

From Instant Messaging to App Ecosystem

A Consumer Perspective



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Abstract

The app ecosystem WeChat is the first of its kind, emerging from a basic Instant Messaging (IM) app. It has rapidly and consequently diversified and arguably modified the Chinese app environment. WeChat offers many functionalities that go beyond its original communication and messaging purpose. Contrary to this, the two U.S. American IM apps WhatsApp and Facebook Messenger that are widely used in Europe remain mostly faithful to their original purpose.

The apparent difference in the smartphone app environment between China and Europe has been the inspiration to this thesis. The first objective of this project was the identification of differences in perception, usage and level of satisfaction of the three IM apps. Further, it was examined if those variations result from cultural differences and if consumers' exposure to WeChat has an influence on their perceptions regarding WhatsApp and Facebook Messenger. The second objective of this thesis was to observe if the readiness to adopt and use an app ecosystem is partially driven by culture.

A mixed methods approach was applied by conducting an online survey, a focus group and two in-depth interviews. Those methods enabled the researcher to observe contrasting perceptions, usage behaviours and levels of satisfaction for the three IM apps.

This research project revealed that the exposure to WeChat as well as cultural differences have positive and negative influences on WhatsApp and Facebook Messenger users' perceptions and satisfaction of the app. This impact was notably shown in WeChat's users being less satisfied with WhatsApp and Facebook Messenger whereas the majority of non-WeChat users appeared to be "*entirely satisfied*" or "*satisfied*" with those apps. Besides, it was also found that the cultural background of consumers, most importantly trust appears to impact the readiness to use and adopt a new technology such as an app ecosystem.

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1 Introduction

1.1 Research area & Background

In recent years, the development and spread of information technology as well as Internet applications have progressed rapidly. Nowadays, smartphones and computers are no longer a luxury, but a necessity that most people can afford (Peng et al., 2016). According to a report from Statista (2017a), the amount of applications (apps) available via the two leading app stores (Google Play and Apple App Store) reached 2.8 million apps for Google Play Store and respectively 2.2 million apps for the Apple App Store in January 2017, highlighting an exponential and rapid growth in only a few years. This growth might also indicate that an increasing number of online applications that were previously used on a desktop computer are now accessed through mobile devices (Peng et al., 2016).

Social media platforms, which are accessible on both computers and mobile phones, are used worldwide. It is estimated that one out of four people worldwide regularly interact on social media (eMarketer, 2013), making social media and instant messaging apps a topic that touches billions of consumers and thus appears to be a fascinating area of research. The results of this study could add to the on-going discussion about the role of culture in the evolution of online platforms notably by Rosen et al (2010). It could also contribute to help marketers with identifying on what aspects they need to focus on when adapting an IM app or app ecosystem to a different market.

This paper will mainly focus on the differences of consumers' perceptions as well as their level of satisfaction between the American apps WhatsApp and Facebook Messenger and their Chinese counterpart: WeChat.. It is assumed that WeChat requires some further introduction, as it appears to not be widely known outside of the People's Republic of China. To proceed, it also is deemed important to understand the Chinese market, in which WeChat mainly operates.

Currently, 58% of the Chinese population owns a smartphone, 38% have a regular cell phone and only 4% remain without a mobile phone (IDC, 2016). The amount of smartphone users is growing significantly every year and it is expected that 99-100% of the Chinese population will own a mobile phone by 2020 (Pew Research, 2016). Moreover, there are approximately 668 million Internet users and 594 million mobile phone users in China (CNNIC, 2016). Comparing those numbers with the amount of

people who have WeChat on their smartphones exhibits that almost all smartphone users in China installed WeChat on their phones. This impressive market share is unique and thus appears to also provide a highly interesting research subject.

Opposite to similar apps, WeChat was not designed for desktop use, but developed as a mobile app from the beginning (A16, 2016). Despite the fact that WeChat was first a mobile app, it is also available on desktop computers, which made it become an important social media platform for desktop computer communication as well (Gao & Zhang, 2013).

The app WeChat contains a broad range of features and functionalities, including messaging, flights booking, food delivery, etc. Here lies the main difference with its competitors Facebook Messenger and WhatsApp, which might also indicate in what direction the other two apps may develop (A16, 2016). Although it was a simple and straightforward instant messaging app when introduced into the market, WeChat became a considerable app ecosystem in only a few years (Horowitz, 2016). Nevertheless, on the other side of the planet, WhatsApp and Facebook Messenger are still unchanged, or have only a few recent updates and upgrades such as video calls and voice chat (The Telegraph, 2016).

Previous research has demonstrated what mobile phone ecosystems are and how they work (Jenkins, 2008). A mobile ecosystem is composed of devices, i.e. mobiles phones and tablets, operating systems, applications, operator networks, etc., and enables a process in which data (i.e. photos, texts) is shared between multiple users (ibid).

Moreover, other research has analysed the substantial impact of social media on individuals' life and work in China and in the rest of the world, including Europe and America (CNNIC, 2016). Nevertheless, there is no research assessing the influence of two other trending IT phenomena: the IM app (Instant Messaging app) and the app ecosystem on people's life and work.

Lastly, previous research has also found cultural differences in organisations and information systems (e.g. Hofstede, 1991) between countries and those findings led to form the hypothesis that cultural differences may also exist in mobile app user's

perception and satisfaction between countries. Yet, there is no research about the potential impact of culture on new mobile information systems such as IM apps and app ecosystems.

No prior research comparing consumers' perceptions or satisfaction of WeChat, WhatsApp and Facebook Messenger was found. Also, no comparative studies concerning the functional advancement of messaging apps in both China and Europe have previously been conducted. The idea that an intercultural exchange in this field might further the technological advancement in the domain of instant messaging apps and app ecosystems has inspired this research project.

Firstly, this project seeks to investigate consumers' different perceptions and levels of satisfaction of the selected apps. Besides, it will be analysed whether the previous usage of WeChat influences the consumers' perception and satisfaction of WhatsApp and Facebook Messenger. The third objective of this thesis is to find out if the evolution of IM apps into app ecosystems is partially driven by culture.

1.2 Research question

How does the exposure to WeChat influence the perception and satisfaction of Instant Messaging apps such as WhatsApp and Facebook Messenger and does culture influence the readiness of users to adopt an app ecosystem?

To answer this research question, European and Chinese consumers will be inquired regarding their perceptions of WeChat, WhatsApp and Facebook Messenger as well as their level of satisfaction with these apps. This information will be used to determine if there is a consumer need for an app like WeChat in Europe and what role cultural factors play in the consumers' thought processes.

1.3 Hypotheses

Diverse hypotheses have been formulated below. The validation or invalidation of an hypothesis will be made by analysing findings from the selected methods supported by theories, which will help to answer the research question of this thesis.

H1: The perception, usage, and level of satisfaction of WhatsApp and Facebook Messenger are different if the respondents and/or participants have already used WeChat.

H2: The perception, usage, and level of satisfaction of WhatsApp and Facebook Messenger are not different if the respondents and/or participants have already used WeChat.

H3: The perception, usage and level of satisfaction of the following apps (WeChat, WhatsApp and Facebook Messenger) are different depending on the culture of the respondents and/or participants.

H4: The perception, usage, and level of satisfaction of the following apps (WeChat, WhatsApp and Facebook Messenger) are not different depending on the culture of the respondents and/or participants.

H5: Culture impacts the readiness of users to adapt an app ecosystem.

H6: Culture does not impact the readiness of users to adapt an app ecosystem.

1.4 Delimitations and choices

This study will provide a comparison between the perceptions and level of satisfaction of different IM Apps (WeChat, WhatsApp and Facebook Messenger) and determine if the transformation of an IM app into a complex app ecosystem is linked to culture. As with all research, this thesis includes certain limitations.

First of all, in choosing to compare a country (China) to a continent (Europe), the author is aware that the continent of Europe is culturally diverse and that not all European countries are equal regarding the adoption and advancement of technology. For example the leading European countries in terms of IT adoption and advancement are the Scandinavian countries. On the other hand, Southern European countries refer to the less technologically advanced European countries, having a slower adoption rate of new mobile technology (Comina & Hobijn, 2003). The author is also aware of the fact that the results of this study will need further validation to be generalised to Europe as a whole.

Additionally, it is acknowledged that the online survey responses, the focus group and the in-depth interviews of Chinese individuals are not representative of the whole country, because the Chinese respondents and participants all came from first tier cities (Beijing, Shanghai, Tianjin, etc.). This limitation implies that the findings could therefore differ if individuals from rural areas had taken the online survey or participated in the focus group and in-depth interviews.

Also, the majority of the respondents and participants in the research study were students, which entails that the results of the different method approaches can therefore not be generalised to the rest of IM apps and app ecosystems users.

Besides, the author is aware that the respondents for the online surveys were found through two social media platforms and were mostly acquainted with the researcher. This may affect the reliability of the survey and therefore further validation of the findings of this project will be needed.

The purpose of this chapter was to present and convey an overall impression of the thesis' ambitions. The following chapter will aim to define words and expressions referring to mobile and Internet technology as well as introduce the main functions and features of the mobile apps used in this study: WeChat, WhatsApp and Facebook Messenger.

2 Definitions and apps overview

2.1 Definitions of relevant terms

This section aims to clarify certain words and expressions considered as technical terms, by listing comprehensive definitions. These words and expressions will be used throughout the paper. Explaining their meaning will aid to fully understand the following research and findings.

Instant messaging (IM)

Instant messaging (IM) is a tool that enables people to communicate in a multimodal way, mainly via their smartphones but also on their laptops and computers. As a result, IM has progressively become a core form of communication in many social communities (Sultan, 2014). To give an example, according to one of the survey results of China Internet Network Information Centre from 2014 (CNNIC, 2014), 89% of mobile phone users (564 million) have adopted IM in China, and this percentage is continuously rising.

In comparison with traditional short message services (SMS), IM provides more user-friendly features and advantages for customers (Deng et al., 2010), such as voice recording, group chats, etc. Besides, an instant messaging app acts primarily as a one-to-one, or one-to-few communication mechanism, and can be temporary or long lasting. Furthermore, the content sent on a messaging app is intended to be private, or at least directed towards a specific group (ibid).

In this research, all three apps under comparison, WeChat, WhatsApp and Facebook Messenger are considered IM apps. Here, it should be explained that whereas WhatsApp and Facebook Messenger mainly are IM apps, IM is only one of many functions in the WeChat app.

In order to understand the reach of IM apps among consumers, a few of the leading IM apps user bases will shortly be presented: Facebook Messenger and WhatsApp both have one billion monthly users, Facebook's consumer base is stretched worldwide whereas WhatsApp mainly focuses on Europe and the United States. WeChat has 846 million monthly users (mainly in China) (Statista, 2017b).

Social network apps

Social network apps and instant messaging apps both provide platforms enabling people to connect, keep in touch and share content. The differences between the two concern the audience size, the duration, and the intention (Deng et al., 2010). Specifically, a social network app, also known as social media, enables “many to many” connections. It is durable and capable of producing network effects (ibid). When a social network is used to publish information, it acts primarily as a many-to-many broadcast mechanism. Also, the content posted on social media is essentially public (IPGLAB, 2013).

Mobile Application (app) ecosystem

The term “ecosystem”, which stands for “ecological system”, is increasingly used in relation to mobile apps and the telecom industry. The term was originally used in the fields of biology and ecology and was termed by Clapham in 1930. He defined it as “a biological system, or a group of interconnected elements, formed by the interaction of a community of organisms with their environment.” (Oxford Dictionary, 2017).

As no academic definition of an app ecosystem was found, the author will extend the biological definition of an ecosystem to the app context of this study. An app ecosystem thus consists of a portfolio of interconnected applications (apps) (FirstNet, 2015) with a divisible or indivisible set of goods and services offered by a mobile app including the app store, the user account and the different app features available to the user such as messaging, calling, gaming, online shopping, booking services, etc. (Ranking Digital, 2016). In recent years, mobile app ecosystems have become more complex with many layers and players (ibid), providing many services to accompany the consumers through their daily lives.

App ecosystems, like WeChat, evolved from simple IM and/or social media apps that gradually developed into an integrated platform that offers social networking, entertainment, e-payment and other services that represent extensive commercial values (CNNIC, 2013).

After defining the important terms of this study, the different apps relevant for the research project and their main features will be introduced.

2.2 Presentation and description of the apps and features

This section presents the three IM apps analysed in the paper, namely WhatsApp, Facebook Messenger and WeChat, as well as an explanation of their main features. Those three apps were selected to be analysed in this study as they are the most used IM apps in their respective markets (Europe and U.S America for WhatsApp and Facebook Messenger and China for WeChat)(Statista, 2017b). In addition, there will be a special attention given to the Chinese App WeChat as it is assumed to be the least known. Another reason for highlighting WeChat is its tremendous amount of features and considerable evolution over the past few years.

WhatsApp

WhatsApp is an U.S American app that was introduced in 2009 and was acquired by Facebook in 2014 (Bloomberg, 2014). WhatsApp is a basic IM app that reached 500 million users worldwide in 2014, sharing more than 700 million photos and 100 million videos daily (Acton & Koum, 2014). The platform has been growing its user base since and reached one billion users in 2017 (Statista, 2017b).

Furthermore, WhatsApp does not only enable its users to send text messages, it also offers a broad spectrum of functions to choose from when sharing information such as emoticons, gifs, images and pictures, voice recordings, videos, and so forth (Crystal, 2006). WhatsApp also allows its users to provide personal information and create their own digital profile. When a digital profile is completed, users are encouraged to include a photo, a nickname and a status, which is a 139-character text field where users are requested to describe their online personality. Apart from this, WhatsApp also has a computer version, and the language of the app is set according to the default language of the phone of the user (WhatsApp, 2017). Despite all those feature enhancements, the main value proposition of WhatsApp appears to lie in its instant messaging function.

Facebook Messenger

Facebook Messenger is also a U.S. American IM app. The first version was introduced in 2011 and is a chat feature add-on to the social networking site Facebook. Moreover, Facebook and Facebook Messenger are presented as two different apps, although a user cannot access Facebook Messenger without logging in on his or her Facebook account. The main function of the Facebook Messenger is the chat. The app provides text, voice chat services, free and paid e-stickers for users to download and use in chat sessions, as

well as voice and video calling services for users to engage in one-to-one and one-to-few communication (Messenger, 2017).

WeChat

WeChat (also known as “WeiXin” in China) is a Chinese app that was developed by Tencent (one of the largest Internet companies in the world) in 2011 (Tencent, 2017).

The app is known as the leading IM communication service platform and social network app in China, and appears to be particularly attractive to younger generations (Lien & Cao, 2014). The app was introduced as a free messaging and calling app that enables its users to easily connect with family and friends across countries and is supported in 20 different languages (Forbes, 2014)(Tencent, 2017). In 2015, WeChat had 549 million monthly active users and over one billion registered users, almost all of them located in Asia. Recently, in January 2017, WeChat reached 846 million monthly users (Statista, 2017b). It thus only counts 150 million monthly active users fewer than Facebook Messenger and WhatsApp respectively (A16, 2016). Furthermore, recent numbers show that with the development of mobile Internet and the popularity of smartphones, WeChat rapidly became indispensable in Chinese people's daily lives (Skuse, 2014), and is expected to reach an active monthly users group of one billion people by 2020 (Nasdaq, 2016).

The app WeChat appears to have notably profited in terms of market share from the strict censorship laws and regulations in China. The Chinese government blocks a considerable amount of global social media and technology services such as Facebook, Twitter, YouTube, as well as multiple other media sources. As a consequence, the People's Republic of China managed to create its own and unique Internet and mobile ecosystem WeChat (Time, 2014).

In particular, the popularity of WeChat appears to be also partially driven by tighter censorship against its competitor Weibo (The Economist, 2014). In 2013, the Chinese government modified its Internet control policy, which made the use of Weibo appear too risky for many consumers (Kaiman, 2013). WeChat does not officially protect its users from censorship, but its technical features provide opportunities to avoid censorship (Hu, 2014), thus arguably providing a clear consumer benefit. Strict rules

also targeted WeChat in 2014 (ibid), yet compared with the censorship of 16.25% of Weibo posts (Bamman et al., 2012), the censorship of WeChat can be considered minor (Tu 2016).

Another factor that appears to have made WeChat so attractive for smartphone users is the fact that WeChat provides services of both, a social media platform and an IM app (A16, 2016). This will now lead to the presentation of WeChat's setup and main features.

Firstly, users in over 200 countries can register on the app through an account that requires personal identification such as a telephone number (WeChat, 2017). Oddly enough, it appears important to note that although Facebook and Twitter are blocked in the People's Republic of China, WeChat also allows its users to register with a Facebook or Twitter account, which guarantees a more globalised access to the app (Wang & Gu, 2015).

Secondly, as described previously, WeChat was first designed as an IM app where users chat with other users individually or in groups. Each group can accommodate as few as 3 people to as many as 500 (Tencent, 2015).

Third, WeChat is assumingly also widely used in China because it offers more features than what the majority of other apps offer their users. In fact, not only does WeChat possess the basic communication features of any messaging app but it also enables its users to access services such as ordering a taxi, ordering food from almost all restaurants (in first and second tier Chinese cities), buying cinema and concert tickets, playing games, booking and checking in for a flight, sending money to friends via WeChat Pay, accessing fitness tracker data, booking a doctor's appointment, getting bank statements, paying electricity bills, and so on. All of these features are integrated in one single app (A16, 2016).

After describing WeChat's particular functions, it can be assumed that the central aim of WeChat is not to focus on building the largest social network in the world, but on building an app ecosystem that addresses every aspect of its users' lives, including non-social ones (A16, 2016). This aspiration is also proven by WeChat's slogan: "WeChat, a new lifestyle," (Tu, 2016).

3 Theories & literature review

This section will introduce different theories and literature and is divided in four sections: I Usage motivations, intentions and technology adoption, II User/Customer experience and satisfaction, III User/Consumer emotional attachment to mobile phones and IV Literature on cultural differences.

I Usage motivations, intentions and technology adoption

In terms of literature, the Technology Readiness framework (Parasuraman, 2000), the network effect theory (Katz & Shapiro, 1985) and the concept of intra-organisational trust (Gremier et al, 2001) were selected as they were found to be relevant to answer the research question. They focus on the adoption, acceptance and usage motivations of technology. The theories will help to meet one of the objectives of this thesis, which is to find out how app ecosystem could be adopted in Europe. Furthermore, these theories will help to explain why consumers need and use certain apps.

3.1 Uses and gratifications theory

The uses and gratifications theory (U>) is a theoretical framework focusing on why individuals choose one media over others in order to fulfill a variety of needs (Katz, Blumler, & Gurevitch, 1974). The U> was developed based on social and psychological origins of needs (Roy, 2009). It provides insight into the determinants and meanings of consumer behaviours and the social and psychological motives that affect an individual's use of a particular media (Kim et al., 2011).

In addition to this, the U> was recently extended to social media contexts as a mean of trying to understand and explain the reasons and motivations that push users to use or choose different social media, such as instant messaging (IM) platforms (Facebook Messenger, WeChat, WhatsApp, etc. (Han et al., 2015).

Several authors have identified six different gratifications that an individual might receive from using social media: content gratification, process gratification, social gratification, hedonic gratification, utilitarian gratification and the technology gratification (Liu et al, 2016).

The content gratification is defined as the gratification that consumers acquire from seeking information, sharing content and thus expressing themselves on social media.

Process gratification corresponds to entertainment and passing time (enabled by activities such as gaming, reading user timeline and profiles, etc.) (ibid).

Social gratification alludes to social interaction and social presence (enabled by activities such as texting, calling, posting information, updating user profile, etc.) (Lee & Ma, 2011).

Hedonic gratification refers to enjoyment, fantasy and escapism and can be achieved via activities such as online games, booking services, etc. (ibid).

Utilitarian gratification is related to achievements, usefulness and efficiency, and refers to the value one user gains via specific activities such as online shopping, food delivery, etc (O'Brien, 2010).

The most recently introduced gratification is the technology gratification, which is related to the convenience of platform use. It also includes the media appeal referring to the design and layout of a platform and the social presence (Liu et al., 2016).

This literature will be useful to the project as it enables to compare the uses of IM apps and app ecosystems as well as the different gratifications their usage imply.

3.2 Network externalities - Network effect

Network externalities also known as network effect refer to the phenomenon that “the utility that a user derives from consuming a good or service [that] increases with the number of other agents consuming the good or service” (Katz & Shapiro, 1985, p. 424). In other words, an increasing number of users provide added benefits to existing users. The network externalities can be classified into direct network externalities and indirect network externalities (Katz & Shapiro, 1985).

To begin with, direct network externalities focus on the benefits generated by new participants and arise depending on the total number of purchasers or users of the same network product (Katz & Shapiro, 1985; Chiu et al, 2013). As new participants join the network product, existing users can share information, build connections with more potential participants, and thus access greater network utility (Lin & Bhattacharjee, 2008). As a result, most studies consider network size to be a major component of direct network externalities (e.g. Chiu et al., 2013; Zhao & Lu, 2012a, etc.).

In contrast, indirect network externalities refer to the accumulating benefits from the increasing number of participants, including the average price reduction and more available services that producers can provide (Chiu et al., 2013). It goes without saying that indirect network externalities arise when networks are able to provide

complementary goods or services (Chiu et al., 2013). This literature is expected to be helpful with this thesis's research as it is awaited to contribute to understand what make consumers adopt IM apps and app ecosystems.

3.3 Social interaction ties

Social interaction ties refer to interpersonal actions or relationships between an individual and others (Wang & Chen, 2012). This concept is closely related to the concept of social capital. Social capital highlights the resources and functioning of interpersonal networks, which are developed over time and provide the basis for trust, cooperation, and collective actions in a community (Jacobs, 1965). Like social capital, social interaction ties deal with one's perceptions relating to familiarity and frequency of communication with other online community members (Wang & Chen, 2012). It is argued that online social relationships are the continuity of offline social resources. In the studies of online communities, social interaction ties are measured by the amount of time and level of frequency invested in online community interactions by members (ibid). Earlier research has confirmed that network externalities can positively influence social interaction ties. These ties can respectively and positively influence trust in member and relationship commitment in an online community, shared value, trust, and continuance intention to use social media (ibid). This is expected to help the research as it will also contribute to show what make consumers adopt IM apps and potentially also make them adopt app ecosystem.

3.4 Trust, attitude, and positive word-of-mouth

Trust is defined as "existing when one party has confidence in an exchange partner's reliability and integrity" (Morgan & Hunt, 1994, p. 23). In most cases, an individual has a tendency to prefer a provider with whom he or she has already had experience with and thus trusts (Gremler et al, 2001). Gremler et al., (2001) identify three different notions of trust: interpersonal trust (trust between people), organisational trust (trust between organisations), and intra-organisational trust (trust between individuals and organisations). Interpersonal trust as well as intra-organisational trust will be used in this paper.

Intra-organisational trust - that is to say users' or consumers' trust in service providers - can play a part in reducing users' cognitive risk as well as insecurity and therefore

encourage the development of long-term relationships between users and service providers (Chu & Kim, 2011). Intra-organisational trust has been identified as having a significant positive effect on both the intention to use social networking sites and the users' willingness to engage in electronic word-of-mouth (eWOM) (Chu & Kim, 2011) reflecting the important role of intra-organisational trust.

3.5 Stickiness

The term "*stickiness*" is used to describe the phenomenon of a webpage or platform user visiting multiple times, repeatedly, and thus spending more time on it than the average user (Hsu and Liao, 2014). In other words, stickiness is the platform's ability to attract and retain users and prolong the duration of each visit (Hsu & Liao, 2014). The more time the user spends on a platform, or a website, the more it increases the user's involvement, and the more likely it is for the user to complete his/her purchase intentions (Hsu & Liao, 2014). Satisfied users who have developed positive overall feelings towards the content, functions and features of a platform/website makes the occurrence of stickiness more probable (Tsao, 2014). In short, according to Hsu & Liao (2014), the stickiness of a site or platform is primordial because it guarantees its prosperity, as the users will not have a tendency to switch to other sites or platforms.

3.6 Technology readiness

Technology readiness refers to "people's propensity to embrace and use new technologies to accomplish goals at home and at work" (Parasuraman, 2000, p. 308). It is composed of four elements that are positive and negative technology-related beliefs: optimism, innovativeness, discomfort, and insecurity (Parasuraman, 2000). The individual's opinion of each of those components determines a person's predisposition to interact with new technology (Parasuraman & Colby, 2001).

Optimism is defined as "a positive view of technology and a belief that it [technology] offers people increased control, flexibility, and efficiency in their lives" (Parasuraman & Colby, 2001, p.34). It generally captures positive feelings about technology.

Innovativeness is defined as "a tendency to be a technology pioneer and thought leader" (ibid, p. 36). This dimension generally measures to what extent individuals perceive themselves as being at the forefront of technology adoption.

Discomfort is defined as "a perceived lack of control over technology and a feeling of being overwhelmed by it" (ibid, p. 41). This dimension generally measures the fear and concerns people experience when confronted with technology.

Insecurity is defined as a "distrust of technology and scepticism about its ability to work properly" (ibid, p. 44). This dimension focuses on concerns people may have in the face of technology-based transactions.

Optimism and innovativeness are drivers of technology readiness. A high score on these dimensions will increase overall technology readiness (ibid). Discomfort and insecurity, on the other hand, are inhibitors of technology readiness. Thus, a high score on these dimensions will reduce overall technology readiness (Parasuraman, 2000). It is important to note that the four dimensions are fairly independent, each of them making a unique contribution to an individual's technology readiness (Parasuraman & Colby, 2001).

II User/Customer experience and satisfaction

After reviewing the development of theories and literature regarding technology adoption, usage motivations and intentions, the following part will focus on user/customer experience, expectations and satisfaction of products and services.

The following theories and literature on customer experience and user/consumer satisfaction namely the Expectancy Disconfirmation theory (Oliver, 1980) and Keller's customer mind set (2013) were chosen as these theories will later help to shed light on why the user's experiences of the apps selected for this study are different. They will also assist in determining whether users are satisfied with their experiences on the different IM apps.

3.7 Customer experience and satisfaction: The Expectancy-Disconfirmation model

Customer or user experience is what individuals interpret of a good or service process, taking into consideration their level of involvement and reflects how the product or service makes the customer feel (Shaw and Ivens, 2002). Every experience is unique to an individual customer or user and only exists in the customer's mind. Therefore, there is no individual with an entirely identical experience of a product or service. (Pine and Gilmore, 1998)

Consumer behaviour and marketing researchers traditionally argue that customer/user satisfaction is a relative concept, and is always judged in relation to a certain standard (Olander, 1979). Oliver (1980) developed the Expectancy-Disconfirmation theory that is based on the Cognitive Dissonance theory brought forward by Festinger (1957). It is the most widely accepted theory to explain customers' and user's satisfaction (Chou et al., 2010).

The Expectancy-Disconfirmation theory implies that consumers buy goods and services with pre-purchase expectations about the anticipated performance. According to the theory, purchase and repurchase decisions are dependent on the customer/user expectations and the perceived performance, which will lead to customer/user satisfaction (Chen et al., 2012).

The framework is composed of four elements: expectations, perceived performance, disconfirmation, and satisfaction. Each of these components are explained below:

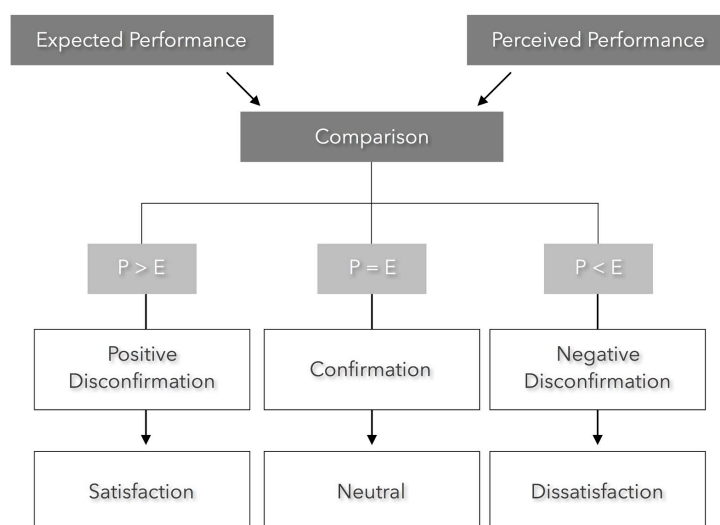


Illustration 1: Expectancy-Disconfirmation model
Own illustration, Source: Oliver, 1980)

Firstly, the expectations or expected performance (term depending on the author) are defined as the anticipated performance of products and services imagined by the customers/users (Churchill and Surprenant 1982). The expectations of a service or product and more specifically its quality can be based on the information acquired in the market and/or on one's person's prior consumption experience (ibid). Furthermore,

several authors state that expectations can also be based on feedback from another customer/user. Further, expectations can also be influenced by different marketing campaigns on the product/service (Perreault et al, 2004). According to Oliver (1980), expectations can be considered as standards that customers use to evaluate a product or service (ibid).

Secondly, perceived performance, also known as perceived quality or experience, indicates the consumer's/user's evaluations of recent consumption experiences with specific services or products (Fornell et al. 1996). Spreng et al, (1996) argue that customer expectations and the actual quality of a product/service influence the perceived quality of the same product/service. Moreover, after using a product or service the customer experience of an individual can either exceed or be inferior to his/her prior expectations (Spreng et al, 1996).

Disconfirmation is defined as the difference between the customer/user's initial expectations and the actual experienced performance (Bhattacharjee & Premkumar, 2004). Most authors on the matter agree that disconfirmation is divided into three types: positive disconfirmation, negative disconfirmation and simple disconfirmation also called confirmation (ibid).

Positive disconfirmation occurs when the customer/user's perceived performance regarding the quality of a specific product or service is better than the customer/user's expectations. In the case that the customer/user perceives the performance to be worse than what he/she expected with regards to the quality of a specific product or service, negative disconfirmation occurs (ibid).

Yi (1990) argues that positive disconfirmation is what leads to customer/user satisfaction. The customer satisfaction level is thus defined by the customer/user's overall evaluation of a service or product in comparison to the customer/user's expectations. A high level of satisfaction may in turn lead to high repurchase rates and customer/user loyalty (Lee et al., 2001). Negative disconfirmation, on the other hand, leads to customer dissatisfaction (Yi,1990).

When the customer/user's expectations equal the perceived performance of a product

or service, the disconfirmation is said to be simple and can also be called “confirmation”. It results in a customer/user being neither satisfied or dissatisfied by the product or service (Bhattacharjee & Premkumar, 2004).

The Expectancy and Disconfirmation Theory has been applied in different fields, notably in the field of marketing (Oliver 1980), as well as in information technology (Bhattacharjee & Premkumar, 2004), in order to better understand customer/user expectations and how these affect the level of satisfaction.

3.8 Customer mind-set

According to Keller (2013, p. 73-77) brand equity is defined by a set of attitudes, associations and favourable consequences of a specific brand use that exists in the mind of the consumers. In other words, it is the value of a brand in the eyes of the consumers. The customer mind-set is composed of the thoughts, feelings, perceptions and attitudes of the consumers. In brief, it is critical for the brands to influence a favourable customer mind-set in order to build a suitable brand equity and value (ibid). Brand awareness, brand associations and brand attitudes are three ways to investigate the customer mind-set (ibid) and will be explained in the following:

Firstly, brand awareness relates to what extent and ease the customers can recall and recognise a brand and can identify a product and service that are associated with a specific brand (Keller, 2013, p. 73).

Secondly, brand associations are defined as the unique strength, the favourability of benefits as well as the perceived attributes of a brand. They often refer to key sources of a certain brand value because those are the means by which the consumers feel that specific brands satisfy their needs (ibid, p. 76-77).

Lastly, brand attitudes are defined as the overall evaluations of a brand in terms of quality and the satisfaction it generates. For example brands attitudes can be evaluated by the overall user-experience (ibid, p. 76-77).

III User/Consumer emotional attachment to mobile phones

The following theories concern users/consumers' relationships with their phones (Kolsaker & Drakaro, 2009), and, assumingly by extension, the apps they use on the phone. The theories seek to explain how these strong attachments occur and shed light on the consequences that a strong attachment might have on users (Belk, 1988 and 2014; Ahuvia, 2005).

3.9 User/consumer relationship with phones

In the past few years, phone devices have become functionally sophisticated and omnipresent worldwide, evolving beyond a simple communication tool into a high performing device assisting users in every aspects of their lives (Kolsaker & Drakaro, 2009). As a result, users consider their devices as unique and hard to replace, becoming emotionally attached to them (Vincent 2005). Many users consider their mobile phones as an extension of themselves (Lasen 2004). The inability to use a mobile device when desired might cause feelings of misery in the consumers (ibid).

Furthermore, the ability to keep in touch with family and friends leads phone users to develop an emotional attachment to their mobile phones (Vincent 2005). According to Harlow and Harlow (1962), humans have a need for "contact comfort", the feeling of belonging to a group and interacting with others. In modern and fragmented societies, the fact that most of our social network is active on online platforms, is said to emphasize the need for phones and the consumers emotional attachment to it (Vincent 2005). Mobile devices maintain and sustain emotional ties to friends and family (Kolsaker & Drakaro, 2009) and thus are regarded valuable by many consumers. Vincent and Harper (2003) describe mobile users with three strands of emotional attachment:

The first strand is called the "highly charged", which explicates that user anxiety will tend to rise if the user is not connected to the Internet (even for a short period of time) or if his/her phone battery is low (Lasen 2004). Certain users who are particularly attached to their mobile devices are likely to react to network failure with a stronger emotional response, their anxiety evolving into anger (Vincent 2005). Therefore, mobile devices can be considered as distance mediators, securing users on a physical and psychological level (Kolsaker & Drakaro, 2009).

The second important strand is when “[an] individual’s private and emotional life [is] managed via a mobile device” (Vincent & Harper, 2003). The different features and functionalities of mobile devices, such as the storage and communication functionalities, are important to structure social life, work and organise memories. Users develop an emotional attachment for this reason, and become increasingly dependent on their phones (ibid). According to Vincent (2005), some mobile phone users stated that they could not manage their life without their mobile phones.

The last component of emotional attachment has been identified as “feeling part of the modern world”. Owning a mobile phone enables users to be part of a modern group (Kolsaker & Drakaro, 2009). Other research argues that having a mobile phone denotes being “cool” (Vincent and Harper, 2003).

In conclusion, it can be argued that users/consumers are attached to what mobile devices offer because they contain a wealth of personal, unique and highly valued information. This therefore explains why they are afraid to lose them. Much of the information stored on these devices would be difficult to replace (Vincent 2005).

3.10 Extended-self

William James (1890) argues that someone’s self is the addition of everything “he can call his, not only his body and his psychic powers, but his clothes and his house, his wife and children, his ancestors and friends (...)” (James, 1890, pp. 291-292). Since this early work, a plethora of authors have defined and redefined the concept of extended-self, such as Belk (1988 and 2014). He argues that “we are what we possess”, a definition that, indeed, appears very similar to James’. Nonetheless, Belk’s extensive theory on the extended self appears to be the most influential within the marketing field. This also is the reason for the decision to use Belk’s definition (1988 and 2014) in this study, as it is one of the more modern and elaborate theories on the subject.

Inspired by Goffman (1961), Belk (1988) states that someone’s possessions can be perceived and felt as part of someone’s self. Thus, the loss of one’s precious objects can feel like losing one of his relatives or close friends and can also be considered a loss of self.

3.11 Love-object

According to Ahuvia (2005), objects are not only considered as being owned by humans and expressing what consumers are, but also express what consumers aspire to be (Ahuvia, 2005). As a result, an intimate relationship is formed between the objects and the humans that possess them. The most precious objects, in the eyes of their owners, become love-objects (ibid).

IV Literature on cultural differences

To answer the research question, cross-cultural theories such as Inglehart (1997) and Hofstede (1991) as well as cultural-marketing models by McCracken (1986) and Heding et al., (2009) will be reviewed.

Inglehart's modernisation theory (1997) has been chosen as it provides insight into how societies differ from each other. Using the modernisation theory (1997), the project includes points of comparison for the two societies (China and Europe). Furthermore, Hofstede's (1991) dimensions of national cultures are used to give another perspective to the modernisation theory (Inglehart, 1997). The cultural and marketing theories by McCracken (1986), Heding et al., (2009) will contribute to the project's examination of the correlation between culture and users perception.

3.12 Modernisation theory

Inglehart (1997) defines culture as a set of habits, values, norms and rules of behaviours which are shared among people. He describes three different types of societies: traditional, modern and postmodern societies. According to Inglehart (1997), these societies can evolve from one type to another and, as the economy evolves, the society evolves with it. As a consequence, economic conditions determine the cultural and political conditions (Inglehart & Baker, 2000). According to Inglehart (1997), culture is "a system of attitudes, values, and knowledge that is widely shared within a society and is transmitted from generation to generation."

The second stage of a society is termed "modern" and occurs as a consequence of the industrialisation of a society. In a modern society, industry (with a standardised mass production) and bureaucracy dominate and the economy is buoyant (ibid). Further,

predominant values in modern societies include individualism, materialism as well as a firm belief in science and secularisation (Inglehart & Baker, 2000).

The last stage a society can reach is called postmodern. A postmodern society is characterised by the predominance of the service sector, flat organisations, human relations management and flexible production. Additionally, self-expression values, ecology, emancipation, new-age religion and rejection of authority are the cultural beliefs that dominate in a postmodern society (Inglehart, 2000).

According to Inglehart (2000), China is considered to be a modern society, whereas most European countries have entered the postmodern stage of a society. This information will be useful to analyse and compare the user's perceptions of the mobile apps in the context of their respective societal backgrounds.

3.13 Cultural Dimensions

First of all, it is important to emphasise that the cultural dimensions by Hofstede (1991) will only be used in this project as a framework and in comparison to Inglehart's modernisation theory (1997).

Hofstede (1991) differentiates countries by their national cultures using four dimensions and a typology for categorising the countries (Hofstede, 1991). These four dimensions are power distance, uncertainty avoidance, individualism-collectivism, and masculinity-femininity.

Firstly, power distance entails the extent to which members of a society accept an unequal distribution of power (ibid). Countries with high power distance often exhibit hierarchical orders that are not being questioned, whereas countries with low power distance often strive to equalize the distribution of power.

Secondly, uncertainty avoidance refers to what extent uncertainties and ambiguous situations make members of a society feel threatened (ibid). Countries with high uncertainty avoidance tend to maintain rigid rules and do not accept unorthodox behaviour.

Thirdly, the individualism-collectivism dimension relates to feeling responsible for one's in-group in a tightly knit social community (collectivism) or only for one individually (individualism) and one's immediate family (ibid).

Lastly, the masculinity-femininity dimension describes the extent to which highly assertive masculine values (masculinity) are predominant and the extent to which showing sensitivity and concern for others (femininity) predominates (ibid).

Apart from Hofstede's macro-cultural clusters (1991), he also argues that national culture is not the only determining factor that influences a person's behaviour and values. Other factors such as education also play a role. For instance, people from the same educational or professional background might exhibit similar behaviours despite having different cultural backgrounds (Hofstede, 1991).

Despite several critics, which argue, that Hofstede's theory (1991) is a seminal work, is too simplified and is acknowledged by some authors as "outdated". Many other authors have based their research about culture on this theory, and it will also be used in this paper as a point of reference.

3.14 Cultural approach and cultural meaning

McCracken (1986) brings forward a concept of cultural perspective on consumption, which has become central to literature within the interpretivist school of consumer studies.

McCracken claims that goods and services not only have a utilitarian character, but also contain and communicate cultural meaning (1986). He argues that in specific cultures, specific meanings and values are shared (as collective representations) and it is through this common ground of understanding that a culture can be said to exist. It results in the consumer being influenced and embedded in culture. Thus, meaning is created collectively. For example, brand value can be created through endowing the brand with symbols and meanings of mainstream culture (Heding et al., 2009).

McCracken (1986) argues that "meaning" can move from the culturally constituted world to consumer goods through advertising, and then be further transferred to the consumer through consumption. The transfer of cultural meaning into consumer goods

and services is carried out by the advertising and fashion systems. By choosing fragments of meaning, the advertising and fashion systems function as producers of meaning (ibid). Cultural meaning is then integrated into the lives of consumers through their consumption. According to this definition, culture is closely intertwined with meaning and communication, and the brands (endowed with artefacts of the culturally constituted world) can be perceived as carriers of cultural meaning.

4 Methodology

After having elaborated on the literature selected for the study, this section will present and explain the methods that have been implemented to collect the data that will assist in answering the research question.

4.1 Research methods & techniques

As presented above, the aim of this project is to first investigate if and how the perception and the satisfaction of WhatsApp and Facebook Messenger are dependent on the exposure to WeChat. Also, it will be sought to find out whether culture has an impact on the perceptions and the satisfaction of the three IM apps and lastly a possible linkage between culture and the readiness to use an app ecosystem will be analysed. In order to answer the research question, mixed methods research was selected.

Mixed methods research has developed rapidly in recent years notably thanks to authors such as John Creswell and Abbas Tashakkori (in Descombe, 2008). The purpose of mixed methods is to develop an analysis and then build on previous findings using contrasting kinds of data or methods (Descombe, 2008). In the case of this research, an explanatory sequential mixed method was chosen. With this type of mixed method, “ *the researcher first conducts quantitative research, analyses the results and then builds on the results to explain them in more detail with qualitative research*” (Cresswell, 2014 p. 44) in order to provide a comprehensive analysis to answer the research question.

Some authors consider quantitative and qualitative methodologies incompatible (Morse, 2003). Nevertheless, other authors see similarities between the two alternatives and have emphasized the benefits for combining their use (Onwuegbuzie & Leech, 2005). The mixed methods approach is distinct from approaches purely quantitative that are based on a philosophy of (post)positivism and from approaches purely qualitative that are based on a philosophy of interpretivism or constructivism (Johnson & Onwuegbuzie, 2004). Put differently, a mixed methods approach appears most suitable for this study, because it allows the breadth of a quantitative approach (validation through numerical data) and at the same time provides the depth of insights that comes with qualitative approaches.

The quantitative method chosen for this research is an online questionnaire and the qualitative methods are a focus group and two in-depth interviews.

4.2 Philosophical worldviews

It is also important to define how the results of the different methods used in this paper will be utilised. Epistemology also known as philosophical worldviews is the theory of knowledge that defines what kind of knowledge the research will generate (Crotty, 1998). According to Cresswell (2014), there are four types of philosophical worldviews: postpositivism, constructivism, transformativism and pragmatism. The philosophical worldviews that are believed to be the most appropriate for the research are the postpositivism and the constructivism worldviews for the following reasons:

Postpositivism refers to a traditional form of research, and is more appropriate for quantitative research. The purpose of this approach lies in the reflection of “the need to identify and assess the causes that influence outcomes” (Cresswell, 2014, pp. 35). Besides, postpositivism consists in developing numeric measures of observations and examining the behaviour of individuals. Some essential specificities of postpositivism also consist in conjectural knowledge, which result in the fact that the findings from this kind of research are always imperfect and fallible. It is for this reason that researchers state that they do not prove a hypothesis; instead, they indicate a failure to reject the hypothesis. Trying to be objective is a crucial element of this philosophical worldview (Cresswell, 2014, pp. 35).

On the other hand, constructivism is typically seen as an approach underlying qualitative research (ibid, pp. 37). Constructivists believe that individuals develop subjective meanings of their experiences based on their historical and social contexts (based on their culture) directed toward certain objects or things (Cresswell, 2014, pp. 37-38). These meanings are diverse and multiple, leading the researcher to look for the complexity of views rather than narrowing meanings into a few categories or ideas (ibid). Constructivism appeals to the researcher of this project, as it will allow comprehending the subjective and complex realities of the interviewed consumers. These insights will provide valuable insights in how consumers perceive the apps studied in this project and why. The researcher’s intent is to interpret the meanings others have about a specific topic, which is highly subjective (ibid).

4.3 Methods triangulation

An online survey, a focus group and several in-depth interviews were the three methods used as different sources of data collection. The combination of these methods to research a social phenomenon is called triangulation (Bryman & Bell, 2011). This method helps to crosscheck the data collected in order to receive more reliable results and to gather valuable insight into consumers' attitudes and perceptions of a specific subject (ibid). Methods triangulation is crucial to counteract the weaknesses of each method and optimise their validity by combining their respective results (Eriksson & Kovalainen, 2008). This is especially relevant considering the relatively complex social nature of the researched phenomena.

4.4 Survey format and procedure

An online survey is defined as a descriptive research tool that includes questionnaires to discover consumers' opinions and attitudes (Saunders et al, 2009). Moreover, the conducted online survey is a self-administered questionnaire (ibid) and the respondents remained anonymous. The fact of being anonymous arguably reduces the chances of the respondents conforming their answers to what they believe is socially acceptable (ibid). Moreover, authors such as Ward et al. (1992, in Morgan 1997) believe that surveys are an efficient way to determine if one opinion prevails over another. To verify whether the respondents are consistent with their opinions, several questions were asked on the same topic but in different ways. For this reason, the author believes that the online survey will help to answer the research question.

The survey was composed of twenty-three questions including multiple choice, checkbox questions and open-ended questions. The questionnaire was formulated in English in order to avoid translation ambiguities as research has shown that the language of the questionnaire can heavily bias attitudes and behaviours (Akkermans et al., 2010). Besides, the survey was in English as it was the common language for the respondents who are used to working and studying in an international environment. In addition, the people who were sent the survey were considered to have a fair command of the English language. Nevertheless, simple and easy words were used in order to prevent any respondents from misunderstanding a question or answer possibilities.

The questionnaire was designed to be easily comprehensible and fast to fill out in order to enable the maximum amount of people to complete the survey. Two types of questions were used: the quantified selection option answers and narrative type question answers (Yun & Trumbo, 2000). A note at the beginning of the online survey stated that it was not necessarily required to answer all questions. A side note indicated that if the respondents were not familiar with one or two of the apps mentioned in the survey, they did not have to answer the questions regarding those apps. Those two options were assumed to be best in order to guarantee a high participation rate of the survey. The author is aware that nonresponse is one of the limitations of online surveys (Couper, 2011, pp. 11).

Lastly, a feedback open question was asked in the end of the survey in order to verify if the respondents understood all the questions and if they had any concerns. Besides, all the respondents were thanked for their participation after the submission of the survey results (compare Smith, 1997).

The questionnaire was designed with Google Forms and the author is aware that Google is forbidden and difficult to access in China unless a VPN is used (a VPN: virtual private network is a system or technology that uses a public network, usually the Internet, to transmit encrypted data between a private network and a remote authorised user) (Tech terms, 2017). Nevertheless, the Chinese respondents personally known by the author confirmed that they had a VPN and that most Chinese people, more specifically educated students and employees, have a Facebook or Twitter account and therefore have a VPN.

The survey was posted online on two of the most popular social media platforms for each specific market. For the European respondents, Facebook was chosen due to the fact that it is the most commonly used social media platform in Europe, and the second most visited website in Europe after Google (One Europe, 2017). For the Chinese respondents, the survey was posted on WeChat, as it is the most visited social media platform in China (Link influence, 2016). Also, posting the survey on WeChat ensured the participation of consumers who have already been exposed to WeChat. This was deemed highly relevant to be able to answer the research question.

In addition to being posted on social media (Facebook and WeChat), the survey was also sent privately via social media or email to individuals the author considered suitable to answer the survey. The survey was available to complete from February 28 and stayed online for people to answer until March 15, 2017. At this point, the author believed a suitable amount of responses from both European and Chinese participants were gathered in order to proceed in the research.

Finally, it was decided that the amount of respondents required for the online survey would be 25 respondents respectively from Europe and China. However, due to the large amount of responses from European participants (58 respondents), notably from France and Denmark, it was deemed necessary to have a greater amount of Chinese participants (at least 30). This was deemed to guarantee the accuracy and reliability of the findings. 43 Chinese respondents finally completed the questionnaire. Furthermore, after the survey went offline, the results were transferred into Microsoft Excel to render the results easier to structure, understand and interpret.

4.5 Sample description

A total of 101 respondents answered the online survey, among those respondents, 43 were Chinese and 58 were European. There were more female than male respondents, more specifically 58% to 42%. Besides, the majority of the respondents were aged between 20-25 years old (representing 64% of the respondents) and 70% of the respondents were students. Lastly the amount of respondents having used all the apps represented 61% of all the respondents. The rest had heard only about one or two apps; mainly WhatsApp and Facebook Messenger for the Europeans; and WeChat and Facebook Messenger for the Chinese as Facebook Messenger is an add-on to Facebook. Although Facebook is blocked in China, a majority of Chinese appeared to own and use an account.

4.6 Validity & reliability of the survey

Two types of validity are believed to be relevant when considering the objectives of the online survey: the internal validity, which is the ability of the survey to measure what it was designed to measure (Saunders et al, 2009) and the content validity. This refers to the extent to which the survey provides adequate coverage for the research questions

(ibid). The survey is assumed to be valid, because it helped finding data in order to validate the hypothesis made in this paper and answer the research question.

Moving on to the reliability of the survey, the data collected on WeChat, WhatsApp and Facebook Messenger was found to be reliable. 101 individuals filled in the survey to participate in producing findings (ibid). The answers of the survey were compared to one another as advised by Mitchell (1996, in Saunders et al, 2009) who states that the reliability of a survey can be assessed through re-testing, comparing answers from the same survey or comparing answers with responses to alternative forms of the same questions. Because a sufficient continuity in the survey's associations was found, the survey is therefore considered to be reliable and can be drawn from in order to answer the research question. Nevertheless, it must be noted that some questions were not answered by enough survey participants and thus were excluded in the analysis of the data.

After introducing and analysing the quantitative method chosen for this thesis, this section will proceed to describe the two qualitative methods selected for this study: a focus group and two in-depth interviews.

4.7 Focus group format, procedure and sample description

Focus group interviews are believed to be a particularly important qualitative method, because they allow researchers "to witness one of the most important processes for the social sciences – social interaction" (Madriz 2003: 372). Also, focus groups allow researchers to examine the ways in which people collectively understand an issue of concern and then construct meanings around it (Bryman & Bell, 2007).

Before organising the focus group, the author had to decide whether it would be more suitable to select a heterogeneous or a homogeneous group. Although some focus group researchers argue for heterogeneous groups (Hennink, 2007), particularly when researchers want to increase the odds of exploring the research subjects from different perspectives (Madriz, 2003), a homogenous group was chosen for this study. A homogenous group of participants that were like minded people and shared many demographic and psychographic characteristics (compare Bryman & Bell, 2007) had been chosen in order to reduce potential conflicts among the participants. It was figured

that a homogenous group of consumers in this study might stimulate a feeling of comfort among the participants and thus triggers positive consumer interactions.

Moreover, the group size is considered a crucial factor for the success of a focus group. However, there is variation in the idea of the “ideal size” of a focus group (Peek & Fothergill 2009). Madriz (2003) suggests that the ideal size for a focus group is between four and eight participants. Bryman & Bell (2007) state that smaller groups composed of 4 to 6 individuals offer an environment where the participants can actively discuss in the group. Prominent focus group researchers Krueger and Casey (2009) refer to smaller groups as “mini-focus groups”. For this project, the focus group was composed of six individuals, where the age ranged between 21 to 26 years. All the participants were current or former university students of different nationalities (Chinese, German, Italian, Spanish and Dutch).

Furthermore, the focus group took place on Monday 20th of March 2017. During the focus group, the author was both the moderator and the note taker. The session lasted for one hour and fifteen minutes keeping in mind that a focus group should ideally not last more than 90 minutes (Cresswell, 2014). During the discussion, the note-taker wrote down some of the participants’ responses and observed and recorded non-verbal responses as this might assist in understanding how participants feel about particular issues. Non-verbal responses include facial expressions, body postures and silences, which may convey some feelings such as approval, interest, boredom, impatience, resentment or anger (Barbour, 2007).

Different authors, such as Cresswell, (2014), emphasise the importance of interaction between the participants during a focus group interview. Interaction creates a “synergistic effect” (Stewart et al. 2007) because it allows the participants to respond and build on the reactions of other members in the group. Interaction takes place, because the participants are not only the products of their own environment, but also influenced by others around them (Krueger and Casey, 2009).

According to Bryman (2012), there are two kinds of interactions in focus groups: complementary (sharing experiences, concerns and needs) and argumentative (questioning, disagreeing with and challenging each other). The author tried to make the

participants interact in both ways. Some arguments occurred in the group that revealed people's diverging underlying beliefs. Such disagreements are valuable as they offer the opportunity for the participants to become conscious of their perspectives and to reflect on the reasons for holding their beliefs and opinions (Bryman, 2012).

The focus group was held in English, as it was the common language for the respondents, who are used to working and studying in an international environment. The focus group started with small talk, which is a useful way to build rapport and sense group cohesion (Conradson 2005; Stewart et al. 2007). It also arguably made the participants feel welcome and comfortable (Barbour 2007; Stewart et al. 2007), thus establishing "a non threatening and non-evaluative environment" (ibid, p. 89). The moderator proceeded by giving information about the purpose of the focus group and how long it would last in order to ease the participants into the session. She also encouraged the participants to speak to each other instead of addressing the moderator (Bryman, 2012). As advised by Madriz (2003), the moderator informed the participants that there are no right or wrong answers to the questions and that all opinions expressed are considered valuable. The participants were also told that it is acceptable for them to disagree on issues brought up by other participants. Disagreements among the participants will allow the researchers to broaden the range of perspectives on a topic (Madriz 2003).

The focus group took place in a calm and isolated study room in order to prevent any distraction or disturbance. As recommended by Stewart et al. (2007), a table and chairs were arranged in a circle in order to facilitate interaction and allow all the participants to face each other.

Concerning the question style, the participants were asked open-ended questions in order to prevent the moderator from guiding the participants in their answers and to give them space to answer the questions. These questions included: What do you think about WeChat? What makes you like or dislike it? The interviewer used probing, follow-up or specifying questions to provide the respondents an opportunity to elaborate on certain aspects of their answers more in-depth. Each question led to a mini discussion with all the participants. Stewart et al. (2007) argue that the moderator needs to ensure that the discussion is on track, manage the time properly and make sure that all

members of the group actively participate in the discussion. This is the reason why after every question the moderator asked if a participant had anything else to add and redirect the participants on the topic when they were going off track. All the participants contributed equally to the focus group. There were no particularly shy or extremely talkative participants.

At the end of the focus group, the moderator thanked all the participants for their participation and valuable contribution to ease the participants out of the conversation (Hennink 2007). Following the focus group, the recordings were transcribed and coded for the purpose of this re-search, in order to make the findings of the focus group more accessible.

4.8 Validity & Reliability of the focus group

Focus group interviews enable a high level of validity, because of the nature and extent of the discussion (Saunders et al, 2009). This is, because the participants dive deep into their personal realities and general points on which the participants agree start to appear. This is the reason why the conducted focus group is considered a valid method to answer the research question and hypothesis, together with the online survey and the two in-depth interviews. Moreover, the findings are believed to cover the objectives of the focus group sufficiently because discussions such as the one on “why individuals use certain IM apps”, as well as the brainstorm on “why switching to another app?” encouraged good interaction between the participants, with all the group members contributing to the discussion. Because of probing questions during the discussion from the moderator and other participants, implicit associations were concretised and discussed, uncovering underlying feelings and motivation (compare Cresswell, 2014).

As is the case with other kinds of qualitative methods of data collection, the measurement of reliability is most often an issue when the focus group method is chosen (Saunders et al, 2009). Nevertheless, it is argued that the data collected from non-standardised research methods, for example focus groups, is not necessarily meant to be repeatable, as they reflect the social reality at the time they were collected (ibid). The reliability can be assessed by comparing results across and within different parts of the focus group (Knodel, 1993), even if variations can be expected due to the continuous development of the social discourse. As a result, the data of the focus group is

considered to be reliable, as keywords and subjects such as privacy, convenience and network re-emerged frequently throughout different parts of the focus group. That the researcher was present as the moderator, also adds to the reliability of the findings. This is because the accuracy of the analysis is enhanced by the presence of the researcher at the point of data collection, eliminating the distance between the researcher and the subject (Knodel, 1993).

Some collected findings such as the use of other IM apps (Snapchat and Telegram) were discarded from the analysis but might be considered for future research. This thesis only focuses on three specific apps (WeChat, WhatsApp and Facebook Messenger). The fact of discarding certain information is not believed to have an impact on the validity and reliability of the final findings. In conclusion, it can be stated that the remaining results of the focus group together with the findings of the online survey are considered substantial to answer the research question and validate the hypothesis.

4.9 In-depth interviews format and sample description

The in-depth interviews took place in order to validate the findings from the focus group. In addition, these interviews help to determine whether there were any differences in response due to the interview situation: a group setting versus a one-to-one interview. Kvale (2006) states that individuals have a tendency to influence others' answers during a focus group which therefore does not guarantee accuracy and full honesty in their answers, and makes in-depth interviews a more suitable method to receive honest answers from participants. Two in-depth interviews were chosen for this thesis to complement data collected from the focus group for the qualitative part; interviews are said to be the most fitting for studies that focus specifically on culture, norms, ethics, perceptions and learning (Rathbun, 2008, p. 691). More specifically, in-depth interviews are preferred when researchers focus on people's interpretations of reality (della Porta, 2014). In-depth interviews are also fundamental for generating knowledge through asking people to talk about certain topics and allowing the researchers to gather their thoughts (ibid).

The role of an interviewee during a qualitative interview is to provide his/her insights on certain themes while the interviewer, as a researcher, is in charge of directing the participant throughout the interview (Weiss, 1994). The interviewer's role is also to

judge if the content of a response is sufficient or if the interviewee needs to be more specific (ibid), thus the interviewer must allow “the interviewee the freedom to talk and ascribe meanings” (Noaks and Wincup 2004, 80). Moreover, trust between the interviewer and the interviewee is primordial during in-depth interviews (Weiss 1994). This is why the moderator engaged in small talk before the interview in order to make the participants feel comfortable.

As mentioned earlier, a total of two in-depth interviews were organised for this research project, one with a French female and one with a Chinese male, one in face-to-face conversation and the other online (Skype). In-depth interviews are usually face-to-face, but most of the guides and literature on the subject take a flexible approach (Weiss 1994), which is why one interview was made via Skype. This was due to the fact that the interviewee resides in China.

Each interview lasted between 30-40 minutes and was recorded, transcribed and coded. The face-to-face interview took place in a calm environment in order to prevent any distraction or disturbance. The two in-depth interviews were held in English, as it was the common language with the respondents who are used to work and study in an international environment.

Regarding the questioning stage, all the questions were open questions in order to gather the most elaborate answer as possible and to prevent the moderator from guiding the participants in their answers (Weiss 1994). The in-depth interview questions were the same as the ones for the focus group. At the end of the interview, the moderator thanked the interviewee as recommended by della Porta (2014). Finally, after the in-depth interviews, the recordings were transcribed for the purpose of this research.

4.10 Validity & Reliability of the in-depth interviews

In-depth interviews have a high level of validity, because the participants delve deep into a specific topic (Saunders et al, 2009). As a result, it makes the two in-depth interviews valid to answer the research question and validate the hypothesis together with data from the online survey and the focus group. The data collected from the in-depth interviews covers the objectives that were set, because the two interviewees elaborated extensively on their usage behaviour and on the social identity they develop with the different IM apps (WeChat, Facebook Messenger and WhatsApp). The

interviewer made sure the interviewee went in-depth and elaborated on every question. For this purpose, probing questions were deployed in order to help the participants elaborate on underlying emotions and motivations.

As discussed above, the measurement of reliability for qualitative methods of data collection such as in-depth interviews is often regarded as a problem (Saunders et al, 2009). Nevertheless, the reliability of the data collected can be confirmed by comparing several answers given by the participants during the interview. When the same words and ideas re-appear often, the interview appear to provide reliable data (Knodel,1993). After verification, the information collected during the two in-depth interviews is considered reliable, because key words and subjects such as the specificities of usage behaviour, convenience, network and the level of emotional attachment with certain apps re-emerged frequently throughout different parts of the interviews. The data collected from the two in-depth interviews compared with the data from the focus group enabled to make specific patterns emerge and confirm certain assumptions that were observed during the focus group. As the researcher was present as the interviewer, this also adds to the reliability of the findings as the accuracy of the analysis is enhanced when the researcher is present at the point of data collection. It eliminates the distance between the researcher and the subject (Knodel, 1993). Furthermore, several studies also show that in terms of adverse impact, interviews give fairer outcomes than many other widely used selection tools including psychometric tests of ability and intelligence (Huffcut & Roth, 1998; Moscoso, 2000).

4.11 Perceptual Map

Beginning with the focus group, the essential data was summarised and used as a first starting point (Saldana, 2008) to explore observable themes that were matched with insights from the in-depth interviews. In order to achieve this, common themes and opinions raised in the qualitative research were organized into a perceptual map (see Illustration 2). The apparent similarities in perceptions were found by comparing the responses of each interviewee (compare Ringberg & Gupta, 2003). This map helps illustrate the interpretation of the connections between the participants' beliefs and feelings on the three apps under investigation. By aggregating the themes into a visual form, a clearer understanding of how people perceive a certain topic emerges (Bryman, 2012).

The structures in the perceptual map show how underlying socio-cultural themes appear (King & Horrocks, 2010). Insights may appear from the construct systems built around the IM apps, allowing the researcher to find out the most important perceptions towards WhatsApp, WeChat and Facebook Messenger. In the analysis of the focus group, it appeared particularly important to focus on the interactions between the respondents, as stipulated by Bryman and Bell who suggest that actual behaviour “is revealed in talk” (2011, p. 522).

After having introduced and explained the different methods used for this research project, the data collected in the online survey, the focus group and the in-depth interviews will be analysed and compared in the following analysis chapter.

5 Findings and analysis

In this chapter, the data collected through the online survey, the focus group and the two in-depth interviews will be presented. Each sub-section consists of a detailed analysis of the respective findings, supported by appropriate theories, which will enable to answer the previously formulated research question.

In the first section, the usage behaviour, motivations and intentions to use, as well as the emotional attachment to the three Instant Messaging apps will be analysed. In the subsequent section, the perception and customer experience regarding the different apps will be investigated. Lastly, the factors influencing the readiness of individuals to adopt and use an app ecosystem will be assessed.

I Usage behaviour: motivations and intentions for using Instant Messaging apps and emotional attachment

This first section illustrates the reasons and motivations of individuals to use IM apps in general, and investigates how these motifs impact their behaviour. The last part of this section will try to assess what role emotional attachment plays for the users of IM apps.

5.1 Usage behaviour

Concerning the amount of time users spend on the different IM apps, it appears that 49% of surveyed WeChat users daily spend more than two hours on the app. This is significantly higher than the results for the competing apps WhatsApp (5%) and Facebook Messenger (9%) (see Appendix 5 Chart 1). Summarizing the insights from the qualitative research, it appears that consumers spend more time on WeChat than on the other apps, because it addresses more uses and gratifies more needs through its usage (compare Liu et al, 2016).

The consumers reported that WeChat enables them to retrieve superior **content and utilitarian gratifications** thanks to all the different features available on the app. Examples of useful features that were mentioned are hailing a taxi, gaming, online shopping, topping up phone credit, etc.

Following quotes also emphasize this point:

I2: The app I use the most is WeChat, I use it for everything and everyday, I text and call my family, friends and clients (...) I buy almost everything with WeChat Pay

(...). It's relatively new but I use it everyday to pay different things. But, what I spend the most time on is probably gaming, looking for good online shopping deals and checking out the new posts of my friends. And it's now cheaper to order your grocery shopping online via WeChat and make it deliver to you ,than to go to the supermarket yourself and it's also more convenient.

An: (...) I use WeChat every day and I spend lot of time on it, I always receive notifications that one of my friends has posted new pictures or something like that, so I always go check. And also, there're all these really addictive games on WeChat which I spend at least one hour on every day (...). I don't live in China now, but I spend even more time on it when I'm home because there's always something on sale on the online shopping feature and you never know, it could be something I'd like to have so I just check the sales every single day.

These quotes show how WeChat is able to accommodate the consumers' daily procedures, making their lives easier (i.e. comparing sales offers online) and also changing their practices (as in the case of not going to the supermarket anymore, but ordering online instead). Besides, the quotes effectively visualize how the app ecosystem enables the consumers to acquire better **process** and **hedonic gratifications** as it enables the user to "escape from reality" and pass time with features such as gaming, booking services, etc.

Furthermore, as every IM app, WeChat also helps its users to receive the amount of **social gratification** they need in the sense of social interaction (via texting, voice recording, calling, etc.). This can also be seen by the survey results regarding app associations. The app WeChat was associated with the word "Social" by 47% of the respondents. This word has ranked in the top 5 associations for WeChat (see Appendix 7 Chart 2). This can also be seen in the insights gathered with the qualitative methods as shown in the previous as well as in the following quotes:

A: (...) so when I studied in Shanghai for half a year I got WeChat, which was in 2013, and then all the Chinese and also the international friends that lived there also used WeChat to communicate with each other. So we all switched from WhatsApp to WeChat. I mainly used it for communication reasons.

M: (...) WeChat, I used only for two weeks so when I was in Shanghai, two years ago, and it was mainly for communication purpose, like saying where we meet with other students and what we do tonight.

Lastly, WeChat was most often associated with words such as “Innovative” (51%), “Advanced” (59%) and “All-in-one” (70%), which as a consequence might be interpreted to fulfill the **technological gratification** need of its users (compare Liu et al, 2016) as the app is considered innovative, advanced and unique because of all its different features. The aspect was also touched upon in the focus group and the in-depth interviews, as shown in most of the previous quotes made in this first section.

In comparison, the majority of WhatsApp and Facebook Messenger users were found to generally spend between thirty minutes to one hour everyday on each app (see Appendix 5 Chart 1).

According to the results, it can be assumed that the level of “stickiness” (Hsu & Liao, 2014) is higher on WeChat than on WhatsApp and Facebook Messenger. The high level of “stickiness” (ibid) of the app and the fulfillment of the different gratifications needs (Liu et al., 2016) could explain why WeChat users spend in general more time on it than users generally appear to spend on WhatsApp and Facebook Messenger.

Furthermore, comparing Chinese to European users and explaining why Chinese spend, in general, more time on IM apps than Europeans could be explicated by the fact that having a smartphone and being on the phone in China is a strong circulator of meaning (McCracken, 1986) as it reflects “coolness” (Vincent and Harper, 2003) and a way for individuals to affirm their social status.

An: (...) in for example in China, people are addicted to their phones (...)

*J: I remember when I was in Asia it's considered as very cool and a **social status** to A have a phone and B be on your phone. (...) So it's like a status thing and I don't think it's the case in Europe (...)*

Finally, as China is a modern society, materialism is considered as an essential value. This could also explain why Chinese spend more time on their phones and by extension

on IM apps compared to European consumers, who live in a postmodern and therefore less materialistic society (compare Inglehart, 1997).

5.2 Social Influence

It appears also valuable to analyze the social influence on the use of IM apps to fully comprehend this potential driver of their adoption and usage. The findings from both methods have shown that the majority of WeChat and WhatsApp users started using those apps because of the recommendations of their friends and family members (78% for WeChat, 84% for WhatsApp), showing how social influence appears to be important in regards to the adoption of IM apps.

A: For WhatsApp, I think in Germany it is really popular so that the main way of communication, that's mainly why I use it.

R: If I remember well my friends first started using WhatsApp and I followed, I use it the most, it's super simple, and it's very popular in Spain, I use it all the time.

On the other hand, 62% of the respondents stated that what influenced them to use Facebook Messenger was its advertisements on Facebook, as it was presented as an additional feature, but in a separate app. Nevertheless, after investigating this topic more in-depth during the focus group and the in-depth interviews, it can be observed that the app primary owes its success to **network effects** (Katz & Shapiro, 1985). This implicates that if Facebook did not have a large user base, not as many participants would have entered the platform Facebook Messenger, even though highly advertised.

R: (...) As for Facebook Messenger, I downloaded it because it was an update of Facebook or something like that. But I really started using it when my friends started to send me messages on it.

It might be argued that all kinds of apps benefit and become popular thanks to a network effect (Katz & Shapiro, 1985), but IM apps and social media apps are assumed to be most dependent on this effect. Overall, social influence had a major positive influence on the use of those three IM apps. This result is consistent with the results from previous consumer research, which found that consumers trust electronic word-of-

mouth (eWOM) and recommendations from friends or family, above all other forms of advertising (Chu & Kim, 2011).

5.3 Most used features

In this part, the most used features for the different IM apps will be assessed.

WeChat exhibits many more features than WhatsApp and Facebook Messenger. These features were therefore grouped into two categories for more clarity: the communicative and the non-communicative features.

Communicative features (CF): Messaging, calling, video chatting, voice recording, stickers, sending documents, pictures, videos.

Non-communicative features (NCF): WeChat pay, location, online shopping, gaming, ordering (food,taxi), booking services, top up phone, utilities and others.

In regards to WeChat, the results show that it is often used for non-communicative features even though keeping its primary messaging purpose, as messaging is still the main used feature for a large share of its users (see Appendix 7 Chart 3). It appears that Chinese users often use WeChat for non-communicative purposes. This does not mean that they do not use communicative features anymore, but as an increasing amount of non-communicative features are made available on WeChat, these appear to gain in comparative relevance. Nevertheless, it is interesting to observe that the communicative/non-communicative features split is not the case for WeChat users outside of China as well as non-Chinese speakers.

G: (...) the fact that I don't speak Chinese (...), and the fact that I couldn't manage to associate my European bank card with WeChat because I didn't have a Chinese bank account I wasn't able to experience so many things that I could have done with WeChat (...).

*G: I've used it in China while I was there for exchange, and I stopped using it the day I came back. So **mainly to communicate** with Chinese people and people that were on exchange with us. (...). This is why I think the use of WeChat, at least for Europeans, is **mainly situational**.*

*A: I think it's **mainly by region** because, I feel if you're in China you use WeChat, so when I studied in Shanghai for half a year I got WeChat,(...), but afterwards, I didn't see the need to have it (...).*

This appears to be due to the fact that the features outside of China are limited as well as the fact that many add-ons require the knowledge of the language.

Moreover, what has been drawn from the qualitative research is that the participants use WeChat mainly for messaging with family and friends in terms of the number of log-ins into the app, but not in terms of the amount of hours they spend on it. The findings showed that what the users were spending the most amount of hours on was non-communication features (e.g. paying, playing online games or topping up phone credit, ordering food, etc.). This also confirms the findings from the study.

An: I think, on a normal day, I usually open WeChat messages feature ten to twenty times a day. I probably spend less than twenty minutes on it. But, I spend so much time on WeChat games because they are so addictive, every time I'm commuting or before I go to sleep. In the end I spend probably more than one hour playing games on the app.

Overall, these results confirm what was mentioned previously regarding the different kinds of uses and gratifications (Liu et al,2016) that WeChat users fulfil when using it. The fact that they use a large amount of functional features for a large amount of their time corroborates this idea.

In regards to WhatsApp and Facebook Messenger, these apps mainly contain communicative features therefore the analysis of the most used features (see Appendix 7 Chart 3) is not as important as for WeChat. As a result, those two IM apps help the users to fulfill their **social gratification** need via social interaction enabled by texting, calling, etc. Besides, they also allow to satisfy their **content gratification** need via the sharing of documents and photos (Liu et al,2016) as shown in the quotes below:

A: WhatsApp I use everyday because we have a family group, so we basically talk to each other every day via text or voice messages and we always send each other stuff

(...). Facebook Messenger I mainly use for coordination reasons for projects, parties, etc (...).

R: WhatsApp is the app I use the most (...) I always use it with my family and friends to keep in touch and updated about what we're all doing sending pictures of what we do, what we eat, etc. And it's very popular in Spain.

Especially, the focus group and in-depth interviews have revealed this phenomenon. Consumers that were previously exposed to WeChat mentioned that WhatsApp and Facebook Messenger appear to be “*basic*” and “*simple*” messaging apps. Fulfilling other kinds of gratifications needs with WhatsApp and Facebook Messenger appears to be more difficult because of their limited scope of features. Therefore, the **utilitarian** (usefulness and enjoyment) and **hedonic gratifications** (escapism, entertainment, pass time) (Liu et al., 2016) appear to be impossible to be fulfilled on those apps because they only have communication features and exclusively consist of digital chat tools.

Lastly, a difference on usage was observed in the focus group and in-depth interviews between WhatsApp and Facebook Messenger. Both apps are primarily used for their communication features, but WhatsApp is perceived as **more private** than Facebook Messenger as it appears to be mostly used among family and close friends, and for sending private pictures and videos that are not meant to be shared on social media, etc. As opposed to WhatsApp, Facebook Messenger was not considered as private but more used with friends and acquaintances for group projects or as a platform to organise meetings or share documents for university. The last two points are also illustrated in the following consumer quotes:

I1: The app I use the most is Facebook Messenger because of group works, as I said earlier, I have to use it because it is the only platform where everybody goes everyday and it's easier to schedule group work with your friends in a group this way. (...) I also use it (WhatsApp) everyday, (...), I use it a lot to keep in touch with my family abroad.

*J: I mainly have one-to-one conversation on WhatsApp but I also use groups but it's more with people I consider close. (...) I feel that the main difference between chats on Facebook Messenger and WhatsApp, is that Messenger groups are **more***

***situational**, so for example for today, you know you kind of have to agree on when and where to meet, then you know that you're not going to use this group anymore. So I feel that Facebook Messenger is a bit **more practical**, like sending doc for university, etc.*

Those quotes therefore show that both apps have the same general purpose, e.g. connecting people and keeping in touch. The reasons and situations in which the consumers connect to others though seem different. WhatsApp is more used for leisure activity such as checking on a friend for no specific reasons. Facebook Messenger on the other hand, is perceived as a tool used for semi-professional purposes, such as organising projects among classmates. It thus appears as if the emotional attachment in the case of Facebook Messenger is less distinct.

5.4 Emotional attachment

The purpose of this subsection is to discover how attached individuals are to the IM apps they use regularly, the feelings they have towards their phone and the items their phone contains (apps, pictures, social life, etc.).

68% of the surveyed WeChat users stated they could not imagine their phone without WeChat. This indicates a strong importance of the app for the consumer and arguably also a high level of emotional attachment towards the app. In the qualitative research, the majority of the participants expressed emotional attachment towards the app in various degrees.

*I2: WeChat is very important to me. If I were to lose all the data I have on it I would be very **angry**, I have so many contacts, I wouldn't know how to recover everything. Besides, this app kind of became the **most important thing to have** in China, usually when you meet someone for the first time, you first ask for his or her name and then ask if they have WeChat.*

*An: (...) I wouldn't be **anxious** not to be connected, unlike **most of the Chinese I know**, and I don't have very important things on it so it would be fine if I would loose some data. But I have to admit that it is something that I would miss a lot if I couldn't use it for some reasons, because it is the most immediate way to contact my family in China and I just get the feeling that I'm back in China when I use it because I can see my friends posts, news from China, etc.*

*I2: (...) Adding someone on WeChat is usually one of the **first things you do** when you meet someone you don't know who is around your age in China even if you've only talked to this person for just a few minutes.*

According to the above quotes, it can be assumed that Chinese are emotionally attached to WeChat partly because it carries cultural meaning (McCracken, 1986). It appears to be regarded by the participants as an important aspect of the modern Chinese culture. Especially among young generations it seems to be part of the normal introduction process, which can be regarded an exchange ritual (compare McCracken, 1986). By using the app in the process of introducing and getting to know one another, more specifically exchanging the personal information on the app, the two consumers arguably transfer cultural value from and to each other. This arguably is the identification with a “modern”, “technologized” group that uses information technology to socially connect. Both consumers are present on the app and thus actively decide to allow the other consumer into their social circle.

That the app provides one participant with a feeling of “home” appears especially interesting, as positive and very personal attributes seem to be associated with the app.

Concerning the Western apps (WhatsApp and Facebook Messenger), both methods showed that their users were also emotionally attached to them. Nevertheless it appears they have a stronger attachment to WhatsApp. The reason given for this difference, as previously mentioned, is that they consider WhatsApp to be more private and personal (private conversation, first point of contact with family and friends).

*R: (...) I wouldn't be able to use another app, I would miss WhatsApp because it's more **personal**, and an immediate app, if something important was to happen it wouldn't be communicated via Facebook Messenger, I think.*

*I1: Both apps are very important to me. I would feel really bad if I would lose all my contacts or all my conversations, more for WhatsApp than for Facebook Messenger because the conversations I have on it are more **private**.*

Furthermore, what can also show that people are attached to their IM apps is the fact that what they like the least about those apps is that they must have Internet access for

the app to work. Around 75% of the respondents for WeChat and WhatsApp, and 70% for Facebook Messenger expressed this opinion, which was further elaborated during the qualitative methods:

*I1: (...) if I'm not connected to the internet for a few hours, for whatever reasons, I **feel very bad** because WhatsApp is the only way I have to directly communicate with my family as I live abroad.*

*A: I usually can't leave my phone for more than a couple of hours during the day, (...) when I ran out of data at the end of each month I become **worried** about not having internet access on my phone in case of emergencies with my family.*

As demonstrated in the above result the fact of not having Internet access makes users become “*highly charged*” (the user anxiety rises because he/she is not connected to Internet)(Lasen 2004). Furthermore, staying connected to the Internet enables the users to think that he/she can be easily reachable by other people as well as contact others (Vincent, 2005).

Research participants also mentioned that the different features and functionalities of mobile phones and IM apps, such as the storage and communication functionalities appeared to be of great importance to structure social life, work and organise memories. They therefore supposedly developed an emotional attachment and became increasingly dependent on their phones and the apps on it (Vincent & Harper 2003).

I2: (...) I use WeChat for private life and professional life which is why my list of contacts is very long, I also have notes for each business contact, so not being able to access it would be a big problem (...).

What could explain those findings is that IM apps are currently evolving beyond the simple communication tool (Kolsaker & Drakaro, 2009) causing the users to consider those apps and their smartphone as unique and hard to replace, becoming emotionally attached to them. This can carry to such an extent that some users stated that they could not manage their life without their mobile phones (compare Vincent, 2005).

As a consequence, those emotions developed towards the IM apps result in an extension of self (Belk, 1988, 2014) because the apps and phone are loved by its users beyond

simple everyday objects and thus arguably become love-objects (compare Ahuvia, 2005).

Further, because IM apps or/and phones are an extension of self (Belk, 1988, 2014) and love-objects (Ahuvia, 2005), not being able to use the app or losing data saved on the app or phone might result in a loss of self (Belk 1988, 2014). This can result in anger, anxiety, etc., as also shown in the following quotes:

*R: (...) for me it would be a big hassle if I couldn't use Facebook Messenger or WhatsApp even only for a few hours or if I would loose all my contact list I would be very annoyed, because **I just love this app** it is indispensable for me, because I use it everyday and it's my first point of contact with my family as I live abroad so I would really feel the urge to use them (...).*

J: (...) I also have notes from WhatsApp and Facebook Messenger messages I know it might seem weird but I like keeping those kinds of things and know they're safe somewhere, it's nice to keep track.

Overall, the above results can lead to assuming that users are in general more attached to WeChat. Apart from the reasons mentioned in this section an underlying reason could arguably be because it enables its users to fulfill more gratifications through the use of diverse features. More gratifications allow to bring more value to the consumers and therefore have an impact on the users' emotional attachment to the app, as more value implies that the app is more valuable in the eyes of its users and as a result increases the emotional attachment.

After elaborating on the usage behaviour and the emotional attachment of the users to the different IM apps examined in this study, the focus will now be put on the consumers' perception and satisfaction with the three apps.

II Experience and perception of the IM apps

This section of the analysis compares the expectations and the actual perceptions of the IM apps, which arguably indicates the level of satisfaction of their users according to the Expectation-Disconfirmation theory by Oliver (1980).

5.5 Expected performance

Regarding the expectations of WeChat, all participants in the qualitative methods, Chinese and Europeans, explained that when they first heard of the app, they had high expectations of it and had been looking forward to use it.

I2: I had high expectations for WeChat because it was one of the first apps I had on my smartphone and I wasn't disappointed, (...)

G: I've read about WeChat in some articles and how Facebook was trying to become like WeChat, and a lot of people told me about it so I had really high expectations (...).

On the other hand, concerning the expectations of WhatsApp and Facebook Messenger, the majority of the participants stated that their expectations for WhatsApp were low because they knew that the app only consists of a chat tool.

I1: I think WhatsApp kept its promises, it enables people to stay in touch, and this is very important to me, once again I live aboard for my studies and it's very important to keep in touch with my family,

For Facebook Messenger however, some participants conveyed the idea that they expected more than a simple chat tool as one was already available on Facebook.

I1: I had high expectations before using Facebook Messenger, I was expecting to be able to do more than just texting and that Facebook would surprise us with some unique features but all the elements of Facebook chat were just transferred from Facebook to Facebook Messenger, and I don't really understand why.

I2: (...) for Facebook Messenger, (...) I thought it would bring more than just texting but it didn't, besides, you have to have a VPN to access it in China and as it does not come from Chinese server the app is very slow (...) For Facebook Messenger I think it's irritating having to switch app to going from Facebook to Facebook Messenger when Messenger is only to chat, I don't understand why it is not just directly integrated to Facebook like it was before or like it still is on computers.

In the light of the results from the expectations for the users of WeChat, WhatsApp and Facebook Messenger using the EDT (Expectancy-Disconfirmation theory) (Oliver, 1980) it can be interpreted that the participants' expectations for WeChat and Facebook

Messenger were high. It appears important to note that consumers' expectations on WeChat did not circle around a specific functional need, but they rather expected the app to be "*generally useful for life*". In regards to WhatsApp on the other hand, participants articulated the clear expectation that the app should satisfy their need for a communication tool that is "*free*" and "*secure*".

5.6 Perceived performance: Instant Messaging apps' perceptions and associations

In order to examine the perception of the different IM apps, the respondents of the online survey were asked what they associate with the name of the three IM apps. Their perceptions of these IM apps were found to be very different and highly dependent on the respondents' previous or current use of WeChat.

Additionally, to summarise the findings of the qualitative research, a perceptual map has been created that indicates the most common themes, which emerged during the focus group discussion and the in-depth interviews (Figure 3).

Perceptual Map

for the Apps WhatsApp, Facebook Messenger and WeChat

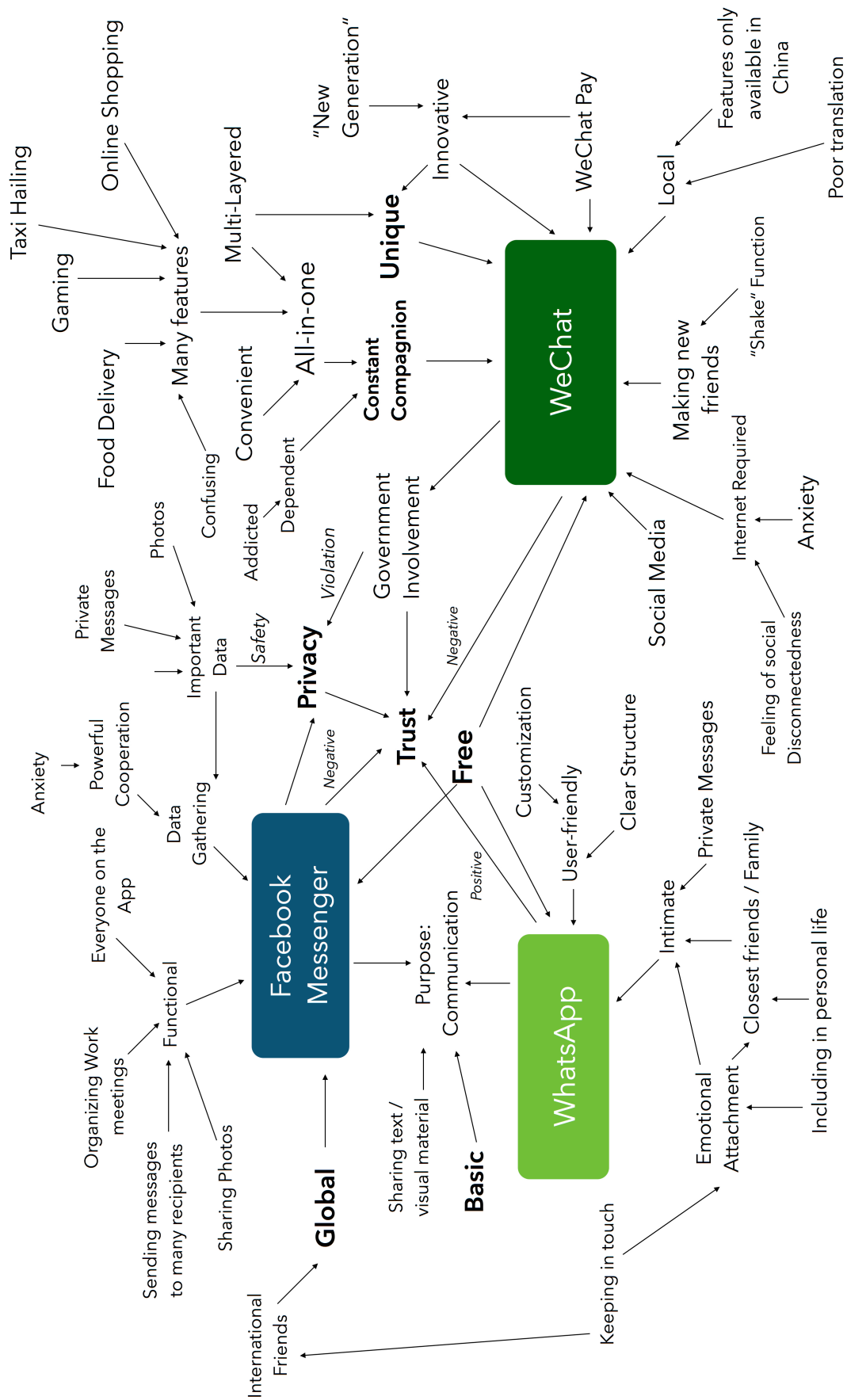


Illustration 2
Own Illustration

5.6.1 “All-in-one” and “Social”

In the questionnaire, the participants were able to choose different associations for the three IM apps (see Appendix 2 and 7 Chart 2).

Firstly, for WeChat, the two words that were mostly mentioned are “All-in-one” (70%) (which is also the most liked specificity for a large majority of WeChat’s users) and “Advanced” (59%) (see Appendix 6 Chart 2). These perceptions are further developed in the qualitative methods.

*An: (...) (for WeChat) instead of having, for example, Yelp, Mobile pay, WhatsApp, Uber, Facebook you just **incorporate it in one app** which is **really convenient** and it has never been seen before so I think it’s very **innovative**.*

*I2: I think WeChat is very **advanced** and **innovative** because it enables you to do all those things like buying your groceries online, among other things, playing games, etc.; without having to switch between apps. It allows you do everything you usually do with a phone and more, like making your life easier to manage, making new friends, keeping in touch,(...) only on one app.*

The above findings therefore show that WeChat is largely associated with its ability to combine a plethora of online activities in only one evolving app. This also seems to be connected to emotional associations such as being “innovative” and “convenient”.

Continuing with the perceptions of WhatsApp and Facebook Messenger, the most popular words among the respondents were “Social” (60%), and “Basic” (56%)(see Appendix 6 Chart 2). As previously tackled with data from qualitative methods, it is not surprising to see that “Social” is the most associated word for both apps. Indeed, this perception appears to be linked to the fact that both apps are only used for communication purposes (keeping in touch with family and friends, sending documents, pictures, etc.). Regarding the association with the word “Basic”, it is interesting to see that it was only selected by respondents that had used or still use WeChat as shown in the following quotes:

*An: I like both WeChat and Facebook Messenger, but WeChat is much **more useful** because you can do so many things on it (...) than with (Facebook) Messenger which is just too basic, you can basically only chat, call or send pictures.*

*I2: I use them (Facebook Messenger and WhatsApp) to keep in touch with my international friends (...) But it is a bit weird that compared to WeChat both apps only provide **elementary communication functions** (...).*

5.6.2 Ease of use

The words “Complicated” and “Easy to use” are factors determining the ease of use of the apps. “Easy to use” was among the most associated words for each IM app (see Appendix 6 Chart 2) which is the reason why it will be analysed in this section.

In the case of WeChat, 41% of the respondents considered WeChat to be “Easy to use” (consisted of more than two thirds of Chinese), indicating that WeChat’s functional setup is perceived by the consumers as user-friendly. This factor could arguably influence adoption and usage behaviour. On the other hand, only 2% associated WeChat with the word “Complicated”. Going deeper into the results, some participants from the qualitative methods, particularly Europeans, pointed out that some of the features of the app were “*complicated for non-Chinese*” due to the need of a Chinese bank account or a Chinese ID (i.e. WeChat Pay, online shopping, food delivery). Besides, they also stated that even if the app menu and some features of WeChat were available in several languages, notably English, some features such as people’s timelines, the stickers’ shop and advertisements were difficult to access as a non-Chinese speaker. The language could not be changed or translated and thus they qualified the app as not user-friendly.

*G: (...) I found the **user experience and layout very disappointing**, like the fact that I couldn’t manage to associate my European bank card with WeChat and I didn’t have a Chinese bank account so I wasn’t able to experience so many things that I could have done with WeChat but I couldn’t because of this.*

Comparing the associations concerning the ease of use of the Western apps WhatsApp and Facebook Messenger, the results show that “Easy to use” (54%) is in the top five words selected to describe the apps and 0% associated both apps with the word “Complicated”. Additionally, 85% of the respondents who stated that both apps were easy to use were Europeans. This might indicate a connection between the cultural backgrounds of the respondents and the app’s perceived ease of use. It appears that the majority of the users perceive both apps as user-friendly. Nonetheless, a few participants pointed out that even though they perceive Facebook Messenger as user-

friendly, WhatsApp's design is perceived as more clear and thus better to navigate through.

*A: But I think also one reason why I prefer WhatsApp to Facebook Messenger is that on Messenger you kind of already have all the features opened as soon as you're on the app which is always a bit **confusing** to me.*

Overall, the three apps are generally speaking, user-friendly but it was noted that Chinese users specifically perceive WeChat as user-friendly. This arguably is the case, because the app has been developed for the Chinese market. Moreover, WhatsApp appeared to be user-friendlier than Facebook Messenger and **Europeans who already used WeChat perceived WhatsApp and Facebook Messenger as easier to use compared to WeChat**. This could also be due to the experience of the users and the amount of time they have been using the different apps. Because if consumers are used to a certain interface and layout, they therefore perceive another interface as harder to use because the interface is different from what they are used to.

5.6.3 Accessibility of the Instant Messaging apps

The word "Free" was also found to be among the highest words associations, which leads to how the users perceive the accessibility of the different IM apps.

43% of the survey respondents associated WeChat with the word "Free" and for WhatsApp and Facebook Messenger 57% associated the apps with the same adjective (see Appendix 6 Chart 2). This assumption is further supported by the findings from the qualitative methods stating that having no financial costs attached facilitates the adoption and use of an app.

R: (...) if I need to pay for an app I know that some people will not download the app out of principle they wouldn't pay for an app, or they can't spend money on this kind of things. And I won't be able to contact them so I think it's important to be free.

A: I think if there wouldn't be a free alternative I would try it but I think they won't do it because they know that people would choose the free alternative in many cases.

G: I think WhatsApp was the first app I purchase, it was 0.89 euros cent (WhatsApp used to cost 0.89 cents, when it was launched, now it's free), because everyone had it

so I had to have it as well. But I wouldn't pay a lot for an app and now considering the way the app works I would never pay for a IM app.

This shows that costing money has a crucial, negative influence on the use of those IM apps even if network effects (Katz & Shapiro, 1985) appear to sometimes surpass this influence, leading certain individuals to pay for an app if his/her friends or family are using it and thus superior value is created.

Besides, the results also show that WhatsApp and Facebook Messenger were largely associated with the word “Global” as opposed to WeChat, as shown in the below quotes:

*I2: I use Messenger and WhatsApp to keep in touch with my international friends, because once they leave china they don't really use WeChat anymore, in comparison WhatsApp and even more Facebook Messenger are **more global**, I know it from my different international experiences, I feel that the app that most people have in common is Facebook and Facebook Messenger.*

*An: I started using Facebook Messenger when I was in Canada, America and now in Europe, I use it with all my non Chinese friends because it's more **international**, you don't even need to ask if someone has Facebook.*

Those quotes show that WhatsApp and even more Facebook Messenger are perceived as “Global” because they are the most used around the world and are therefore demonstrated to be used to keep in touch with international friends.

Moving to the availability of the apps, WeChat and WhatsApp are both available in China and Europe. On the other hand, Facebook Messenger is also available in Europe but it is censored in China and is therefore difficult to access. Indeed, users need to use a VPN if they want to login to the app, which decreases the app's speed, requires moderate IT skills and often costs money. More than 41% of Facebook Messenger users from China do not use the app on a regular basis, which could be arguably linked to the fact that Facebook Messenger is forbidden in China and as previously explained is difficult for Chinese to access.

5.6.4 Trust and privacy

Trust was also regarded as essential in determining the perception of the apps. More specifically, intra-organisational trust issues (Gremler et al, 2001) which concerns trust between the consumer and the company were discovered. The data of the questionnaire reveals that 14% of the respondents for WeChat, 16% for WhatsApp and 22% for Facebook Messenger find that it is (for third parties) “*too easy to get their personal data*” on the respective apps.

It appears also important to note that Europeans were largely represented in the group that voiced privacy concerns. This especially became apparent in the analysis of the online survey. Many participant chose the association that “*it is easy to get personal data*” as their **least favorite aspect** of the app. 89% of these responses for WeChat and Facebook Messenger and 100% for WhatsApp were **European**.

Furthermore, the qualitative research showed that overall, participants trusted WhatsApp more than Facebook Messenger and WeChat. This was due to the fact that the data sent on WhatsApp can be encrypted and it appears harder to the consumers to make contact with strangers on WhatsApp as a phone number is needed. This contributes to the perceived high level of safety with the app.

*M: About one year ago they added this feature on WhatsApp, you can send encrypted messages. And **it reassured me**, because now I know that whatever I send or write on WhatsApp won't be read or seen by someone I don't know. It is actually really important because I remember sending things like my bank card code and other thing like that and I think I would just have done it over the phone if the data you send on WhatsApp wasn't encrypted. So I would never do it on Facebook Messenger and even worse WeChat.*

A: But honestly if I would compare the three apps, I would say WhatsApp is the safest, I would send my bank details and I would trust WhatsApp with it because it's end to end and encrypted,...). Then it would be Facebook Messenger, because obviously Facebook and safe data don't go well together and finally WeChat because I mean it's controlled by the Chinese Government and all.

A reason why a majority of **Europeans do not trust WeChat** is because of the link between the Chinese mother company of WeChat and the Chinese government.

However, the quantitative and qualitative research showed that Chinese consumers usually trust WeChat and are not concerned with privacy issues despite censorship.

An: (...) for me it's different, I know the Chinese Government is spying on you and watches everybody but I trust my government, and Tencent is one of the biggest companies in China, your WeChat account is linked to your bank account, in some kind of online banking and there're many verification and other things to protect your bank details. So for me it's pretty safe and it's the same for every WeChat user, I don't feel unsafe or threaten to use WeChat.

Although in a collectivistic country like China trust is important (Hofstede 1991), the responses from the Chinese have shown that they trust their government with the data they collect. Here seems to exist a crucial difference between the European and the Chinese consumers. The Chinese participants trust WeChat because it belongs to Tencent which recently became the most valuable tech company in China (Bloomberg, 2016). They believed that such a big company that is controlled by the government does not mishandle their data, thus they believe WeChat is secure.

Whereas Chinese appear to trust their government with their personal data and do not fear that their right to privacy might be infringed, Europeans appear to be very sceptical when someone can access their private data. This applies for governments, but especially also for privately held companies. It was discovered that more users are concerned about privacy issues for Facebook Messenger, because Facebook has been involved in data leaking issues in the past (Forbes, 2016) and because some of the participants expressed the belief that as no phone number is required for Facebook Messenger it assumingly more likely to be hacked.

*R: I don't feel really safe sharing stuff on Facebook and Facebook Messenger. I just feel that **we're super exposed** (...).*

Failing to protect the consumers' data thus appears to create trust issues that the consumers negatively recognize and might also affect consumers' satisfaction.

Arguably, cultural differences influence trust as most Europeans were worried about trust and privacy issues regarding the data tied into IM apps. This difference of opinion could be due to the fact that most of the European countries are defined as postmodern

and individualistic with high levels of self-expression values (Inglehart, 1997),(Hofstede, 1991). Users from those countries and societies arguably are less inclined to trust an app, which comes from a collectivistic country and modern society (Inglehart, 1997), (Hofstede, 1991) with a government limiting self-expression values by censorship.

According to these results, it might be argued that trust and more specifically intra-organisational trust (Gremmler et al, 2001) has an influence on the perception and use of the IM apps.

Overall, the results from this whole chapter also show that individuals who associated the three IM apps with positive associations such as “Advanced”, “All in one” , “Free”, “Social”, etc., were in general satisfied with the apps. Keller (2013) argues that positive brand associations have a positive influence on user’s satisfaction. Therefore, WeChat’s main positive brand associations (ibid) “Advanced” and “All in one”, etc., as well as WhatsApp’s and Facebook Messenger’s main positive brand associations (ibid) “Social”, “Global”, “Free” etc., can arguably had positive influence on the users’ satisfaction.

5.6.5 Switching to another Instant Messaging app

The previous sub-chapters of the analysis consisted of underlining the usage behaviour and perceptions, which characterise the different IM apps. The following sub-chapter will show why the factors mentioned above limit the switching possibilities of the users to other IM apps.

The majority of the participants stated that they would not use or switch to another IM app in the near future and that only **extensive network effects** (Katz & Shapiro, 1985) could be a determining driver to switching behaviour. In this light, it also appears plausible that Europeans traveling to China start using WeChat. WeChat appears to be the most effective way to communicate with one’s social network in China and organise one’s life through the app. It also appears to be crucial for the users to have one main IM app for all communication, as it is evaluated as more convenient.

A: (...) I would not just switch to another messaging app for a group of 5 or 6 people, so it would have to be useful, and my family would not switch to something else I think, so for me it’s important that I can have a lot of contacts on one app, to regroup everything,

Furthermore, all the participants agreed on the fact that switching to another IM app would be time consuming, because they would have to spend time on it to understand how their new app works. Also, a new app could be perceived as complicated by some less experienced technology savvy users such as older family members (i.e. grandparents).

G: (...) switching to another IM app newer and more advanced would not be an issue for me but I would be concerned about my parents and grandparents because it already took them so long to get used to WhatsApp and they haven't even started using Facebook Messenger (...).

Moreover, most of the Europeans said they were used to their current IM apps Facebook Messenger and WhatsApp and liked them despite a few issues, and therefore did not feel the need to use another IM app. The Chinese participants also felt that WeChat already felt “very complete” and there was no need to switch to another IM app.

R: I already have Facebook Messenger and WhatsApp and I don't feel the need to use another one.

An: So if I could switch to a user base that is so huge, including my family in China and my friends and family in Denmark I would, but there is no such app for now so I'll stick to WeChat and Facebook Messenger.

To conclude, it can be argued that what was found to substantially influence the switching probabilities are network effects (compare Katz & Shapiro, 1985) and the level of intra-organisational trust (compare Gremler et al, 2001).

5.7 Satisfaction

The chapter will analyze the actual satisfaction of the users regarding their IM apps.

5.7.1 Overall satisfaction

When examining the overall satisfaction of the three IM apps, it appears that a large majority either is “entirely satisfied” or “satisfied” with their experience of each IM app. (see Appendix 8 Chart 4)

Nevertheless, it is particularly interesting to notice that more than 80% (for WhatsApp) and 70% (for Facebook Messenger) of the respondents who said they were *neither*

satisfied or dissatisfied or dissatisfied with their experience of the two apps were also WeChat users (see Appendix 8 Chart 4). These observations can be further explained with following quotes of the qualitative methods:

I2: I don't know if it's because I started using WeChat before using WhatsApp and Facebook Messenger but I'm obviously more satisfied with WeChat than with WhatsApp and Facebook Messenger, basically because you can just do more things on WeChat.

G: (...) when I came back from China I talked about some WeChat features with friends, and I told them that I really enjoyed the "Shake" feature to make friends, (...) Because of the experience I had with WeChat in China I think it's changed my view of Facebook Messenger and WhatsApp, because now I expect more cool and useful functions from those apps because I know it's possible to have more.

These comments indicate that the exposure of WeChat negatively influenced the respondents' level of satisfaction of Facebook Messenger and WhatsApp.

On the other hand, when comparing the overall participants' satisfaction of both apps, it is noticed that the large majority of the individuals who estimated to be "completely satisfied" or "satisfied" with WhatsApp and Facebook messenger were not WeChat users. As shown in the below quotes:

*R: I'm **really satisfied** with my experience with WhatsApp, I think the app is great and I wouldn't want to change it in any way (...) I like when it's simple.*

*J: Even if I use to have some concern about privacy with Facebook Messenger, this problem is easily solved because I just don't share important thing on it. But, generally speaking, I'm **satisfied** with the experience both apps (Facebook Messenger and WhatsApp) provide. They're not so different from one another but as I don't use them with the same kind of people, the experience feels different.*

Those results therefore show that the use of WeChat has a real negative impact on the user's satisfaction for WhatsApp and Facebook Messenger as non-WeChat users were found to be more satisfied with those IM apps than WeChat users.

5.7.2 Design satisfaction

In order to further investigate the user's satisfaction, it also appears valuable to explore what the users think about the design and layout of the different IM apps (see Appendix 9 Chart 5), as the design of an app is assumed to influence the user's satisfaction.

The majority of the Chinese users evaluated the design of the Chinese app WeChat very positively as can be seen in the following quotes.

I2: I also really like the design of the app, I think it's very clear and colourful which makes it easier to navigate through it.

An: Sometimes I just touch the app and it just opens the stories features (on Facebook Messenger) and I think it's a little annoying, so I think it's because the interface is kind of not really intuitive compared to WeChat where everything follows a logical order and where different colours indicate different things or features (...).

On the other hand, Europeans appeared to be either dissatisfied or neutral with WeChat's design, mostly classifying it as "poor" or "very poor", complaining about a complicated interface.

*A: I'd like to have something like WeChat but only European base, having the features of WeChat but with **the design of WhatsApp** because I feel there is a better intuitive to navigate through WhatsApp. (...)*

M: (...) I'd say the same as Alex, WeChat is great but the design is just too confusing, you never know where you are, it's like a maze. I remember when I used it in China it took me several attempts to understand where to find the timeline and group pages among other things.

As expected, regarding WhatsApp the results indicated that the users are globally satisfied about WhatsApp's design. More particularly, Europeans all agreed that the app has a "beautiful" design and is intuitive to use. The same findings were observed for Facebook Messenger even though the Europeans mostly indicated a slight preference for WhatsApp's design.

Moreover, it is intriguing to notice that 84% of the users who perceive WeChat's design as "very good" or "good" were Chinese. And on the other hand, the totality of the users who consider its design ranging from "average" to "very poor" were Europeans. The same phenomenon was observed vice versa. Also, respectively 90% (for WhatsApp) and 80% (for Facebook Messenger) of the users who think the designs of both apps are "very-good" or "good" were Europeans. On the other hand, more than 65% (for WhatsApp) and 80% (for Facebook Messenger) of the users who consider both apps' designs as "average" or "below" were Chinese. This point was first expressed in the quotes above and will be further explained with the following consumers' comments:

I2: I really don't like the design of Facebook Messenger and I think that the app might be a bit complicated (...) it's difficult to find what you want sometimes. Also the fact that you have to switch app to go from Facebook to Facebook Messenger is a bit annoying I think. (...) The only difference I see is maybe that European apps might be more stylish in terms of design and layout (...).

G: What I like about WhatsApp's design is that you can customise the background layout of the app, it makes it more personal and unique (...).

Different cultures have different design standards for example in collectivist country (such as China) (Hofstede, 1991) colourful interface and no customisation were found to be preferred. On the other hand, more individualist countries (such as European countries) (Hofstede, 1991) were found to prefer the use of monotonous colours to increase the clarity of an interface and a possibility for the customisation of the interface was preferred in order to render the application more "personal" (Almakky et al., 2015).

III Evolution of IM apps into app ecosystem

The aim of the last section of the analysis is to determine whether there is the potential for WhatsApp and Facebook Messenger to evolve into an app ecosystem such as WeChat. Also, it will be discussed whether European consumers would be ready to adopt such a product.

5.8 The transformation of WhatsApp and Facebook Messenger

First of all, regarding the evolution of WhatsApp and/or Facebook Messenger into an app ecosystem, all the participants from both the in-depth interviews and the focus group thought that Facebook and Facebook Messenger were on the path of becoming the next WeChat for the American and European markets. The following quotes nicely visualize these suggestions:

*A: Also I think it's true that they added a lot of features for WhatsApp but they all stayed true to how we can enhance the communication between two persons or groups, so all around communication and messaging friends and family purposes. While with Facebook Messenger it's something else, Facebook added games, and now a mobile payment feature, so it's not for communication purposes. It's going kind of away and **becoming more universal purpose** so I don't really see WhatsApp becoming an ecosystem even if I'd like to see it becoming one.*

*G: I think Facebook value proposition is like connecting people around the world and I think they're aiming for that because they're not only connecting people to people now but they're also aiming at **connecting people with services** that's going to happen with Facebook Messenger and not with WhatsApp because their value proposition is just limited to messaging.*

*R: I think the **one that would become something close to WeChat will be Facebook Messenger (...)** because WhatsApp is the one further from becoming that, but I like WhatsApp as it is now. So WhatsApp would keep focusing on communication features, I think.*

It appears that the transformation in app ecosystem for Facebook Messenger has already started (e.g. implementation of mobile payments, video games, etc.)(Forbes, 2017). These emerging changes in the app also appear to be noticed and appreciated by the consumers. Most of the participants could see the Facebook Messenger app involving into an app ecosystem.

On the other hand, all of the participants believed that WhatsApp would not evolve into an apps ecosystem as it belongs to the same umbrella as Facebook Messenger and thus would cannibalize a further evolving Facebook Messenger app, as shown in the above

quotes. Another apparently important reason for the consumers is that WhatsApp's primary purpose seems to be connecting people to stay in touch with friends and family. This limited value proposition to communication appears to be deeply ingrained into the consumers and thus arguably could only be changed with immense marketing and branding efforts.

5.8.1 The readiness to adopt an app ecosystem

The project will now move on to explore the readiness of the interviewed European consumers to adopt and use an app ecosystem.

First, the **insecurity dimension** will be discussed (Parasuraman, 2000). As mentioned in the literature review, insecurity is defined as "*distrust of technology and scepticism about its ability to work properly*" (Parasuraman & Colby, 2001, p. 44). Insecurity might exist in regards to technology-based transactions such as transactions through WeChat Pay. The results of the quantitative method have demonstrated that **security** and **privacy** were the main issue for the future users (41% of the respondents) and can be further explicated through qualitative findings:

*G: I think I would be ready to use an apps ecosystem now because I'm like 25 but it **would have to be very secure**, more specifically if there's some kind on payment feature that will be linked to my bank account (...).*

*R: I think the one that would become something close to WeChat would be Facebook Messenger. And if I clearly understood what WeChat is I think if Facebook Messenger becomes something similar it will take me **time to trust** an app to the point I share my bank account with. I won't be one of the first to try it for sure, I will have to see that it works perfectly first and then I'll consider using it myself.*

Privacy and security are associated by the participants with the protection of one's personal data. If an app ecosystem contains a payment tool such as WeChat Pay in WeChat, the consumers were mainly concerned that their data was not secured. The users will have to be convinced that making transactions with this payment tool is entirely secure. It can therefore be assumed that trust and privacy as previously shown in this paper, would be a crucial determinant for the use of an app ecosystem.

Also, the level of **discomfort** (Parasuraman, 2000) which is defined as a lack of control regarding a specific technology and its usage (Parasuraman & Colby 2001, p. 41) might be interesting to investigate. This dimension generally measures the fear and concerns people experience when confronted with technology. An arguably high amount of the participants to the qualitative and quantitative methods (see Appendix 10 Chart 6) suggested that having one app for each different activity on a phone is easier and more logical than one app comprising many features. Besides, some participants of the qualitative methods expressed their concerns regarding the complexity of such a technology and doubts about certain older individuals using it. This idea is further developed in the findings below:

*J: (...) if you're always opening everything with one app, I think it's a **bit confusing**, I kind of like compartmentalised.*

*I1: (...) I would need to try this kind of app to see if I would like it, but I'm not sure, it **might be too complicated and none of my family members could use it...** It's already hard enough for them to use WhatsApp (...).*

Concluding, **insecurity** and **discomfort** (Parasuraman, 2000) were found to have a negative influence in the adoption and use of app ecosystems for most of the Europeans respondents and participants.

The **optimism** and **innovativeness dimensions** (Parasuraman, 2000) arguably also influence an app ecosystem adoption. These dimensions respectively relate to how useful and flexible the new technology would be (Parasuraman & Colby, 2001, p. 34) and how much the user would perceive themselves as being at the forefront of technology adoption (ibid, p. 36). A large share of the respondents stated that they would be ready to use an app ecosystem such as WeChat, because having different types of apps gathered in one would be more convenient. Besides, some of the participants also agreed that the innovative concept of such an app, the feeling of trying a new technology and the fact that its usage saved time would be the major determinants that lead them to adopt and use an app ecosystem. Furthermore, some other participants who stated that they would not use it unless it was 100% secure claimed that they would be ready to

overpass the insecurity and the privacy concerns mentioned above because of the the high level of convenience an app ecosystem could provide them with.

*G: I think if Facebook Messenger is going for the model of WeChat I'm probably going to use it even if there's privacy concerns, it's just **too convenient** for not using it.*

*I1: (...) I would need to try this kind of app first to see if I would like it, but I'm not sure it might be too complicated and none of my family members could use it because they think it's already hard enough for them with WhatsApp, but you can really stop the progress and I'm still young so I think **I'll use it anyways**, because if it is **as useful and convenient** as I heard such an app could be then I'll have no choice than to try it.*

*R: (...)if I clearly understood what WeChat is I think if Facebook becomes something similar it will take me time to trust it to the point I share my bank account with (...). I will have to see that it works perfectly first and then I'll consider using myself. But also if the app is **so convenient** I will end up using the payment function that would be provided with it anyways. This is what I and most people do with online shopping, etc., we're not a 100% sure that it is safe but we use it because it is just really convenient as a way to save time, have a larger range of products and more easily compare them (...).*

These statements explicate how optimism (Parasuraman, 2000) would, for certain individuals, be the most important factor that influences their adoption and use decision of an app ecosystem despite most likely insecurity and discomfort (ibid).

After having analysed the data from the quantitative and qualitative research, these findings will now be discussed in order to determine how they could help to validate certain hypothesis and answer the research question.

6 Discussion

The goal of this research project is to analyse consumers' perception, usage behaviour and satisfaction of WeChat, WhatsApp and Facebook Messenger and to evaluate the impact that culture has on those elements. Also, this study set out to examine whether the perception and satisfaction of Whatsapp and Facebook Messenger differ between consumers that were exposed to WeChat and those who were not. Another implicit objective of this project is to demonstrate whether cultural differences have an impact on brand perception and satisfaction and to determine whether culture is an influencing factor in IM apps evolution into app ecosystems. After analysing the data collected from the quantitative and qualitative methods in light of the appropriate literature, it will be discussed whether the hypotheses previously made can be validated or invalidated.

Hypotheses 1 and 2

The first two hypotheses considered whether the perception and satisfaction of WhatsApp and Facebook Messenger differ between WeChat users and non-users.

The results from the analysis show that the perception and the level of satisfaction of WhatsApp and Facebook Messenger are dependent on the previous or current use of the app WeChat. Indeed, the fact that an individual uses or has used WeChat in the past was found to have a negative influence on both the overall perception and satisfaction of WhatsApp and Facebook Messenger.

Firstly, the impact on the perception was shown in the findings from both types of methods, with the difference of association of WhatsApp and Facebook Messenger with the word "*Basic*". This word was one of the top 5 words associated with both apps. The results demonstrated that WeChat users mainly considered the two IM apps as "*Basic*". Further discussed in qualitative methods, those findings appear to be due to the fact that WeChat is perceived as more evolved and advanced than the Western IM apps competitors. The numerous and diverse features of WeChat appear to be a main reason for these perceptions as they are compared to the basic communication features of its competitors, which appear to be primitive in comparison.

Secondly, the influence of WeChat exposure on the level of satisfaction of the users was assessed in the findings. When comparing the overall participants' satisfaction of the three IM apps under investigation, it is noticed that the large majority of the individuals

who estimated to be “*completely satisfied*” or “*satisfied*” with WhatsApp and Facebook messenger were not WeChat users. Reciprocally, the results showed that overall, WeChat users were less satisfied with both apps. The reasons given for such results were investigated during the focus group and in-depth interviews. The higher usefulness and more diverse range of features available on WeChat appear to be a driving factor.

According to the above reasons it is therefore possible to validate hypothesis 1 which in turn invalidates hypothesis 2. As the results have proved that the perception and level of satisfaction of WhatsApp and Facebook Messenger differed between WeChat users and non-users.

Hypotheses 3 and 4

Further, the question whether the perceptions, usage behaviour and level of satisfaction of the three IM apps examined in this study (WeChat, WhatsApp and Facebook Messenger) are different depending on the culture of the users arise (hypotheses 3 and 4). The results from the analysis indicated that culture plays a crucial role in these consumers’ evaluations.

Starting with the perception of the different IM apps, it has been noticed throughout the analysis that the users perceived each app as more or less safe and secure depending on how high their trust in those apps was. More specifically, the intra-organisational trust plays a crucial role (Gremmler et al. 2001). The findings demonstrated that Chinese users were less concerned about privacy and security issues than Europeans. More specially, concerning WeChat, the participants evaluated the intra-organisational trust as fulfilled by the trust they appeared to have for their government and WeChat’s provider (Tencent). This differed greatly to the answers of the Europeans. These results can seemingly be explained with the fact that most of the European countries are defined as postmodern and individualistic with high self-expression values (Inglehart, 1997), (Hofstede, 1991). Therefore, users from those countries and societies could arguably be less likely to trust an app, which comes from a collectivistic country and modern society (Inglehart, 1997), (Hofstede, 1991) with a government limiting self-expression values by censorship.

Continuing with the usage behaviour, the findings showed that the amount of time spent on IM apps (more precisely WeChat) and the user's attachment to it, could arguably be linked to culture. Comparing the emotional attachment to the three IM apps, WeChat has been the app with the highest level of emotional attachment.

Arguably, this is related to cultural differences, more precisely to the role of the smartphone in China as well as the modern society with its implications. In fact, the aspects of cultural meaning (McCracken, 1986) and materialism (Inglehart, 1997) were given as potential explanations to the fact that Chinese spend more time on WeChat and are also more strongly attached to it than Europeans with WhatsApp and Facebook Messenger. These results led to this conclusion because having a smartphone and being on the phone (by extension potentially being on WeChat) is a strong circulator of meaning (McCracken, 1986) in China as it is associated with "coolness" (Vincent and Harper, 2003) and a way to affirm people's social status.

This in turn could result in users being strongly emotionally attached to it. Besides, the other culturally linked reason that was given to explain why European users spend less time than Chinese on those apps was that postmodern societies (compare Inglehart (1997) are less materialistic than modern societies such as China (ibid). This implicates that European users are more likely to spend a shorter amount of time on there phone and consequently IM apps than Chinese users. These observations also aided to explain why Chinese users overall seem more emotionally attached to IM apps (specifically WeChat) and to their phone.

Lastly, regarding the influence of culture on the level of satisfaction with the different IM apps users, the findings showed that the design satisfaction is arguably influenced by culture. Different cultures appear to have different design standards, for example in a collectivist country such as China (Hofstede, 1991), colourful interfaces and no customisation were found to be preferred.

On the other hand, more individualist countries (such as European countries) (Hofstede, 1991) were found to prefer the use of monotonous colours to render the interface more clear. Also, the option for interface customisation was preferred to make the app looking more "*personal*" (Almakky et al., 2015). This cultural difference towards design standards was found to be the reason why Chinese were found to prefer WeChat's

design and interface and Europeans were found to prefer WhatsApp's and Facebook Messenger's design.

It should be critically added that the differences in design satisfaction could also be due to the fact that Chinese are more used to WeChat's design and Europeans to WhatsApp's and Facebook Messenger's designs.

The results examined above show that the perception, the usage behaviour and level of satisfaction of the following apps (WeChat, WhatsApp and Facebook Messenger) are impacted depending on the cultural background of the users. This enables this project to validate hypothesis 3 and invalidate hypothesis 4.

Hypotheses 5 and 6

The last two hypotheses of this project (hypotheses 5 and 6) are concerned with the question whether culture has an impact on the readiness of users to adopt an app ecosystem.

By using the technology readiness theory (Parasuraman, 2000), the findings revealed that culture was a factor influencing the readiness of the users to adopt an app ecosystem. Indeed, the insecurity under the form of trust was found to have a negative influence on the user's readiness to adopt an app ecosystem. If the user does not trust an app ecosystem to be completely secured when handling transactions, the user is less likely to be ready to adopt it. As Inglehart (1997) and Hofstede (1991) argue, trust is culturally determined meaning that different kinds and levels of trust exist in different cultures. These different interpretations of trust between European and Chinese consumers were discovered in the analysis of this project. The results also show that the readiness to adopt a new technology such as an app ecosystem is partially dependent on intra-organisational trust (Gremmler et al., 2001).

Nevertheless, in the context of new technology adoptions such as the adoption of an app ecosystem, trust was found to be partly overshadowed by optimism (Parasuraman, 2000) in the form of convenience. European users stated that the level of convenience of an app ecosystem will be the most impactful factor in their readiness to adopt it. Meaning that if an app ecosystem is proved to be extremely efficient and convenient, the users will overcome their trust issues and use the app ecosystem.

The above findings show that trust (which is culturally determined) has only a slight influence on the readiness of users to adopt an app ecosystem as it was shown to be surpassed by other factors such as innovativeness and convenience. Consequently, it might be argued that the findings of this study were not sufficient in order to validate or invalidate hypotheses 5 and 6. Further studies should be considered to explore this aspect in more depth.

6.1 Managerial implications

The main findings of this project lead to several managerial implications.

Currently mobile apps appear to be highly specific with a limited amount of features. This study should therefore encourage IM apps designers to think whether broadening the range of features within their apps might create additional value for the consumers without straying off too far from the core apps' value proposition. As shown in the findings, the convenience and innovativeness of an app contribute largely to the readiness for the adoption of a new app. Therefore, implementing and particularly focusing on those two aspects will facilitate the adoption of those apps.

Besides, the emergence of app ecosystems in Europe would create new business opportunities for the app providers and their partners. In fact, an app ecosystem would provide more business opportunities because each additional features of an app ecosystem may represent an additional opportunity to monetize the features the app (WeChat exhibits this phenomenon with in-app purchases (i.e. games, stickers), advertisement, gated features or subscriptions). Moreover, the business opportunities for the provider of the app ecosystem and also its strategic partners from fields as diverse as banking, transport, travel, food or entertainment can profit from being a part of the ecosystem.

It appears ideal to first introduce an European app ecosystem in a Scandinavian country in order to maximise its chances of success. As discussed before, Scandinavian countries are the most technologically advanced countries in Europe and the most open to new technologies (Comina & Hobijn, 2003). Here, it comes to mind that the provider of the app ecosystem could strategically cooperate with existing tools, such as *Mobilepay* in Denmark. As *Mobilepay* was developed by Danske Bank (Danske Bank, 2016), a highly reputable bank that consumers trust, the app ecosystem could also profit from the

perceptions towards its partners. Additionally, partnering with existing services also provides the previously introduced network effects (Katz & Shapiro, 1985). What is more, merging the respective functions of several apps would enable to create a competitive app ecosystem without much cost. As there is no predominant app ecosystem in Europe as of now, this endeavor might benefit from a first mover advantage.

It appears that culture has an influence on the design satisfaction. In a subfield of neuromarketing, scientists try to find out how consumers make sense of consumer interfaces and navigate through websites and applications. This study indicates that consumers with different cultural backgrounds make sense of their online environment differently and thus should be targeted with different design options. These insights might prove valuable if WeChat for example would aim to increase its user base in other parts of the world, i.e. Europe.

Moreover, in the light of the findings, it was noticed that the need to have Internet connection in order to open an IM app (such as WeChat) was found to be a big issue for the majority of the users. Therefore, IM apps providers should develop an offline version of the different apps, more specifically for WeChat, enabling the users to open the app and access the previous conversations and data saved on it even without Internet, as similar to WhatsApp and Facebook Messenger.

7 Conclusion

How does the exposure to WeChat influence the perception and satisfaction of Instant Messaging apps such as WhatsApp and Facebook Messenger and does culture influence the readiness of users to adopt an app ecosystem?

Answering this research question was made possible by employing an online survey, a focus group and in-depth interviews. The findings from the different methods described in the analysis were supported by appropriate literature on the subject.

After having analysed the results, it is now possible to answer the research question. The exposure to WeChat was shown to have an impact on the perception and satisfaction of WhatsApp and Facebook Messenger.

It has been discovered that WeChat users perceived both Western IM apps as *“Basic”*, whereas non-WeChat users did not perceive WhatsApp and Facebook Messenger as *“Basic”*.

Regarding how the level of satisfaction with WhatsApp and Facebook Messenger was impacted by the exposure to WeChat, the results showed the same pattern as with the perception of the apps. Overall most of the WeChat users were found to be less satisfied with both WhatsApp and Facebook Messenger than the non-WeChat users.

Yet, another factor that was found to have an impact on the perception, the satisfaction and also the usage of the different IM apps was cultural differences. Cultural differences in the form and extensity of intra-organisational trust (Gremier et al., 2001), the differences arising out of modern and postmodern societies (Inglehart, 1997) and collectivist and individualist countries (Hofstede, 1991) were found to be the most important determinants.

Regarding the second part of the research question, culture was found to have an impact on the readiness of Europeans to adopt an app ecosystem. In fact, the findings showed that trust (which appears in part to be determined by culture) was found to have a negative influence on the readiness of adoption if it was not strong enough. Still, another factor, the convenience of an app ecosystem, was observed to have a larger influence on the readiness of the Europeans to adopt and use an app ecosystem as most participants argued that they would disregard trust issues to a certain extent if the app ecosystem is perceived to be highly convenient.

7.1 Limitations

Several fundamental limitations of this thesis need to be taken into consideration.

First, the respondents base of the online survey was relatively small and largely composed of young individuals, mostly students (between 20-25 years old). The selection of younger respondents and participants might have biased the findings because of assumingly homogenous usage patterns and lifestyles.

Second, the limited amount of respondents in the survey (58 respondents from Europe and 43 from China), the focus group (composed of six people) and the two in-depth interviews cannot enable the findings of the study to be generalised and representative of the whole population of Europe and China.

Then, another limitation to this project is that in the online survey some questions considered WhatsApp and Facebook Messenger paired as one group of *Western* IM apps. This might have contributed to confuse the respondents and might have led to less reliable results.

Also, concerning the online survey, some requirements for answering certain questions were not respected by the respondents, such as the multiple answers questions, for which the respondents were asked to check up to three boxes. Many of the respondents checked more than three boxes, which probably influenced and distorted the final results.

Besides, in the focus group, five out of six individuals were Europeans. This set-up might not have been ideal as the only Chinese respondent might have felt a certain amount of social pressure to comply with the opinions of the other participants.

Another limitation could be that WeChat is both an IM app, a social media platform and an app ecosystem whereas the two other apps examined in the project were simple IM apps. This difference might have influenced the perception, the usage behaviour and level of satisfaction of the users. A more fair comparison between similar category of apps, such as the comparison of Facebook as a whole (social media platform app and Facebook Messenger IM app) to WeChat, might have enabled this research project to find more nuanced and comparable results.

Lastly, some theories used in this paper, such as the cultural dimensions (Hofstede, 1991) and the modernisation theory (Inglehart, 1997) also have their limitations and

were largely criticised for not taking subcultures into account. Also, not considering the negative impacts of modernisation and individualisation as a drawback as well as being regarded by some as “outdated”. Because “Cultures, especially national cultures, are extremely stable over time” (Hofstede, 2009, p.34) “across many generations” (Hofstede, 2009, p.10), Hofstede himself excludes the idea of cultural change. This view is contradicted by Inglehart (1997) who states that culture changes over time result in new prevailing values (such as the shift from modern to postmodern societies). This shows that those theories do not have the same limitations and therefore both were also used in this study as the author believed one could enable to fill the limitations of the other.

7.2 Future research

Future research will be necessary in order to confirm and develop the findings presented in this study. First of all, the same research on a larger scale with more diverse samples of each society could be considered to validate the results of this project.

Besides, more in-depth researches for each of the three IM apps on every European country could be envisaged to evaluate whether the perceptions, the uses and the satisfaction of the users on app ecosystems are different in several European countries.

Secondly, investigating on one or several features that the three apps have in common could be considered in order to have a more balanced base to compare answers and have all the respondents provide their opinions on specific features of the apps. For example, WeChat has too many features and giving an opinion on each of them was highly impractical for the research participants. Some participants claimed their interest for particular features such as GIFs (in WhatsApp and Facebook Messenger) or stickers (in WeChat). Studying these features specifically and discovering if culture also impacts the use of these specific features appears to be valuable.

Lastly, it could be investigated whether other factors than the ones brought forward in this study influence the perception and satisfaction of the IM apps. These could possibly be demographics such as age or gender, but also psychographic characteristics.

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Appendices

Appendix 1 Online survey

WeChat, WhatsApp and Messenger

28/03/17 17:14

WeChat, WhatsApp and Messenger

I am examining the different perceptions of several messaging Apps in China and Europe.
Please answer all the following questions, it will only take a few minutes, I would really appreciate it.

Note: You don't have to answer all the questions if you don't know how to answer them. If you are not familiar with one of the following Apps, you don't have to answer the questions concerning this App.

Thank you for your participation.

1. 1 - Where are you from?

Mark only one oval.

- ☐ China
- ☐ Denmark
- ☐ France
- ☐ Germany
- ☐ Italy
- ☐ Spain
- ☐ Sweden
- ☐ United Kingdom
- ☐ One of the European countries (not listed above)
- ☐ Other: _____

2. 2 - How old are you?

Mark only one oval.

- ☐ 15-19
- ☐ 20-25
- ☐ 26-30
- ☐ 30+

3. 3 - What is your gender?

Mark only one oval.

- ☐ Female
- ☐ Male
- ☐ Other: _____

4. 4 - What is your main occupation?*Mark only one oval.*

- ☐ Student
- ☐ Part-time employee
- ☐ Full-time employee
- ☐ Unemployed
- ☐ Other: _____

5. 5 - How familiar are you with the following Apps?*Mark only one oval per row.*

	I have used it	I haven't used it but I know a lot about it	I know a little about it	I've just heard the name	I've never heard of it
WeChat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WhatsApp	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Messenger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. 6 - For how long have you been using the following Apps?*Mark only one oval per row.*

	Less than a year	2-3 years	+5 years
WeChat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WhatsApp	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Messenger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. 7 - Where did you first hear about the following Apps?*Mark only one oval per row.*

	Friends, family members or colleagues	Social Media	Online research	I don't remember hearing about or seeing advertising for this App
WeChat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WhatsApp	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Messenger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. 8 - What App(s) do you use on a regular basis (at least once every one-two days)?*Check all that apply.*

- ☐ WeChat
- ☐ WhatsApp
- ☐ Messenger

9. **9 - How often do you use the following Apps? How often do you open the App in one day?**

Mark only one oval per row.

	Less than 30 minutes per day/1-5 times	1 hour/10-20 times	More than 2 hours/+30 times	I don't know
WeChat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WhatsApp	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Messenger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. **10 - Please check three boxes that come to mind when you think about WeChat?**

Check all that apply.

- ☐ Advanced
- ☐ All-in-one App
- ☐ Basic
- ☐ Complicated
- ☐ Customised
- ☐ Different
- ☐ Easy to use
- ☐ Free
- ☐ Friendly
- ☐ Functional
- ☐ Global
- ☐ Innovative
- ☐ Reliable
- ☐ Social
- ☐ Useful
- ☐ Other: _____

11. **11 - Please check three boxes that come to mind when you think about WhatsApp and/or Messenger ?**

Check all that apply.

- ☐ Advanced
- ☐ All-in-one App
- ☐ Basic
- ☐ Complicated
- ☐ Customised
- ☐ Different
- ☐ Easy to use
- ☐ Free
- ☐ Friendly
- ☐ Functional
- ☐ Global
- ☐ Innovative
- ☐ Reliable
- ☐ Social
- ☐ Useful
- ☐ Other: _____

12. **12 - What do you like the most about the following Apps?**

Mark only one oval per row.

	All the diverse features (messaging, video chat, calls, stickers, gaming, shopping, etc.)	It's a good way to connect and keep in touch	It's convenient	It's easy to use - user friendly
WeChat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WhatsApp	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Messenger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. **13 - What do you like the least about the following Apps?**

Mark only one oval per row.

	Complicated - not adapted to specific users	Confusing cause too many features	Easy to get personal detail	Must have internet access
WeChat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WhatsApp	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Messenger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. **14 - If you use WeChat, what feature(s) of the App do you use the most? Check up to 3 boxes**

Check all that apply.

- ☐ Messaging
- ☐ Calling
- ☐ Video chat
- ☐ Voice recording
- ☐ Stickers
- ☐ WeChat pay
- ☐ Location
- ☐ Online shopping
- ☐ Gaming
- ☐ Sending documents, pictures, videos
- ☐ Ordering food
- ☐ Hailing a taxi
- ☐ Booking services (train, flights, cinema tickets, etc.)
- ☐ Top up phone credits
- ☐ Pay utilities (water, electricity, gas)
- ☐ Other: _____

15. **15 - If you use WhatsApp and/or Messenger, what feature(s) of the App do you the most? Check up to 3 boxes**

Check all that apply.

- ☐ Messaging
- ☐ Calling
- ☐ Video chat
- ☐ Voice recording
- ☐ Stickers
- ☐ Location
- ☐ Sending documents, pictures, videos
- ☐ Other: _____

16. **16 - How would you rate the different Apps' design and layout, how user-friendly is the software interface? (1 being the lowest grade and 5 the highest)**

Mark only one oval per row.

	1	2	3	4	5
WeChat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WhatsApp	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Messenger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. **17 - Are you satisfied with your experience using the following Apps?**

Mark only one oval per row.

	Entirely satisfied	Satisfied	Neither satisfied or dissatisfied	Dissatisfied	I don't know
WeChat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WhatsApp	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Messenger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. **18 - How do you consider the following Apps? How much importance do they have for you?**

Mark only one oval per row.

	I can't imagine not having this App on my phone	I don't really mind not having it	I don't mind at all	I don't know
WeChat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WhatsApp	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Messenger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. **19 - If you've never used WeChat, would you be ready to use an App that can enable you to do everything without having to go to another App or use your credit card? (pay others, shopping, booking, ordering a taxi or food, gaming, etc.)**

Mark only one oval.

- ☐ Yes, it would be more convenient
- ☐ Yes, if I'm sure there's no security and privacy issues
- ☐ No, it's easier to have one App of each different things I do on my phone
- ☐ I don't know
- ☐ Other: _____

20. **20 - What do you think will be the next feature added to WeChat?**

Mark only one oval.

- ☐ Emails
- ☐ Music - KTV
- ☐ Streaming series and movies
- ☐ View when a contact was last active and if a message has been read
- ☐ Other: _____

21. 21 - What do you think will be the next feature added to WhatsApp and/or Messenger?*Mark only one oval.*

- ☐ Emails
- ☐ Music - KTV
- ☐ Streaming series and movies
- ☐ Gaming
- ☐ Booking services (such as flight, train or cinema tickets, etc.)
- ☐ WhatsApp or Messenger pay
- ☐ Online Shopping
- ☐ Other: _____

22. 22 - As a final question you can explain which App (WeChat, WhatsApp or Messenger) you prefer and why briefly? (using bullet points and short answer)

23. 23 - If you've found any questions hard to understand or if you have any comments, please explain below. Thank you again for your participation and for taking the time to answer this survey.

Appendix 2 Data from the online survey

WeChat, WhatsApp and Messenger - Google Forms

28/03/17 17:11

mariegiordanengo14@gmail.com ▼

[Edit this form](#)

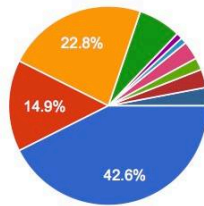
101 responses

[View all responses](#)

[Publish analytics](#)

Summary

1 - Where are you from?

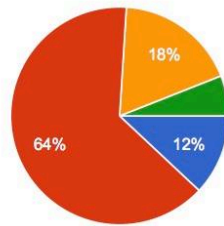


China	43	42.6%
Denmark	15	14.9%
France	23	22.8%
Germany	7	6.9%
Italy	1	1%
Spain	1	1%
Sweden	3	3%
United Kingdom	2	2%
One of the European countries (not listed above)	3	3%
Other	3	3%
China	43	42.6%
Denmark	15	14.9%
France	23	22.8%
Germany	7	6.9%
Italy	1	1%
Spain	1	1%
Sweden	3	3%
United Kingdom	2	2%
One of the European countries (not listed above)	3	3%
Other	3	3%

2 - How old are you?

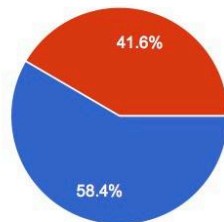
file:///Users/mariegiordanengo/Desktop/WeChat,%20WhatsApp%20and%20Messenger%20-%20Google%20Forms.webarchive

Page 1 of 34



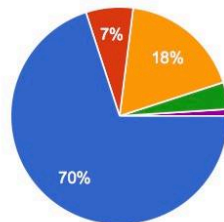
15-19	12	12%
20-25	64	64%
26-30	18	18%
30+	6	6%
15-19	12	12%
20-25	64	64%
26-30	18	18%
30+	6	6%

3 - What is your gender?



Female	59	58.4%
Male	42	41.6%
Other	0	0%
Female	59	58.4%
Male	42	41.6%
Other	0	0%

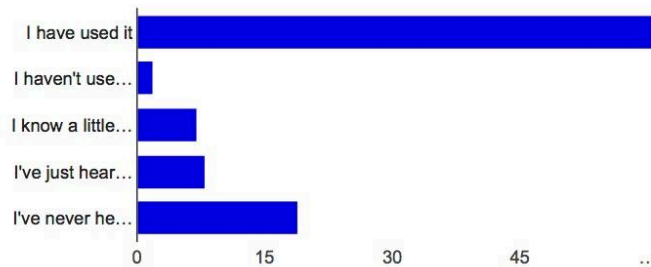
4 - What is your main occupation?



Student	70	70%
Part-time employee	7	7%
Full-time employee	18	18%
Unemployed	4	4%
Other	1	1%
Student	70	70%
Part-time employee	7	7%
Full-time employee	18	18%
Unemployed	4	4%

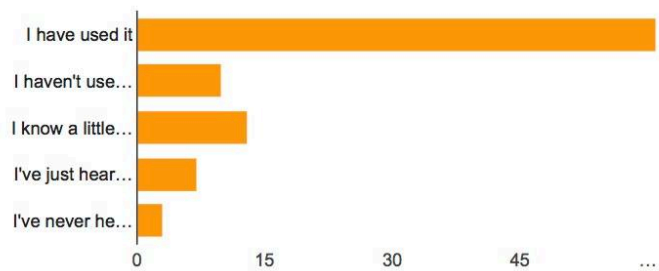
Other 1 1%

WeChat [5 - How familiar are you with the following Apps?]



I have used it	61	62.9%
I haven't used it but I know a lot about it	2	2.1%
I know a little about it	7	7.2%
I've just heard the name	8	8.2%
I've never heard of it	19	19.6%
I have used it	61	62.9%
I haven't used it but I know a lot about it	2	2.1%
I know a little about it	7	7.2%
I've just heard the name	8	8.2%
I've never heard of it	19	19.6%

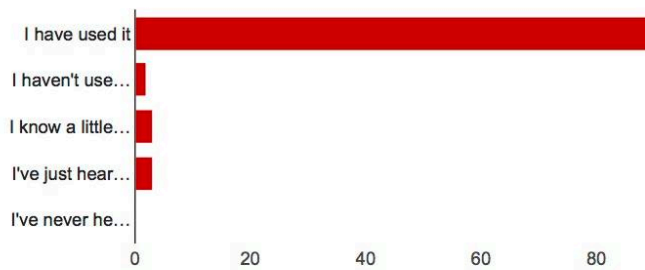
WhatsApp [5 - How familiar are you with the following Apps?]



I have used it	61	64.9%
I haven't used it but I know a lot about it	10	10.6%
I know a little about it	13	13.8%
I've just heard the name	7	7.4%
I've never heard of it	3	3.2%

I have used it	61	64.9%
I haven't used it but I know a lot about it	10	10.6%
I know a little about it	13	13.8%
I've just heard the name	7	7.4%
I've never heard of it	3	3.2%

Messenger [5 - How familiar are you with the following Apps?]



I have used it	90	91.8%
I haven't used it but I know a lot about it	2	2%
I know a little about it	3	3.1%
I've just heard the name	3	3.1%
I've never heard of it	0	0%
I have used it	90	91.8%
I haven't used it but I know a lot about it	2	2%
I know a little about it	3	3.1%
I've just heard the name	3	3.1%
I've never heard of it	0	0%

WeChat [6 - For how long have you been using the following Apps?]



Less than a year	17	23%
2-3 years	17	23%

+5 years	40	54.1%
Less than a year	17	23%
2-3 years	17	23%
+5 years	40	54.1%

WhatsApp [6 - For how long have you been using the following Apps?]



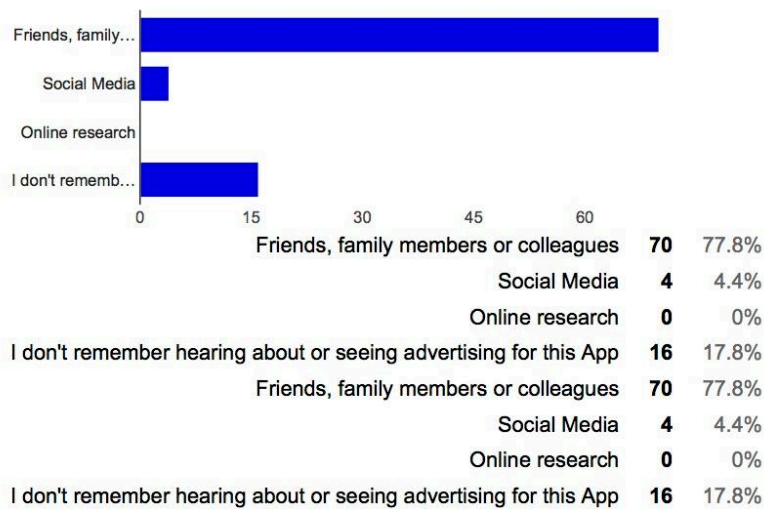
Less than a year	24	35.3%
2-3 years	27	39.7%
+5 years	17	25%
Less than a year	24	35.3%
2-3 years	27	39.7%
+5 years	17	25%

Messenger [6 - For how long have you been using the following Apps?]

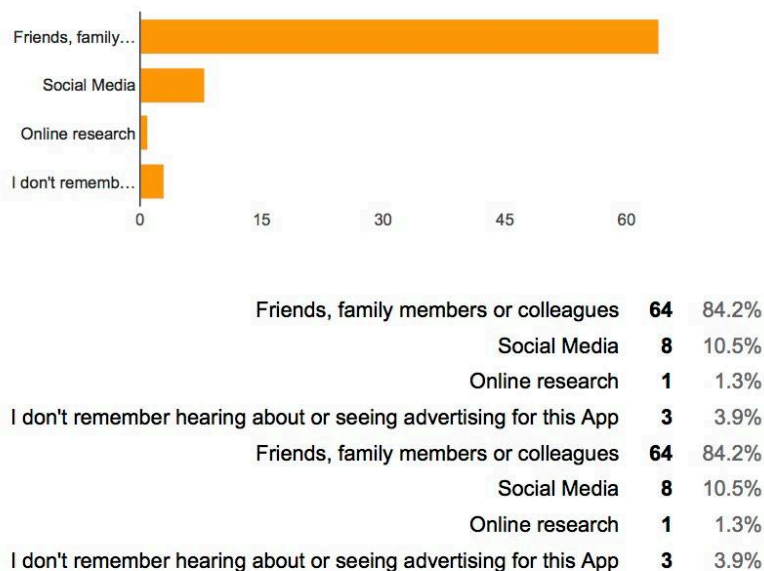


Less than a year	6	6.7%
2-3 years	52	58.4%
+5 years	31	34.8%
Less than a year	6	6.7%
2-3 years	52	58.4%
+5 years	31	34.8%

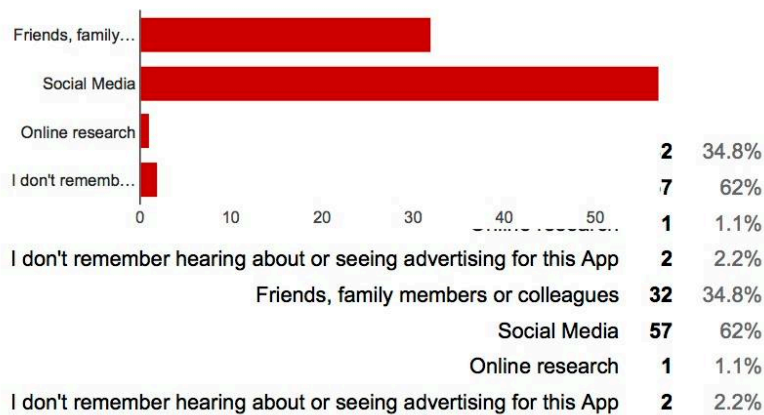
WeChat [7 - Where did you first hear about the following Apps?]



WhatsApp [7 - Where did you first hear about the following Apps?]



Messenger [7 - Where did you first hear about the following Apps?]

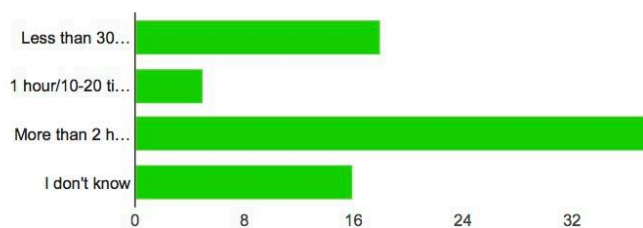


8 - What App(s) do you use on a regular basis (at least once every one-two days)?



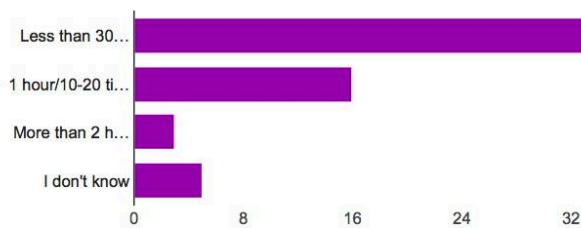
WeChat	50	50%
WhatsApp	41	41%
Messenger	78	78%
WeChat	50	50%
WhatsApp	41	41%
Messenger	78	78%

WeChat [9 - How often do you use the following Apps? How often do you open the App in one day?]



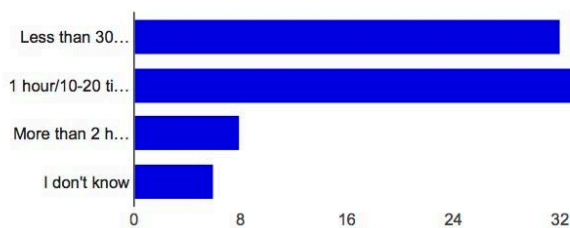
Less than 30 minutes per day/1-5 times	18	23.4%
1 hour/10-20 times	5	6.5%
More than 2 hours/+30 times	38	49.4%
I don't know	16	20.8%
Less than 30 minutes per day/1-5 times	18	23.4%
1 hour/10-20 times	5	6.5%
More than 2 hours/+30 times	38	49.4%
I don't know	16	20.8%

WhatsApp [9 - How often do you use the following Apps? How often do you open the App in one day?]



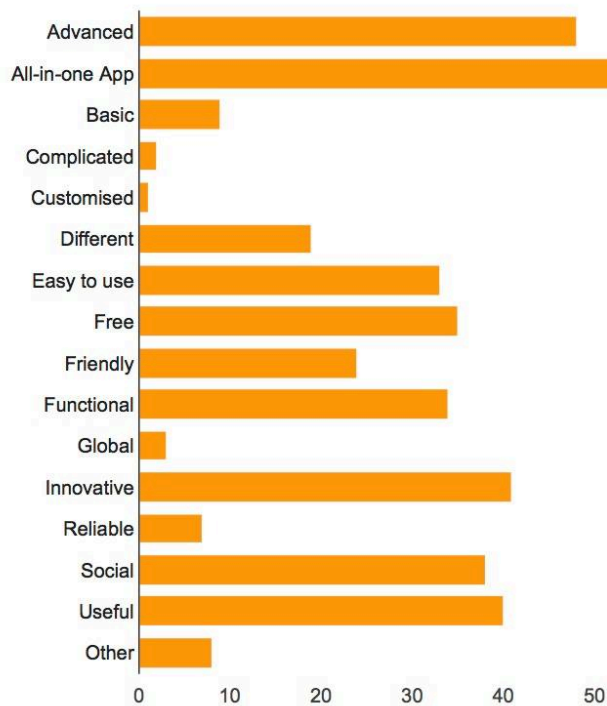
Less than 30 minutes per day/1-5 times	38	61.3%
1 hour/10-20 times	16	25.8%
More than 2 hours/+30 times	3	4.8%
I don't know	5	8.1%
Less than 30 minutes per day/1-5 times	38	61.3%
1 hour/10-20 times	16	25.8%
More than 2 hours/+30 times	3	4.8%
I don't know	5	8.1%

Messenger [9 - How often do you use the following Apps? How often do you open the App in one day?]



Less than 30 minutes per day/1-5 times	32	37.6%
1 hour/10-20 times	39	45.9%
More than 2 hours/+30 times	8	9.4%
I don't know	6	7.1%
Less than 30 minutes per day/1-5 times	32	37.6%
1 hour/10-20 times	39	45.9%
More than 2 hours/+30 times	8	9.4%
I don't know	6	7.1%

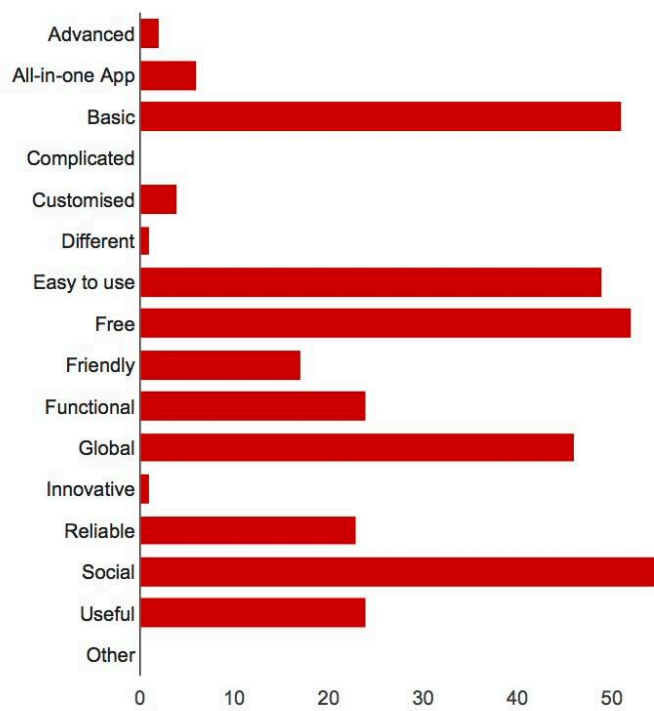
10 - Please check three boxes that come to mind when you think about WeChat?



Advanced	48	59.3%
All-in-one App	57	70.4%
Basic	9	11.1%
Complicated	2	2.5%

Customised	1	1.2%
Different	19	23.5%
Easy to use	33	40.7%
Free	35	43.2%
Friendly	24	29.6%
Functional	34	42%
Global	3	3.7%
Innovative	41	50.6%
Reliable	7	8.6%
Social	38	46.9%
Useful	40	49.4%
Other	8	9.9%
Advanced	48	59.3%
All-in-one App	57	70.4%
Basic	9	11.1%
Complicated	2	2.5%
Customised	1	1.2%
Different	19	23.5%
Easy to use	33	40.7%
Free	35	43.2%
Friendly	24	29.6%
Functional	34	42%
Global	3	3.7%
Innovative	41	50.6%
Reliable	7	8.6%
Social	38	46.9%
Useful	40	49.4%
Other	8	9.9%

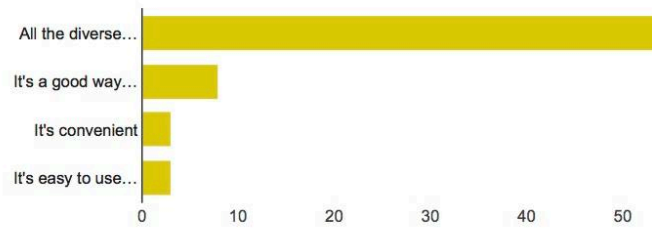
11 - Please check three boxes that come to mind when you think about WhatsApp and/or Messenger ?



Free	52	57.1%
Friendly	17	18.7%
Functional	24	26.4%
Global	46	50.5%
Innovative	1	1.1%
Reliable	23	25.3%
Social	55	60.4%
Useful	24	26.4%
Other	0	0%
Advanced	2	2.2%
All-in-one App	6	6.6%
Basic	51	56%
Complicated	0	0%
Customised	4	4.4%
Different	1	1.1%
Easy to use	49	53.8%
Free	52	57.1%
Friendly	17	18.7%

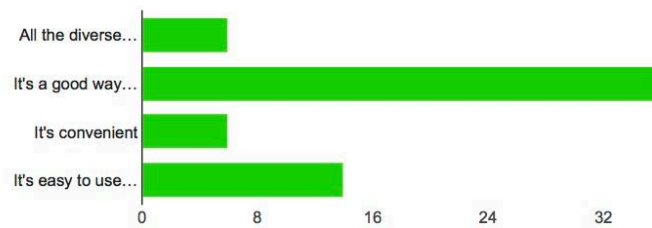
Functional	24	26.4%
Global	46	50.5%
Innovative	1	1.1%
Reliable	23	25.3%
Social	55	60.4%
Useful	24	26.4%
Other	0	0%

WeChat [12 - What do you like the most about the following Apps?]



All the diverse features (messaging, video chat, calls, stickers, gaming, shopping, etc.)	54	79.4%
It's a good way to connect and keep in touch	8	11.8%
It's convenient	3	4.4%
It's easy to use - user friendly	3	4.4%
All the diverse features (messaging, video chat, calls, stickers, gaming, shopping, etc.)	54	79.4%
It's a good way to connect and keep in touch	8	11.8%
It's convenient	3	4.4%
It's easy to use - user friendly	3	4.4%

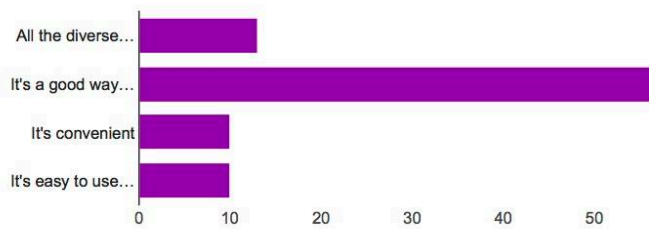
WhatsApp [12 - What do you like the most about the following Apps?]



All the diverse features (messaging, video chat, calls, stickers, gaming, shopping, etc.)	6	9.7%
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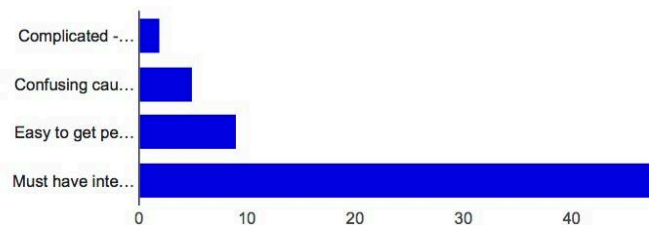
It's a good way to connect and keep in touch	36	58.1%
It's convenient	6	9.7%
It's easy to use - user friendly	14	22.6%
All the diverse features (messaging, video chat, calls, stickers, gaming, shopping, etc.)	6	9.7%
It's a good way to connect and keep in touch	36	58.1%
It's convenient	6	9.7%
It's easy to use - user friendly	14	22.6%

Messenger [12 - What do you like the most about the following Apps?]



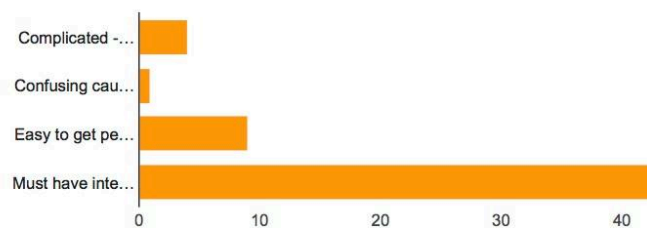
All the diverse features (messaging, video chat, calls, stickers, gaming, shopping, etc.)	13	14.4%
It's a good way to connect and keep in touch	57	63.3%
It's convenient	10	11.1%
It's easy to use - user friendly	10	11.1%
All the diverse features (messaging, video chat, calls, stickers, gaming, shopping, etc.)	13	14.4%
It's a good way to connect and keep in touch	57	63.3%
It's convenient	10	11.1%
It's easy to use - user friendly	10	11.1%

WeChat [13 - What do you like the least about the following Apps?]



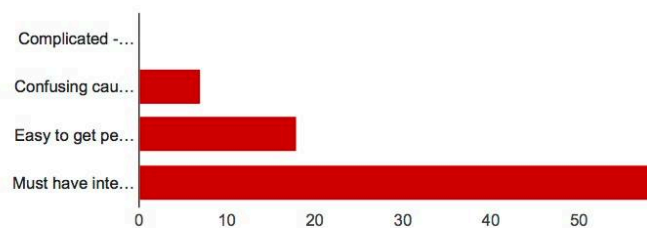
Complicated - not adapted to specific users	2	3.1%
Confusing cause too many features	5	7.8%
Easy to get personal detail	9	14.1%
Must have internet access	48	75%
Complicated - not adapted to specific users	2	3.1%
Confusing cause too many features	5	7.8%
Easy to get personal detail	9	14.1%
Must have internet access	48	75%

WhatsApp [13 - What do you like the least about the following Apps?]



Complicated - not adapted to specific users	4	7%
Confusing cause too many features	1	1.8%
Easy to get personal detail	9	15.8%
Must have internet access	43	75.4%
Complicated - not adapted to specific users	4	7%
Confusing cause too many features	1	1.8%
Easy to get personal detail	9	15.8%
Must have internet access	43	75.4%

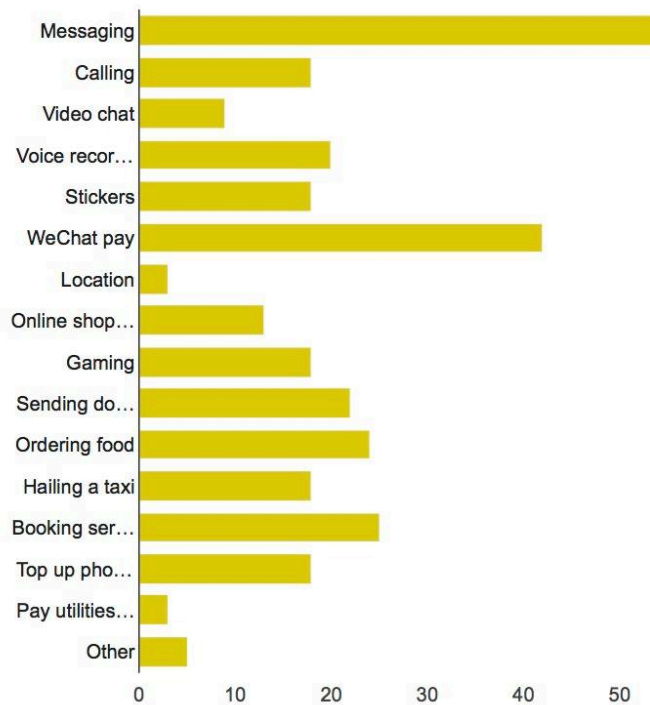
Messenger [13 - What do you like the least about the following Apps?]



Complicated - not adapted to specific users	0	0%
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Confusing cause too many features	7	8.3%
Easy to get personal detail	18	21.4%
Must have internet access	59	70.2%
Complicated - not adapted to specific users	0	0%
Confusing cause too many features	7	8.3%
Easy to get personal detail	18	21.4%
Must have internet access	59	70.2%

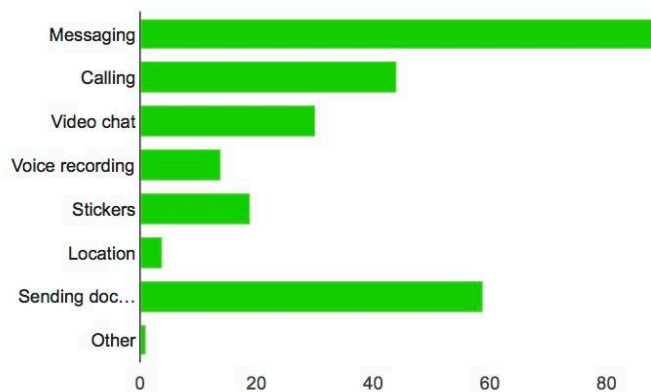
**14 - If you use WeChat, what feature(s) of the App do you use the most?
Check up to 3 boxes**



Messaging	54	81.8%
Calling	18	27.3%
Video chat	9	13.6%
Voice recording	20	30.3%
Stickers	18	27.3%

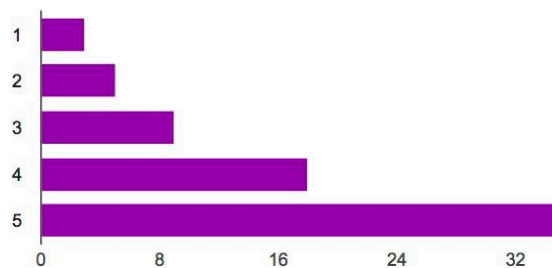
WeChat pay	42	63.6%
Location	3	4.5%
Online shopping	13	19.7%
Gaming	18	27.3%
Sending documents, pictures, videos	22	33.3%
Ordering food	24	36.4%
Hailing a taxi	18	27.3%
Booking services (train, flights, cinema tickets, etc.)	25	37.9%
Top up phone credits	18	27.3%
Pay utilities (water, electricity, gas)	3	4.5%
Other	5	7.6%
Messaging	54	81.8%
Calling	18	27.3%
Video chat	9	13.6%
Voice recording	20	30.3%
Stickers	18	27.3%
WeChat pay	42	63.6%
Location	3	4.5%
Online shopping	13	19.7%
Gaming	18	27.3%
Sending documents, pictures, videos	22	33.3%
Ordering food	24	36.4%
Hailing a taxi	18	27.3%
Booking services (train, flights, cinema tickets, etc.)	25	37.9%
Top up phone credits	18	27.3%
Pay utilities (water, electricity, gas)	3	4.5%
Other	5	7.6%

15 - If you use WhatsApp and/or Messenger, what feature(s) of the App do you the most? Check up to 3 boxes



Messaging	89	98.9%
Calling	44	48.9%
Video chat	30	33.3%
Voice recording	14	15.6%
Stickers	19	21.1%
Location	4	4.4%
Sending documents, pictures, videos	59	65.6%
Other	1	1.1%

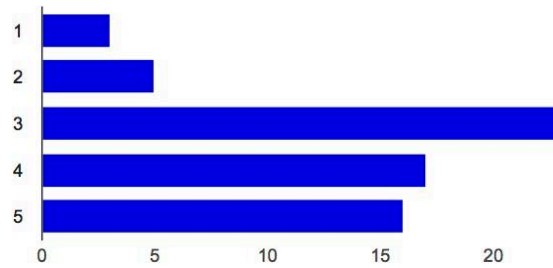
WeChat [16 - How would you rate the different Apps' design and layout, how user-friendly is the software interface? (1 being the lowest grade and 5 the highest)]



1	3	4.3%
2	5	7.1%
3	9	12.9%
4	18	25.7%
5	35	50%
1	3	4.3%
2	5	7.1%

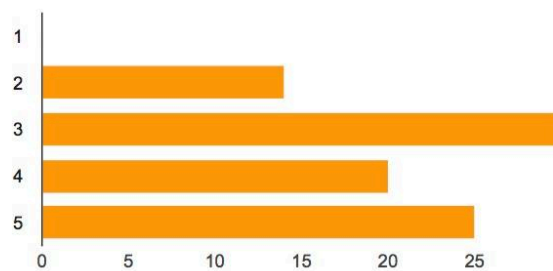
3	9	12.9%
4	18	25.7%
5	35	50%

WhatsApp [16 - How would you rate the different Apps'design and layout, how user-friendly is the software interface? (1 being the lowest grade and 5 the highest)]



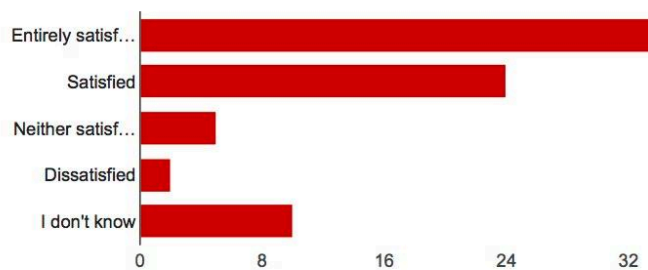
1	3	4.7%
2	5	7.8%
3	23	35.9%
4	17	26.6%
5	16	25%
1	3	4.7%
2	5	7.8%
3	23	35.9%
4	17	26.6%
5	16	25%

Messenger [16 - How would you rate the different Apps'design and layout, how user-friendly is the software interface? (1 being the lowest grade and 5 the highest)]



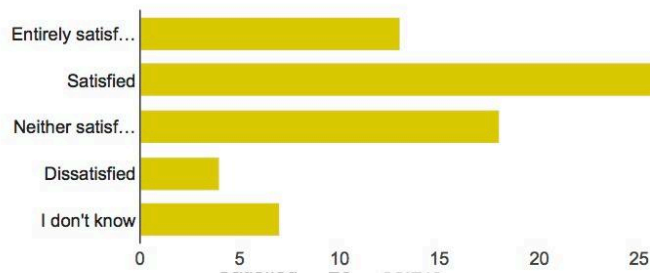
1	0	0%
2	14	15.7%
3	30	33.7%
4	20	22.5%
5	25	28.1%
1	0	0%
2	14	15.7%
3	30	33.7%
4	20	22.5%
5	25	28.1%

WeChat [17 - Are you satisfied with your experience using the following Apps?]



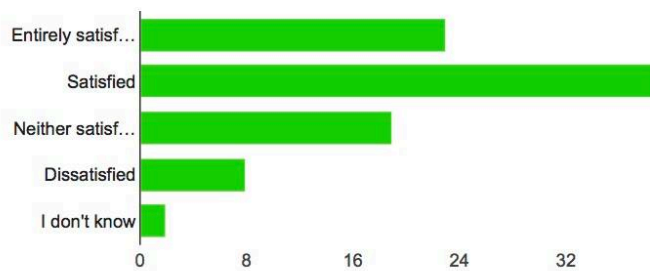
Entirely satisfied	34	45.3%
Satisfied	24	32%
Neither satisfied or dissatisfied	5	6.7%
Dissatisfied	2	2.7%
I don't know	10	13.3%
Entirely satisfied	34	45.3%
Satisfied	24	32%
Neither satisfied or dissatisfied	5	6.7%
Dissatisfied	2	2.7%
I don't know	10	13.3%

WhatsApp [17 - Are you satisfied with your experience using the following Apps?]



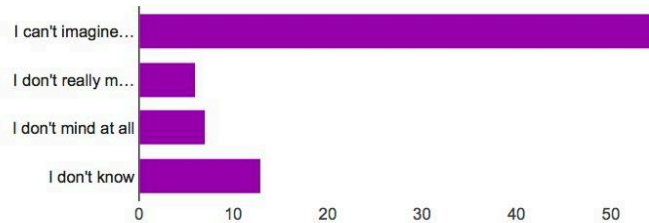
Neither satisfied or dissatisfied	18	26.5%
Dissatisfied	4	5.9%
I don't know	7	10.3%
Entirely satisfied	13	19.1%
Satisfied	26	38.2%
Neither satisfied or dissatisfied	18	26.5%
Dissatisfied	4	5.9%
I don't know	7	10.3%

Messenger [17 - Are you satisfied with your experience using the following Apps?]



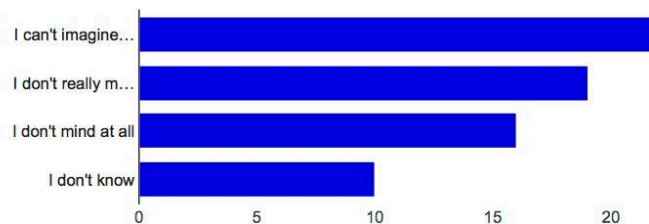
Entirely satisfied	23	25.3%
Satisfied	39	42.9%
Neither satisfied or dissatisfied	19	20.9%
Dissatisfied	8	8.8%
I don't know	2	2.2%
Entirely satisfied	23	25.3%
Satisfied	39	42.9%
Neither satisfied or dissatisfied	19	20.9%
Dissatisfied	8	8.8%
I don't know	2	2.2%

WeChat [18 - How do you consider the following Apps? How much importance do they have for you?]



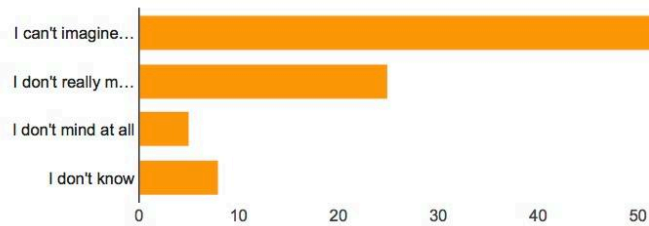
I can't imagine not having this App on my phone	55	67.9%
I don't really mind not having it	6	7.4%
I don't mind at all	7	8.6%
I don't know	13	16%
I can't imagine not having this App on my phone	55	67.9%
I don't really mind not having it	6	7.4%
I don't mind at all	7	8.6%
I don't know	13	16%

WhatsApp [18 - How do you consider the following Apps? How much importance do they have for you?]



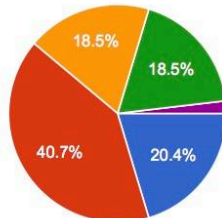
I can't imagine not having this App on my phone	22	32.8%
I don't really mind not having it	19	28.4%
I don't mind at all	16	23.9%
I don't know	10	14.9%
I can't imagine not having this App on my phone	22	32.8%
I don't really mind not having it	19	28.4%
I don't mind at all	16	23.9%
I don't know	10	14.9%

Messenger [18 - How do you consider the following Apps? How much importance do they have for you?]



I can't imagine not having this App on my phone	52	57.8%
I don't really mind not having it	25	27.8%
I don't mind at all	5	5.6%
I don't know	8	8.9%
I can't imagine not having this App on my phone	52	57.8%
I don't really mind not having it	25	27.8%
I don't mind at all	5	5.6%
I don't know	8	8.9%

19 - If you've never used WeChat, would you be ready to use an App that can enable you to do everything without having to go to another App or use your credit card? (pay others, shopping, booking, ordering a taxi or food, gaming, etc.)



Yes, it would be more convenient	11	20.4%
Yes, if I'm sure there's no security and privacy issues	22	40.7%
No, it's easier to have one App of each different things I do on my phone	10	18.5%
I don't know	10	18.5%
Other	1	1.9%
Yes, it would be more convenient	11	20.4%
Yes, if I'm sure there's no security and privacy issues	22	40.7%
No, it's easier to have one App of each different things I do on my phone	10	18.5%
I don't know	10	18.5%

Appendix 3 Focus group transcript

Appendix X: Transcript Focus group 20th of March 2017

m: moderator

A: Alex

An: Andy

G: Giulia

J: Judith

M: Matteo

R: Rocio

m: So as you all know this focus is going to be about WeChat, WhatsApp and Messenger and the perception you have of those Apps. As I said in the memo I sent you it's ok if you don't know one those Apps, for example WeChat, because it's a Chinese and you might not have heard about it if you've never been to China or Indonesia.

There is no write or wrong answers so if you have anything to say please don't hesitate. And finally ass you all know, but just as a reminder, this focus group will be recorded.

So today what we're mainly going to talk about is the usage behaviour and the kind of relationships you have with those Apps, and the kinds of friends you have on those Apps.

R: Just a little thing to ask... Messenger is Facebook Messenger?

m: Yes, that's right. And, also, I don't know if everyone here knows what an App ecosystem is? An App ecosystem, I'm going to take the example of WeChat, it's an App where you can do more than just one thing. For instance if you go on your weather App, the only thing you can do is check the weather, if you go in the Uber App you can only order a taxi. But with a App WeChat you can do a lot of things like chasing with yours friends, ordering foods, playing games, paying directly with your phone with something similar to Mobile Pay, etc. Everything you have on your phone, all the things you can do on it are regrouped in one single App. I hope it's understandable for everyone.

So, now, we're first going to talk about the usage behaviour. It's easier if we go in rounds, and you can tell us if you're familiar if the Messaging Apps I just talked about, to what extend do you use those Apps, how often you use them and since when you've been using them.

A: So, I know all the 3 Apps, and who am I friends with or who I contact on those Apps I think it's mainly by region because I feel if you're in China you use WeChat, so when I studied in Shanghai for half a year I got WeChat, which was in 2013, and then all the Chinese and also the international friends that lived there also used WeChat to communicate with each other. So we switch from WA to WC but afterwards, I didn't see the need to have it. I mainly used it for communication reasons, I didn't really used the other functions that WC had. Maybe sometimes this Facebook kinds of things, where you can see photos and timeline that are things that I've looked at sometimes but that mainly that. For WA, I think in Germany it is really popular so that the main way of communication in Denmark I feel that it's not so popular, most of my Danish friends use Messenger. And that's all, was there something else? The frequency maybe. Well since I left China I really didn't go on WC that often and then at some point they changed their policy and I had to agree to, and I had to give my user name and password and after two years I didn't remember those anymore. And I tried to reset but it didn't work so then I didn't use WC anymore. And then when I came to Beijing to visit my girlfriend I used it again.

m: And what about WA and Messenger, how often do you use those Apps?

A: WA I use everyday because we have a family WA group, so we basically also send each other stuff, for example when my mother cooks something and then sent the picture on the group and everybody comments on it like "oh, I'm jealous I want to be at home", etc. Those kinds of things. Facebook messenger mainly use for coordination reasons, when I want to meet with some friends, just like we organised the escape game for my birthday, two days ago, we kind of coordinate were to meet through that. So yeah, more like for coordination purpose but not for pleasure.

G: I'm familiar with all of them, I've used China while I was there for exchange, and I stopped using it the day I came back. So mainly to mainly communicate with Chinese people and people that were on exchange with us. I didn't know about the App until last summer when I was about to move to China because everyone suggested to install in order to communicate and get around the country. I use mainly WA with my family and Italian friends because it's so most popular in Italy and especially because of the voice message feature, that is actually now also on M but I didn't use this feature an M only a couple of moth ago. I use M with my international friends, mainly Danish and English friends. I use WA for group conversation more than M. Concerning work communication or this kind of things, I don't have my colleagues or boss on Facebook so I don't use M for that I prefer to use WA, of course. I think I've been use those Apps since the day they were released, as soon as Facebook introduces M I

started using it and WA, I think it's been years, I don't remember when it got out but... M was very useful when moving to CPH, subscribing to all the groups, like buy and sell stuff so to communicate with strangers for some useful things, and also customer service, some companies their customer on Facebook and I find it very useful to communicate with someone with that.

M: I'm also familiar with the three of them. WC I used only for two weeks so when I was in Shanghai, two years ago and it was mainly for communication purpose, like saying where we meet with other students and what we do tonight. I mainly use WA because it's huge in Italy, I use it with family and friends, sending pictures and updating on what we're doing, and with friends it's more stupid picture, those kind of things. Voice messages as well I use it a lot on WA, and not on M because it's only up to one minute, and it's so annoying when you're about to say something and it stops after one minute. I also use M a lot mainly with Danes, like they said before, because they don't really use WA, I like sending gifs (laughs). What else should I say?

m: How often you use them.

M: I use them everyday but WA and M I would say.

m: And it's both for the kind of purpose, like you use it more with your friends, or you also use it for business...

M: I only use it for communication purposes, I don't use it for any extra features within this App system idea, no. Not, really.

R: WC I know the existence of the three Apps, but I never ever used WC, I don't even know how it would look, like the layout, I know it's mainly used in China but I've never been, so I never had the need to use it and none of my friends asked me to try Wechat so I never did.

WA I use the most, it's super simple, I use it all the time. I always use it with my family and friends to keep in touch and updated about what we're all doing sending pictures of what we do, what we eat, etc. And it's very popular in Spain. Also the notifications I can see same on the phone so that very bad (laugh) I am a lot in different groups, I use it mainly with my friends and my family also sharing pictures, I used the voice messages a lot because it's hard to coordinate times to call, so it's easier this way, and it also made me use Skype less. What else, also, in my family we also have Telegram, we have a big group with my Grandmother, my little cousin in Dubai, but I only use it for this group. Messenger, I use more with my friends here in Denmark, and friends I have very far away (ex US I had when I was on exchange, I also use it for group work in Denmark, but I don't really share pictures but I could share a doc it's faster than emails.

J: I know all three Apps, WC I had never used, I considered it when I was in Taiwan, when I was there for doing research, but it was only with Dutch people so we didn't see the need to use it in the end, but I know how it looks and what it does basically. For the two other, I use them daily I'd say, WA is the most common chat in the Netherlands, I mainly have one-to-one conversation on WA but I also use groups but it's more with people I consider close. But I feel that the main difference between group chat on M and WA, is that M groups are more situational, so for example for today, you know you kind of have to agree on when and where to meet, then you know that you're not going to use this group anymore. So I feel that F is a bit more practical, like sending doc for university, etc. I use Messenger more on my laptop than on my phone to send doc and with WA it's the other way around. I don't like using M on my phone.

An: I'm from China so I use WeChat on a daily basis, mainly because the other two were censored in China. I know all three of them, I started using M when I was in Canada, America and now in Europe, I use it with all my non Chinese friends because its more international, you don't even need to ask if someone has Facebook. As I said, I use WeChat every day and I spend lot of time on it, I always receive notifications that one of my friends as posted new pictures or something like that, so I always go check. And also, there're all these really addictive games on WeChat that I spend at least one hour on every day, in the morning when I wake up and before I go to bed. I don't live in China now but I spend even more time on it when I'm home because there're always something on sale on the online shopping feature and you never know, it could be something I'd like to have so I just check the sales every single day. I got some Danish people to download, because it's so much easier, you use download stickers and gifs, if you live in China it's basically a must have, you can pay your utilities fees, order a taxi, pay for take out food, everything, so must have in China. I like both WeChat and Facebook Messenger, but WeChat much more useful because you can do so many things on it, and you're never bored because there's always something to do on it compared to Messenger which is just too basic, you can basically only chat, call or send pictures.

And for the amount of time I use it on average, I think, on a normal day, I usually open WeChat messages feature ten to twenty times a day. I probably spend less than twenty minutes on it. But, I

- spend so much time on WeChat games because they are so addictive, every time I'm commuting or before I go to sleep. In the end I spend probably more than one hour playing games on the app
- m:** So according to what you said, do you think the other users have the same purposes for using those Apps? Or would they have other motivations that you don't have? And what is for you a stereotypical user off those? For people familiar with WC and those familiar with WA and M. And do you see your self as a stereotypical user.
- A:** I guess we just going to add on to each other. So I really like what M said about the voice recording on M, I remember I started recording and I was on my bike and then after 3 or 4 I realised I was just talking to myself... I think it give a personal touch to WA because you record yourself talking, that's why I like WA. Yes, and I think it's just the technical and functional difference that make me use WA over M and I think it's case for a lot of people. WA is very much something that WA use for leisure purpose and also the fact that M and Facebook are more used on laptop than on phone, so if you have a break at work, you'll go on F and M send document etc. Those are more or less accessible depending on the situation you're in.
- J:** WhatsApp is also more private than M because you need your phone number, I don't know about WC, but I think it makes a big difference, according to what you were saying (G) about contacting strangers to buy or sell things for example.
- G:** I think that M is a bit more young, I don't know the user statistic but my family, uncles and parents, they are on Facebook but they never M, but they all have WA and the family group is very active on WA, we have a family group on M as well but they never use it to chat. But then it's just a family case I don't know if it's general.
- R:** Yes, I agree, in my family I would say it's the same, my grandma has Facebook but she never uses M, I don't think she is a very good example but it's easier to use WA, it's more immediate and even if you can have it on your computer, as I just heard, I think that it's use more as an immediate way of communicating compared to Messenger. I wouldn't be able to profile a stereotypical user, I think the WA are more, the kind of people who it can be very different, I don't know what you think?
- An:** I think M is an add-on to F, you have to have a F account to use it, and what I don't like is that they're trying to introduce the timeline where people put short videos, the stories, I feel pretty strange about it, because if I want to see peoples update I just go on Facebook or WeChat in China, but when I use M, I just want to use it for talking and texting. Sometimes I just slide my finger and it just opens the stories features and I think it's a little annoying, so I think it's because the interface is kind of not really intuitive compared to WeChat where everything follows a logical order and where difference colours indicated different things or features. For example green is for WeChat, yellow is for food delivery, etc.
- R:** I agree, I think also it's happening with other things for example with Instagram and Snapchat, it's also on WA, where you can add short videos, I don't remember what their called, this is an other reason why I prefer WA.
- An:** Maybe it will take time for people to get use to it and use it.
- G&M:** It's all Zuckerberg Apps, M WA and Instagram, They're trying to kick out Snapchat they're adding so many features that resemble Snapchat.
- J:** I think that because you use, I use, usually when I'm on Facebook, what I'm trying to say is that when I use M I'm also in Facebook, and I don't really like spending too much time on F. Compared to WA where you only go to talk there's no external disturbances, like on Facebook where you spend a lot of time in the end because there's always a video to watch...
- A:** Yes, I had the exact the same experience, I was working and discussing my business project with my group members on M and their was this video that I watched and I continued going down the timeline, and I didn't remember why I came on F in the first place, and I just started working again and then I remembered that I went on F because I wanted to ask something but I was distracted by the other functions so that's really bad.
- G:** To let you know, I have the same problem with my concentration so I wanted to deactivate my F account for a while and you can do it keeping your Messenger up, so you can still talk with your friends and everything but don't spend 3 hours watching stupid videos; etc.
I was thinking about the stereotypical user, and as you guys said, I can't think about a precise person but I can think about the not user, I know some people that try not to use the three Apps as much as possible the tech savvy guys, that are obsessed with privacy, and they don't trust, F, and especially WC if they're in China, so they use Telegram, I not an expert but apparently it codes your messages or something like that.
- M:** Yes, it's also used but ISIS
- R:** It's so slow and it takes up so much space I only have it because I love my family otherwise I wouldn't use it.
- M:** I don't I think the bug function is very cool, I don't know if you've used it.

- m:** It was supposed to be a question for later but as you've quickly talked about now I'd like you to elaborate on privacy, I'd like to know what you think about privacy on WA, WC, M, on the App you use the most. Do you feel safe or not
- M:** About one year ago they added this feature on WA, you can send encrypted messages. And it reassured me, because now I know that whatever I send or write on WhatsApp won't be read or seen by someone I don't know. It is actually really important because I remember sending things like my bank card code and other thing like that and I think I would just have done it over the phone if I the data you send on WhatsApp wasn't encrypted. So I would never do it on Messenger and even worse WeChat.
- An:** I use to use an App when I was doing volunteer work in Thailand in it's called Line and which is kind of like WC and you have encrypted messages. The message will be gone in 3 seconds 6 seconds, like Snapchat.
- M:** Yes I think they added this feature to limit and block the entrance of Telegram in the market because people are more and more concerned with privacy and that's Telegram's main value proposition. And that's why WA now put this encrypted feature.
- A:** There's also the same kind of App in Germany it's call Trema, with the value proposition that is that they have the best technology and their server is in Switzerland so really safe place for your data, and I heard a lot of people that were using it in Germany, and then WA added this feature. But honestly if I would compare the 3 Apps (M, WA and WC) I would say WA is the safest, I would send my bank details and I would trust WA with it because it's end to end, so FBI could still get it but they could get it anyway so for me. Then it would be M, because obviously Facebook and safe data don't go well together and finally WC because I mean it's controlled by the Chinese government and all.
- An:** I know, but for me it's different, I know the Chinese Government is spying on you and watches everybody but your WeChat account is also linked to your bank account, in some kind of online banking and there're many verification and other things to protect your bank details. So for me it's pretty safe and unless you're sending very private stuff, but I don't feel unsafe or threaten to use WC. Also a feature that I like is that you can create a folder with all the important message you receive on WC, you can find it later, for example if someone sends my is address to send an email or something like, I can find later, it's like a highlight in the folder, but if it's on WA or M I have to go back and it's a bit annoying.
- J:** You can search for it, there's a search function on both Messenger and Whattsapp.
- G:** I think there're some privacy concern when it comes to the user behaviour with the Apps. WC and WA are mainly mobile based while M is more computer based so sometimes I have my Facebook account hacked by friends for like stupid videos or like stupid posts, so even if it's like not as dangerous as if a stranger or the government was hacking your account but it's just that F and by extension M is more easy to access for other people. It's not like they're going to get my ban details but it's just not as safe as the other Apps that are mobile based.
- R:** I don't feel really safe sharing stuff on F and M, I just feel that we're super exposed, anyways, I wouldn't my bank account or anything like that on M or on WA I think but what I don't like on both of those Apps is that you can see when someone has read your message which I also consider part of privacy, but I believe that in WA you can see if the person have seen that you've seen his message, it might seem weird but like that I consider it neutral. I don't know if it's still like this now but it used to be like that. I'm not a big fan of those little ghosts telling you that they've seen the message but haven't answered.
- A:** But it was a big discussion when it was introduced, I remember when I was doing my bachelor in Germany and people just got furious that they were people that they were people that never replied or replied three days later and they always knew I read a message and before I could even lie about, and everybody was looking for a solution online to make this go away it was a huge thing.
- J:** I mean I'm sure if people wanted to hack stuff they could and in the end you're not going to be conscious about what you share anyway, so it's not going to stop me from sharing all kinds of things anyway because I'm kind of too dependent on it now, it represents my whole social life. The annoying thing about M is that you have those chat requests with people you're not friends with that sometimes a bit scary... I don't know there's maybe a difference between men and women there. There're people saying very random stuff sometimes.
- G:** I got one this morning, something about Copenhagen exchange stuff, U don't, I'm not going to report (laugh)
- m:** Talking about how important those Apps are to you and to your social life have you ever thought about switching to another Apps, and if yes what kind? Why would you switch.
- M:** Like I said earlier I've tried Telegram because I have some geeky friends and they told me "yeah you have to try this App nobody is going to see what you write because it's all encrypted, but the fact is that nobody uses it Italy, it's just a matter of they're not enough people using it, but if people would switch to Telegram one day, I think it's a pretty cool App. Also in terms of everything you can do with it.

- A:** For me it was more what I said before with Trema, when Facebook bought WA and kind of what is going to happen with your data now kind of issue. I would also say that my group in my bachelor, we all studied philosophy so more conscious people about privacy and critical in general. So all my friends were all asking to switch to this Swiss App which is more secure but I didn't do it, it's maybe a bit cheap, because it cost something, like a euro, and I didn't buy it out of principal and everybody was like, "are you serious" but then I would just only buy for a group of 5 or 6 people so it would have been so useful, and my family wasn't going to switch to Trema and for me it's important that I can have a lot of contacts on one, to regroup everything, because now my aunt switched to Trema because does not trust F and WA anymore, and I still didn't get Trema because if I always have to change App for one or two people that would be annoying for me that's why I didn't do it.
- R:** I already have M, WA, Telegram and I don't feel the need to get another one. Unless I have a very reason for it, if I were to go to China I would probably get WeChat, and it sounds cool to have everything and being able to pay for bills, it sounds amazing but for now I'm not going to get something else.
- M:** I think M is becoming an app ecosystem, I think they want to have the same features as WC it just introduced the Mobile Pay kind of thing, not in Europe but in the US. You will be able to pay your friends and pay with it directly in stores, like Mobile pay.
- An:** I just went back to China in January and I was only away for 5 months since last time I came back and it was a huge change with WC, people are not using cash anymore, their using their QR code to pay, so even if you just go to a fruit shop, they will now prefer to scan your code and get money via WC, and even though I had cash and I speak fluent Chinese, I'm Chinese, they wouldn't accept my cash, I just couldn't, because I didn't have WC because didn't my Chinese SIM card and therefore no Internet so that was pretty stupid. Even sometime in the big shopping mall they don't accept euro credit card they much prefer WC. So if I could switch to a user base that is so huge, including my family in China and my friends and family in Denmark I would but there is no such App for now so I'll stick to WC and M.
- A:** Maybe related to that, I witnessed when I visited in China, when people tried to pay with QR sometimes it didn't work and then the cashier was trying to fix and it took really long all the time and the people were maybe just buying water so something with the technology does not really work so I think it's probably still the transition phase of this technology kind of being introduced, but it was a bit annoying because it kind of slowed down the whole process of paying.
- J:** I use to use Kick Messenger with my ex-boyfriend, when F didn't use to have this function that you could have it on your iPhone or iPad yet, we didn't like communicating via M because it doesn't feel really romantic, so then that's why I used kick. And in my first year of university, I don't really know why but I was using the messaging function of Skype with random people and I don't know why used it and why I stopped using it.
- G:** I've been using Slack for communicating with my colleagues, and basically people from work and instead of having a lot of Apps on my phone I usually delete a lot, for example Viber, I don't use it anymore so I just deleted it and also Skype I haven't used it months. Sometimes I use Instagram for very stupid stuff, for mimes, virtual stupid captions because I think there's not enough Apps for "stupid things" like Snapchat and that's too bad.
- A:** I'm always sending gifs on WA, sometimes I feel that people are sending me written messages and I just reply with gifs, you can install gifs on WA in the settings, it was one of the most happiest day when I was in Stockholm and someone told me that you can install gifs, which the best thing.
- m:** Now, if you could add something or change something to the App you the most what would it be? Or something that annoys and you just wish you could remove this feature from the App.
- G:** I think M is going for the model of WC I'm probably going to it even if there's privacy concerns, it's just too convenient for not using it. And this is stupid but when I came back from China I talked about some WC features with friends, and I told them that I really enjoy the "Shake" feature to make friends, so you just shake the and it puts you in contact with all the people that are shaking their they phone at the same moment in the world (laugh). It's very social, and it's very controversial as well because you can use the App to pay for things, so serious stuff but you can also use it for random things like saying "hi" to someone you don't in Canada, or Africa while you're in China. Because of the experience of WeChat in China I think it's changed my view of Messenger and WhatsApp because now I expect more cool and useful functions from those apps because I know it's possible to have more
- J:** It's kind of like Chat Roulette, which is old and no-one uses that anymore, it's been like what ten years. Going back to our subject. Even if I use to have some concern about privacy with Facebook Messenger, this problem is easily solved because I just don't share important thing on it. But, generally speaking, I'm satisfied with the experience both apps provide. They're not so different from one another but as I don't use them with the same kind of people, the experience feels different.

- R:** I'm really satisfied with my experience with WhatsApp, I think the app is great and I wouldn't want to change it in any way. I know that there is another App, the one that is mostly used in the US, I can't remember the name, it's kind of a WA, it looks like WA, but the difference is that you can like the comment the comment of someone made in the group, I'll ask my US friends the name of the App, but that's the only feature I would like to add to WA, I like when it's simple.
- A:** I'd like to have something like WC but only for European base, having the features of WC but with the design of WA because I feel there is a better intuitive to navigate through WA, and with Messenger I kind of don't have a good feeling with it, yes I use it because it's convenient but if I would start a conversation with a friend or something I would always go first to WA and if it could have the same features that WC has that would be really cool for me personally.
- G:** Is there the find me or location feature on M?
- M:** Yes you have it on M, WA and WC if I remember well. And also I'd say the same as Alex, WeChat is great but the design is just too confusing, you never know where you are, it's like a maze. I remember when I used it in China it took me several attempts to understand where to find the timeline and group pages among other things.
- A:** WC has everything; I usually use it on WA.
- G:** I think that the one on WC is the best because you can join with the other person, and you can see where you are and where the other person is, and you can't use Google Maps in China so it's actually to have a map on which you can understand where you are.
- M:** I didn't know that WC was so huge in China, it wasn't so big two years, it went really fast. You can really do everything, it's also a bit scary.
- J:** Yes and what I said earlier and what I like about WA is that you just go there to chat, and if you're always opening everything with one App, I don't I think it's a bit confusing, I kind of like compartmentalised.
- An:** But instead of having, for example, Yelp, Mobile pay, WA, Uber, Facebook you just incorporate it in one App so I think it's very convenient. If you think the other it can be scary because maybe you like to one App to do something and that's focuses on this thing.
- A:** But also I think also one reason why I prefer WA to M is that on M you kind of already have all the features of M opened which is always a bit confusing to me and on WA it's very clear and if you click on one button they the list of functions appears and you can see what you can do, and I think if it would still be incorporated that wait that you still have the core of what you can do on a list I think it would be the normal WA we know but if you can have one or two little buttons that you can click and then go more into advanced features that's what I would like to have.
- G:** It would also be nice if you could customise the user experience, like change the layout things like that. Right now none of those Apps gives you this choice.
- m:** So do you think right now some you wouldn't be ready to use an App such as WC because it would be too much too take, too many features and too complicated or would it be something people that haven't used WC would use right away?
- G:** I think I would be ready to use it now because I'm like 25 and but it would have to be very secure, more specifically if there's some kind on payment feature that will be linked to my bank account.
- J:** I have a very specific thing about M, I didn't mentioned it before but I also use it for work, so people write and ask questions about how to become a member and things like that, and I'm always like common send us a serious email but what I don't like is that I don't that I don't answer in my name but in the name of the company, we both use the same F account obviously for work (J&R) so for the customers it's kind of confusing who they're dealing, so it would be nicer in a professional kind of view to know with whom you're dealing with, if you could indicate who you are, but that's very specific.
- R:** We work together and we use the same profile for this company and I think it's much that when I reply I reply in the name of the company. We could also use, kind of a third profile, our name slash the name of the company to make it more personal but no, for me F is already a personal thing so people would be able to see who I am and what I'm doing and I would feel even more exposed.
- m:** Does anybody has anything to add? No, ok, so moving on to the next question you said that M was kind of moving toward an ecosystem such as WC, that it is kind of coping the features that WC has. Do you think the same about WA, because they're also adding a lot of new features, if it's also going to evolve into an App ecosystem as well?
- M:** I don't think so just because WA and M are both from Zuckerberg so it would be another direct competitor, which would be silly of them.
- An:** If they are under the same umbrella of the same company they probably have different value proposition so they wouldn't end up becoming similar.

- A:** Also I think it's true that they added a lot of features for WA but all stayed true to how we can enhance the communication between two persons or groups, so all around communication and messaging friends and family purposes. While with M it's something F added games, and now the Mobile pay feature, so it's not for communication purposes. It's going kind of away and becoming more universal purpose so I don't really see WA becoming an ecosystem even if I'd like to see it becoming one.
- G:** I think F value proposition is like communicating with people around the world and I think they're are aiming for that because they're not only connecting people to people now but they're are also aiming at connecting people with services that's going to happen with F M and not with WA because their value proposition is just limited to messaging. I think
- R:** I think the one that would become something close to WeChat would be Facebook Messenger. And if I clearly understood what WeChat is I think if Facebook becomes something similar it will take me time to trust it to the point I share my bank account with. I won't be one of the first to try it for sure, I will have to see that it works perfectly first and then I'll consider using myself. But also if the app is so convenient I will end up using the payment function that would be provided with it anyways. This what I and most people do with online shopping, etc, we're not a 100% sure that it is safe but we use it because its just really convenient as a way to save time, have a larger range of products and more easily compare them.
WA is the one further from becoming that, but I like WA as it is now. So WA would keep focusing on communication feature, I think.
- A:** But I also feel that the evolution of F and M in an ecosystem would be limited to America and Europe because in other countries such as Russia or China, etc. They don't have the user base or it's forbidden.
- m:** WA is not forbidden in China for example do you think it would be the one App to evolved then?
- An:** But the user base is really small and I don't think they would manage to make it grow. Also in other Asian countries such as Japan, and Korea (Line Kakaotalk), they have their one App so it would be hard for M or WA to have a big user base.
- m:** So now we're going to move to the social identity part. I wanted to ask you do you think there're some kind of difference between you're contact list on WC,WA and M or are they all similar. Do you only have friends on certain Apps, do you use other Apps more for work than other things, do you have more random people on M?
- A:** I think it's a bit similar to what J said, you need your phone number for WA, so for me it's something quite personal. If I know someone really well then you would have it on WA. But for M it's more when you for example met someone at a party and you invite this person o be a F friends so WA would be more private and for WC it would be like F but probably because it's a special situation when you're on exchange you kind of want to become friends with everyone so you just add your whole exchange and do social network, but maybe Chinese people don't use it the same way.
- R:** I agree I have many more friends on F than one WA, and I would speak to stranger just on F and M, WA is for my closest friends, by the way, I just received a WA message for the name of the US and it's Groupme. The App that I was talking about earlier.
- M&J:** I mostly agree with everyone.
- An:** It's funny because my boyfriend is Danish and he told me that is requirements for adding someone on FM is someone that you could meet at a bus stop and talk to, then you would add me on Facebook, so it's still quite private, for acquaintances, friends and family. I don't have complete strangers on F and for WC its only for friends that I talk to, they're not only on my contact list and we never text each other.
- m:** Would you also use WC for business?
- An:** No I wouldn't, they also stores on WC where you can have your business and it's pretty fancy but no.
- m:** Because I know that in China a lot of people use it for their business, and if they meet someone with another branch manager or something like that they would add each on WC. Ok, does anyone has something to add. Then moving on to the next question.
How emotionally attached would you say you are to those Apps? Like what happens if you're not online for one hour or you didn't managed to reboot your phone correctly and you lose all your contacts, messages, etc? Because I had the experience that I don't know why I had to reinstall WA, and I didn't have the same phone number so then I couldn't login because I didn't remember the previous and I had to create a new account and all my previous contacts were gone of course.
- A:** For it really depends on the situation, I mean obviously if I go somewhere for dinner and I don't really know where it is and I'm dependent on people who know where it is, and I can reach them on my phone but my phone dies, so it's obviously pretty bad but also I think losing your contacts on WA if you get a new phone and you kind of messed up with the reboot of your phone and you have to write to everyone one M please add me again on WA, xo it would slow your use of the App, because I'm using WA everyday and it's annoying to have to think how am I going to contact this person now. Also, I have

a lot of pictures on the family group for example, I have lenses and one eye is weaker than the other and I can never remember which one so I always ask my father to send me the doc where it's written on it and I always forget to save so we have to do it every month.

R: Yes, I agree, for me it would be a big hassle if I couldn't use Facebook Messenger or WhatsApp even only for a few hours or if I would lose all my contact list I would be very annoyed, because I just love this app it is indispensable for me, because I use it everyday and it's my first point of contact with my family as I live abroad so I would really feel the urge to use them.

m: If you couldn't be online for a day or for a few hours, how would you feel? Would you feel the need to use those Apps? Would you feel anxiety, like you really need to use it, you're dependent on it?

J: No, I wouldn't care, I have no idea where my phone is and I don't and people hate me for it but that's what I like about a phone. I don't think that people should be so concerned about certain social networks or their phone, it's convenient to have it but I don't want people to think that because I always have my phone with me it means that I'm waiting for people to message me and answer right or that I have the need to always be connected. Of course those Apps are important if you for example for meeting, etc, but those Apps are not a big deal for me.

An: That makes me think that in some Asian countries, in for example China people are addicted to their phones, and you can see for example people during parties are just seated and on their phones. I wouldn't be anxious not to be connected, unlike most of the Chinese I know, and I don't have very important things on it so it would be fine if I would lose some data. But I have to admit that it is something that I would miss a lot if I couldn't use it for some reasons, because it is the most immediate way to contact my family in China.

J: It's true, I remember when I was in Bangladesh it's considered as very cool and a social status to have a phone and be on your phone. So the more important the meeting I was going to was important and the more high in the hierarchy the people the more likely it was for them to answer text messages during a meeting, the president of the UN there example notify the 200 other people that were waiting for him, when he had a message or a call, which would be regarded as disrespectful in Europe unless it was for an emergency. So it's like a status thing and I don't think it's the case in Northern Europe, so that's maybe why I'm not that attached to it.

A: I usually can't leave my phone for more than a couple of hours during the day, and when I ran out of data at the end of each month I become worried about not having internet access on my phone in case of emergencies with my family. Then, I also agree that it really depends on the culture as well. I remember a story that friends we met in Shanghai told us that, they were together for New Year's Eve and they said it was the worst they ever had because they celebrated with Chinese, and the Europeans were trying to socialise and wanted to do the count down while all the Chinese were on their phones. So it was a pretty weird and sad experience for them, the guy is Belgian, so I'm not stereotyping but he's super social and extravert and the other were giving short answers and going back on their phones. And actually when it was the for the count down people didn't look up from their phones, and he said that it was the most shocking experience because for him it's such an emotional moments, you're with your friends and family and everyone is celebrating it's such a human interaction thing and then people were just blowing everyone's out.

An: Actually I have a friend that is always on her phone posting every moments of her life and she told me that she enjoys the moment, like New year eve for example so she just wants to record it so that she can refer to it later. I have a good time now talking to you but right now I really want to post pictures, so then in two I'll be able to remember, etc.

A: It's always from which side you come right. Then the other would say that you don't really have an experience -because you're on your phone. So it would be definitely dependent on Culture.

J: But I think also to come back to your question again if I would lose my conversations, there're some that I really like, also very old conversation with old friends which are just hilarious. I would be really sad. And I remember back in the days when I had my first phone I use to write some of my SMS down on my diary in case I would lose them and won't be able to read them anymore. I also have notes from WA and M messages I know it might seem weird but I like keeping those kind of things and know they're safe somewhere, it's nice to keep track.

A: It would actually be a good function for WC to save important message, like it's your birthday let's look back 10 years ago, what you wrote and what your friends wrote to you for the occasion, or an example of a conversation you had on this day 10 years ago and then read through embarrassing messages, that would be a very good function.

R: Yes but also one of the things I don't like about F is that it forces to remember, and I don't want to remember, if it's important then I remember but it's not important for me to know that 3 years ago I became friends with my neighbour. There is something that you really don't want to remember.

- A:** Yes you should have the choice, it should be customised in a way, because it's really annoying when you have a video of every single people you become friends with and you see each other pictures etc. But if you have for example a look back option and you can look at some random messages you wrote 10 years ago.
- J:** And of course there's also the issue when someone's dies and what's going to happen to his or her on Facebook account for example. I know that there's this option where you can use the account of someone who died to inform his or her friends about. And to give an example, it happened to me once on F to see the status of someone was "funeral", and the family was saying thank you for the messages, etc. From his account and it's very to see that on the dead person's account but I guess on Messenger that would be something.
- G:** It's not as sad as your story, but I've changed my phone because it was a Windows phone so a bad but I didn't manage to do the back up of WA so I've lost all my data, contacts and conversation and it was a really sad moment, I know there're more important things in the world but still it wasn't a nice feeling. I feel that on F and M it couldn't happen cause it's stored in a different ways, And talking about I tried, WA I access it more often whereas on F and M I try to avoid and stay disconnected as much as possible, I've even deactivated the notifications. And I know that if there's an emergency or something like, it would come through WhatsApp and not M.
- R:** Yes, I agree, if I have to give up an App for a week or something, it would be F and M, I would miss WA more because it's the more personal, immediate App, if it was something important it won't communicate via F or M I think.
- m:** Before you start using M, WC and WA for example, did you have any expectations you remember you had, and if those expectations were met?
- G:** I've read about WC in some articles and how F was trying to become like WC, and a lot of people told me about it so I had really high expectations and I found the user experience and layout very disappointing, like the fact that I couldn't manage to associate my European bank card with WC and I didn't have Chinese bank account so I wasn't to experience so many things that I could have done with WC but I couldn't because of this. But I recognise how important it is but it's too bad that I didn't get to try it.
- R:** Yes, for me the one thing I use the most before WA were the SMS and then it didn't so different from the SMS for me at the beginning but now it seem pretty prehistorically. And I also remember that I'm the one among my friends who stayed the longer out of F but then I had no choice but to join because everybody was on it. But only when I started university, before that I had the Spanish version of F called 20 and it wasn't really cool so my expectations were kind of the same as what 20 was but in English, so said differently my expectations were not high at all. But F was much more advanced and finally the Spanish F died away and U don't know what happened to it.
- A:** I think for WA for me, I kind of have the same feeling, and I had that thing about SMS that they always cost something so you have the incentive to write long messages to get the most out of my money, and then you just started sending short messages spent so much money on it. But with WA you kind of started to enjoy writing messages more because you didn't have to worry how much it would cost, etc and you started sending stupid and short messages of just every thing you had. At the beginning I felt that there's was such a big difference between the kind of messages you send on WA and by SMS.
- J:** I started using F in 2008, and I think they already had the chat function back then because I went on exchange with high school and that's how I come to know about M and I was using MSN so I was expecting M and F to be like MSN. We haven't be discussing the iMessage and I also use those a lot as well because I think so many people have an iPhone now, I use it more with those Danes who don't have WA to communicate.
- A:** I never use it because I'm always wondering if it's really free or not, even if here sms are mostly included but i always have this thought from Germany when you start writing a iMessage then you send it and it's green instead blue you know you lost money so I never use it because of this though.
- m:** So now as my last question, you talk before about paying for Apps, so my question is if you would have to pay for an App would it change your perception and expectations of the App? And would you be ready to pay for it?
- R:** I think if I pay for an App it would have to be much better than a free but also depending on the price but hoping it's not too high. But also if I need to pay for App I know that some people will not download the App out of principle they would pay for an App, or they can't spend money on this kind of things. And I won't be able to contact them so I think it's important to be free.
- G:** I think I actually paid for WA when I first started using, I think it was something like you need to pay for it on iPhone but not on Android, it was 0.89 cent I think it was the first App purchase because everyone

had it so I had to have it ad well. But I wouldn't pay a lot for an App and now considering the way the Apps works I wouldn't never pay for social media App.

m: If you would have to pay for WA, I don't if they change business model or something like that for example, would you pay those let say 2 euros a year? Would you still be using it.

A: I think if they would be a free alternative I would try it but I think they won't do it because they know that people would choose the free alternative in many cases so it wouldn't be smart from them.

G: Yes I agree and the value of the App is not the App itself but how many people use it so that's why when you're u-in china you use Wechat and when you're no longer in China you don't use it, so yes if everyone is paying for such an App for example, then yes I will pay just to be able to communicate with everybody else.

m: Do you have anything else to have any comments overall on the Apps we discussed?

R: Face to face communication is always better than virtual communication, that's my ultimate comment.

m: So that's the end of the focus group, thank you very much to all of you for your participation and very useful comments.

Appendix 4 In-depth interviews transcripts

In-depth Interview European Respondent:

Q: Are you familiar with the following Apps (Messenger, WhatsApp, WeChat) to what extent do you know those Apps? / Since when have you been using them and How often do you use them?

A: I'm familiar with Messenger and WhatsApp. I've been using Messenger for a while now, I think as soon as it was advertised by Facebook, so a few years, I'd say I know the app very well there's not much to do except texting. I use it mostly for my studies, we usually have a lot of group works and that's how we exchange information and organise ourselves for projects. Well... I'd say I use it almost everyday, depending on the amount of group work we have or to meet with my friends. Regarding WhatsApp I've only been using it for a year or so. I also use it everyday, like one hour everyday depending on what day, I use it a lot to keep in touch with my family abroad. I don't master all the features in WhatsApp, particularly the new ones like "location" and the "profile sentence"

Q: What made you choose those Apps? Anything special/standing out? Which app do you use the most?

A: The App I use the most is Messenger because of group works as I said above, I have to use it because it is the only platform where everybody goes everyday and it's easier to schedule group work with your friends in a group this way. But when I'm on holidays I'd say I use more WhatsApp when I don't have work to do.

I have Messenger because I have Facebook and it's kind of a must add-on to FB, and as said above very useful for group work. Concerning WhatsApp I've come to use because my family was using it and as I live aboard it's easier and cheaper to text and call/or video call my family and friends with internet.

Q: Do you think that other users share those motivations/values? What would be the motivations of others? - Some in particular? What is the stereotypical WeChat user? WhatsApp user and Messenger user? Please describe, Do you see yourself like that?

A: Yes, I think the stereotypical user would use it for the same reasons as me. Use them both out of convenience (Messenger more for study and with close and not so close friends... And WhatsApp with close friends and family.) And also because they want to stay easily in touch

Q: What comes to your mind first when you think about those Apps / Are you aware of the values WeChat, WhatsApp and Messenger stand for?

I think WhatsApp kept its promises, it enables people to stay in touch, and this is very important to my, once again I live aboard for my studies and it's very important to keep in touch with my family, those Apps and in particular WhatsApp is one a the few ways I have to do that, with Skype, but Skype sometimes doesn't work so well and you have to be connected all the time...

Q: Have you ever used or thought about using another App like WeChat, WhatsApp, Messenger? Why, why not? and examples if yes

A: Before using WhatsApp and only using Messenger I was thinking about using WA and I'm glad I did because even if the Apps are on the surface very similar I use them for different things, WhatsApp is more personal (as I explained above and Messenger more for studies). I think if I one day decide to switch to another messaging App it would have to be because a lot of friends or family members are already using it.

I don't really know what new Apps are coming up and I'm not really interested in it but I guess if another messaging App becomes the new big thing, and people stop using Messenger and WA I'll have to switch.

Q: If you could change or add something to WeChat, WhatsApp and Messenger, what would it be?

A: I don't really like the design of Messenger and I think that the App might be a bit complicated sometimes it's difficult to find what you want sometimes. Also the fact that you have to switch App to go from FB to M is a bit annoying I think. Lastly, the voice messages are limited to one minute which is hard to understand why. For WA I wouldn't change much I really like the design, I think the App is very user-friendly, one little I would change would be the group call and group video call which are not available...

Q: To what degree does your self-image overlap with the friends you have on those Apps, your contacts list? - in what sense/why / Is there a difference between your contact list on WeChat and WhatsApp Messenger for ex?

A: As said previously, I don't have the same kind of contact on M and WA, M regroups all my friends or acquaintances and WA is more for close family and friends, M is more for group discussion or one-to-one but don't know the person so well, but WA is more one-to-one private conversation or small family group. Both apps are very important to me. I would feel really bad if I would lost all my contacts or all my conversations, more on WA than M cause the conversation are more private... I wouldn't how to get all the contacts and data back I would be very annoyed. Same if I'm not connected to internet for a few hours for whatever reasons I would feel very bad because Whatsapp is the only way i have to directly communicate with my family.

Q: Did you have any expectations before using those apps? If yes were your expectations met? Yes, no , why?

A: I had high expectations before using Messenger, I was expecting to be able to do more than just texting and that Facebook would surprise us with some unique features but all the elements of Facebook chat were just transferred from Facebook to Facebook Messenger, and I don't really understand why. But for WA I remember being very enthusiastic, my sister and a few friends told about it and said it was great so I had high expectations but I wasn't disappointed and it's one of the few App for which I didn't need a tutorial from my sister or a friend to use immediately, understand how it works, etc.

Q: If I tell you that the App is Chinese would it change your expectations and perception of the App American/Europe vice versa

A: It would change my perception of the quality of the App, I have a tendency to think that Chinese App are not as good as European or American Apps maybe because most thing we buy made in china are cheap and not good quality... And vice versa. But when it comes to technology I think Chinese are becoming more advanced than the rest of the world so maybe their Apps are also better and more advanced but I'm also convinced that Chinese think about a technology, invent a new tech and then Americans or Europeans make it better, they perfection ate it

Q: If the App is free what does it change in your perceptions and expectations? Not free App?

A: I would expect more from an App I need to pay for but I usually don't pay for Apps, I don't like the concept of having to pay for that when you've already paid for your phone and for your phone credits. Besides, the quality of the free apps is already very high so I'm sure if I need i can find a free App which does pretty much the same thing as an App I need to pay for.

Q: How would you describe the relationships with the other users? have you had any bad experiences with one of the users on those Apps? Why? How do you feel about the privacy on those app (one more private than the other, why?

A: I really don't trust FB and therefore with privacy, security, etc. So many people I don't know always try to start a conversation with me or want to be friends and I think the privacy settings are a bit hard to set... I'd say i feel way safer on WA, also because not everyone can contact you as they have to have your mobile phone to do so. So in that way I trust WA way more than M

Q: Why do you think WeChat evolved in an ecosystem? what about WhatsApp and Messenger do you think those Apps will evolve in something similar? Why?

A: I've never used WeChat but according to what you've said about it I think both Apps could potentially and will eventually become like WeChat it might seem. More specifically M (as it's a part of FB, you can already play games, put your location, send docs, voice messages, videos...) I think we will see Facebook and Messenger adding more and more features to it and will in the end become and European version of WeChat. Regarding WA I also think that it could stay like that, with only a few communication features but simple, keep it's primary purpose, I think most people would like that. I don't really know, I would need to try this kind of App to see if I would like it, but I'm not sure it might be too complicated and none of my family members could use it because they think it's already hard enough for them with WhatsApp, but you can really stop the progress and I'm still young so I think I'll use it anyways, because if it as useful and convenient as I heard such an app could be then I'll have no choice than to try it.

In-depth Interview Chinese Respondent:

Q: Are you familiar with the following Apps (Messenger, WhatsApp, WeChat) to what extent do you know those Apps? / Since when have you been using them and How often do you use them?

A: I know all three Apps, WeChat, Messenger and WhatsApp and I use all three more or less everyday. I'm using WeChat for a long time more than 5 years, I use it all the time, if there's one App you need in china that's WeChat cause you can do everything with it. Regarding WhatsApp I've also started using it a few years ago but only with my international friends so not everyday but only to keep in touch once in a while. I started using Messenger for a while now, I think as soon as it was advertised by Facebook, so a few years same reasons than WA, and also to see the actually around the world (get non censored information)

Q: What made you choose those Apps? Anything special/standing out? Which app do you use the most?

A: The App I use the most is WeChat, I use it for everything and everyday, I text and call my family friends and clients. Nowadays wifi is available everywhere so you don't even need to buy a lot of credit for your phone. I buy almost everything with WeChat Pay, either by scanning a QR code or buy ordering online. It's relatively new but I use it everyday to pay different things everyday, I obviously chat with people, this kinds of things. But, what I spend the most time on is probably gaming, looking for good online shopping deals and checking out the new posts of my friends.

And it's now cheaper to order your grocery shopping online and make it deliver to you than to go to the supermarket yourself and it's also more convenient.

I use Messenger and WA to keep in touch with my international friends, because once they leave china they don't really use WeChat anymore, in comparison WhatsApp and even more Facebook Messenger are global, I know it from my different international experiences , I feel that the app that most people have in common is Facebook and Facebook Messenger. But it is a bit weird that compared to WeChat both apps only provide elemental communication functions.

Q: Do you think that other users share those motivations/values? What would be the motivations of others? Some in particular? What is the stereotypical WeChat user? WhatsApp user and Messenger user? Please describe, Do you see yourself like that?

A: I can only say for WeChat and the other user's of those Apps in China, but yes I think that most users have the same reasons for using those, to do everything in China and the two other apps to keep in touch with international friends.

Q: What comes to your mind first when you think about those Apps / Are you aware of the values WeChat, WhatsApp and Messenger stand for? Making new friends, keeping in touch, make your life easier to manage? What does that mean to you? How important those values are to you?

A: I think WeChat, enables do all those things like make your life easier to manage, making new friends, keeping in touch, very well. It used to be only a texting App but it's grown so big, and makes life way easier, China is mostly about waiting, and queuing, you have to wait pretty much everywhere but with this app you often don't have to wait anymore you can order your food or book a table, pay your utilities. I think it reduce the waiting time of a normal Chinese person by more than half which gives us time to do something else. Keeping in touch is also a good a way to describe WC and WeChat is maybe one of the few apps that actually allows you to making new friends with features like the drifting bottle and shake your phone (you can just talk to any person who has we chat in the world and become friends with total strangers). I also really like the design of the app, I think it's very clear and colourful which make it easier to agitate through it.

Q: Have you ever used or thought about using another App like WeChat, WhatsApp, Messenger? Why, why not? and examples if yes

A: Before using WC and the smartphone era everybody was using QQ some people still, (QQ is the equivalent of MSN Messenger) and I think if a new messaging App comes out in China it will be hard to beat WC as the services it offer are numerous... and if a new App appears I think it as to have at least as many features as WC or more otherwise why using something else. That's why I don't think I'll ever switch for another messaging App at least in China. But if you take WhatsApp for example, the App is very basic so if a better would come out and my international friends would switch then I'd have no problem switching as well

Q: If you could change or add something to WeChat, WhatsApp and Messenger, what would it be?

A: There're already so many features on WC I don't know what I would change... Maybe just adding a streaming platform or something like Spotify but a Chinese version. Other than that I would not change anything else.

For Messenger I think it's a irritating having to switch app to going from Facebook to Facebook Messenger when Messenger is only to chat, I don't understand why it is not just directly integrated to Facebook like it

was before or like it still is on computers. And also the new feature of messages are limited to one minute which is hard to understand why. I like WA but I think it's a bit too basic if it wasn't for my friends abroad whom don't have WeChat I wouldn't be using it.

Q: To what degree does your self-image overlap with the friends you have on those Apps, your contacts list? - in what sense/why / Is there a difference between your contact list on WeChat and WhatsApp Messenger for ex? Similarities / Dissimilarities (same contact list? same kind of people? How attached (emotionally attached) to those apps do you feel? - how important is that for your life, please describe or tell a story?

A: My list of contact on WC is very heterogeneous, it includes my family, my close and not close friends, my teachers, professors, etc. As I use WeChat for private life and professional life my list of contacts is very long, I also have notes for each business contact, so not being able to access it would be a problem I have a lot of group conversation for my studies and work and also a lot of one-one private conversation. On the other hand the contacts I have on M and WA, are different in the sense that they don't involve my professional life. M regroups all my friends or acquaintances and WA is more for close family and friends, M is more for group discussion or one-to-one but don't know the person so well, but WA is more one-to-one private conversation or small family group. WeChat is very important to me. If I were to lose all the data I have on WeChat I would be very angry, I have so many contacts I wouldn't know how to recover everything. Adding someone on WeChat is usually one of the first things you do when you meet someone you don't know in China. But I've been adding so many people since I've been using it that I would lose my old friends contacts and could not manage to remember his/her we chat id if I don't talk to them very often. I only have a few friends on M and WA so if I lose my contacts it wouldn't be hard to find them again.

Q: Did you have any expectations before using those apps? If yes were your expectations met? Yes, no, why?

A: I had high expectations for WC because it was one of the first Apps I had on my smartphone and I wasn't disappointed, my expectations for this App have been reached by far and even more I would have never imagine paying directly with my phone for instance... For WA the App is very basic and I knew so expectations met and for M I was a bit disappointed I thought it would bring more than just texting but I might also be disappointed because you have to have a vpn to access it and as it does not come from Chinese server the App is very slow. Regarding my satisfaction with the apps, I don't know if it's because I started using WeChat before using WhatsApp and Messenger but I'm obviously more satisfied with WeChat than with WhatsApp and Messenger basically because you can just do more things on WeChat.

Q: If I tell you that the App is Chinese would it change your expectations and perception of the App American/Europe vice versa

A: I am Chinese so I'd say that Chinese Apps are usually way more advanced than other Apps... The only difference I see is maybe that European App might be more stylish in terms of design and layout and more accessible because this matter is not a big issue in China.

Q: If the App is free what does it change in your perceptions and expectations? Not free App?

A: I would expect more from an App I need to pay for but I usually don't pay for Apps, I don't like the concept of having to pay for that when you've already paid for your phone and for your phone credits. Besides, the quality of the free apps is already very high so I'm sure if I need I can find a free App which does pretty much the same thing as an App I need to pay for.

Q: How would you describe the relationships with the other users? have you had any bad experiences with one of the users on those Apps? Why? done How do you feel about the privacy on those app (one more private than the other, why?

A: I really trust Wechat I'm sharing my bank details with it so you have to trust it a lot for that. I know on the other hand that foreigners and also some Chinese have a hard time to fully trust we chat because of the government which is censoring and controlling everything in China. I really don't trust fb and therefore M with privacy, security, etc. So many people I don't know always try to start a conversation with me or want to be friends and I think the privacy settings are a bit hard to set... I'd say I feel way safer on WA, also because not everyone can contact you as they have to have your mobile phone to do so. So in that way I trust WA way more than the other apps out there.

Q: Why do you think WeChat evolved in an ecosystem? what about WhatsApp and Messenger do you think those Apps will evolve in something similar? Why?

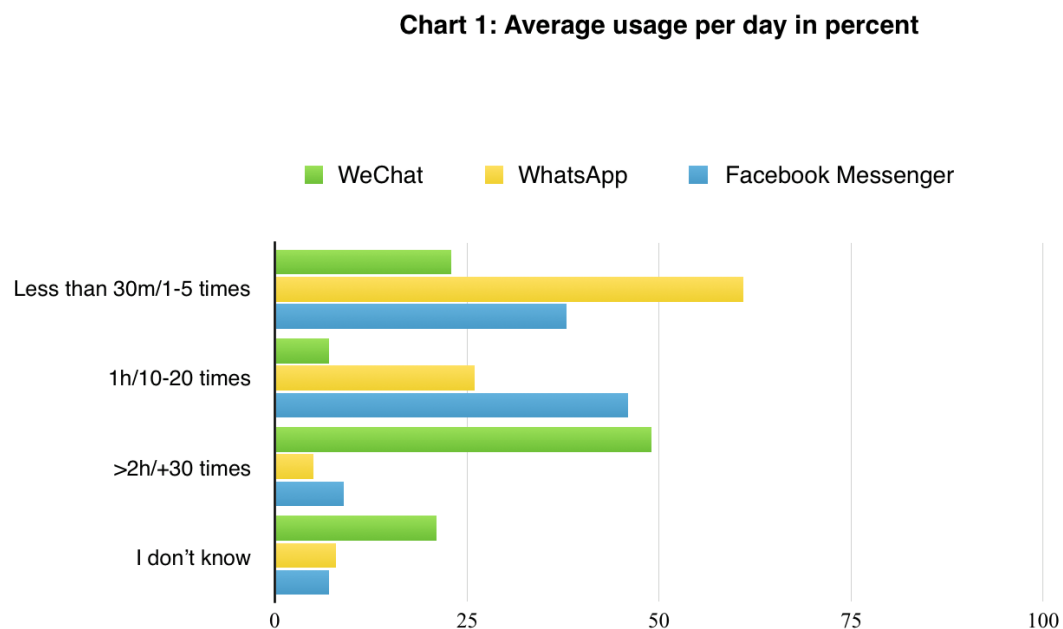
A: Well for me WeChat is the best and most useful App I know so I wouldn't be surprised if other Apps like Messenger and WhatsApp go the same direction, and they've already started to add some of WeChat features location, sending docs, and voice recordings

I'm sure it would be great! Because if FM evolves in an ecosystem then it would be more global than WeChat (only China) and it would have so much content, it would be a huge thing, people could pay directly in the right currency no need to exchange or pay card fees, etc. I would definitely use it.

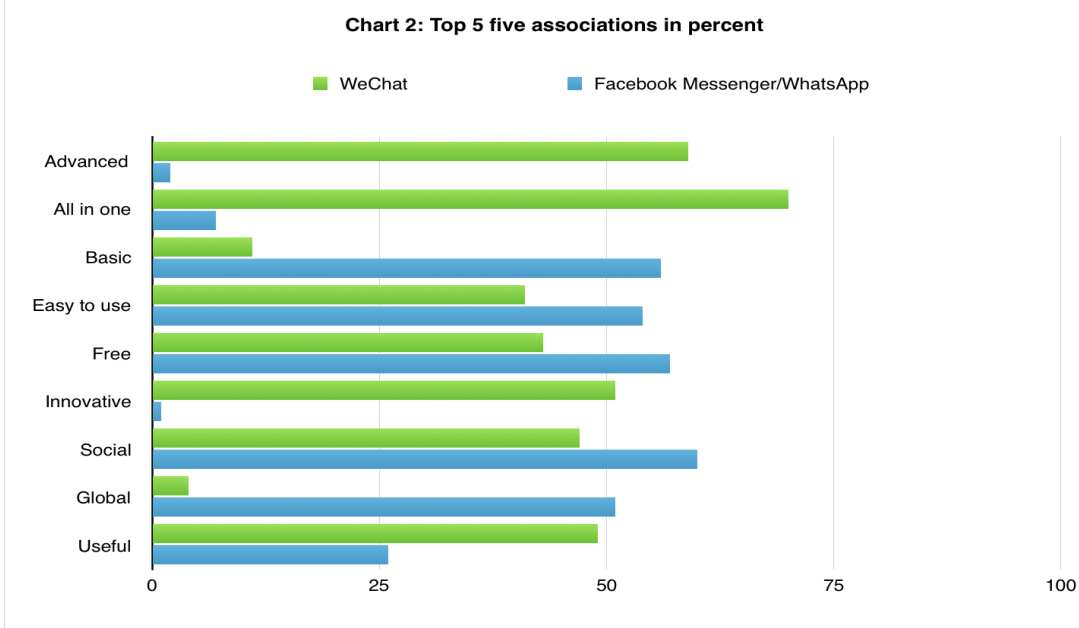
Q: Do you have anything to add?

A: No I think I said everything I wanted to say on the subject.

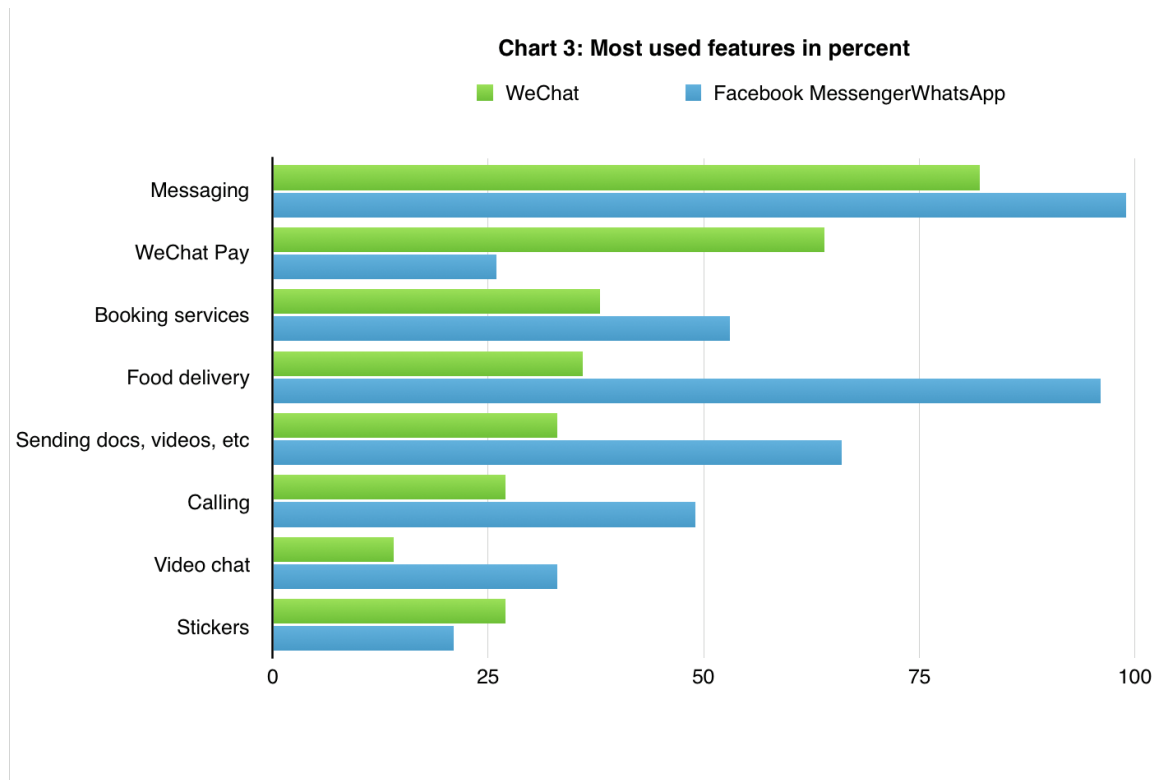
Appendix 5 Chart 1 Average usage per day



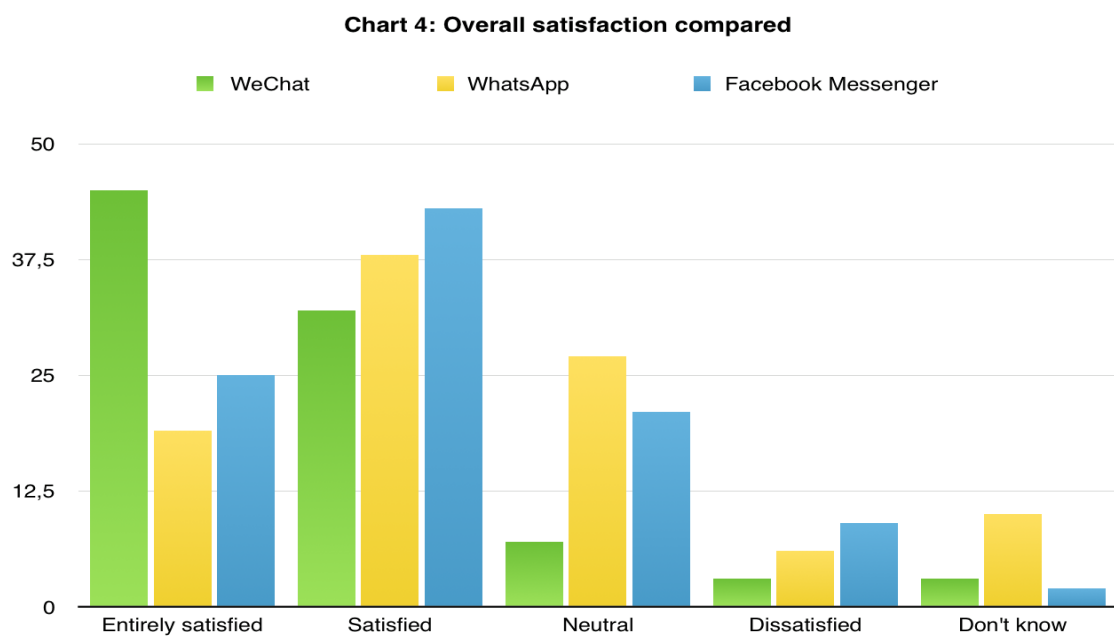
Appendix 6 Chart 2 Top 5 associations



Appendix 7 Chart 3 Most used features

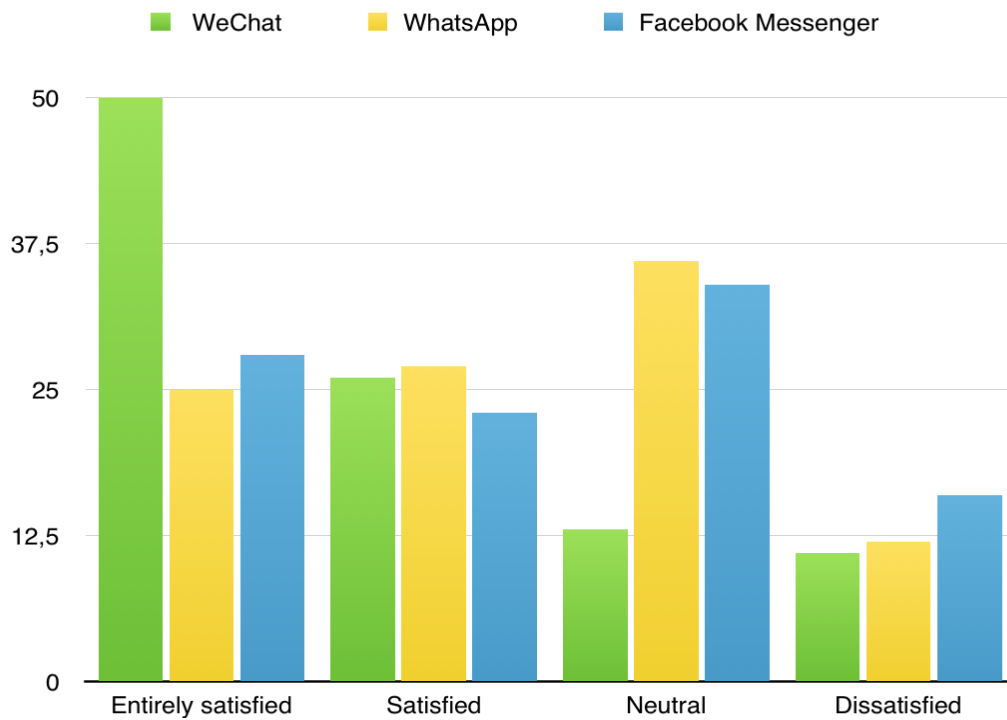


Appendix 8 Chart 4 Overall satisfaction



Appendix 9 Chart 5 Design satisfaction

Chart 5: Design satisfaction compared



Appendix 10 Chart 6 Readiness to adopt an app ecosystem

Chart 6: Readiness to use an app ecosystem

