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## **AN INVESTIGATION OF INBOUND INTERNATIONAL STUDENTS' WECHAT USAGE AND EDUCATIONAL VALUE IN CHINA**

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### **ABSTRACT**

With the rising trend of international students toward China yearly, the country has become a popular educational hub in Asia. Research on overseas students' Chinese social media use is under evaluated. The study aims to investigate overseas students' WeChat use & its educational value in the mainland China. An online questionnaire was distributed, utilizing a convenience sampling method through e-mail and WeChat. Moreover, we requested respondents to forward the questionnaire to their friends. Sample lists were collected from three universities of Dalian city in China. Total 546 respondents from 39 countries participated in the survey. The study findings revealed that among all indigenous social media tools, WeChat was the first choice for all international students in China. The study also revealed that WeChat payment services, free mobile calling, built-in text translating facility, multi-modal chatting are the four main attractive features to all overseas' students. Further, the study indicated the significant potential of WeChat use in academic settings. The majority of students welcomed WeChat use in teaching & learning purposes to extend the classroom education and heartily agreed with WeChat's social, technological, and pedagogical affordance.

Finally, the study concludes by discussing the inbound international students' WeChat usage behavior with its implication in enhancing educational value and suggestions for future studies.

**Keywords:** WeChat, Mobile Social Media, International students, Education, Social capital

### **INTRODUCTION**

China is a sociologist country where everything is managed and controlled by the central government. Facebook, Google, Twitter access were banned in China since 2009 due to political and censorship issues [33, 58,

82]. Chinese people are mostly habituated to communicate with Chinese indigenous SNSs such as WeChat, QQ, Sina-Weibo, Renren, Youku, and more [82]. They spend a significant part of their times on these social media sites, which are more or as popular as Western social media platform [27, 76]. For example, Renren is a Chinese version of Facebook, WeChat is similar to WhatsApp;

Sina-Weibo is identical to Twitter. According to Tencent [65], WeChat is the most widespread social network in mainland China, with over 1057.7 million monthly active users and 902 million daily active users, and the second most popular QQ places with monthly active users 803.2 million. It was first initiated to the public as Wei Xin in January 2011, owned by Tencent Holdings Ltd., and was rebranded as WeChat in 2012 for international users [72]. Nowadays, WeChat should not be perceived as merely the Chinese equivalent mobile messaging app to WhatsApp and Facebook messengers. Its extensive functionality has deeply involved with the daily life of Chinese people from their communication to business activities [59].

Additionally, WeChat is an all-in-one messaging app providing almost everything containing more than ten million third-party apps, which can be download and operate from any device [80]. Therefore, WeChat has risen to win Chinese daily life that is regularly adding and updating features beyond Facebook, Twitter, or WhatsApp. Until now, the popularity of WeChat is very low outside of mainland China. Only a few people have heard of or even unknown about its all features and applications outside of China [54].

Over the last two decades, China has placed attracting international students or scholars on its national agenda for improving mutual understanding and building soft-power along with the emerging superpower, largest economy, leadership and global engagement [45, 69, 71]. In particular, after China's entry into WTO in 2002, the central government initiated new policies and provided national guidance to increase the number of inbound international students in China higher education institutions (HEIs) [70]. As a result, there has been an increasing number of overseas students in China HEIs in recent years (see Figure 1). China has become an emerging educational hub for overseas students for several reasons, e.g., offering various funding & national guidance for scholars to research in China, the global rank of China universities as well as the uniqueness of the Chinese language [70, 84]. In 2017, there are 935 HEIs from 31 provinces, autonomous regions, and municipalities in China, which recruited overseas students in graduate, undergraduate, and non-degree courses. The number of them in HEIs has continued to expand, with increasing more than 10-fold from 36,855 in 1995 to 489,200 [5, 40, 41].

Moreover, China's "One Belt, One Road" strategy also accentuated collaboration of the nation with

Asia and other parts of the globe [14, 63, 71]. These new policies have brought a set of unique challenges for international students as well as the host citizens from the cultural point of view [43]. The first meeting of them in the mainland China may lead to what cross-culture or intercultural studies pointed out as "Cultural shock" [50]. International students may effectively be isolated from their relatives, family, friends, and home community due to limited access to Facebook [21, 60]. They may experience different types of acculturative challenges such as loneliness, language barriers, educational difficulties, discrimination, and practical problems in the new environment [20, 55, 68]. They are a kind of bound to adopt Chinese domestic SNSs for communication and building social support resources such as making new friendship network [49]. This situation has created a new phenomenon on how and how much technology such as social media can help the sojourners to reduce acculturative challenges in the mainland China.

Several past studies conducted on different parts of the world revealed that social media has a significant positive effect on building and maintaining students' new friendship network and language learning, cultural adaptation in the host country [21, 31, 49]. There have only a few types of research on inbound international students local social media use in the mainland China [3]. Hence, the study focuses on WeChat because it is the largest user base mobile social media app among all Chinese domestic SNSs and more attractive to the young generation [8, 16, 35]. According to iResearch [24], 9 out of 20 people in China installed WeChat app into their hand-held devices. Students and teachers can use these advanced features of WeChat with free charge, cross-platform accessibility, multi-modality, and spontaneous formation of group chats [64]. Therefore, as the increasing number of international students is migrating toward China every year for pursuing higher study, it is essential to investigate inbound international students' domestic SNSs adoption and usage purposes in the mainland China. This paper aims to justify the following two objectives. First, to know why, how much, and how the inbound international students use WeChat in the mainland China. Second, to understand how WeChat's usage can enhance their educational value in China higher education institute (HEIs). The paper is prepared as follows. We review the literature and summarise the research methods, as well as report the results. Lastly, we conclude with discussions, limitation, implementation, and future direction.

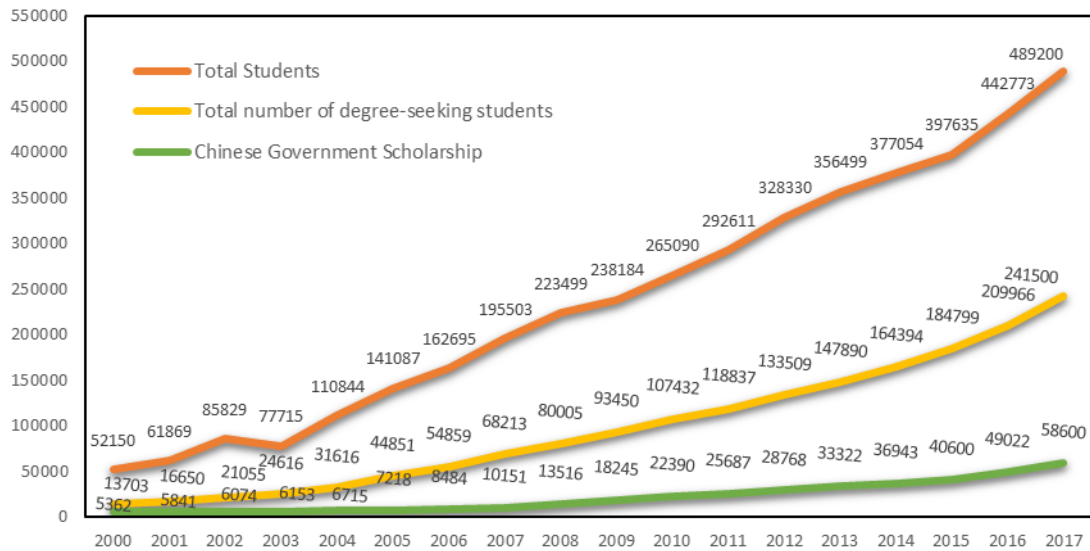


Figure 1: Inbound International Students in China from 2000-2017

[Source: Chinese Ministry of Education (MoE), China Association for International Education (CAISA), <http://www.caifa.org.cn>]

## LITERATURE REVIEW

With the rapid development of information and communication technology (ICT) ecosystem [57], the accessibility, affordability, and availability of online social networking (OSN) have increased dramatically in China, in terms of both internet-connected computers, and smart mobile phones [26, 75]. As of the end of December 2017, a total number of Internet users in China reached 772 million and mobile internet users reached 753 million (97.5% of total internet users) while the proportion of Internet-connected desktops, laptops or tablet users were 53.0%, 35.8%, and 27.1% respectively, which are slightly declining to compare to 2016 [10]. The augmented number of internet-connected mobile phone users and the extraordinary phenomenon of the mobile messaging apps in today’s virtual society have driven many scholars to study the effects that have been caused mainly with the diversity of social media activities.

WeChat is a popular mobile social media app in China [9]. The rich functions of WeChat have provided options for free real-time communication services, including text messaging, voice, and video for smart mobile phone users. WeChat chat messaging allows emoticons, photos, micro-videos, audio-chat to improve

the communication more meaningful. Users can seamlessly synchronize chats onto the most suitable device and may generate messages in one or more languages and scripts [54]. WeChat has deeply involved with the daily life of Chinese people [33]. Users can manage almost everything with WeChat app by using an internet connected smartphone. WeChat also allows its users' e-commerce services, entertainment, wallet, mobile payment, wealth-creation, moment sharing like the Facebook wall, location sharing, opening an official account, adding mini-programs for other purposes, easy contact sharing by shake, people nearby, WeChat ID, and Scan QR code [34, 39]. Collectively, these advance features make users think that WeChat is not just a simple micro-messaging software, it is more than a portal, a cross-platform and even a mobile operating system depending on how users look at it. The improved features of WeChat have made it an ecological platform for “connecting all things” [56].

According to the recent report of Tencent Holdings Ltd. [65], WeChat is one of the world’s largest standalone real-time micro-messaging app by monthly active users with 1057.7 million. The company also claims that half of the users spend at least 2 hours per day with WeChat. It was rebranded in 2012 from Chinese name “Wei Xin” for targeting international users of when

the number of monthly active users had reached more than 100 million in China [72]. The aim of WeChat is not only to be famous around the world but also to be an essential app for people's daily life. WeChat's business motto is "to offer a complete digital lifestyle," although it is more customized for the Chinese smartphone users. According to Dai, et al. [11], the rest of the world use Facebook, Twitter; Facebook Messenger, Line, WhatsApp, ICQ for sharing pictures and videos. For mobile payment, they use Apple pay or some local providers for mobile payments. According to Tencent [65] although WeChat adoption is increasing very rapidly some parts of Asia, South Africa, North America, researches on WeChat till to date mostly focused on Chinese users perspective how WeChat helps in building Chinese outbound students' social capital in the host country, social presence, marketing, tourism services, journaling, teaching, learning, as well as overall well-being of life [18, 47, 48, 51, 66, 73, 83].

The study conducted a literature review from several sources, even though it has numerous limitations considering the budgetary and time constraints. Best on the best knowledge of authors, searching the databases from online and offline journals, little researches have found about inbound Chinese international students' domestic SNSs use in China. Aslam et al. [3] have studied graduate international students' WeChat use perceptions regarding their study and entertainment perspectives, taking a sample from Northeast Normal University (NENU) in China. The outcomes of the study revealed that almost overseas students are very gratified with the various functions of WeChat for pedagogical and recreational perspectives.

Studies on WeChat usage continues to grow, particularly more popular articles and research reports are available online. Tang and Hew [64] reviewed past published articles focusing on the usefulness of WeChat in educational perspectives. The study explored that WeChat has technological, social, and pedagogical affordances. WeChat's temporal, user-friendly, minimal cost, presence awareness & compatibility, and multi-modality features are representing technological affordances whereas journaling, dialogic, transmissive, constructionist with peer feedback, helpline, and assessment functions are representative educational affordances. Zhu and Chhachhar [85] conducted a descriptive study on Chinese university students' WeChat use and found that WeChat's micro-messaging functions are more helpful for university students where they can send or receive messages instantly from others. Teacher and students can take WeChat for dialogic perspectives. The study also pointed out that WeChat security issues are the main obstacles to spread WeChat's popularity around the world. For

example, a foreigner in China has no legal right to open a WeChat official account directly like Chinese citizen. The registration of WeChat official accounts requires a Chinese ID card, and foreigners' passport is not enough for opening the account. Zhang and Xue [82] revealed that WeChat and QQ are widely used social software alternative in mainland China. Group chatting is a useful space for collaboration and in-depth discussions. Users can participate from anywhere and any time using their desktop computers or hand-held devices. Mao [37] disclosed that undergraduate college students WeChat's adoption and use are mostly influenced by the demonstration effect of class-fellow WeChat use in the classroom.

The migration of international students and their education have become a global phenomenon. Several studies conducted by other researchers revealed that migrated students in the host country use SNSs either the home country origin or indigenous SNSs or both for various purposes [49, 53, 81]. Sawir et al. [55] disclosed that international students might experiences lonely during adjusting with the new environment in the host country use SNSs to communicate with friends, relatives, and family members. Several other studies also revealed some other purposes of international students SNSs use in the host country, e.g., building and maintaining social capital by creating friendship networks with host nationals, reducing language difficulties, improving mental ability and reducing homesickness [13, 17, 25, 36, 44, 52, 62, 68].

The study emphases on overseas students who move to China for the first time and adopt Chinese indigenous SNSs particularly WeChat to build and maintain social capital. Moreover, this paper fills a gap in social network sites (SNSs) literature by looking into international students' adaptation of local SNSs use for maintaining social capital, particularly in China. It is very surprising that, although China is gradually becoming an attractive destination of higher education particularly in Asia with an increasing number of overseas students in China universities and colleges in each year, research on these migrated students' social network sites (SNSs) adoption and usage behavior are under-evaluated. Therefore, the study has been developed based on two objectives. First, to know why and how much, how international students are adopting Chinese domestic SNSs, particularly WeChat during living in China. Second, to understand how WeChat is helping them in their academic settings.

## METHODS

### Design of the Research

This study adopted a quantitative research technique.

### Sampling

We use the convenient sampling method, participants of the survey were communicated through mailing lists, WeChat contact lists, and groups that have been collected from international offices of Dongbei University of Finance and Economics (DUFE), Dalian University of Technology (DUT) and Dalian Maritime University (DMU) because they are representing comparatively high number of international students of Dalian city in China. Moreover, a snowballing approach is used to request the participants to forward the link to their co-national and multinational friends. The survey was continued for two weeks. Dalian is one of the most attractive livable cities, and it is very famous for large sea-sight in China. A total of 561 international students from 39 countries participated in the survey from eighteen universities that are scattered across the country. We found 546 valid questionnaires according to the following criteria, all the questions are filled, and their answers do not tend to be neutral. The remaining 15 surveys are considered to be rejected due to incomplete answers. The range of age of the participant was between 18 and 39 years, but the majority of them fall in 26 to 30 years in this array. Out of 546, 47.7% international students were from Asia, 14.10% were from Europe, 27.47% were from Africa, 9.52% were from America, and 1.83% were from Oceania.

### Instrument of Data Collection

An online survey questionnaire was formed to collect data through a survey website, namely [www.wjx.com](http://www.wjx.com). The survey conducted for two weeks. The poll was self-designed in English and constructs were refined based on marketing theory, literature review, and from experiences of researchers. The survey was divided into three parts. The opening part covers the demographic variables included: university name, gender, age, education, nationality, student type, duration of living in China, having WeChat account before coming to China. The second parts cover the characteristics of WeChat usage & activities [23]. Duration of WeChat use experience, reasons to select WeChat, spending time on

WeChat per day, frequency of login WeChat per day, WeChat contact friend list, other domestic SNSs use in China. WeChat activities consist of 22 items (7-point Likert scale: 1= never, 7= several times a day). Finally, WeChat's educational perspective includes 10 items (5-point Likert scale: 1= strongly disagree, 5= strongly agree).

### Data Analysis

A pre-test survey was conducted for validity and reliability purposes. Ten international students participate in the pre-test survey. The validity and reliability were tested using SPSS software version 24 for correlation ( $p < 0.05$ ), and Cronbach alpha is 0.86. After the necessary change and correction, the final questionnaire was sent to international students by e-mail, WeChat contact list, and 10 WeChat groups (approximately 4 to 422 participants in each group).

## FINDINGS

### Demography of Students

A total number of 546 questionnaires are considered valid for data analysis, and the demographic results of international students from 39 countries are shown in Table 1. The majority respondents 446 (81.7%) are male, and the remaining (18.3%) are female. Age ranged from 18 to 39 years old, although the majorities 47.6% of them are fall in 26 to 30 years, 26% are in the range 31 to 35 years, under 20 and over 35 are 2% and 8.4% respectively. The academic qualifications of the respondents are graduate (Master's 13.9%, and Ph.D. 34.8%), undergraduate 27.8%, and others 23.4% including non-degree seeking students such as Chinese language and other short-term courses. Whereas two third of them (74.6%) are awarded a scholarship from different sources, for example, Chinese government scholarship (CSC), Confucius scholarship, university scholarship, Provincial or City, and their home country scholarships. The findings also show that the remaining 25.4% are self-financed students who are enrolled in China HEIs.

In regards to the question, duration of living in China, the majority of the respondents 45.4% replied with staying in China for two years, 17.6% under one year, 2.7% four years, and 8.6% more than four years. In response to WeChat use before coming to China, more than half of the students 320 (58.6%) replied with "No," they did not have WeChat account before coming to China while 41.4% (226 students) replied with "Yes."

Table 1: Demography of Respondents

Measure	n	n (%)	Measure	n	n (%)
Gender			Types of Students		
Male	446	81.7	Scholarship	418	74.6
Female	100	18.3	Self-Funded	128	25.4
Age			How long have you been in China?		
Under 20	11	2	Less than one year	96	17.6
20 - 25	87	15.9	One year	56	10.3
26 - 30	260	47.6	Two years	248	45.4
31 - 35	142	26	Three years	84	15.4
Above 35	46	8.4	Four years	15	2.7
Education			More than 4 years	47	8.6
Ph.D.	190	34.8	Do have a WeChat account before coming to China?		
Master's	76	13.9	Yes	226	41.4
Bachelor	152	27.8	No	320	58.6
Others	128	23.4			

As shown in Figure 2, the corresponding percentage of survey data with the Ministry of Education of the People’s Republic of China, statistical data of inbound international students in China in 2016. A total of 442,773 international students reached in China in 2016, which is an increase of 11.4% from 2015. 59.84% of them were from Asia, 16.11% were from Europe, 13.91% were from Africa, 8.6% were from America, and 1.54% were from Oceania, respectively [61]. On the other hand, out of 546 international students, 47.7% were from Asia, 14.10% were from Europe, 27.47% were from Africa, 9.52% were from America, and remaining 1.83% were from Oceania.

In the study, we received the majority number of respondents from Asia and Africa continent, respectively.

### WeChat Usage and Activities of International Students

#### Duration of WeChat use experience:

Regarding the question on international students’ WeChat use experience in years, Figure 3 illustrates the major part of them (43.1%) have WeChat usage experiences for two years, 29.7% of them have for three years while one year and lower experiences are 15.9% and at least four years is 11.3%.

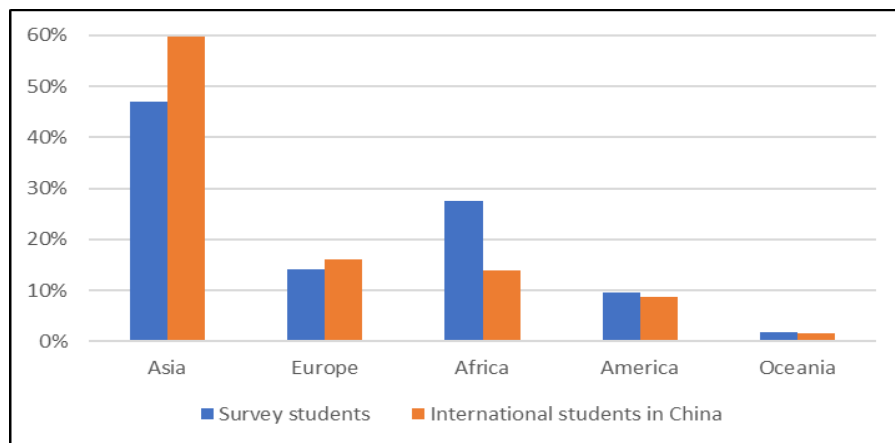


Figure 2: Geographical Distribution of International Students in China

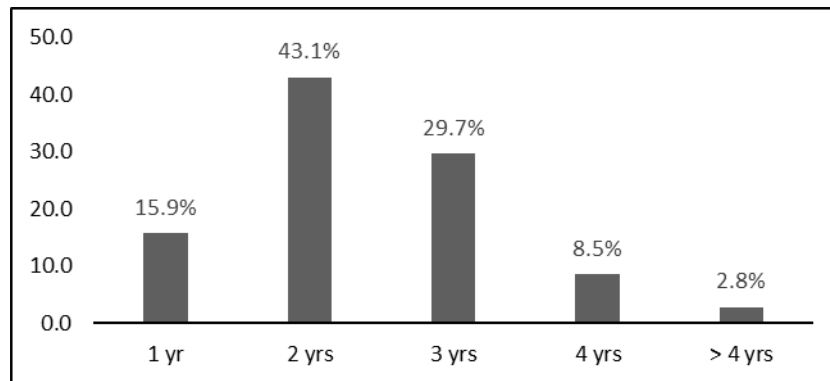


Figure 3: WeChat Use Experiences in Years

International students also asked for the reasons for WeChat use and adoption in China. From the summary finding (Table 2), the majority of them (20.1%) replied with WeChat is constructive in banking and financial transaction in China. 18.5% responded with mobile calling facility of WeChat that is free as long as devices are connected with WiFi or have available data. Interestingly, the survey students have given equal importance of WeChat “text translating services” and “user-friendly multimedia chatting,” which are 14.3% and 14%, respectively. The built-in translator service is the latest features of WeChat that allow the reader to convert

text messages more than 20 foreign languages and scripts [54]. Additionally, the table shows that WeChat webcam, easy downloading, searching, mobile top-up service, e-commerce respectively are also influencing the international students to adopt and use WeChat. With regards to spending time on WeChat, the majority (59.3%) of them spend time on this app from 2 to 4 hours per day, while one hour or less is 13.9%, and 26.8% spend more than four hours. 65.6% of them have more than 100 friends in their WeChat contract list, and 87.8% of them login WeChat more than 10 times per day.

Table 2: Summary of Findings

Measure	(%)	Measure	(%)
Reasons to use WeChat		The frequency of login WeChat per day	
Easy to download	9.4	1 - 10 times	12.2
Easy to call friends	18.5	11 - 20 times	35.5
Webcam with family	10.5	21 - 30 times	28.8
User-friendly chatting	14	31 - 40 times	18.3
Text translating facility	14.3	above 40	5.2
Financial and banking services	20.1		
Easy to search for information	7.2		
Others	6		
Spending time on WeChat per day		No. of friends in WeChat	
< 30 min	4.1	<50	14.8
30 min - 59 min	9.8	51 - 100	19.6
2 h	29	101 - 200	21.9
3 h	14	> 200	43.7
4 h	16.3		
> 4 h	26.8		

**Preferable SNSs use by International Students in China:** The multiple-choice question of inbound international students' preferable Chinese domestic SNSs adoption and usage that was responded by 546 survey students. The majority of them were using more than one social network sites (389 students –

71.25%) while other students were using only one social network sites during the survey period. Figure 4 demonstrates the majority of international students' first choice is WeChat (96%), whereas QQ (57%), Baidu Tieba (22%), and the percentage of other SNSs below 20%.

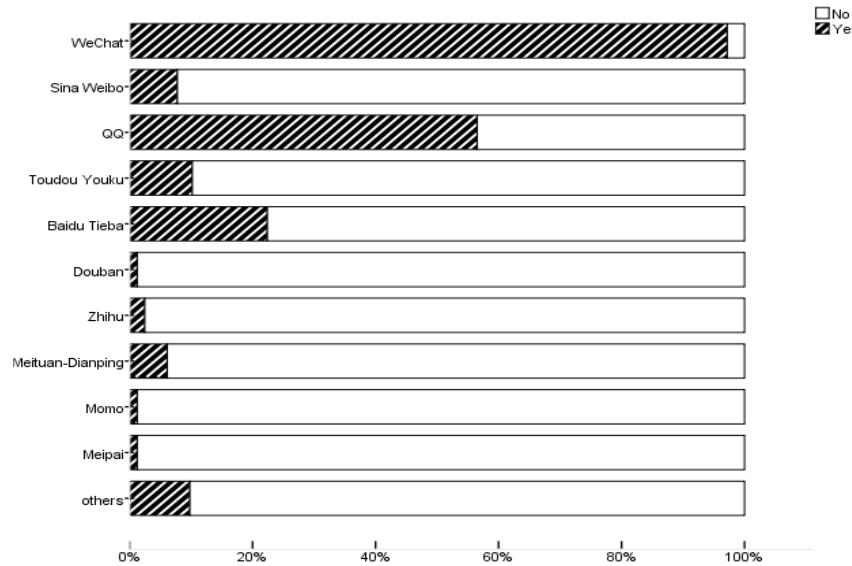


Figure 4: Popular Chinese SNSs

**WeChat Activities:** Figure 5 illustrates the frequency of WeChat activities of international students. WeChat Moment (also known as the Friends' Circle) is one of the most popular services of WeChat, which has similar functions to a Facebook page [56]. The figure demonstrates that one-fifth of the total international students (20%) use "WeChat Moment" platform "several times a day" for communication and sharing experiences by posting photos, videos, text and webpage links with selected friend circle while 28% of them use it "once a month." About "likes and comments" at the moment, the majority 54% of the respondents use "several times a day," 22% of them "several times in a week." WeChat chat messaging is another vital part of WeChat communication. It allows users to send and receive text messages instantly faster than e-mail that also includes various types of non-text messaging media such as picture, video clips, voice, emoji, and stickers to express different conversational situations in the chatting [74]. Moreover, almost survey international students (91%) use WeChat chat messaging "several times a day" for

communication. Whereas, 51% of them take different types of stickers' "several times a day" for improving the chat messaging communication. On the other hand, 74% of them use voice call, and 47% of them use video call to communicate with each other "several times a day."

The popularity of WeChat is also traced by its regular updating and adding new features. Its single-app strategy and dimensions of services are also spreading to all parts of the daily life of people such as social communication, investment, e-commerce, marketing, entertainment, educational, and organizational services [15]. Social communication includes location, red pocket, shake, people Nearby, scan QR code, Web WeChat, moment sharing; commercial services include financial transactions, ordering food, booking hotel rooms, e-ticket purchasing, mobile top-up, social commerce, offline payment; entertainment services include listening music, games, watching videos from "top-stories", step tracker; educational services include reading articles, novels, file transfer; organizational services include official account, mini-programs. International students can choose WeChat official account of their interest and receive information



updates once they allow by clicking on the “follow” button [32]. Survey findings show that 35% to 57% of them use MicroCHN reading contents, scan QR code, financial transactions, and file transfer functions of WeChat “several times a day.” However, the majority of students, 54% use “mobile top-up” services of WeChat “once a month,” and only 20% reported “several times a day.” Other services such as location, red pocket, online gaming, listening music, shake, people nearby, third-party

services, Web Chat, step tracker, official account use only 13% to 20% of them “several times a day.” Therefore, international student’s usage frequency of WeChat functions is displaying its importance for building and maintain social capital in the new environment including but not limited to such as cost-free, cross-platform accessibility, multi-modality and easy formation of group chat.

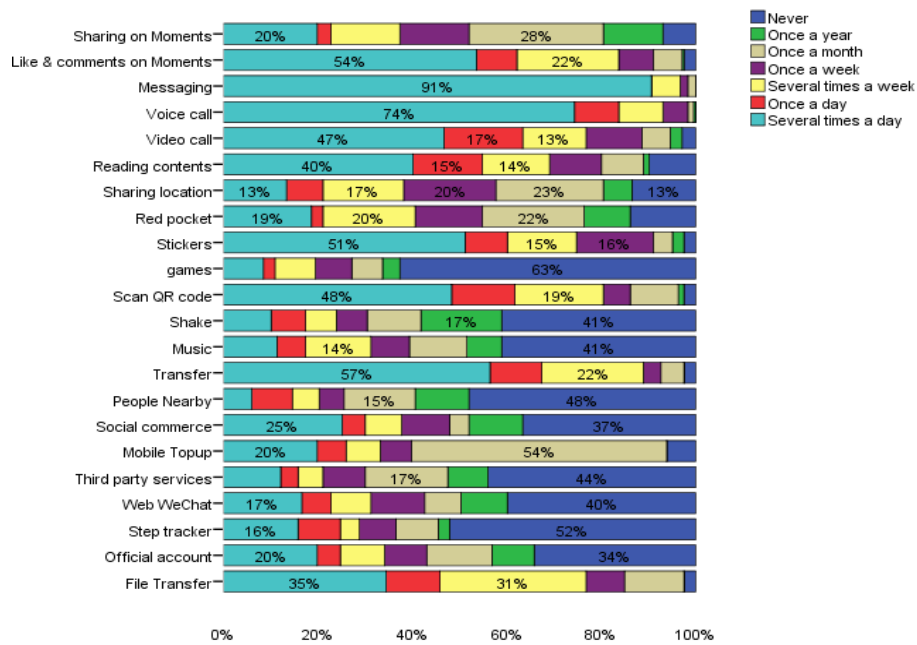


Figure 5: The Frequency of WeChat Activities

### Role of WeChat in Educational Perspectives

In respect to investigating international students’ WeChat usage behavior concerning educational perspectives, the study took 10 items in this regard. The perception of international students that are to be collected about WeChat pedagogical value by the following items: a professor opened a WeChat group in his/her class during the semester, professor use WeChat group to discuss subject related problems with students after class hours, professor used WeChat for sharing course-related resources and instructions to students, Academic offices of university use WeChat to communicate and share updates to students, students also share experiences in WeChat groups, WeChat is very convenient to share multi-media resources, “searching” academic resources

and “File transfer.” Reading shared documents on WeChat is also convenient. Finally, WeChat services are almost free, which improve the overall academic performance of students.

In Table 3, the results are displayed in the table form analyzing data from 546 valid questionnaires of international students’ perception of WeChat adoption and usage for educational purposes. For item No.1, a professor created a WeChat group during the semester of his/her course. The majority (82.4%, 450 students) were positive with the item; surprisingly, 11.9% were neutral, and 5.7% did not agree with the item. For item No. 2, a professor used a WeChat group for discussing students’ problem during and after class hours. More than half 54% of them strongly agreed with the item followed by 294 students, 34.4% agreed, 9.4% were neutral, and only a few students,

2.2% disagreed with it. In Item 3, a professor used WeChat for sharing & receiving course materials as well as providing instructions to students. Majority 74.4% of them (406 students) strongly agreed, 20.1% of them were indifferent, and the remaining 2.2% strongly disagree. Moreover, for item No. 4 academic offices of universities use WeChat social media for sharing academic information and due announcements to students, the majority 324 (59.3%) of them strongly agreed, 28.9% of them reported positive, 8.5% of them neither agreed nor disagree with it. The equivalent majority numbers of students were “strongly agree” with the items No. 5, 6, 8,

& 10. However, for item No.7, WeChat “search” function is helpful for students. Majority of them (32.1%) reported neutral, while an approximately equal percentage of them supported “agree” and “strongly agree” (24% & 24.4%) respectively. Moreover, for item No. 9 WeChat is very convenient to read publicly shared contents, 47.2% (258 students) were “agreed” while the number of them supported “strongly agreed” were comparatively lower (34.7%), only 5.9% of them disagreed with it. Interestingly, the survey students reported approximately “zero” percent “strongly disagree” for items no. 5, 6, 8 & 10 while for other items, it was from 1% to 3%.

Table 3: International Student’s WeChat Usage for Education Purposes

Measure	SD	D	N	A	SA	Total
1. A professor opened a WeChat group with his/her students during the semester.	2.9%	2.8%	11.9%	40.1%	42.3%	546
	16	15	65	219	231	
2. A professor used WeChat group to discuss subject related problems with students during or after class hours.	1.1%	1.1%	9.4%	34.4%	54.0%	546
	6	6	51	189	294	
3. A professor used WeChat for sending & receiving course materials and providing instructions to students.	2.2%	3.3%	20.1%	29.3%	45.1%	546
	12	18	110	160	246	
4. University academic offices often use WeChat group to announce due date and information to students.	1.3%	2.0%	8.5%	28.9%	59.3%	546
	7	11	46	158	324	
5. Students often post course-related problems and experiences in the WeChat group.			7.7%	31.3%	61.0%	546
			42	171	333	
6. WeChat is very helpful to share multimedia and textual materials among fellow academicians.		3.2%	9.8%	38.6%	48.4%	546
		17	54	211	264	
7. WeChat “searching” is very helpful to find academic resources.	1.6%	17.9%	32.1%	24.0%	24.4%	546
	9	98	175	131	133	
8. WeChat “File transfer” is very constructive for academic purposes.		3.3%	12.6%	39.8%	44.3%	546
		8	31	98	109	
9. WeChat is very convenient to scroll and read shared contents from WeChat official accounts.	1.1%	4.8%	12.2%	47.2%	34.7%	546
	6	26	67	258	189	
10. WeChat cost-free functions improve students’ overall academic performance.		1.2%	10.6%	37.8%	50.4%	546
		7	58	206	275	

\* Due to rounding issue total result may not be equal to 100%.

Based on the analysis presented in (Table 3), all international students appreciated WeChat adoption and usage in favorable to educational settings enlightening the essential various features and use of WeChat such as WeChat real-time messaging for collaborating individual and group communication, secure file transfer options, safe financial transaction, very convenient to share documents to friends, very helpful to collect information from others from anytime and anywhere. Moreover, these features are almost free as long as the device is connected with wifi or have an internet data plan.

## DISCUSSION

China started to receive an increasing number of international students since its reform and open door economic policy since the late 1970s [70]. Moreover, the country has placed the importance of international students education after its an entry into the World Trade Organization (WTO) in 2002, along with its booming economic development and growing global influences of its universities, it has become an emerging destination for international students. The Chinese government initiated

educational reforms with the purpose of promoting connectivity with the world through education. The quality of education in Chinese educational institutes was improved as a result of these reforms. The Chinese government offers some scholarships for international students such as the Chinese government scholarship, Ministry of Commerce (MOFCOM) scholarship, university-based scholarship, Chinese Academy of Science (CAS) and the world academy of sciences (TWAS) president scholarship, Confucius scholarship, and provincial government scholarship [30]. In our survey, interestingly, we received the highest number of respondents (74.6%) were awarded various scholarships, and the remaining students were self-funded. Although the international students eagerly move to China to continue their higher study in the face of many acculturative challenges such as language differences, cultural norms, academic problems, the social problem [2, 53, 60, 71]. Several past studies revealed that the sojourners in the host country use technology such as social media that has a significant influence in reducing acculturative stress by extending their social capital, e.g., creating new friendship circle, understanding host languages and online communication [7, 19, 25, 31, 46, 47, 77]. Therefore, the study drives to investigate two broad objectives. First, to know why, how much, and how inbound international students use WeChat as an acculturation strategy during their academic life in China. Second, to understand international students' perception of WeChat affordance in enhancing educational value at China higher education institutions (HEIs).

The reputation of mobile social media use has increased very rapidly with the advancement of information technology and increased opportunities for internet access. During the past few years, WeChat has gained the highest popularity as an effective and efficient tool, especially to younger generations because it enables to provide an innovative way to communication, collaboration, and resource sharing with their online "buddies." The findings of the study show that WeChat is the first choice of the majority of international students among the Chinese domestic SNSs, which accounts for 96% (524 students of the total 546). Around half of them (41.4%, 226 of total 546) reported that they had WeChat account before coming to China. The remaining of them stated that they were motivated to adopt WeChat after coming to China. Moreover, the study found that the majority (86.1%) of them spends time in WeChat at least two hours, and 87.8% of them log in more than 10 times per day. In their WeChat contact list, 65.6% of them have at least 100 friends, and the majority (43.1%) of them have at least two years WeChat use experiences.

The study also found that there are four main features of WeChat that directly influence international students to adopt WeChat in mainland China as follows: "secured financial transaction (20.1%)," "free online calling (18.5%)," "text translating (14.3%)," "instant multimedia messaging capability (14%)". International students also mention that WeChat webcam option, easy software downloading & installing capacity to any device, searching option and other features such as mobile top-up service, e-commerce powered by third-party operators respectively account for WeChat use in China. The study also explored that almost survey international students (91%) use WeChat instant messaging (IM) services "several times a day" for communication purposes while 74% of them use WeChat voice-call and 47% of them video-call for communication "several times a day." Moreover, 57% of them use "transfer money service" of WeChat "several times a day." 51% of them use stickers in chatting to express their emotion or feelings "several times a day." They also use scan QR code for easy contact sharing as well as payment. Here, 48% of them use WeChat scan QR code "several times a day." However, WeChat moments is comparatively less favorite to international students; only 20% of them use "WeChat moments" for sharing experiences to friends "several times a day." On the other hand, more than half (54%) of them enjoy giving "like" and comments on other posts in "WeChat moments" "several times a day."

The study also reveals that WeChat has substantial educational value in higher education. Students and teachers can use WeChat's cross-platform accessibility, collaborative environment in free of cost. Tang and Hew [64] also revealed WeChat as a mobile instant messaging software is useful for teaching and learning. The study identified WeChat usefulness by finding possible social, pedagogical, and technological affordances. Pedagogical affordance refers to the teaching and learning activities of individual or group-based activities that enable users' cognitive outcomes. Table 4 displays the six dimensions of measuring WeChat's educational value. First, journaling refers to post self-reflection comments in social media platform [29, 42]. In the study item No. 5, "students' post-self-experiences or course related problems in a WeChat group" that are reflecting WeChat journalism. The majority (61%) of students strongly agreed with WeChat journalism. Second, dialogic functions refer to discourse any course contents between student-student or student-teacher during class, or after class [12]. It could be in three different ways, e.g., (a) structured request/question-and-response, (b) free-flow conversation practice, and (3) focused the discussion on the specific topic. Here, item No. 2 describes the dialogic

functions of WeChat, and 54% of international students strongly agree respectively with it. Third, transmissive functions refer to broadcast or disseminate information to students [1, 6]. Here, the majority of international students (45.1%), (59.3%) were “strongly agree” with items no 3 & 4 respectively for transmissive purposes such as a professor and academic offices of universities use WeChat for disseminating information. Fourth, constructionist with peer feedback refers to setting up a group to articulate any meaningful output [22, 67]. Here, constructionist with peer feedback represents item no. 1, a professor created a WeChat group during his/her course and 42.3% of

international students were “strongly agree” with it while 40.10% of them express positively. Fifth, “helpline” refers to the use of WeChat for enjoying essential benefits [4]. In the study item no. 6, 7, 8 & 9 are reporting “helpline” features of WeChat. Sixth, WeChat “Assessment” function means to develop a summative measure to assess students’ overall performance regarding specific knowledge or skills which are measured in grade or mark [38]. Item No.10 represents summative assessment criteria of WeChat; 50.4% of them were “strongly agree” with WeChat cost-free activities that improve students’ overall academic performance.

Table 4: Six Dimension of Measuring WeChat Educational Value

WeChat educational value	Measure
Journaling	Item No. 5 Students often post subject related problems and experiences in the WeChat group.
Dialogic	Item No. 2 A professor used WeChat group to discuss subject related problems with students during or after class hours.
Transmissive	Item No. 3 A professor used WeChat for sharing & receiving course materials and providing instructions to students. Item No. 4 University academic offices often use WeChat group to announce due date and information to students.
Constructionist with peer feedback	Item No. 1 A professor opened a WeChat group with his/her students during the semester.
Helpline	Item No. 6 WeChat is very helpful to share multimedia and textual materials among fellow academicians. Item No. 7 WeChat “searching” is very helpful to find academic resources. Item No. 8 WeChat “File transfer” is constructive for academic purposes. Item No. 9 WeChat is very convenient to scroll and read shared contents from WeChat official accounts.
Assessment	Item No. 10. WeChat cost-free functions improve students’ overall academic performance.

WeChat’s technological affordance refers to the functional characteristics that make the environment for completing information exchange or communication more effectively and efficiently [28]. The majority of international students (96%) reported a positive mind to WeChat because of its user-friendly services that have created a common platform for all users. Students can access this supportive environment at any time anywhere for sending and receiving information about homework, course materials, data, ideas, audio, and video lectures from teachers and peers. Moreover, WeChat instant multimedia chat messaging such as text, emoticons, and pictures, audio/video slips that enable students to demonstrate their communication and presentation more effectively and efficiently. Furthermore, WeChat’s technological affordance about collaboration and social tie

facilitate teacher-student relationship beyond class schedules. Students can easily ask any question to the teacher, and teachers go to respond to knowing students’ well.

On the other hand, the social affordance of WeChat refers to the ability to promote the social presence of users that help in facilitating online interaction [28]. WeChat multi-modal and user-friendly environment helps to improve group cohesion and sense of belonging. Therefore, WeChat has become part of the daily activities of international students, and these are some points of pedagogical, social and technological affordance, and the reasons why international students are adopting WeChat in China.

## CONCLUSION

In conclusion, there has been the global interest of the migration of international students and their acculturation in the new environment; many past studies conducted in several different countries on international students' phenomenon, but systematic research on Chinese inbound international students' SNSs use in mainland China is still far behind. The study is conducted quantitative research, and it highlights the gap in the existing knowledge associated with inbound Chinese international students' domestic SNSs adoption and usage behavior in the mainland China.

The findings of the study show that WeChat is the first choice of the majority of international students among the Chinese domestic SNSs, which accounts for 96% (524 international students of the total 546). The four main distinctive features of WeChat "secured financial transaction (20.1%)," "free online calling (18.5%)," "text translating (14.3%)," "instant multimedia messaging capability (14%)" respectively which are mostly influencing international students for adopting and using WeChat in the mainland China. However, WeChat "moment" is comparatively less popular to international students. Only (20%) of them use this platform "several times a day" for communication and sharing their experiences, whereas WeChat chat messaging (91%) and voice calling (74%) respectively are more popular to international students. The study findings also revealed WeChat pedagogical, social, and technological affordances in enhancing the educational value. Surprisingly, most of the international students supported the usage of WeChat as an extension of traditional classroom education.

Therefore, the findings of the study offer important and useful implication that will contribute to educational program developers and academic institutions such as colleges and universities WeChat usage as an educational instrument. The study findings will be an essential insight for being conscious of social media use by the upcoming international students and other travelers, e.g., employees, investors, and visitors in China.

The study is not beyond limitation. Firstly, the respondents of this study were collected using the convenience sampling technique that started from three WeChat groups of international students of universities (DUFE, DUT, DMU). Although the participants are randomly scattered across the country and voluntarily participated in the survey, the sample size of the study is very small relative to the pool of international students available in China. Therefore, the result may vary from other researches. Luckily, we are very successful in

distributing the questionnaire link to many international students. A total of 561 international students participated from eighteen universities across the country. Thus, the sample size of the study represents features of the total population to a certain degree. Secondly, the duration of questionnaire distribution and collection time from the respondents was very short, only for 15 days, so the results possibly contain some degree of randomness. Thirdly, the study findings are based on online survey data only, where there may exist many uncontrollable factors [78].

Hence, the study proposes some directions for future researches that will take into account. Firstly, the longitudinal research approach is recommended. This can help the educators to understand the changes in the international student's SNSs usage behavior and educational value in mainland China more precisely. Secondly, mixing both qualitative and quantitative method is recommended. In this regard, an in-depth interview with respondents is more constructive to validate the survey results to some extent. Finally, cluster analysis would help to understand more definitely about distinct groups of international students SNSs usage purposes and behavioral measures in China.

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