Changing Demands, Changing Directions. Proceedings Ascilite Hobart*, 1332–1342.

APPENDIX A. IRB APPROVAL



HUMAN RESEARCH PROTECTION PROGRAM
INSTITUTIONAL REVIEW BOARDS

To:	MOHLER, JAMES LWEI, YUSHAN
From:	DICLEMENTI, JEANNIE D, Chair Social Science IRB
Date:	10/20/2017
Committee Action:(2)	Determined Exempt, Category (2)
IRB Action Date:	10 / 20 / 2017
IRB Protocol #:	1705019267
Study Title:	Understanding Undergraduate Chinese International Student Perceptions and Usage of Facebook

The Institutional Review Board (IRB) has reviewed the above-referenced study application and has determined that it meets the criteria for exemption under 45 CFR 46.101(b).

Before making changes to the study procedures, please submit an Amendment to ensure that the regulatory status of the study has not changed. Changes in key research personnel should also be submitted to the IRB through an amendment.

General

- To recruit from Purdue University classrooms, the instructor and all others associated with conduct of the course (e.g., teaching assistants) must not be present during announcement of the research opportunity or any recruitment activity. This may be accomplished by announcing, in advance, that class will either start later than usual or end earlier than usual so this activity may occur. It should be emphasized that attendance at the announcement and recruitment are voluntary and the student's attendance and enrollment decision will not be shared with those administering the course.
- If students earn extra credit towards their course grade through participation in a research project conducted by someone other than the course instructor(s), such as in the example above, the students participation should only be shared with the course instructor(s) at the end of the semester. Additionally, instructors who allow extra credit to be earned through participation in research must also provide an opportunity for students to earn comparable extra credit through a non-research activity requiring an amount of time and effort comparable to the research option.
- When conducting human subjects research at a non-Purdue college/university, investigators are urged to contact that institution's IRB to determine requirements for conducting research at that institution.
- When human subjects research will be conducted in schools or places of business, investigators must obtain written permission from an appropriate authority within the organization. If the written permission was not submitted with the study application at the time of IRB review (e.g., the school would not issue the letter without proof of IRB approval, etc.), the investigator must submit the

written permission to the IRB prior to engaging in the research activities (e.g., recruitment, study procedures, etc.). Submit this documentation as an FYI through Coeus. This is an institutional requirement.

Categories 2 and 3

- Surveys and questionnaires should indicate
 - only participants 18 years of age and over are eligible to participate in the research; and
 - that participation is voluntary; and
 - that any questions may be skipped; and
 - include the investigator's name and contact information.
- Investigators should explain to participants the amount of time required to participate. Additionally, they should explain to participants how confidentiality will be maintained or if it will not be maintained.
- When conducting focus group research, investigators cannot guarantee that all participants in the focus group will maintain the confidentiality of other group participants. The investigator should make participants aware of this potential for breach of confidentiality.

Category 6

- Surveys and data collection instruments should note that participation is voluntary.
- Surveys and data collection instruments should note that participants may skip any questions.
- When taste testing foods which are highly allergenic (e.g., peanuts, milk, etc.) investigators should disclose the possibility of a reaction to potential subjects.

You are required to retain a copy of this letter for your records. We appreciate your commitment towards ensuring the ethical conduct of human subjects research and wish you luck with your study.

APPENDIX B. SURVEY

Understanding Undergraduate Chinese International Student Perceptions and Usage of Facebook

Demographic Questionnaire

1. Your gender:
 - Male
 - Female
 - Prefer to self-describe (please specify): _____
 - Prefer not to say
2. Your age range:
 - 18-20
 - 21-23
 - 23 years or older
 - I don't want to answer
3. Your length of living in the United States:
 - Less than 1 year
 - 1-2 years
 - 3-4 years
 - More than 5 years
 - Other (please specify): _____
4. Frequency of Facebook use:
 - Daily
 - Weekly
 - Monthly
 - Other (please specify): _____