

The Role of Alipay in China

by

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Table of Contents

1 INTRODUCTION	5
1.1 ALIPAY PROFILE	5
1.2 RESEARCH QUESTION	6
1.3 RESEARCH LAYOUT.....	6
2 THE ECONOMIC SYSTEM IN CHINA	7
2.1 THE CONTINENTAL ECONOMIC MODEL OF CHINA	7
2.1.1 The role of China in Asia	7
2.1.2 The role of China globally	8
2.1.3 The progress of payment system in China	9
2.1.4 China's economic transformation	10
2.2 RESEARCH RESULT	11
3 THE ALIPAY PAYMENT SYSTEM	12
3.1 HOW DOES ALIPAY WORK?	13
3.1.1 Alipay Customer segment.....	13
3.1.2 Alipay's base model.....	14
3.1.3 Handle direct payment between customers.....	15
3.1.4 Handle indirect payment between customers	17
3.2 ALIPAY PAYMENT SYSTEM SECURITY	19
3.2.1 Vulnerabilities and threats.....	19
3.2.2 Security proof and measure	23
3.2.3 Product reliability	27
3.2.4 Interfaces and Express.....	28
3.3 RESEARCH RESULT	32
4 APPLICATION OF ALIPAY.....	33
4.1 ALIPAY IN THE CONTINENTAL ECONOMIC MODEL	33
4.1.1 The Common Applications of Alipay	34
4.1.2 Why Alipay fits in China's economic situation	36
4.1.3 The reason of Alipay is most popular in China.....	37
4.2 WESTERN ECONOMIC MODEL	39
4.2.1 The form of western economic model	39
4.2.2 Alipay system also fits in western economic situation?	40
4.3 RESEARCH RESULT	42
5 THE COMPARISON WITH OTHER PAYMENT SYSTEMS	43
5.1 THE OTHER POPULAR ONLINE PAYMENT METHODS IN CHINA.....	43
5.1.1 TenPay, China Union Pay, and TenPay in general.....	44
5.2 THE COMMON PAYMENT SYSTEMS IN WESTERN COUNTRIES.....	45
5.2.1 iDEAL payment method in the Netherlands.....	46
5.2.2 Would a western payment system also work in China?	47
5.3 RESEARCH RESULT	48
6 THE IMPACT OF ALIPAY	50
6.1 FOR ECONOMY IN GENERAL.....	50
6.1.1 National perspective	51
6.1.2 International perspective	51
6.2 FOR SOCIETY IN GENERAL.....	52
6.2.1 Daily life	52
6.2.2 Mobile payment on the rise	53

6.2.3 Logistics development.....	54
6.3 RESEARCH RESULT	55
7 CONCLUSION	56
BIBLIOGRAPHY.....	58

1 Introduction

With the development of economy and network technology, we have undergone a tremendous change in recent years. Gradually, we have been footing into information age from industrial age. Nowadays, more and more new techniques are widely used by the people, in particular to online payment technique that leads people to a better and more convenient life. The aim of this paper is to describe one of popular online third-party payment solutions in China, as well as having a more in-depth insight into how to organize a digital online payment in a cultural context. In this paper, the China's leading online payment method Alipay will be as the research object that relates to the local economy, operation mechanism, transaction security, efficiency and impact of digital online payment. Subsequently, let us have a preliminary understanding of this research paper on the basis of Alipay profile, research question, and the entire research layout.

1.1 Alipay profile

According to About-Payments: "E-wallets will equal cards as the most popular payment method globally. In 2012, \$295 billion was processed through e-wallet payments. This is set to rise to \$1,656 billion by 2017." (About-Payments, 2015). Alipay is founded in 2004 by Jack Ma, furthermore it is an Alibaba Group affiliate, which focuses on making it easy to do business anywhere through e-payment. As Alipay itself promised, it really plays a crucial role in e-commerce business in China such as online payment, online retail, online wholesale, virtual gaming, telecommunications, financial services, and even utilities fee payment (About-Payments, 2015).

Alipay serves as a kind of e-wallets that is a clear leader of online third-party payment services, and aims to provide a safe, secure, and easy-to-use way for millions of individuals and merchants to make or receive a payment when handling online transactions. As of December 2010, Alipay has more than 550 million registered users and processes around 8.5 million transactions daily (About-Payments, 2015). In the eye of internal structure of Alipay, it is made up of more than 65 financial institutions to offer main payment services for online shopping platform. In addition to supporting online payment services for Chinese large websites such as the TaoBao.com, Tmall.com and also other domestic 460,000 Chinese businesses, Alipay acts as an mediator, as well as providing diverse services for more than 300 worldwide merchants to do business in China market (Wikipedia, 2015). Furthermore, depending on the Alipay's official announcement, there are 14 currently-supported currencies used for e-commerce transactions internationally.

When compared to other e-payment services, Alipay is most widely used in China due to its innovative technologies, user-friendly services and outstanding multi-function payment features. In addition, all of online transactions through Alipay are without transaction fees. From payment security perspective, it provides an escrow service, which enables the buyer to verify whether the goods satisfy them they have purchased before transferring the money to seller. In this way, it not only protects online consumers' rights and also reduces the transaction risk as well. By using this transaction protection mechanism, it is expected that the weak consumer protection law in China will be enforced, as well as improving the consumer confidence in C2C and B2C business models quality control (Wikipedia, 2015).

1.2 Research question

Main question:

How to organize a digital online payment in a cultural context?

Sub-questions:

1. How to fit the local economic context?
2. How to ensure the security of payment during online transaction?
3. How to efficiently operate a digital online payment?
4. What is the impact of a digital online payment in a cultural context?

1.3 Research layout

To address the previous research questions clearly, this paper consists of the following 7 chapters. Chapter 1 introduces the overview of entire paper relates to the background of the digital online payment Alipay and relevant research questions. Chapter 2 mainly discusses the economic system in China, specifically, section 2.1 focuses on the continental economic scale model in China, and the answers to sub-question 1 are carried out in section 2.2. Chapter 3 primarily discusses the Alipay payment system, and it consists of three major parts. In other words, section 3.1 describes how Alipay works, section 3.2 describes how secure Alipay payment system is, and the answers to sub-question 2 are carried out in section 3.3. Chapter 4 mainly discusses the applications of Alipay, where section 4.1, section 4.2, and section 4.3 make up of it. Specifically, section 4.1 describes how Alipay is in continental economic model, the introduction of western economic model is put in section 4.2, the answers to sub-question 3 are carried out in section 4.3. Chapter 5 discusses the comparison with other payment systems around the world, and it is made up of the following three sections. Specifically, section 5.1 describes the other popular online payment solutions except Alipay in China, followed by section 5.2 that describes the common western online payment solutions, the answers to sub-question 3 is further carried out in section 5.3. Chapter 6 discusses the main impact of Alipay within China, and it is also made up of the following three sections. Section 6.1 sketches the general impact of Alipay in economy, whereas section 6.2 sketches the social impact of Alipay, the answers to sub-question 4 are carried out in section 6.3. Chapter 7 reviews the entire paper and concludes the answers of research questions, in addition, showing the next move of research in the future.

2 The economic system in China

China as the third biggest country (960 million km²) in the world that plays a significant and influential role in World progress, in particular to economic progress. Since China's economic reform towards market-oriented economy began in 1978, China has undergone a remarkable economic evolution shifting from planned economy to market economy till now. In other words, economic model has been shifting from closed-economy to opened-economy since the open-door policy was proposed by the PRC's second president Xiaoping Deng. As a consequence, China has already overtaken Japan as the second biggest economy in the world (The World Bank , 2015). But then again, China still places in the class of developing country due to the low capita allocations of natural resources according to the world bank's official statistic report (Yang, 2015).

In this chapter, where I focus on the economic system in China, so as to address the research sub-question 1: "How to fit the local economic context?".

Chapter 2 contains one main component section 2.1 with regard to the continental economic model of China. Specifically, it is made up of the following four parts: section 2.1.1 discusses the role of China in Asia and the corresponding influences across the Asia, section 2.1.2 discusses the role of China globally and corresponding influences across the world, section 2.1.3 discusses the progress of payment system in China and section 2.1.4 discusses China's economic transformation from 1949 until present. Followed by section 2.2 that elaborates the answers to previous research sub-question 1.

2.1 The continental economic model of China

In order to keep the rapid economic growth rate as well as adapting to current trend towards economic globalization, China is on its way to building a continental economy. Before China intends to establish continental economic model, U.S. and USSR have already tried to build continental economic scale, but the latter was ultimately failed. Looking at China, it is able to create a mutually beneficial relationships between other smaller surrounding economies across Asia Pacific countries (Ross, 2015). Because, on the one hand, the China has ability to integrate itself with surrounding regions even in cases where political union is not posed step by step in terms of international trade, international natural resources and international division of labor relying on its high growth rate of GDP (Ross, 2015). On the other hand, the smaller surrounding economies would be able to benefit from the enhanced connections to China large continental economic scale for their own national development of economy, as well as sharing the global division of labor. Recently, China also posed a series of national initiatives such as "New Silk Road" and "One Belt and One Road", in order to support and facilitate the China's continental economic scale model progress. With this new economic model, China's economy will continue to grow year by year, and the economic interaction between China and the rest of world will more frequent as well.

2.1.1 The role of China in Asia

China is the biggest country within Asia in terms of Geographic areas, in addition, China is also already the biggest economy across the Asian countries. In short, China plays a vital and increasing role in communications with Pacific Asia nations in terms of culture, natural resources, regional security environment, and especially economic cooperation.

With rapidly overall development in recent years, China has carried both enormous challenges and opportunities for lots of countries around the world, in particular to the same region Asian nations. In the eye of challenges, China has few competitive advantages such as low-cost labor force, broad scope of economic scale, and huge population base which would impose persistent threats on the other Asia economies. But then again, China enable other nations to acquire more opportunities in production through cooperation, to provide a large latent consumers market for the others as well (Haltmaier, 2007). Additionally, the author Haltmaier has also concluded the role of China in Asia on the basis of available macro- and micro data as follows (Haltmaier, 2007):

- China would be a neutral force for growth in the region, as each economy would use policy to guide its own economy to reach potential output;
- The other Asian countries are able to take advantage of China as a market due to China as an independent engine of growth for this region;
- China is acting as a conduit of growth for the rest of the region, on the one hand, displacing some demand for finished product exports, but at the same time creating a new source of demand for parts and components produced in other countries as well;
- China is acting somewhat like a steamroller, driving countries out of some areas of production, a process that may entail painful adjustments in the short run.

Nowadays, more and more attention is paid to the perception of “Rise of China” when compared to the others across the world (Jisi, 2014). Meanwhile, the relations between China and other Asian economies are rebuilding, in order to reach the new balance and to adapt to the China’s rising presence. Generally, the attitude towards the rapid growth of Chinese power is ambivalent for other Asia countries, U.S., and Europe. In other words, although they benefit much from the increasing economic cooperation with China, but they also regard ongoing development of China as a huge potential threat in the future. So, China would like to make strenuous public relations efforts to reshape its international image, especially in Asia (Jisi, 2014).

2.1.2 The role of China globally

After the Open-door and Revolution policy later, China had taken a series of global strategies of multinational enterprises(MNEs) since 2000. Up to now, Chinese MNEs' market share on the Fortune Global 500 list expanded from zero in 1990 to 61 firms in 2010 (Peng, 2012). It indicated that more and more Chinese enterprises are intending to go abroad to seek more broad scope of marketplace, notably international marketplace. To enter the international market, the Chinese MNEs has taken strategic policies such as acquisitions, joint ventures, and import-export trade. In most cases, the first one (acquisitions) is chosen as the primary mode of entry, because of following three reasons: firstly, urgency for fast market entry (especially in the areas of natural resources); secondly, to acquire existing world-class brands (e.g. IBM's PC brand or Volvo); finally, managerial hubris and empire building (Peng, 2012).

Back in 2001, China eventually became a member of WTO, so that Chinese economic growth has been being absolutely rapid depending mainly on overseas investments and

exports with the rest of members. Relying on high productivity, low-cost labor force and relatively good infrastructure, China acts as the global leader under the terms of manufacturing (Wikipedia, 2015). Furthermore, the growing economy of China acts as a strong engine of global trade that contributes \$3.87 trillion to total international trade value in 2012 (White, 2013). Additionally, China still plays a significant foreign exchange reserves role, which reached \$2.85 trillion by the end of 2010, and is becoming the world's largest reserves so far (L.P., 2009).

On the one hand, China attracts a large number of foreign direct investments that motivate China's domestic economies, on the other hand, China also directly invests abroad that boosts foreign economies. With the strong of China, it will also effectively impact the world order, maintain the world peacefulness, and balance the world politics.

2.1.3 The progress of payment system in China

In China, the life is changed by the reforms, and reforms make the life smarter and more convenient. Since the economic reform and opening up, China is undergoing a tremendous change in various fields, in particular to the payment method.

Throughout the history, the payment method always acts as a crucial actor during transactions between buyer and seller. In planned-economy age, in case all of the necessities were quite deficient for people, so the Chinese government issued a variety of tickets (e.g. food tickets, cloth tickets, etc.) as the major payment solutions in daily life from 1955 until 1993, as well as meeting the demands of society and stabilizing the society order (Yanling, 2014). As of year 1990, tickets payment solution gradually disappeared from stage of Chinese history, instead, the paper cash (RMB) subsequently became the most widely used payment method for Chinese consumers. At the beginning of period using cash, the maximum value of paper cash (RMB) was just 10 Yuan, then gradually expanded to 100 Yuan till now. Looking back to 1985, the first bank card was issued by China, and afterwards more and more bank cards were used by a hugely increasing number of users. As of the end of 2013, there were already issued total 4.2 billion cards, which led to 12,971 billion transaction volumes that ultimately reached sum of business value of 31.83 trillion (Yanling, 2014). Within this short period of 28 years, the bank card was viewed as the mainstream of payment solution in China.

With the rapid development of 3G, 4G network technology and mobile devices, the online mobile payment solutions are subverting the Chinese traditional payment methods due to their excellent new features such as easier, safer, and more convenient. According to the About-Payments statistics, the current online payment methods could be classified into the following three kinds: Card payment, Alternative payment, and Digital wallet (namely E-wallet), respectively. Additionally, they differ in terms of usage, scale, acceptance, security, costs, liability and more. Having a good look at card payment that relies on the bank cards, including credit card, debit card, prepaid card and gift/loyalty card, etc. (About-Payments, 2015). In other words, card payment is a conventional and preliminary online payment method. The alternative online payment which does not pay for goods or services with bank card, but through alternatives like online bank transfer, checks, direct debits, invoices and so more to make or receive a payment during transactions (About-Payments, 2015). However, this kind of payment is always associated with low and fixed transaction fees, but safe and secure.

In the eye of digital wallet, it contains two different types of e-wallets (e.g. preloaded and

pass-through e-wallet). Besides, it is always supported by technologically advanced techniques and software, so that it not only improves payment experience and also simplifies online/mobile checkout. In contrast to the previous two online payment methods (card payment and alternative payment), e-wallet enables users to pay using stored value in e-wallet account or to instantly pay with their associated bank cards or alternative methods (About-Payments, 2015). The contributes to consumers are to make/receive a payment in an easy, safe, and secure way.

At present, the most Chinese internet users would like to shop online, in the meanwhile, they also prefer to choose the digital wallet instead of others, which makes the payment timely and safely. According to the iResearch official statistics, there are many types of online payment methods in China. As shown in Figure 1 below, as of 2014, Alipay, Tenpay, and Union pay occupy the main market share of online payment services. In general, online payment solution provides a way to address the barriers of geographical distances across the different regions, as well as making it possible to pay anywhere and anytime.

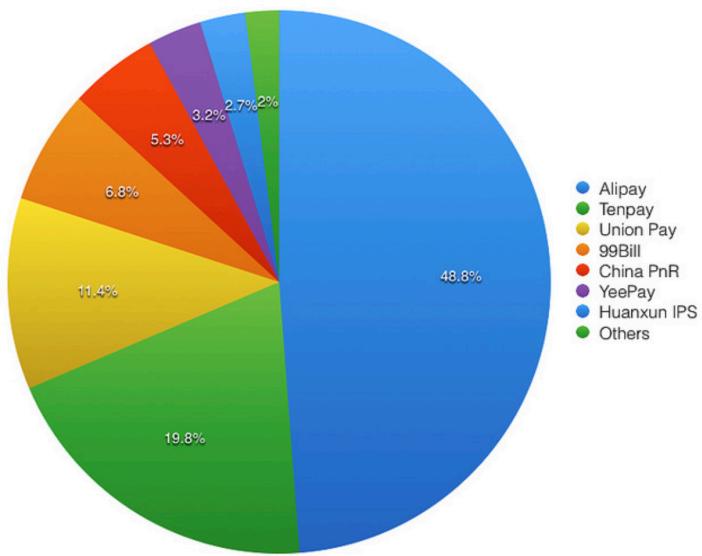


Figure 1 Market share of online payment services in China

Resource: iResearch.com.cn, “Market share of online payment services regarding transaction volume in Q2 in China, 2014”

2.1.4 China's economic transformation

The People's Republic of China was founded in 1949, in order to push the new huge nation forward, the Chinese government has conducted a series of reforms, in particular to economic reform. Before reforming, China's economy was a closed mode that did not encourage foreign investments and imports. To be more specific, it was a planned economy based on the public ownership (Jinglian, 2006), which did not fit the long-term and sustainable development model of Chinese economy. In addition, according to the author Gregory c. chow, the inevitable reasons of China's economic reform are as follows (Chow, 2004):

1. The Cultural Revolution of 1966-1976 leaded to a serious impact on Chinese society, especially loss of support of Chinese people, so that the Chinese

Communist Party had to change direction.

2. Lots of economic planners realized that planning system was hard to manage and economically inefficient.
3. Neighboring economies which with market-oriented system has already acquired rapid and successful economic growth.
4. The Chinese people desired a new market-oriented economic reform and would definitely support it.

Eventually, China's economic reform began since 1978, after Den Xiaoping became the new leader of China. China's economy has been transformed from centrally planned economy to a market-oriented economy (Jinglian, 2006). On the basis of official statistic, the average rate of growth of GDP in the first two decades of reform was approximately 9.6 percent annually. The period of 66 years of economic transformation, leads to a deep influence on Chinese society evolution in terms of agriculture, state-owned enterprises, the open-door policy, the price system, development of non-state sectors, the banking and financial sectors, economic and social infrastructure and social Welfare system (Chow, 2004).

In sum, after economic reform China's economy has undergone a tremendous change. For example, the rapid growth rate of economy, being able to enter WTO, attracting more and more foreign businesses, and push China to the level of middle upper. Economic development acts as the strong engine of development of China, the internet economy is gradually becoming the key motor of growth of China's economy.

2.2 Research result

China is on its way to building up a continental scale economy model, meanwhile, after implementing a series of strategic initiatives, the economy is on the upswing especially the internet economy within China. To follow the fashion trend towards online shopping, the digital online payment method is widely used on a large number of e-shopping platforms for the purpose of making/receiving a payment between buyer and seller. It is concluded that a digital online payment for example Alipay should fit the local actual economic context by meeting the requirements and initiatives of economic development for the purpose of facilitating the growth of economy. As a result, the implementation of online third-party payment would be rapidly distributed and strongly supported by the government, eventually, such online payment solution will succeed more easily.

3 The Alipay payment system

Currently, we are living in the internet age, in most time everything is more likely to be connected to each other through network. In China, there are huge number of internet users nowadays, who would prefer to go shopping online. As a result, the number of online payment service providers is more and more, and most Chinese online consumers prefer to choose Alipay as their online payment solution. Alipay is an absolute leader of online third-party payment services within China, which is supported by advanced and innovative technologies and with a very good mouth of word as well.

The Alipay online payment method, in addition to providing individuals or merchants a swift, easy-to-use way to make/receive a payment, as well as trying to reduce transaction risk between buyer and seller when buying and selling. In other words, Alipay at the same time enhances the weak and inadequate Consumer Protection Rights during the whole online transaction. In sum, there are two key special characteristics of Alipay that drive it to become the most popular online payment solution within China. The first one is escrow service that helps protect the absolute safety of transaction value over time, and the other one is the flexible payment options that allow user to freely choose preferred payment means. For example, able to pay using the balance of Alipay account, able to pay using associated bank cards, or able to pay using other alternative methods what the user like. Furthermore, Alipay still gives a surprise to its users that all of the online transactions without service fees. Obviously, that is one of the reasons of why Alipay is most widely accepted by Chinese web users. In fact, Alipay serves as not only an online payment service, but also as a coordinator between buyer and seller throughout the online transaction. In case of there is a dispute on purchased goods or services between buyer and seller, Alipay will timely intervene as a intermediately between them to solve the conflict effectively (Taobao3.99.com, 2015). Consequently, Alipay now is widely used by a wide variety of corporate e-shopping platforms like Alibaba, Taobao, Tmall, the Ebay of China, the other increasing independent online stores and rapidly increasing foreign retailers and wholesalers (Chinese SEO Shifu, 2014).

The aim of this Chapter is to illustrate how Alipay works during the online transaction in various contexts and to show how secure it is in terms of security measures, so as to address the research sub-question 2: “how to ensure the security of payment during online transaction?”.

The structure is organized as follows: section 3.1 mainly relates to the working ways of Alipay, specifically, section 3.1.1 elicits the main Alipay customer segments within China; section 3.1.2 introduces the fundamental operating model; section 3.1.3 discusses how Alipay handles direct payment during online transaction between buyer and seller; followed by section 3.1.4 that discusses how Alipay handles indirect payment between them. Afterwards, section 3.2 mainly relates to security aspect of Alipay, such as vulnerabilities, threats, security measures and security solutions. Specifically, section 3.2.1 discusses the common vulnerabilities and threats in current internet environment along with Alipay payment system; section 3.2.2 shows the overall Alipay security status in terms of security measures; section 3.2.3 discusses how about the product availability using Alipay to purchase during the transaction; section 3.2.4 discusses the general interfaces and essential express service. Followed by section 3.3 that elaborates the answers to previous research sub-question 2.

3.1 How does Alipay work?

Alipay has been called the PayPal of East in China, indeed, Alipay is similar to PayPal in terms of classification, namely both of them belong to e-wallet (Taobao Shopping Guides, 2012). Specifically, they enable their users to link bank cards or other alternative payment methods to a virtual wallet, in this way, users can immediately transfer preloaded money in this wallet to others (About-Payments, 2015). But again, Alipay differs from PayPal in terms of online transaction handling in escrow service that help prevent the potential online transaction fraud (Chinese SEO Shifu, 2014).

To better preserve the payment when buying and selling on e-shopping platforms like Taobao, Alipay does not directly release the shopping money to seller, instead, is deposited and held safely in Alipay official account, until the buyer actually receives and is happy to the bought goods, then the shopping funds eventually released to seller. At the same time, Alipay also provides immediate transfer service in case of the transaction conducted among the good friends or family relatives or some virtual goods. In sum, either escrow payment or instant payment can be given the choice for the common users. Alipay as an independent online payment solution accepted by a large number of currently-existing online shopping websites like Taobao.com and Tmall.com in China. Before users start using the Alipay, they have to sign up for an Alipay account for themselves. In addition, when they filling the application form their real name, valid ID, e-mail address, telephone number, may be more are required. As soon as they complete all of mandatory procedures of the registration, their Alipay account is activated. But one more thing to do for Alipay users is to associate their Alipay accounts to specific account of online shopping websites like Taobao account, then they can get started their shopping journey.

3.1.1 Alipay Customer segment

Alipay serves as an e-payment service provider that plays a major role in facilitating growth of e-commerce economy till now in China. Moreover, Alipay has shifted from an online shopping payment method to a multi-function payment platform that covers a wide range of sectors and industries over the past decade (iResearch Consulting Group, 2014). As of the end of 2013, Alipay had more than 300 million registered users in China, meanwhile, processes over 80 million transactions in a daily basis.

Initially, Alipay pays more attention in coastal provinces and first-tier cities, including Shanghai, Beijing along with Guangdong, Zhejiang and Jiangsu provinces to develop the potential customers through strategic promotion and improved purchase experience (iResearch Consulting Group, 2014). According to the Alipay 2014 spending report, all of those regions mentioned above led to over 55 percent of total transactions by 2014.

But in recent years, with the rapid development of mobile technology, the e-commerce platform has been expanding to mobile platform like smartphones and tablets from traditional desktop platform like PCs. Moreover, the price of mobile devices is much cheaper compared to PCs, so that more and more people who live in rural areas and small cities has ability to access shopping channel via their mobile devices. It was indicated that the percentage of mobile payments to total payments in rural areas and small cities more than doubled during the period (2012 through 2014), specifically, for the whole country, the mobile transactions, accounting for 54% of total transactions volume in year 2014 (iResearch Consulting Group, 2014). According to the Grace Wang (the head

of O2O services for Alipay's parent company, Ant Financial Services Group), Alipay aims at growing the number of rural users to 100 million in two to three years to make its service more available in less-developed regions within China (MelanieLee, Alipay Targets Rural and Overseas Users, 2014). Depending on the China Internet Network Information Center(CNNIC), as the end of 2013, the nation's entire Internet population, of which 28.6%, or 177 million, were carried out through rural areas inside China (iResearch Consulting Group, 2014).

In addition, with ongoing advances in logistics network and the establishment of e-commerce operations centers (MelanieLee, Alipay Targets Rural and Overseas Users, 2014), Alipay's customer segment also rapidly expanded to lower-tier cities such as second-, third-, fourth-tier cities and even remote western cities such as Lhoka and Shigaste in Tibet and Bortala in Xinjiang Province with the help of improved mobile techniques. In the eye of Tibet last year, the proportion of alipay mobile payment, occupying more than 62 percent of total Alipay payments, up from 32.7 percent in 2013 (iResearch Consulting Group, 2014).

Moreover, Alipay tries its best to foot into overseas marketplace like U.S. and Europe relying on the cross-border transaction-settlement service, which enables both foreign individuals and merchants to do business with Chinese consumers in different currencies. With this service, Alipay already serves approximately 18 million overseas consumers over 30 countries and regions (MelanieLee, Alipay Targets Rural and Overseas Users, 2014). So, with the persistent efforts, Alipay's payment service will cover more and more domestic regions and international regions as well.

3.1.2 Alipay's base model

Alipay payment system has been embedded into millions of online websites allowing online shoppers to purchase goods and services via Alipay application. For merchants, Alipay teams up with tremendous e-shopping platforms enabling them to sell their products/items to customers directly as well as receiving online payment safely. Actually, there are four different operating models in terms of object, namely model for merchants, model for Agents, model for Payment Company, and model for System Integrator, respectively (AlipayTM, 2015).

- Alipay Merchant model is to enable participants who have own webshops, to conduct their e-commerce business with consumers via Alipay.
- Alipay Agent model is to enable participants who have good e-commerce client's connection, to adopt Alipay cross-border service to allow those foreign merchants to conduct e-commerce business via Alipay.
- Alipay Payment Company model is to enable participants who have a necessary financial license, to integrate Alipay as an alternative payment solution to their merchant website and then effectively handle the transaction funding for the merchant via Alipay.
- Alipay System Integrator is to enable participants to integrate Alipay as an alternative payment solution to their merchant websites and ensure that link between Alipay transaction and merchant website successfully works.

Generally, the common online transaction often adopts the first one, which mainly involves with buyer and seller within China.

As shown in Figure 2, the typical online transaction model consists of the following basic factors:

- Set of buyer: start a transaction;
- Set of seller: handle a transaction;
- Set of product value system: labeled with price and chosen by buyer;
- Set of payment channel Alipay: aims to make/receive a payment for buyer/seller;
- Set of order delivery system: ships parcel to buyer timely via express company.

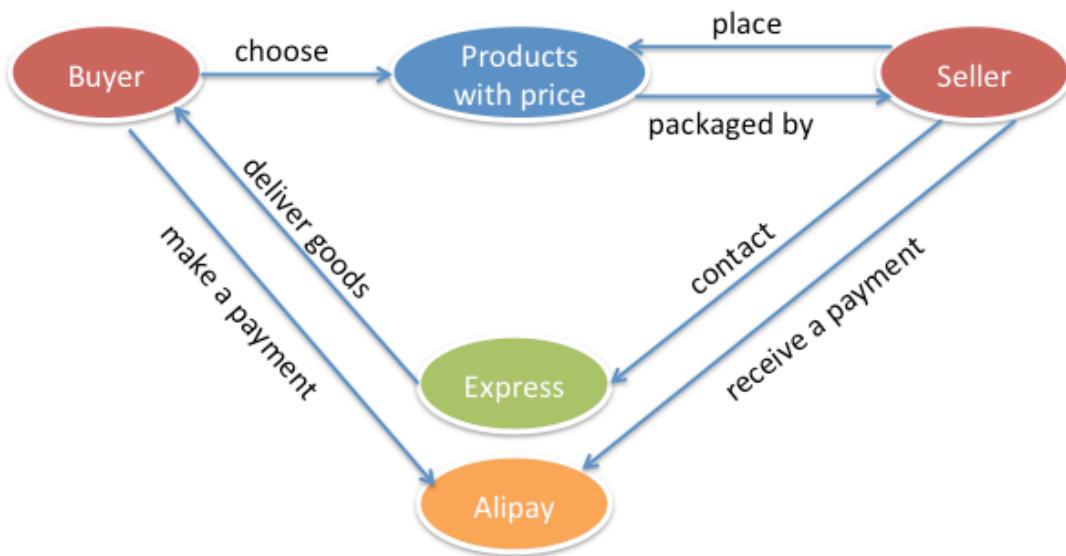


Figure 2 The base model for conducting online transaction between a seller and buyer via Alipay

3.1.3 Handle direct payment between customers

In general, Alipay has two alternative payment means. The first one is indirect payment with escrow service that is default and recommended officially, the other one is instant payment that is a less safe but simple way. Usually, the latter is not recommended during common transaction online, but in case of some particular transactions or context, the users have to choose it. For example, transaction between friends or families (direct transfer), utilities bills payment, mobile phone fees recharge, credit card repay, taxi rides payment, and so more. General speaking, this instant payment means is often adopted either for items that do not need to be shipped (Samantha, 2011), or for transferring money among friends, relatives and others. Additionally, it should be classified as following two specific scenarios : payment between seller and buyer, payment between non-seller and non-buyer, respectively.

As shown in Figure 3, the typical direct transaction between seller and buyer using Alipay goes as follows:

1. The buyer chooses an item from seller's store;
2. Then the buyer makes a payment to seller through Alipay;
3. Alipay will instantly transfers the money to the seller as long as the buyer enters his/her payment password;
4. When the seller successfully receives the payment, the item what the buyer has bought would be sent to the buyer soon;
5. The buyer successfully receives the item at the end.

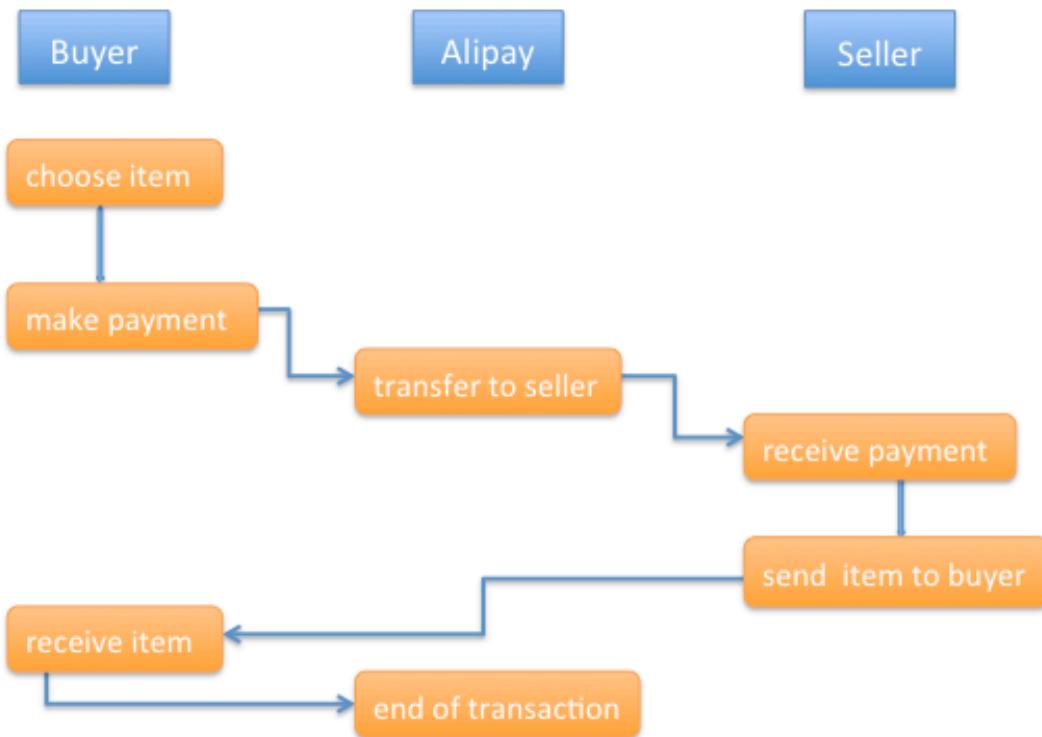


Figure 3 A direct transaction between a buyer and seller where product/item is traded via Alipay

As shown in Figure 4, the other typical direct transaction between non-seller and non-buyer (directly transfer money between Alipay accounts) using Alipay goes as follows:

1. The sender should firstly choose the Alipay account of receiver;
2. Then the sender has to verify the real name of this account weather it totally matches the actual receiver;

3. After verification, the sender can make a payment to receiver;
4. Alipay will instantly transfer money to the receiver as soon as the sender enters his/her payment password;
5. Finally, the receiver will successfully receive the payment.

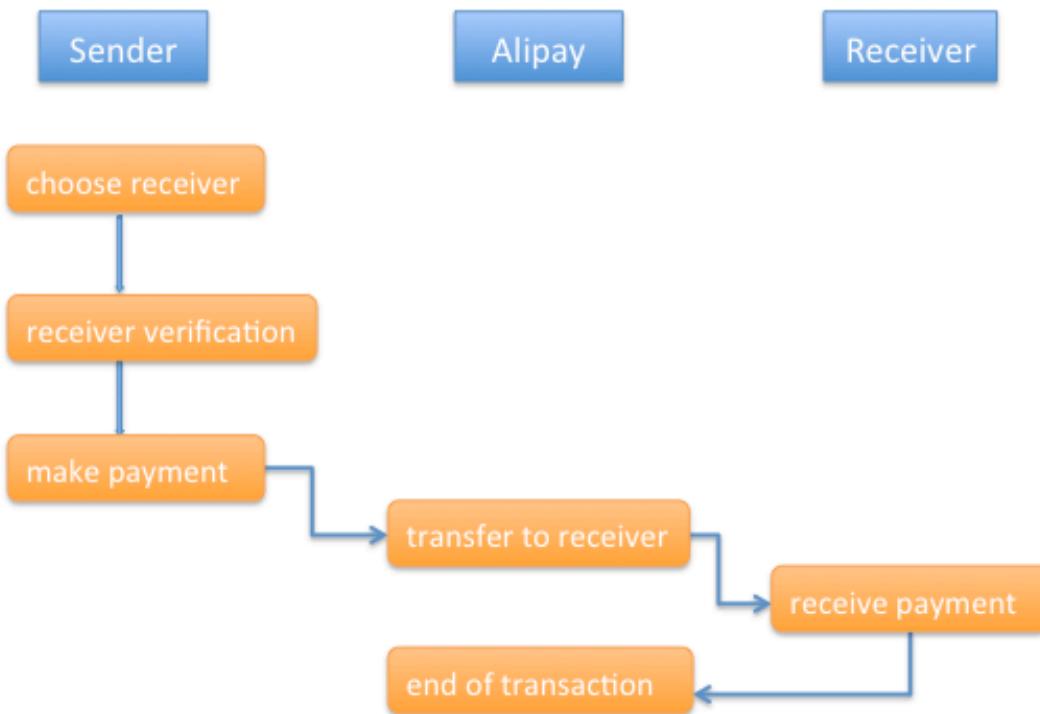


Figure 4 A direct transaction between a non-seller (sender) and non-buyer (receiver) where money is directly transferred via Alipay.

3.1.4 Handle indirect payment between customers

In general, Alipay usually recommend user to conduct a payment between buyer and seller who does not know each other in an indirect way. When compared to the previous direct way, this payment means makes the online payment safer, securer and more guaranteed during common transaction. In addition, this kind of payment is the standard form of Alipay for any physical goods that do need to be shipped through the express company. It is indicated that both seller and buyer are protected and coordinated by the intermediary Alipay during their transaction all the time.

As shown in Figure 5, the typical indirect transaction between buyer and seller using Alipay to make/receive a payment goes as follows:

1. The buyer firstly chooses an item from the seller's store;

2. Then the buyer will make a payment to the seller via Alipay;
3. Alipay does not immediately transfer the money to the seller, instead, keeps the money as escrow, up to now the money is neither able to be managed by the buyer nor the seller, but only Alipay.
4. Afterwards, Alipay would will sends a confirmation to the seller to inform that the buyer has already paid for the item what he/she has chosen.
5. The seller will send the item to the buyer through Express;
6. When the buyer eventually receives the item, and as long as the item has good condition, and also the buyer is satisfied with this transaction, the buyer would send a confirmation to Alipay through entering the payment password via Alipay;
7. As soon as Alipay receives the confirmation from the buyer, it will then release the stored money to the seller.
8. The seller finally receives the payment from the Alipay.

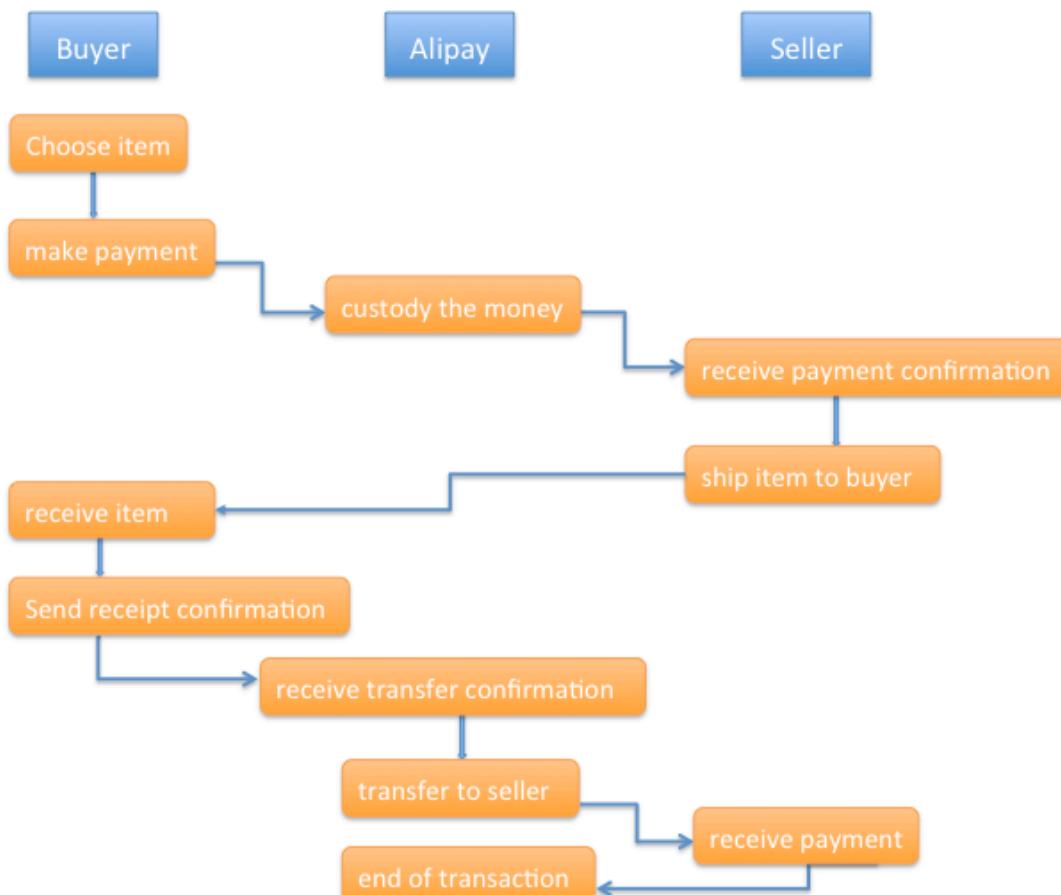


Figure 5 An indirect transaction between a buyer and a seller where item is traded via Alipay

3.2 Alipay payment system security

The aim of Alipay is to provide a safe, easy-to-use, swift way for individuals and merchants to do business with each other. From transaction safety perspective, Alipay serves as a middleman during transaction process between buyer and seller, and it always pays sufficient attention to the aspect of security of Alipay payment system that involves with diverse factors. From the physical point of view, the security of both internal and external organization should be considered. From the digital point of view, the Alipay account security, transaction security, information security (e.g. users' personal information, transaction recordings, order delivery data, etc.), parcel delivery system, product credibility, and even privacy of user should be take consideration. According to a prior scientific statistic, as of the end of 2014, the number of registered Alipay users had over whopping 700 million around the world. In fact, Alipay definitely faces numerous practical challenges with regard to payment security during the transaction. Therefor, Alipay takes a series of realistic security measures to prevent and protect against various attacks due to the existing vulnerabilities. As China's weak consumer protection laws, a large number of users loss their confidence in C2C and even B2C quality control (Wikipedia, 2015). Fortunately, Alipay stands out and never stops to establish and maintain safer and healthy internet transaction environment based on its technologically advanced security techniques and sufficient security policies. Meanwhile, Alipay not only gradually improves the consumer consumption confidence, but also partially enhances the strength of consumer protection rights more or less.

Although the online third-party payment platforms like Alipay has been trying its best to guarantee online payment as safe as possible. However, the fact that there are a wide variety of unexpected viruses, malwares, and Trojans will exist in communication and transaction period resulting in serious cyber criminal incidents such as online fraud and account theft (Chenggang Zhen, 2010). Therefore, the online security remains the most important point during the development of online payment solution nowadays. In order to reduce the online shopping concerns of consumers, as well as pushing e-commerce business forward in the future, Alipay is on its way to establishing a relatively safe and secure online third-party payment system over time.

3.2.1 Vulnerabilities and threats

With the rapid improvement of security technology and network infrastructure, the current online third-party payment providers have jointly been trying their best to create a safe and harmony internet environment. But there are still lots of unexpected attack risks at the corner, due to ongoing advances in hacking technology and penetration in various industries. Generally, the attack risks mainly involved in the following two aspects: information security and transaction security, respectively. Currently, one of the main attack risks of information security is lack of sufficient systems' security, reliability, standards, and communication protocols (Chenggang Zhen, 2010). So that, the hackers are able to easily take advantage of either inadequate security system or the unconscious mistakes made by the programmer when designing the system. As we are living in a big data age now, hence, the information relates to both organization self and consumer is regarded as the precious assets for organization no matter how it is expressed in which means.

Usually, the best way to effectively manage the threats and vulnerabilities concerning information for company is to establish an Information Security Management System (ISMS). According to ISO/IEC 27001:2005, the ISMS is designed to ensure the selection

of adequate and proportionate security controls that protect information assets and give confidence to interested parties. Meanwhile, it adopts Plan-Do-Check-Act cycle model for all of the ISMS processes. Specifically, ISMS serves as a practical guideline for developing organizational security standards and effective security management practices and to help build confidence in inter-organizational activities based on the ISO/IEC 27002:2005. All in all, the ISMS is an essential for any organizations no matter how big they are, because ISMS is a sustainable process for their continuous development and improvement based on risk assessment.

From the transaction security perspective, due to at the time the information infrastructure is connected to public network, that means it is easy to carry various attacks from both inside and outside the organization such as unauthorized access to customer information and Distributed Denial of Service (DDoS) attacks on a server (Chenggang Zhen, 2010). When compared to external threats like sector competitors, the internal threats such as the malicious employee has bigger damage to organization in e-commerce. Specifically, the disgruntled ones would give their enterprise a revenge through stealing assets or sabotaging the enterprise, or maybe the other ones will sell the sensitive information concerning business secret or personal data of customers to others to get more revenues. Another possible risk is that the e-commerce organization does not with respect to the laws, as a result this is more likely to cause the legal risks (e.g. non compliance with privacy regulations), which will ultimately reduce the reputation to customers.

Looking back to the indirect transaction between buyer and seller using Alipay to make/receive a payment based on Figure 5, there is an assets attack could take place when Alipay custody the transaction money. As shown in Figure 6 below, the Alipay assets could be threatened by physical attack or digital attack. The former will threaten the infrastructure directly via steal, destroy, or sell, and the latter will threaten the database via revise, delete, or leak.

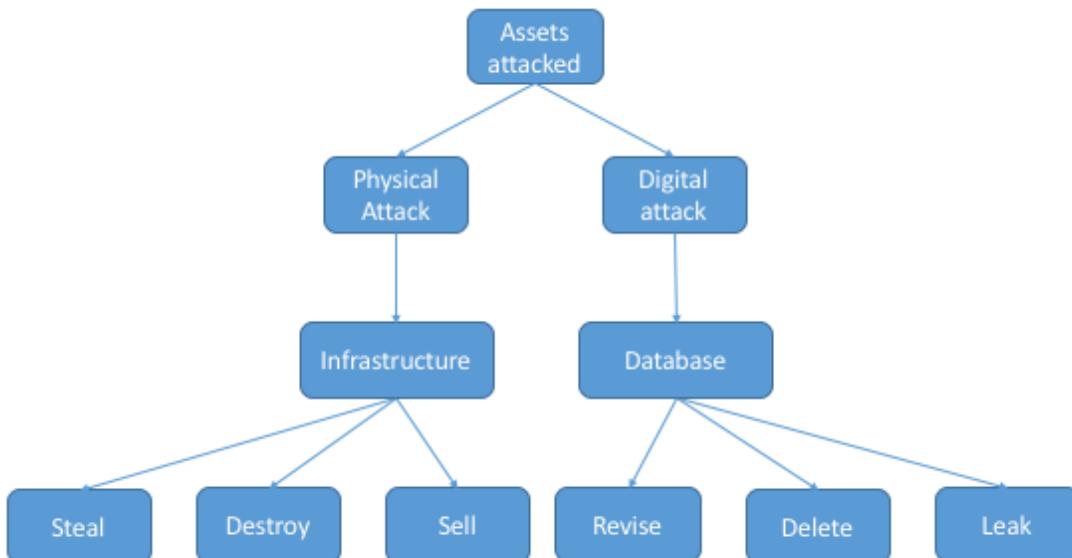


Figure 6 An example of an attack tree for assets attacked when Alipay custody the transaction money.

In most situations, the online shoppers pay for their purchases using Alipay wallet via

windows operating system, whereas, it at the same time carries a variety of attack risks due to the existing vulnerabilities. For example, man in the browser & man in the middle attack, phishing, advanced persistent threat, and web inject, etc. Usually, the first two attacks mentioned previously would leak the personal information of user such as the username and password. This sensitive data may be utilized by the attacker for changing the general settings of user account (e.g. security protection measures, password reset) or transfer the stored funds in Alipay account to their own account or bank cards. In addition, Alipay account is always linked to bank cards, so as soon as the Alipay account is successfully accessed by evil guys through intercepted password, the funds preloaded in bank will be unconsciously transferred to somewhere else.

Looking back to the indirect transaction between buyer and seller using Alipay to make/receive a payment based on Figure 5, there is a password attack could take place when the buyer sends receipt confirmation to Alipay by entering payment password. As shown in Figure 7 below, the password could be stolen in two ways: physical steal and digital steal. Specifically, the former can get the password through peeping such as look over shoulder or install hidden camera, and the latter can utilize malware attacks including man in the browser, man in the middle, phishing, and web inject.

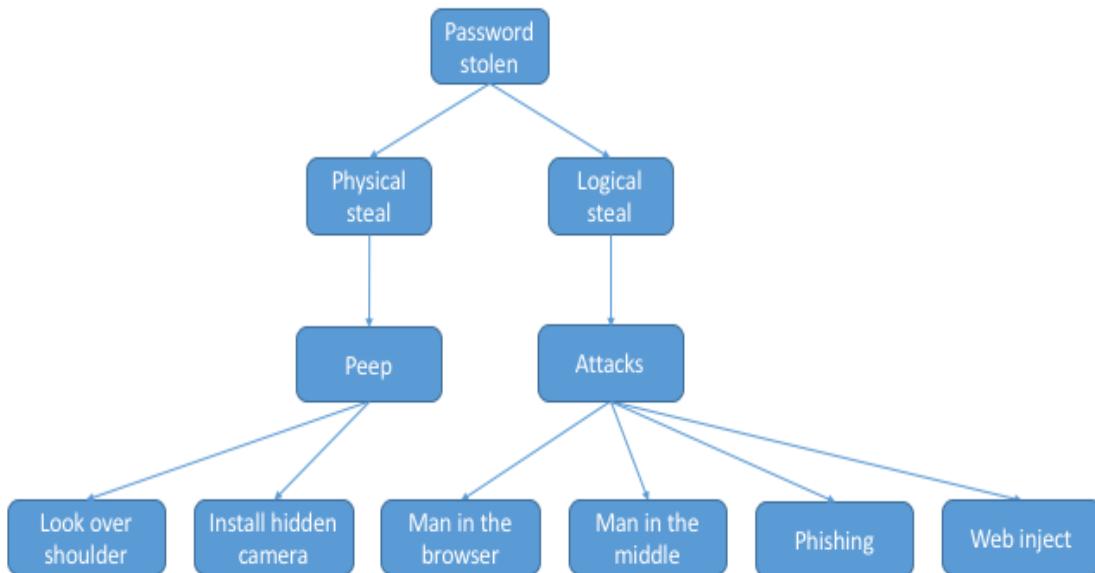


Figure 7 An example of an attack tree for password stolen when a buyer enters the payment password.

At present, the mobile channel is growing rapidly and is becoming the dominant channel in terms of online payment. So most Alipay users are shifting to conduct payment from PC windows to Mobile phones due to the convenience of mobile payment on-the-go. But again, there is a big potential security risk behind the quick payment via mobile platform. For example, Alipay allows the users to pay through scanning the QR codes despite online and offline. Normally, if the QR code is attached with a Trojan horse virus that could steal or intercept the Alipay password or any other valuable data from the user (FrankChen, 2014). In other words, because the encryption of QR codes are poor and week so that it is easy to be generated and reset by the malicious guys to cheat the users for the purpose of achieving their evil goals such as money fraud.

From the functional point of view, there are few vulnerabilities in Alipay mobile app. On the one hand, Alipay originally enabled its user to set the gesture password to protect access the manage panel on smartphone. Unluckily, after a recent update, Alipay forced cancel such gesture code for users. So that, the user will directly get access to the control center, when he/she opens the Alipay app. Without this gesture protection, if the smartphone is lost and then picked up or is stolen by an evil guy, he/she can also successfully gain access to the Alipay manage center without authorized permission. Under this situation, he/she can check any personal information relates to the owner of account, to be worse, if this guy is good at computer technology, he/she can even utilize the sensitive information collected from manage center to steal the user's ID number or the money stored in Alipay account. On the other hand, Alipay provides a micropayment free password option, as long as the user activate this option and determine the amount of micropayment (interval from 200 Yuan to 2000 Yuan), he does not need to enter the payment password later any more. In other words, as long as the actual payment number is less than or equal to the preset amount, the payment or transfer could be completed without the second authentication namely without payment password. By using this vulnerability, if the evil guy has ability to access the Alipay account manage panel such as the scenario mentioned early, he/she can easily transfer all of the stored money in Alipay account to his/her own private account in many times as long as the transfer amount of each time meet the interval of micropayment.

Taking into account the indirect transaction between buyer and seller using Alipay to make/receive a payment based on Figure 5, there is a money attack could take place when the buyer makes a payment then transfers the money to seller. As shown in Figure 8 below, the money could be stolen by fraudulent and vulnerable means. The former makes use of fake QR code and Trojans, and the latter utilizes micropayment free password and login without gesture code.

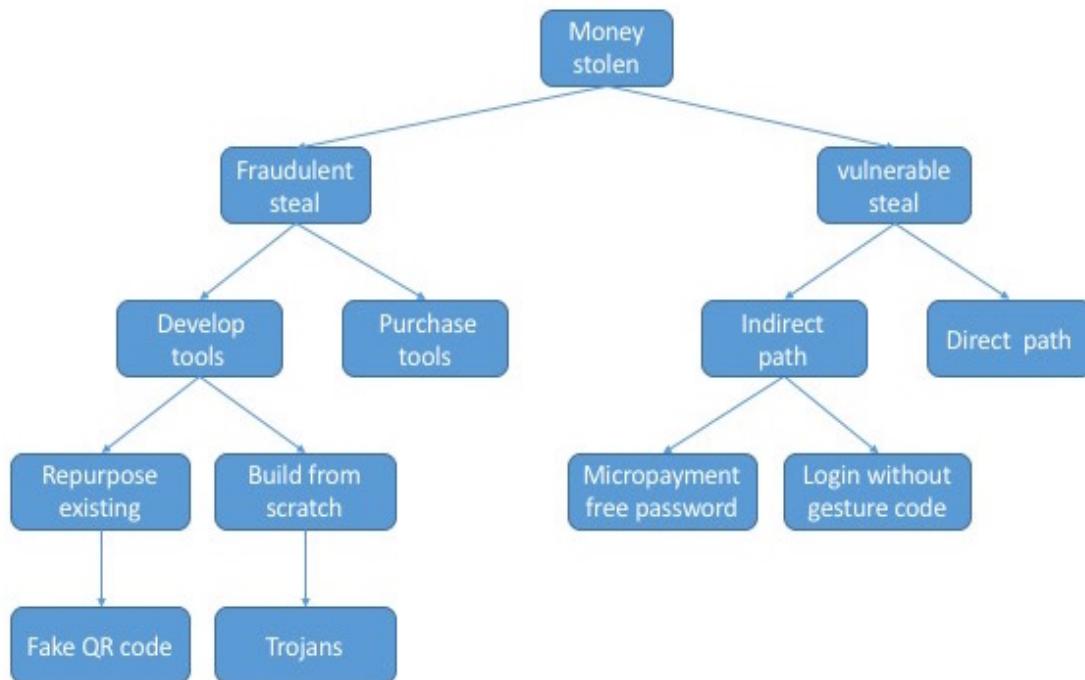


Figure 8 An example of an attack tree for money stolen when the buyer transfers the money to seller.

Maybe, Alipay remains not adequate and sufficient in preventing against the all kinds of attacks, besides, more and more vulnerabilities will appear. To be honest, we can't stop all of them to occur, but the thing we can do is to improve our awareness of security and pay more attention to prevent them.

3.2.2 Security proof and measure

In 2012, in order to improve and enhance the cyberspace security in China, Alipay signed a public health model plan regards to internet security with Microsoft, which would view the security threats as the public health issues. In this case, Alipay would apply a number of techniques that used to control the infectious diseases such as sharing of information among governments, as well as building up the internet security for PCs, mobile phones and other mobile devices like tablets when confronting with emerging global threats (Alizila, 2012). In most cases, the computers along with mobile devices are usually protected by the common measures, for instance, firewalls, anti-virus software, and automatically regulatory upgrades for security patches for the purpose of decreasing the vulnerabilities of internet system (Alizila, 2012).

Whereas, according to the Alipay-Microsoft new collaboration plan called "device health model" that the Microsoft will regularly scan over the internet which connected to the personal computers running Windows operating system and Alipay will warn in case of detecting a security threat (Alizila, 2012). In other words, it is primarily a sharing of information relates to the safety of the devices, just like a health certificate. On the basis of Microsoft post on Internet Security, the crucial fist phase in shifting attitude toward security from reactive to preventative is to ensure consumers' devices are safe (Alizila, 2012).

To have a good insight into the current security settings of Alipay payment system for consumers, the six major security settings are listed as follows (Alipay , 2015):

1. Security Controls

The Alipay Security Controls is compatible with mainstream operating systems on PCs platform, including Window XP(sp2、sp3), Window 7(sp1), Window 8, MAC OS X 10.9, MAC OS X 10.10, etc. In terms of browsers, it is able to be operated by a number of browsers such as IE8, IE9, IE10, IE11, Safari, Chrome, 360, Sogou, QQ, Firefox, UC, etc. Nonetheless, Alipay continues trying its best to optimize the compatibility of Security Controls all the time, not only guarantees the safety of Controls also make it easy-to-use.

With this meticulously designed protection, the security of Alipay account is enhanced, as well as preventing effectively the account password to be stolen by a variety of internet viruses and Trojans. When the user shopping online via Alipay, the key personal information of user is multiply encrypted on the basis of SSL encrypted transmission that effectively avoid the malwares to intercept the keyboard recording.

2. SMS Verification Service

This is a charged security measure, which allows Alipay account to be bond with user's private telephone number, in order to enhance the level of account safety. So in this way, any changes of Alipay account need to be made on PC platform, the user has to receive

the essential verification code, but it would not happen on mobile platform.

When the user is going to modify the key information of Alipay account or pay for their transaction, the mobile phone SMS verification is required so as to further finish the modification or payment. In case of an evil guy gains access to Alipay account for modifying the key information of account or stealing the money, he/she has to get the verification SMS, if not, he/she is impossible to reach the evil goal.

3. Digital Certificate

Digital Certificate measure definitely plays a crucial role in helping protect Alipay account funds, which is issued by the authorized third-party CA. Specifically, in addition to encoding the user information, Digital Certificate acts as one of the most important certified identities when user using the stored funds in Alipay account, as well as making sure that the Account funds is safe. In addition, with the help of the Alipay's Digital Certificate, the instant credit transaction limit is increased to 20,000 Yuan, when transferring money to any other Alipay accounts via Alipay. From the compatibility perspective, the Digital Certificate is available for following operating systems, including Windows XP/Vista/7, Mac OS X 10.7/10.8, but it does not work on Server version of Windows operating system, Linux, and version under Mac OS X 10.7. From the browsers perspective, this security measure is supported by only Architecture 32 on Windows operating system, and Safari5.0/5.1/6.0, Chrome 23+, and Firefox 18+ as well.

Taking into account strengthen security, when the user's Alipay account is bonded by his/her PC or Smartphone, even if the login password is stolen by somebody else, there is no possible way for this evil guy to transfer the stored money on other devices that are not certified by valid Digital Certificate. No matter who signs into a Alipay account on other devices without installed Digital Certificate, the only thing for he/she to do is check out the account balance, but can not do anything else. In short, Digital Certificate is just like a key, which greatly enhances the security of the account used.

4. Payment Shield

Payment Shield is known as a security solution tool in Alipay payment system, which consists of electronic signature and digital authentication. As a result, it always ensures the confidentiality, uniqueness, truth, and integrity of information transmission when the users using Alipay on internet. It is proved that the Payment Shield looks like a powerful shield that helps protect the funds and account of Alipay all the time. In addition, there are also three traits in terms of convenience. First of all, it is able to be used on any PCs; second, it enables the users to have higher payment quota for funds transaction; at last, it is easy-to-use for everybody, who does not have any related knowledge of digital certificate.

In order to protect against corresponding attacks with Payment Shield, there are two different solutions available in terms of Security, Uniqueness.

- Security: When handling any funds business on Alipay websites, do not worry about all kinds of potential attacks risks such as Trojans, phishing sites, hackers any more, it will always act as a guard to protect the online transaction funds and the security of Alipay account. As Payment Shield is similar to U disk, its built-in micro smart card processor is able to prevent against a variety of risks to make

user account safe.

- Uniqueness: Payment Shield is associated with Alipay account, result in guaranteeing the safety of account funds. When somebody logs into Alipay without Payment Shield, he/she can only check for the account, but can not do anything else like transferring the funds.

5. Bao Order (PC or mobile version)

In general, Bao Order is an external and charged security service jointly launched by Alipay and China Unicom. It is a dynamic word of command technology security product. To be more specific, on its screen there are six random numbers will be generated by its encryption algorithm per minute to ensure the funds in Alipay account more secure. When compared to previous SMS Verification Service, they differ in terms of code generation. For SMS Verification Service, the verification code comes from the SMS, but for the Bao Order, the dynamic code is randomly generated by Bao Order.

So, when somebody intends to make a payment via Alipay using balance or credit card, shortcut payment, receipt confirmation, refund application, and refund confirmation, he/she has to enter the dynamic password displayed on Bao Order screen to authenticate for the second time, if not, he/she is impossible to further complete these manipulations.

6. Security Protection Question

The Security Protection Question service is often used for the users to set several private questions and corresponding answers what only the true owner of Alipay account knows. But, constrainedly, it can only be handled on PCs platform.

In case the account is stolen or password is forgotten, the user is able to easily retrieve the login password, payment password, application certificate, and so more with the help of these unique and secret security questions. This also prevents the attacker to modify any key information of account or cause any other damages.

Even though, Alipay possesses the previous six reliable and realistic security measures for its consumers, but it is far not enough.

Today, more and more web users pay for a wide variety of goods and services using Alipay mobile payment system in China. At the same time, the security level of payment system has to be required to heighten. Therefore, Alipay team focuses on new advanced biometric technologies that use fingerprints and faces to identify the users, so as to protect users from fraud, hacking, identify theft and other threats (OSAWA, 2014). With the biological identification technology, the users allowed to make a payment via Alipay by scanning their fingerprints or face recognition instead of typing lengthy password. Up to now, Hua Wei has already successfully embedded the fingerprint biometric verification tool in their recently released new Smartphone, the Mate 7, which was also totally integrated with Alipay wallet app. This biological technological function makes the identity authentication more secure and convenient via Smartphone, simply by swiping the fingers (MelanieLee, 2014). Not long ago, the fingerprint reader of Samsung's Galaxy 5 and Apple's iPhone 5 have been successfully broken in by hackers, who could get access to smartphone without authorized permission. In order to avoid occurring this scenario

again, a chip-security is designed for the mate 7, in this way, the fingerprint data is able to saved and stored on smartphone, but the date is encoded and it is impossible to be accessed by any malicious unauthorized attempts, unless approved third-party application like Alipay (MelanieLee, 2014).

In addition to integrating the fingerprint feature into mobile payment process, Alipay, as well as seeking a new way to better create and verify the Alipay's account. According to the Digits, Alipay has teamed up with Megvii (a Beijing-based startup that specializes in the biometric-security technology) to incorporate the facial recognition technique into Alipay's e-wallet app. Facial recognition differs from fingerprint scan in terms of the supporting requirements. In other words, the former does not require any special hardware but only a common camera, which is equipped by most smartphones nowadays. Moreover, when compared to the conventional facial identification method, the accuracy of Megvii's new approach can reach 91 percent, up from 70 percent accuracy normally (OSAWA, 2014).

Briefly, poor business practices create administrative threats in the form of password sniffing, data modification, spoofing, and repudiation in e-commerce, consequently, most of e-commerce companies are losing confidence to their customers and eventually be knocked out because of intensive competition (Chenggang Zhen, 2010). To deal with the series of security risks mentioned in previous section, the authors Chenggang Zhen and Peng Cheng come up with a number of realistic solutions and suggestions focusing on three aspects are as follows (Chenggang Zhen, 2010) :

Technical security aspect:

- Developing networks at all levels with the corresponding security protocols and security technologies to make sure the security of e-commerce;
- The network platforms should use firewall, virtual private network(VPN) technology, and anti-virus protection;
- Applying and expanding encryption, digital signatures, and electronic authentication technologies;
- Adopting online payment agreement such as the SSL (Secure Sockets Layer) protocol and SET (Secure Electronic Transaction) protocol.

Transaction security aspect:

- Establishing the business and personal credit files;
- Building a signature credit system;
- Improving the legal conditions of network security;
- The government departments should focus on the existing form of virtual currency, the main body of issuance, standards the flow of virtual currency, to guide mainstream operators to regulate the gradual transition of third-party payment platform.

Client-side security aspect:

- Raising the consumer's awareness of rational consumption and to establish a correct view of consumption;
- Improving the personal awareness of online payment and to identify the fake

- website;
- Strengthening the security of the client, we can design and develop a unified payment terminal, unified standards.

In current big data age, there are so much diverse information on internet, meantime, this information is not always trustworthy and reliable, because perhaps behind them with Trojans and virus as well, which threat consumers when they shopping online through e-wallet. In fact, not all online consumers are aware of the potential security risks, on the contrary, most of them ignore this and leave nightmare for themselves. On the basis of lessons learned in course Security in Organization (SIO), we can further take into account following means in connection with service providers and users.

Service providers side :

- Guide and facilitate users/customers to take responsibilities;
- Take consideration into a situation from several perspectives, not only the security perspective counts;
- Design the client-side software;
- Adopt Responsible Disclosure Policy (RDP) to in-time detect and treat the possible vulnerabilities and threats on their website and application;
- Educate and inform your users/customers about usage & risks,
- Share the knowledge with others.

Users side:

- Device binding: registered app/device on first use;
- Detection of security level of device (jailbroken/rooted/malware?);
- Limit transaction amounts & functionality.
- Step-up authentication using tokens.
- Limit storing sensitive information on the device;
- Secure safe and trustworthy Wi-Fi connection (do not connect to public Wi-Fi hotspot to handle online transaction);
- Frequently test the device security.

3.2.3 Product reliability

The cultural belief of Alipay is: because trust, so simple. Meaning that Alipay values and emphasizes the mutual trust and commitment toward each other during the online transaction. Alipay aims to bring the best goods and services to the consumers, as well as making the life better day by day.

In China, there are many kinds of online shopping platforms, but the biggest and most popular is Taobao, which supports only Alipay as its unique online payment interface for consumers. In order to protect the consumer rights and maintain the online business orders, regardless of buyer or seller has to comply with the consumer protection laws and particular regulations on online stores. The seller who wants to sell the goods and services through Taobao must sign the consumer protection agreement first and then pay 1000 Yuan guaranteed funds to Taobao as commitment toward buyer. In addition, the online seller also has to agree with the following commitment agreements, in order to make sure that the selling products are 100 percent true and reliable. They are return

commitment inside 7 days, products commitment, products exchange commitment inside 30 days, shipping time, damaged products replacement, and optional Express (Taobao.com, 2015). As long as the seller breaches one of agreements mentioned above, he/she will take the relevant legal responsibilities and compensate the buyer in corresponding ways.

As shown in Figure 9, if there is a dispute between buyer and seller, the Alipay and Taobao will intervene together to coordinate among them.



Figure 9 The Alipay Refund & Rights protection treatment workflows

3.2.4 Interfaces and Express

Interfaces

Alipay is able to be as the biggest third-party online payment service in China, because it never stops designing Client-side and user-friendly software and services to offer the best use feeling for its users. Interface as the most significant component of Alipay payment system, plays a crucial role in bridging user and Alipay platform. Additionally, both the effectiveness and efficiency make alipay different and acceptable from other payment services within China. In short, the interfaces of Alipay are user-friendly and easy-to-use. The Alipay Control Panel consists of five major interfaces are as follows:

Alipay Account

As shown in Figure 10 below, the “Alipay Account” is the default interface when user logs into Alipay. Obviously, it is typically made up of three layers (layer-1, layer-2, layer-3, respectively). Firstly, the five main entrances of interfaces are listed on the first layer, in which allow user conveniently get access to each specific destination. Usually, when the user clicks on button “Alipay account”, the account balance will be intuitively displayed in

number on the Wealth Board that put on the second layer. By Wealth Board, on the one hand, the user is not only able to conduct either charge for their Alipay e-wallet through clicking on “Charge” or withdrawal from bonded bank cards before through clicking on “Withdraw”. On the other hand, user can also manage his/her Yuebao (belongs to Wealth Center) through shortcuts “transfer” and “transfer out”. On the right of the second layer, a dashboard of life services (an affiliate of services) is put there, in which enable Alipay user to launch common applications via this quick interface.

On the third layer, there is a transaction control panel, this is where the user can see the details of recent most transactions and conduct corresponding actions. Basically, this transaction dashboard consists of five columns. As illustrated in Figure 10 on layer-3, by column “date and time”, off course, here show the specific date and time of transactions; by column “transactions details”, this is where the user can check the detailed information of order and seller; by column “funds”, here allow user to view the total value of order; by column “transactions status”, in which the user monitor what is going on with his/her order at this moment, in general, there are total five different order statuses (e.g. waiting for the buyer to pay; buyer has paid, waiting for the seller to ship; seller has shipped, waiting for the buyer to confirm receipt; the transaction is complete; the transaction is canceled.) (TaobaoFieldGuide, 2009); finally, by column “actions”, this is where the user is able to conduct the further action for his/her order, including confirm receipt, apply for a refund, extent the receipt time, check the memos, view details, delete transaction (TaobaoFieldGuide, 2010).



Figure 10 Alipay-Alipay Account Interface



Wealth Center

As seen in Figure 11, Alipay provide four characteristically different investment ways in terms of funds, along with gold, and stocks. Such as Yu'eBao (funds), Ant Financial (funds), CunjinBao (gold), and TaoliCai (funds & stocks). In this way, Alipay user feels free to choose the preferred approaches of investment, so as to acquire additional and maximum profits based on the present funds.

Figure 11 Alipay-Wealth Center Interface

User Icon

As explained in Figure 12, this is where allow user to quickly view the profile of Alipay Account, for example, the real-name of user, the account name, account security, account context security, bonded bank cards, tied telephone number, membership points, the amount of collection points. It's just like a summary of account information.



Figure 12 Alipay-User Icon Interface



Life Services

As interpreted in Figure 13, the Alipay-Services interface provide two specific accesses. The first one is general life services access (e.g. make/receive a payment, credit card repays, charge mobile fees, and so on) and the other one is merchant services market access (e.g. hotels, supermarkets, hospitals, general merchandise, flights, and digital entertainments, and so more).

Figure 13: Alipay-Life Services Interface

Account Management

As seen in Figure 14, here allow user to do three things. First of all, enable user to set the Alipay account, including general information, Alipay e-wallet setting, security setting, payment methods and limitations, authorization and withholding, message remind. The second thing, user is able to easily check and review the past transactions recording in terms of transaction classification and transaction status. The last thing, every user can automatically receive the statement per month via e-mail.



Figure 14: Alipay-Account Management

Express

To ship the goods to the buyer on time after paying, Alipay supports a wide range of shipping companies (both domestic and international) on the basis of the Taobao shopping platform. For instance, SF, EMS, STO, YT, DHL, TNT, and FedEx Express (Taobao3.99.com, 2015). Every Express Company differs in terms of price, shipping time, weight limitation, type of transportation (e.g. airline, road, railway, ship), and service

model (special or normal). In nowadays, Express is becoming more and more important within e-commerce, especially, its service quality directly influences transaction quality and goods quality.

Express not only plays a crucial role in delivering goods, but also in product trace and reliability. In other words, the unique tracking number of Express enables the user to track delivery of order (Taobao3.99.com, 2015). Moreover, in case of the buyer is evil guy, who does not intent to confirm the receipt to release the money to the seller. The Taobao and Alipay will track the status of order with the help of the tracking number of Express, as long as the goods have been already signed and received by the buyer, the money will be automatically released to the seller normally in 7 days, maybe in some cases 14 days (Chinese SEO Shifu, 2014).

3.3 Research result

The online third-party payment solution serves as a channel that provides an easy-to-use, safe, and swift way for either individuals or merchants to make/receive a payment during online transaction. For the sellers, they need a worthy trusted way to sell their goods/services to goal-consumers directly, as well as being able to receive the transaction funds timely from buyers. For the buyers, they also need an assured way to purchase goods/services from goal-merchants directly, as well as being able to make a payment safely via e-shopping platforms. It is concluded that a good digital online payment solution should be an extremely strong protection system that embeds the highly advanced encryption, transmission, and anti-attack techniques into the payment system to help protect the user privacy, account safety and assets, and transaction completeness for its customers, as well as fitting the rapidly changing environment. In addition to these, there are also other three key drivers to ensure the payment security. The first one is to create a health and fair transaction environment by formulating a set of strict transaction rules and regulations under the Consumer Protection Laws. The second one is to train its employees for forming a strong awareness of consciously mutual-supervision and sensitive risk-detection during their daily work. The last one is to create a tight connection to its stakeholders and customers for sharing and communicating security information and issues timely.

4 Application of Alipay

From the outset, Alipay is designed as a life helper to help improve the life quality and simplify daily life especially the payment method for people. By using Alipay, people is offered an easy-to-use, safe, swift way to pay for their purchases regardless of online or offline depending on the highly advanced payment technologies. The mission of Alipay is to make it easy to do business anywhere either for individuals or for merchants. In addition to allowing its participates to make/receive a payment through internet network, Alipay teams up with many other key public institutions, as well as enabling its participates to do more things via a full range of realistic and user-friendly applications. By accessing corresponding application interfaces, Alipay allows people to conduct a wide range of daily affairs such as utilities fees payment, mobile recharge, investment just via their PCs, Smartphones, or Tablets. It is expected that Alipay makes the life better and happier for people in China.

This Chapter aims to specify what applications Alipay has, how Alipay differs from a host of competitors in China in terms of its features, further, to make clear why Alipay becomes the most popular payment method under China's continental economic context, and the implications between Alipay and western economy on the basis of economic globalization. Resulting in addressing the research sub-question 3: "what is the efficiency of a digital online payment in a cultural context?".

The layout is organized as follows: section 4.1 and section 4.2 mainly makes up this entire chapter. The former mainly focuses on what the current status of Alipay is under the continental economic model in particular to the e-commerce field in China, and the latter mainly focus on western economic model and the implication of Alipay there. Specifically, section 4.1.1 introduces the common applications of Alipay and few specific cases, section 4.1.2 discusses the reason of Alipay fits in China's Continental Economic model, section 4.1.3 discusses the reason of Alipay is most popular within China. Afterwards, section 4.2.1 briefly discusses what the current form of western economic, then section 4.2.2 discusses Alipay payment system whether or not to fit in western countries. Followed by section 4.3 that elaborates the answers to the previous research sub-question 3.

4.1 Alipay in the continental economic model

China is on its way to building continental economic model, over the past decades, it had already achieved a lot of noticeable achievements in modern economic construction especially in e-commerce. The rapid development of e-commerce not only boosts the growth of China's GDP, but also enhances the economic cooperation between Chines multinational enterprises and foreign enterprises. Look back to last year (2014), a senior Chinese official in a Lunar New Year reception declared that the internet economy becomes a engine of growth of great Chinese economy nowadays (Wangwei, 2015). As of 2014, China's internet users nearly reached 650 million, in addition, there were over 400 million websites nationwide that carried out more than 13 trillion Yuan e-commerce transaction value namely over 2 trillion US dollars (Wangwei, 2015). By the end of Q1 2015, China's third-party mobile payment GMV skyrocketed by 139.2%, which generates 2,001,560 million Yuan compared to previous quart, having a 11.7% increase (iReasearch Views, 2015).

During the development of China's continental economic model, Alipay plays an

important role in e-commerce business in terms of online third-part payment solution contributing to the rapid growth of internet economy in China. Under online payment perspective, Alipay handles over 80 million transactions daily, and especially on every double 11 annual festival, the amount of daily transactions always increases in times. Moving-back to 11 November 2014, Alipay handled 197 million transactions during a 24-hour period, meaning a 336% increase year-on-year (iResearch Consulting Group, 2014). In the eye of mobile transaction volume, Alipay occupied 78.5% of the third-party mobile payment as of Q1 2015 according to iResearch (iResearch Views, 2015). Alipay's service covers a wide range of sectors base on payment techniques, including online retail/wholesale, virtual gaming, digital communication, commercial service, public service, daily utilities and so more. In order to reach financial field, Alipay was in partnership with Tianhong Asset management in June 2013 to issue investment tool Yu'eBao that provides a shortcut for individuals to manage excess funds in Alipay accounts for making investments via Alipay on the go. In this way, the user not only can acquire a reasonable level of daily yields, also can withdraw their funds anytime (Alipay, 2015).

On the one hand, Alipay offers various online payment services for Chinese people nationwide, for instance online transfer money, utilities fees payment, offline purchases at stores, cinemas, convenience stores, supermarkets, hospitals, taxi rides, etc. (Alipay, 2015). On the other hand, it as a bridge between Chinese consumers and foreign merchants to conduct transaction with 14 different currencies based on the support of transaction Cross-board settlement technology. It is predicted that the economic communication between China and the rest of world will be more and more frequent and convenient via internet, additionally, with the payment technology innovates and payment service improves, Alipay would continue prospering with respect to China Continental Economic Model.

4.1.1 The Common Applications of Alipay

Initially, Alipay used to making/receiving a payment for Chinese web users when buying and selling at online stores like Taobao and Tmall. However, with the rapid development and improvement of Information and Communication Technology (ICT), Alipay is gradually becoming powerful all-in-one mobile tool. In addition to providing online-to-offline payment service via Alipay wallet mobile application, Alipay, as well as offering popular insurance and investment services for its customers through built-in financial management application. From application perspective, there are lots of useful functions available to meet all kinds of user demands in practice. First of all, let us have a preliminary understanding of Alipay under the terms of application classification as follows (Aliapay , 2015):

1. online shopping payment
 - make a payment
 - receive a payment
2. online money transfer
 - transfer money to other bank accounts (two hours through next day)
 - transfer money to other Alipay accounts (instantly)
 - international transfer based on actual rate
3. daily life payment
 - utilities fees

- mobile fees
 - credit card bills
 - telephone & internet & TV fees
 - traffic violation fines
 - fuel card recharge
 - daily shopping at stores and supermarkets (through scanning QR or Barcode)
 - property costs
 - hospital appointment booking
 - etc.
4. public education payment
 - tuition fees
 - student loans
 - campus card
 - love donation (for education infrastructure in poor areas)
 5. travel ticketing payment
 - bus and flight tickets booking
 - hotel booking
 - travel abroad (visa, tax return)
 - taxi rides pay
 6. entertainment payment
 - virtual gaming
 - game recharge
 - purchase lottery tickets
 - purchase movie tickets
 7. insurance and financial management
 - Yu'eBao
 - Ant Financial
 - CunjinBao
 - TaoliCai

In order to have a more in-depth insight into the Alipay application, two of applications will be specified in the following two use cases.

Yu'eBao investment

On June 13th 2013, Yu'eBao as a new internet investment tool was embedded into the Alipay payment system, where allows Alipay customers to invest their spare money in Alipay account here in China. As said in CRJ.com news, when the users make an investment into Yu'eBao, Alipay will help them automatically set up mutual fund accounts, eventually, the most of funds are being put into corporate debt and government bonds (CRJENGLISH.com , 2013). As of the middle of 2014, the population of Yu'eBao is more than 100 million, has carried out over 57.4 billion Yuan (nearly 9.2 billion U.S. dollars) at the time. In the eye of the interest rates, Yu'eBao has decreased to the current 4-percent, down from initial over 6.7-percent, nonetheless, more and more people have been attracted to put saving money into it, due to two following key advantages of Yu'eBao. The first one is the lack of minimum purchase constraint (LiDong, 2013), the other one is the much higher interests than banks (CRJENGLISH.com, 2014). So far, Yu'eBao is the largest monetary fund in China and the fourth largest globally, leading to change the

conventional financing market, imposes a big pressure on current traditional finance institutions like banks (CRJENGLISH.com, 2014).

Hospital appointment booking

In order to implement and operate the “Hospital of The Future” program launched since May 2014. Alipay integrated Alipay wallet with a participating medical center’s booking and payment systems that makes the user easier and more convenient to book desired doctor’s appointment using their mobile device (smartphone or tablet) just at home. Furthermore, the user also can pay for their medical bills and receive the diagnostic results via Alipay app (MelanieLee, 2014). According to the Alipay officials, they are teaming up with 50 hospitals on digital booking system at the time, besides, they are continue to merge the users’ medical records with hospital database to enable users to enjoy better service and their partners to be more efficient as well (MelanieLee, 2014).

As seen from the previous two applications, Alipay is on its way to establishing a universe mobile payment tool to improve payment experience via a full range of practical applications, as well as bringing convenience to people in daily life.

4.1.2 Why Alipay fits in China’s economic situation

In the 21th century, the mainstream of world is globalization in terms of culture, life, arts, in particular to economy. As the frequent cooperation across the countries worldwide, the economic globalization is an inevitable trend. In order to adapt to current tendency, the Pacific Asian giant China is building up its “continental scale” economy, which strengthens the association with surrounding neighbors. Under this economic model, China builds a tight links with other surrounding small economies in economic construction. It is a “win-win” mutual benefit model that motivates the bilateral growth of economy at the same time (Ross, 2015). In recent years, as the ongoing advances in internet technology, Chinese internet infrastructure development has already achieved remarkable achievements, so that the electronic economy is working as the strong engine of economic growth in China. On the one hand, the Chinese government arises a series of policies to positively boost the e-commerce business, and to encourage enterprises to move abroad to do business with other nations in the world as well. On the other hand, the government at the same time focuses on strengthening monitor and supervision in cyberspace. Fortunately, the e-commerce business progress involved with government is very smooth, which leads a positive and sustainable development (Wangwei, 2015).

In addition, Alipay not only positively and actively works with government to improve the experience of social public service for Chinese people, also tries to perform its social duty as more as possible. For example, optimizing the security and efficiency of online payment system, providing a variety of useful applications, making a lots of investments in poor areas within China to motivate local economic development and life level, all of these actions enable Alipay to gain a high reputation and brand image. For now, more and more people want to do business to get more earn, meanwhile, Alipay timely provide a payment solution for them to make it easier to do business via internet nationwide, as a consequence, the amount of transaction via Alipay is on the upswing. From the culture perspective, China is a collectivistic nation, in which the consumers value the service quality and relationship during transaction online. Alipay, an affiliate of Chinese e-commerce giant Alibaba Group, has a good reputation and impression in common

Chinese people who trust and commitment toward Alipay. In turn, Alipay is also from the consumer's point of view to consider issues to further understand the real feeling from users and respect users' choice. In this fast-changing world, Alipay is flexible, innovative in terms of payment service and really ready to adapt to new business conditions on the basis of China's "continental scale" economy in the future (Alibaba Group, 2015).

4.1.3 The reason of Alipay is most popular in China

More and more online shoppers are being attracted by Alipay, due to its noticeable functional characteristics and user-friendly service. This could be demonstrated by the huge Alipay user base, by the end of 2013, there were already huge user population of over 660 million within China, and it is far more than this number up to now. Alipay is so welcomed across the China also has its reasons, as a conclusion, there are four major reasons of popularity as follows:

1. The change of payment method

Throughout the history, most Chinese people are big saver who prefer to put their money in bank, in this way, their money is safer and be able to get additional revenue for themselves depends the bank interests. In contrast to western people, Chinese also don't like to use credit card to pay for goods and services even if they have, because people view consumption in advance as a shame and unwise behavior (Maruma, 2013). Furthermore, when people need to checkout, most of them used to pay cash instead of swiping with bank card. But now, with the popularity of cashless payment in particular to online payment, Alipay is being gradually accepted by common Chinese as an preferred payment method. In other words, Alipay integrates smartphone, bank cards, and e-cash into online mobile e-wallet app, which fits current payment tendency as well as making payment timely and safely whenever and anywhere.

2. The change of shopping style

With the widespread usage of internet nationwide in China, there are large population of internet users nowadays. By the end of 2014, the number of internet users reached nearly 650 million internet users, at the same time, more and more online stores being built (400 million web-shops nationwide) (Wangwei, 2015). On the one hand, there are a full range of products/items available at online stores, so that consumers may have lots of choices, on the other hand, not only the price is much cheaper than at physical stores, but also the quality of product is not so bad. As a result, shopping online attracts many people's attention regardless of ages, and it gradually becomes the mainstream and fashion in China. In order to pay for their goods and services, the shopper have to choose an online payment solution to complete the transaction. Even though, there are around 20 different such solutions (e.g. Alipay, TenPay, 99Bill, PayPal, etc.), but the most of e-shopping stores mainly adopt Alipay as the payment channel to make/receive a payment between buyer and seller during online transaction, especially the TaoBao (Chinese biggest e-shopping platform) along with Tmall and Ebay of China support only Alipay payment system (Samantha, 2011).

3. The culture and values of Alipay company

Alipay adheres to the cultural essence of its parent company, Chines e-commerce giant Alibaba group. As illustrated early, the mission of Alipay is to make it easy to do business

anywhere. In other words, Alipay aims to provide a safe, easy-to-use, and swift way to enable consumers, merchants, and any other participants to conduct e-commerce business in online and mobile marketplace (Alibaba Group , 2015). Besides, the Alibaba focuses on championing small businesses, so they will help prosper third-party service providers like Alipay to win and survive from fierce competition. In order to meet the rapidly changing demands of consumers, Alipay unwaveringly holds the spirit of entrepreneurship and innovation (Alibaba Group, 2015). From the Alipay values perspective, there are six remarkable values in terms of fundamental operation, recruitment, evaluation, and compensation as follows:

- Customer First
- Teamwork
- Embrace Change
- Integrity
- Passion
- Commitment

On the basis of these culture and value drivers, Alipay in addition to maintaining and boosting the company itself, as well as attracting more and more people to trust and adopt Alipay.

4. The features of Alipay service (Fun Alipay, 2015)

Indeed, Alipay is not the only one who involves in e-commerce payment service in China, but again, it is the only one who certainly improves people's life and makes impossible things possible in daily life. That are the key points that make Alipay unique and outstanding under the terms of online payment method. Additionally, there are seven remarkable aspects of Alipay feature as follows:

1. Assured online shopping

Alipay possesses the leading security technology (e.g. global security certificate signed by Verisign,128-bit SSL encryption) (Alipay Security Center, 2015), the highest standard of data encryption, and a wealth of security products. So the users do not worry about their funds in Alipay account and privacy any more.

2. Unimpeded online-to-offline payment

Currently, Alipay is in partnership with hundreds of both domestic and global banks or financial institutions, in order to maximum meet the demands of its customers. Additionally, there are also many available alternatives to choose when buying and selling during transaction online. They are as follows (Fun Alipay, 2015):

- Quick payment
- Online bank transfer
- Account balance payment
- Third-party payment
- Cash on delivery
- Credit card installment
- Pay outlets
- Consumption card payment
- International credit card

3. Stay at home, get life trivia

It is really boring to deal with daily affairs time and time, for example, utilities fees payment, credit card payback, mobile phone recharge, and so more. But now, the user does not need to do these any more, from now on, what he/she has to do is just to pay for that using Alipay either on PCs or mobile devices.

4. Preferential and convenient Online transfer

The user does not have to wait in line at bank any more, with the help of Alipay, all of the online transactions and transfers are free, besides, the bank transfer at most 10 minutes credited into account.

5. Multi-account management in one place

If the Alipay user owns more than one account, here allows he/she to set up all of their accounts, and then conveniently manage all of the accounts' information that makes internet life easier.

6. Well aware of consumption dynamic

By the end of every month, the user is able to check and review his/her all of transactions based on the automatically generated statement of bills, so that he/she will make more reasonable financial management plan in the near future.

7. Pocket payment

As long as the Alipay wallet mobile app installed on user's mobile phone, then it seems that the user brings a multi-function payment robot, which makes it timely, easily, and safely to complete a payment anytime and anywhere.

4.2 Western economic model

The Western world also known as the first-world, which means that most of them are developed countries in terms of GDP, culture, civilization, social infrastructure, economy, and politics, and more (Wikipedia , 2015). From the economic point of view, the western countries play a critical role in current modern global economy, especially in import- and export business with the rest of countries around the world. When compared to China, the western economic model is different because of its own economic culture, structure, policy, laws, resources. In order to manage and facilitate their entire economic development, they have established several economic institutions, including European Union (a politico-economic union of 28 member states), European Economic Area, and Group of 8 (G8).

With these economic institutions, the western countries aim to create a single internal market where the membership states are able to exchange the human resources, goods, services and capital with each other on the basis of a series of standardized laws and policies (Wikipedia, 2015). According to the Wikipedia, EU became the largest economy in the world by 2014, created a large GDP of 18.495 trillion US dollars, accounting for a proportion of 24% of global nominal GDP at the time (Wikipedia , 2015).

4.2.1 The form of western economic model

In general, Western World includes almost 50 countries, where they form a big economic area in the world. The western economic model is apparently across worldwide economic system, due to its particular features and structure. According to Wikipedia, the most of

western nations had undergone an industrial revolution, which lead to a big change in society, culture, economy, politics and more. Specifically, the western economy mainly experienced four critical stages, including industrial reform (pre-1945), the cold war (1945-1990), integration and reunification(1991-2007), recession(2008-present) because of European Debt Crisis (Wikipedia, 2015). Before World War I and II, the western economy developed fine and acted as a leading role in world economy, but the two times world war caused a serious bad impact for western economic development. Even though, during the war, the economy had ever recovered from the huge interruption and damage, whatever, after staging the world war I and II, the overall economy of western has undergone a seriously destroyed damage. Consequently, the western economy was struggling from the economic recession in the past decade (Wikipedia, 2015).

In recent years, the western countries were continuing to find ways to help them to overcome their current economic difficulties, eventually, they decided to expand the European nations and worked together to accelerate rates of economic growth. In 1999, the EU, which consists of 28 relatively advanced states within the whole European area as well as being a huge economic and political combined organization in Europe. In order to better operate this economic system, the membership states not only comply with the unified economic policies and relevant laws, and also use the shared currency, the EURO, during goods and services exchange (Wikipedia, 2015). As a consequence, the EU has a dominant impact in western economy. Back in 2009, the western economy was the largest community with more than \$32.7 trillion, which accounted for over 33% of the world's wealth in total in 2009 (Wikipedia, 2015).

However, the other less developed countries which belong to Europe are on the different level as developed countries included in EU. But again, these countries are on the way towards membership of EU, so that they can reduce the risk and increase the transparency of economy among member states. According to Skuflic Lorena, the western economy is shifting from non-market (centrally planned) to market-oriented economy through the economic integration such as EU. With this new economic model , in addition to achieving changes in ownership, building the sustainable market and enterprises, as well as forming a stable macroeconomic environment and political structure in the future (Lorena, 2010).

4.2.2 Alipay system also fits in western economic situation?

It is indicated that the internet plays a critical role in the growth of economy and productivity for a country based on the prior tremendous academic papers. Generally, the internet has following contributes to economic development according to the summary of Shan-Ying Chu (Chu, 2013):

- Internet facilitates access to information and reduces search costs;
- Internet deepens innovative capacities and capital, which is crucial for economic growth;
- Internet builds up network which enhances economic growth;
- Internet fosters business and hence results in economic growth;
- Internet improves labor market and economic outcomes.

Summing up the appeal, the internet has ability to spread information, motivate innovation, build up broad network, prosper business, deepen capital, facilitate labor

market, enhance market competition, and enable enterprises to profit from emerging markets. Moreover, on the basis of Chu's research result that there is a 10 proportion point increase in internet penetration rate raises real GDP per capita by 0,57 to 0,63 proportion points during the recession of a country (Chu, 2013). At the same time, the western economy is still in recession, so the internet may be a good alternative to help western world get rid of economic downturn via more e-commerce business.

Today, most western countries are looking for more and new foreign investors in a wide range of industrial sectors to motivate their own national GDP. Since China's government has posed the new policy "one road one belt" in the recent past, the relations between China and foreign countries especially western countries are becoming more and more strong via economic cooperation. In addition, both China and other countries at the same time establish a series of policies and strategies to encourage and strengthen the mutual collaboration effectively and efficiently. With the mutually increasing promotions, more and more western merchants intend to open the door for footing into large Chinese market, in order to directly sell their own goods and services to Chinese consumers. Under this situation, they need a realistic and suitable payment solution to support them to do business across Chinese marketplace.

Fortunately, with the ongoing advances in modern internet technology, which makes it possible and easy to do business across multi-nations via online payment system like Alipay. For now, the internet economy is becoming a major motor in corporate growth of economy within a nation in the world. On the one hand, e-commerce communication improves the people's life quality, on the other hand, it also stimulates the purchase intention of consumers that leads to drive and accelerate the recovery of national economy in particular to recession process. Accordingly, the western enterprises are on the way towards a partnership with Chinese firms, and for western governments, they do not stop creating as many opportunities as possible for their native enterprises to go abroad and issuing a series of beneficial policies to encourage foreign firms to invest here in all kinds of domestic sectors.

Alipay as the biggest e-payment service provider in China, has already made many attempts to do business outside China relying on their advanced technology and creative innovation so far. Going back to October 2014, Alipay introduced a payments and logistics-service tool, the ePass, which provides a special channel for western merchants (U.S. and Europe) to reach Chinese consumers directly without going into China. From technological point of view, the ePass combines Alipay's cross-border foreign currency settlement with overseas delivery platform from China Smart Logistics Network to conduct e-commerce business for its participants (Erickson, 2014). Hence, the western merchants are not only able to handle transactions via Alipay in home country, and also able to track shipping information from China Smart Logistics Network (iResearch , 2014).

When compared to other solutions, there are two outstanding upsides of ePass. The first one is that it does not require foreign participants to be members of Chinese marketplace, the other one is that they do not have to translate their existing web shops into Chinese. As a result, Alipay ePass makes it easier for western merchants to tap into Chinese market using provide infrastructure such as shipping facilities and warehouses around the world (Erickson, 2014). Furthermore, in order to heighten the brand image among Chinese consumers, ePass even gives them an effective and efficient way to promote themselves via Alimama. It is an online advertising platform, which includes leading B2C

and C2C online shopping stores like Tmall and Taobao within China, and shopping search engine eTao (Erickson, 2014). In addition, with the fast rising level of life in China in recent years, more and more Chinese have a big interest on western brands and products due to their authenticity and quality. As of October 2014, Alipay ePass had already handled nearly \$40 billion turnover between western merchants and Chinese consumers.

In a nutshell, Alipay ePass serves as a bridge between China and Western nations or the rest of world, which makes it easy and convenient to conduct multinational e-commerce business via internet network regardless of boundaries. In this way, all of ePass's customers would will mutually benefit from each other resulting in prospering own national economy.

4.3 Research result

Today, the customer does not only care the purchase process, but also care the purchase experience. For example, Alipay tries its best to provide as many useful and user-friendly services as possible in addition to payment service, so as to make it easy to pay for goods/services in daily life in China, as well as allowing its participants to do more things using Alipay. There are three key characteristics of a good digital online payment are concluded in terms of efficiency. The first one is able to improve and expand its payment services in a wide range of industries nationwide for meeting a wide variety of demands from its customers. The second one is able to possess a positive and motivated cultural value of enterprise, leading to organize a good online payment service in a particular context. The last one is able to expand its payment service to overseas market, where the overseas merchants can also directly conduct a business with domestic consumers. In a word, the three key features mentioned above are the essential conditions of success in a cultural context for an online third-party payment.

5 The comparison with other payment systems

The aim of payment system is to provide an easy-to-use, secure, and timely means for consumers to conduct a payment during daily online transaction. On the one hand, the payment system enables the payers to purchase goods and services using their online banking system or e-wallet. On the other hand, it may allow the users to check the actual balances and account transaction recording, off course, the users are also able to transfer funds between accounts through associated payment system. Accordingly, the payment system is used in a wide range of fields such as banks, financial institutions, online and offline stores, hospitals, retail stores, and so more. There are over 200 online payment methods available worldwide, and the people in different country has own favorite method to pay online (About-Payments, 2015). As mentioned earlier, there are three kinds of online payment systems (e.g. card payment, alternative payment, digital payment) in terms of usage, scale, acceptance, security, costs and more. With development of global economy and e-commerce, both alterative payment method like online bank transfer and digital payment like e-wallet are becoming gradually the mainstream across the world. For the latter, namely Digital wallet that could be regarded as virtual wallet that enables the user not only to link their all kinds of bank cards with their e-wallet account, and also to utilize preloaded money in their e-wallet to pay online using mobile devices (About-Payments, 2015). Digital wallet as an emerging payment method aims to provide a simplified payment way and to offer improved payment experience for the people as well.

For this chapter, where we may have some knowledge of other excellent online payment solutions except Alipay around the world. Besides, the main attention will be paid to the other common payment methods both in China and Western countries. Resulting in addressing the research sub-question 3:" what is the efficiency of a digital online payment in a cultural context?".

This chapter consists of two main components: section 5.1 and section 5.2. The former mainly introduces the other popular online payment methods except Alipay in China, and is made up of a section 5.1.1 that discusses three specific popular online payment methods in China, including TenPay, China Union Pay, and TenPay. The latter mainly discusses the common payment systems in western countries, and is made up of the following two parts: section 5.2.1 discusses what Ideal payment method is in the Netherlands and how does it work if someone want to shop online via Ideal; section 5.2.2 discusses weather a western payment system would also work within China. Followed by section 5.3 that elaborates the answers to the previous research sub-question 3.

5.1 The other popular online payment methods in China

In China, the e-commerce is becoming more and more booming in recent years, and the e-commerce is being an essential engine of economic growth within the PRC. With the prosperity of e-commerce business, more and more new online stores are placed on e-shopping platforms year by year, where the products could be traded between buyer and seller. In order to conduct a secure and safe payment during online transaction for consumers, a wide range of online payment solutions are provided such as Alipay, Tenpay, 99Bill, China Union Pay, Lakala, YeePay, Baifubao, SinaPay, PayPal, and so more (About Payments , 2011). For the consumers, they are able to pay for goods and services with the help of these available payment solutions, and for the merchants, they are able to sell their goods and service in a reliable way. In addition, the preference of

consumer on payment solution playing a crucial role in sales volume and profitability for ecommerce stores owners (Samantha, 2011). So, in the next section I would like to talk about the top 3 online payment methods other than Alipay in China.

5.1.1 TenPay, China Union Pay, and TenPay in general

Tenpay

Tenpay belongs to Tencent Holdings Limited, which is founded by Ma Huateng and Zhang Zhidong since Nov. 2004. Tencent acts as one of the largest internet companies in the world, and its service covers a wide range of field , including social media network that operates the most popular instant messenger software QQ in China (About Payments , 2011), web portals, e-commerce, and multiplayer online games, as of April 2015, its transaction volume reached nearly \$206 billion (Wikipedia, 2015). Tenpay serves as an online payment service is similar to Alipay in terms of payment method. In other words, it is also supported by escrow service except instant payment. In addition to possessing the all basic functions the other payment methods have, Tenpay, as well as allowing users to spend QQ points and credits to pay (Samantha, 2011). Just like Alipay, Tenpay also enables its users to pay for a various of goods and services for example credit card bills, utilities fees, taxi rides, mobile phone fees, public transport cards, and so on.

Up to now, the Tenpay is accepted by more than 200.000 e-commerce stores owners across the China (About Payments , 2011), for instance, QQ.com, paipai.com, mango city.com, Xiamen Airlines, China Southern, etc. (Samantha, 2011). Relying on the huge user base, Tenpay achieved a noticeable increase in online third-party payment over the past years and became the main competitor of Alipay. According to iResearch, Tenpay accounted for 20% of market share in China by the end of Q3 2014, which represented nearly 0.402 trillion Yuan (iReaserch Consulting Group, 2014). Additionally, Tenpay continues to cooperate with majority of Chinese banks on e-banking service for the purpose of allowing users to make/ receive a payment and to withdraw funds from bank account more convenient (About Payments , 2011). Summarily, Tenpay is trying its best to occupy as many market share of online payment service as possible in China based on its unique social media network service.

China Union Pay

China Union Pay is owned by China government, which is built in March 2002. It is a bankcard association that is approved by the People's Bank of China playing a critical role in China's bankcard industry development (About Payments , 2015). Recently, Union Pay focuses on constructing the international acceptance network, and it is already issued in 141 foreign nations and regions till now. Specifically, the China Union Pay is in partnership with about 400 both domestic and overseas associated members, involving in Asia, Europe, America, Oceania, Africa (China Union Pay , 2015).

Generally, Union Pay relies on an inter-bank transaction settlement system through which the connection and switch between banking systems and the inter-bank, cross-region and cross-border usages of bankcards issued by associate banks could be realized (China Union Pay , 2015). With the help of this payment mechanism and innovative features, Union Pay allows banks to provide their customers three different payment options: pay now with debit, ahead of time with prepaid, or later with credit products,

respectively (About Payments , 2015). In other words, the China Union Pay enables people to handle online transaction, to transfer money between bank accounts, to gain access to basic public financial services via Union Pay platform with the authorized bank cards.

As a trend towards promoting China Union Pay cards such as debit/credit cards, the online transaction with Union Pay increases rapidly, consequently, the transaction value of Union Pay reached 11.2 trillion Yuan with a year-on-year growth of 46% by the end of 2010 (China Union Pay , 2015). Besides, as of the end of Q3 2014, Union Pay occupied almost 12% share of online third-party payment market in China according to iResearch Consulting Group (iReaserch Consulting Group, 2014). All in all, China Union Pay along with Alipay and Tenpay dominate the main online payment market share with over 80%.

99Bill

In China, 99Bill as the another competitively leading online third-party payment service, which aims at providing a secure, safe, and convenient e-payment channel to meet the all kinds of demands from merchants and individuals when conducting online business (Samantha, 2011). By the end of July 2011, 99Bill corporation has possessed a whopping registered users of 103 million and 1,070,000 commercial partners as well (About Payments , 2015). Currently, 99Bill is also widely accepted by lots of Chinese online websites, but some of them would adopt both Alipay and 99Bill so as to make it more freely for online consumers to choose either of them. Up to now, 99Bill is also able to be linked to more than 30 Chinese banks, Visa and Master Cards to provide an electronic payment service. Moreover, as 99Bill has diverse product categories and user groups that make e-payment available by various bank cards (About Payments , 2015).

From the technology perspective, the 99Bill payment system has successfully integrated end-use's back-end payment system into 99Bill's front-end e-commerce platform that ensures the new and innovative applications could be embedded for growing user experience and accelerating the growth of transaction (About Payments , 2011). As a result, in addition to allowing users to use multiple operating systems for making/receiving a payment, 99bill serves as a payment method, as well as transforming the user's mobile phone as a portable POS device to handle remote payment, mobile receipt of incoming funds, management of incoming funds for SMEs and P2P payments. Furthermore, 99Bill makes it possible to complete the payment on the same interface through which the initial purchase was made relying on the "mobile payment middleware" (About Payments, 2011). Up to sum, 99Bill enables Internet, mobile phone, and POS terminals to support its wide range of services, for the purpose of meeting needs from all its participants.

Even though, the previous three payment solutions differ in terms of payment service fields, associations, and operation means, but all of them serve as an online payment solution to offer an easy-to-use, safe, and swift way to conduct a payment for users. In the eye of ecommerce business, all of them are key players who can motivate the acceleration of development and improve user experience in terms of payment method.

5.2 The common payment systems in western countries

The Western countries as the third largest B2C ecommerce marketplace, containing diverse online payment methods. Basically, the western ecommerce market is mostly dominated by Credit/Debit Cards, Bank-to-Bank, Online bank Transfer, PayPal, Visa,

MasterCard and Cash on Delivery in terms of payment method. But then again, the consumers in every country have own preference and choice to conduct an online payment, such as Europe, there are a lot of different payment methods available for ecommerce business as China.

For example, most of Italian consumers prefer Visa or MasterCard as their payment method with 83%, but the proportion of PayPal and American Express payment options just account for 13% and 4%, respectively (Ecommerce News, 2015). Looking at Spain, the Visa and MasterCard are much more popular with 91% (Ecommerce News, 2015). In Poland, there are 45% of online shoppers accepts the Credit cards, followed by Online bank transfer with 35%, Case-On-Delivery is the third popular method with 15% (Ecommerce News, 2015). In addition, the online direct Debit method are widely used and loved by native online consumers when shopping online in Germany and Netherlands. Specifically, the ELV dominates in Germany with 38%, followed by PayPal and Express Checkout methods, and the payment method iDEAL are adopted by over 54% of online users in Netherlands (Ecommerce News, 2015).

Moreover, the Credit/Debit Cards as the non-cash payment method in UK, occupying the main share of online payment market for processing online transactions (PRNewswire, 2015). In Russia, the most popular payment method is still Cash on Delivery, but at the same time the PayPal is also relatively welcomed by Russian online consumers. In addition to this, there are also other two alternative options available: QiWi and Yandex.Money that collaborates with Alibaba's Aliexpress in ecommerce service (PRNewswire, 2015). General speaking, the choice of online payment solution in each western country will be made based on its own particular ecommerce context and the specific consumer behavior.

5.2.1 iDEAL payment method in the Netherlands

The Netherlands is one of the highest internet penetration rates countries around the world. According to the newest statistic of About Payments, there are 15 million internet users that accounts for almost 89% of total Dutch population (16.8 million), moreover, the number of online consumers reaches whopping 10.9 million by the middle of 2015 (About Payments, 2015). For years, the ecommerce business grew rapidly in the Netherlands, so that more and more webshops exist in a wide range of sectors, including Travel, Airline Tickets, Telecommunication, and Clothing. Therefore, the total online transactions yielded 18 billion euro until 2015 through desktop, mobile phone, and tablet across the Netherlands (About Payments, 2015).

With the booming development of ecommerce in Dutch, a variety of payment channels with own particular features are created by 145 payment service providers in Netherlands. Up to now, there are at least 33 popular Dutch online payment solutions available like iDEAL, Bank Transfer, PayPal, Cash on Delivery, Eenmalige Machtiging, MasterCard, Visa, Klarna, AfterPay, and so more (About Payments, 2015). In order to meet the quickly changing demands from merchants and individuals, these payment service providers continue to persistently improve use experience and innovate its payment service in many ways.

iDEAL, the most popular and famous online payment method that relies on bank accounts allowing merchants and individuals to transfer money between each other in the Netherlands. Usually, the iDEAL works together with a majority of Dutch local banks such

as ABN AMRO, ASN Bank, ING, Rabobank, RegioBank, SNS Bank, etc. (About-Payments, 2015). With this cooperation, the iDEAL can directly linked to the payment system of participating banks mentioned above and complete the payment when buying and selling. Typically, the workflow of iDEAL goes as follows (About-Payments, 2015):

1. The buyer firstly chooses an item;
2. The buyer then makes a payment through iDEAL;
3. Afterwards, the buyer will select his/her own bank to redirect to corresponding online banking payment page;
4. Subsequently, the buyer needs to authorize the activated payment instruction;
5. After authorizing, the funds will be immediately debited from buyer's bank account and released to the seller's bank account;
6. At last, the seller receives the payment.

Briefly, the iDEAL is just an enhanced online bank transfer, but it also has its own unique features compared to any other Dutch payment solutions, for example easy-to-use, secure, swift settlement, and all of transactions are SEPA Credit Transfers (About-Payments , 2015). With the help of these competitive advantages, the iDEAL achieves a big success in fierce battle and is gradually becoming the leader of online payment services within Netherlands. As of the end of April 2015, the Dutch ecommerce Payment Monitor indicated that more than 54% of online transactions are handled with iDEAL, which handled nearly 17.3 million transactions. Additionally, as the stable average growth rate of 23.3% during the past half year of 2015, it is anticipated that the iDEAL will handle over 223 million online payments by the end of 2015 (About-Payments , 2015). Obviously, the online transaction volume of iDEAL is going to increase year by year, leading to further prosper the Dutch internet economy.

In addition to providing payment services for domestic euro transactions, the iDEAL serves as a standardized payment method across the Netherlands, as well as offering corresponding services for cross-border euro transactions. For mobile ecommerce, the iDEAL mobile payment is also on the upswing with the ongoing advance in mobile technology. According to a most recent research conducted by GFK, the iDEAL's marketshare on smartphone reached 31%, up from 25% from the first to second half of 2014 (About-Payments , 2015). Of course, the iDEAL's mobile share of market would will further heighten in the near future.

In short, the iDEAL is on its way to improving the user's payment experience by shifting operating platform from desktop to mobile. In this way, it not only makes the payment more flexible, and also simplifies the payment process.

5.2.2 Would a western payment system also work in China?

China is on its way to building up the continental scale economy, so the businesses are frequently conducted between Chinese enterprises and foreign enterprises. From e-commerce business perspective, it is essential to find a way for example online payment service to bridge each other for conducting multinational business communication. Looking at Western payment systems, the e-payment transaction grew rapidly over the past decade, so that there are lots of influential and excellent payment solutions for western individuals and merchants. In general, in most western countries the consumers are more likely to adopt payment methods like PayPal, MasterCard, Visa,

Credit cards, Cash on Delivery, and so more. With the frequent interaction in business, some of western payment systems are introduced to China, in order to better handle multinational transaction. For now, PayPal is often used to process the cross-border transaction between Chinese merchants and foreign consumers or vice versa. However, PayPal is lack of overall usage in China, in particular to the business of handling between Chinese merchants and consumers, on the contrary, this area is mainly dominated by three Chinese payment services: Alipay, TenPay, and China union Pay (Maruma, 2013).

From the conceptual point of view, PayPal is one of the most famous payment services around the world, which has a population of 148 million. More about PayPal is that it is supported by 185 countries and 203 markets in the world, in the meanwhile, 26 currencies are adopted by this payment system exceeding 9 million transactions daily (About-Payments, 2015). On the one hand, PayPal has immediate payment only, which is less safe and trusted than an escrow payment like Alipay. On the other hand, a fixed processing fees (25 eurocent) should be charged from the PayPal user per transaction. But again, PayPal enables its participants to make/receive a payment without sharing financial information in terms of privacy during online transaction, and also to allow its users to pay for goods and services using preloaded balance in account, associated bank accounts, or linked credit/debit cards (About-Payments, 2015).

Back in 2002, PayPal footed into Chinese ecommerce market focusing on processing cross-border businesses between China and foreign countries. Back in 2007, PayPal, the payment arm of online marketplace Ebay, cooperating with China International Travel Service (CITS) to provide a new payment service on CITS's website, the aim of this collaboration is to bring much convenience for the customers of CITS worldwide, who could more easily to conduct the payment via PayPal (iResearch Views, 2007). Furthermore, PayPal has already applied for a license to perform payments service on Chinese online websites in 2011. In addition, PayPal concentrates on offering a payment services for Chinese enterprises to conduct export business through online websites, in this way, PayPal already processed around \$4.4 billion by the end of 2010 in China (Chinese mainland, Hong Kong and Taiwan) (iReaserch Views, 2012). Besides, in partnership with Beijing Post, PayPal has established an international logistics platform called PayPal Package enabling participates to track real-time order delivery online, as well as enhancing PayPal's seller protection policy (iResearch Views, 2013). With this cooperation, PayPal enables Chinese Exporters not only to accelerate the speed of delivery service, and also to improve the overall shipping experience for customers. Eventually, the total import-export turnover of PayPal reached \$2.3 trillion by the end of 2012, which exceeded the U.S. for the first time (iResearch Views, 2013).

With the rapid development of global economy, the e-commerce business of Import and Exports between China and the rest of world will be more and more frequent, resulting in the usage of PayPal will be more frequently adopted by the merchants in China. In order to integrate into Chinese market, PayPal tries its best to pose a series of strategic innovations in terms of payment service to meet the demands from market and customers within China. As long as the service improves and function updates, PayPal would also work good in China.

5.3 Research result

There are a lot of kinds of online payment solutions around the world, and they differ from each other in terms of characteristics, services, context, preferences. If a digital online

payment has good word of mouth that is able to provide trust and commitment towards customers, the latter is willing to choose the former. It is concluded that a full understanding of local culture and consumer preference is essential and significant before launching a digital online payment system.

6 The Impact of Alipay

Alipay, the most preferred online payment service in China with a tremendous user base and user-friendly services. With its unique payment service, Alipay acts as a leader in a variety of sectors in China, including online commerce, financial services, online wholesale, online retail, public transportation, public services, entertainment, and so more. Gradually, the Alipay integrates into people's daily life in China, due to it brings the people a big convenience for living better and paying easier for goods and services. Indeed, Alipay maximum motivates the growth of ecommerce economy in terms of payment method in China, and becomes the key engine of internet economy to accelerate the total China's GDP growth.

In this Chapter, where I would like to present the noticeable impact of Alipay in economy from both national and international perspective and in society in terms of daily life, mobile payment, logistics. Resulting in addressing the answers to the research sub-question 4:" what is the impact of a digital online payment in a cultural context?".

The details of this chapter are organized as follows: section 6.1 mainly discusses the common economic phenomenon across the China, specifically, section 6.1.1 discusses the impact of national economy in terms of national ecommerce economy and its transaction value, section 6.1.2 discusses the impact of international economy focusing on international ecommerce and its transaction value. Followed by the section 6.2 that discuss the impact of Alipay on China's society, specifically, section 6.2.1 focuses on discussing the key impact of daily life for Chinese people, section 6.2.2 focuses on discussing the impact of Alipay on mobile payment in recent years, finally, section 6.2.3 focuses on discussing the changing and improved logistics network for shipping multinational goods. Followed by section 6.3 that elaborates the answers to the previous research sub-question 4.

6.1 For economy in general

In recent past years, China has implemented a complete set of economic revolutions and initiatives on regional development, which benefit not only China itself and also other countries around the world. For domestic economy, as the booming development of internet business notably the e-commerce business, it boosts and becomes the strong engine of China economic growth. Alipay as the payment arm of its parent company Alibaba Group, the e-commerce giant in China, has been trying its best to provide a good way to do business anywhere for Chinese individuals and merchants. For international economy, China has already posed a series of realistic economic strategies to look for overseas public investment and pursue win-win results (ShuaiRong, 2015). In order to respond to these strategic policies, Alipay therefore have designed ePass to provide a channel for foreign business to reach Chinese marketplace directly. With the connection, Alipay brings foreign products and brands to Chinese market, meanwhile, the foreign merchants are able to sell goods and services to Chinese consumers from their own country.

On the one hand, Alipay bridges the individuals and merchants to boost the growth of ecommerce transaction in terms of payment method within China. On the other hand, the membership between China and the rest of world will be more and more tight and solid with the help of Alipay ePass, the cross-border overseas currencies settlement. It is predicted that both sides will achieve remarkable economic success and breakthrough in

the near future.

6.1.1 National perspective

On the basis of innovative product technology, unique concept and large user base, Alipay is widely adopted as first payment solution for a large number of merchants and individuals to conduct their online payment within China (About-Payments, 2015). Therefore, Alipay as the most popular payment method of e-shopping platforms, it plays a significant role in processing payment during ecommerce transaction. Specifically, Alipay handles almost average 85 million transaction volume in every 24 hours. According to a China's cyberspace regulator, the internet economy has already become the essential engine of growth of domestic economy. Back in 2014, there were over 400 million ecommerce websites available within China, which handled more than \$2 trillion turnover totally, up 47.0% from 2013 (Wangwei, 2015). Additionally, according to iResearch Consulting Group, the parent company of Alipay Alibaba group, the ecommerce giant in China, reached a whopping market value of \$253.41bn by the end of December 2014 (iResearch News, 2015). Obviously, Alipay as the only payment arm of Alibaba Group played an important role in acquiring so large business success.

Alipay does not only refer to online third-party payment service, and also refer to a variety of services, for instance, financial service, public transportation service, travel service, tax refund service, hospital appointment service, cinema service, entertainment service, and so more. As a consequence, Alipay acts as a multiple payment tool to serve the key social sectors and to motivate the improvement of these sectors. In this way, in addition to boosting the development of services mentioned above, Alipay acts as a driver, as well as pushing the related service sectors forward.

6.1.2 International perspective

Today, the economic globalization is intensified around the world, and the ecommerce business too. Alipay affiliates the biggest ecommerce company in China Alibaba Group, growing as the most fashioned digital payment solution. Alipay pays much attention to its domestic marketplace, as well as intending to expand its service to overseas marketshare. In order to reach western and U.S marketplace, Alipay has issued a new payment feature that helps western merchants directly sell their products to Chinese online shoppers. It is Called ePass, which associates Alipay's cross-border international transaction settlement with overseas logistics solutions based on the China' Cainiao system (China Smart Logistics Network) to do business (Erickson, 2014). In other words, the consumers who live in China is able to purchase western bands and products through ePass, further, they are allowed to pay for in Chinese Yuan using Alipay e-wallet. By using Alipay ePass, both foreign merchants and Chinese consumers benefit much from this ecommerce ecosystem. In the eye of foreign merchants, they in addition to utilizing all Alibaba's infrastructure for tapping into China market, as well as simplifying their international shipping from their home country to China (Erickson, 2014).

With the rapid growth rate of urbanization in China, the population of wealthy people is expected to continue to increase in the future. And the wealthy people especially the women have more and more interest in "haitao" (also called "ocean search") via internet, which brings a huge number of revenues to overseas countries. In addition, the big consumption cluster is distributed in baby care, beauty, and fashion products. Looking at U.S., the Chinese consumers spent total \$109 billion there via Tmall global shopping

platform during the year 2013 (Spelich, 2014). In recent years, as the own food health issues in China is serious, so that the Chinese mothers lost their confidence and trust of domestic brands and products especially the childcare products. Now, the quality and authenticity of products is the most important for them rather than the price, it is really a good signal for foreign merchants to foot into China. According to a recent survey of Tmall Global, 35% of participants in China indicated that they purchased child and maternity products made beyond China during past 12 months (Spelich, 2014). Obviously, the Chinese consumers persistently shift to foreign-made brands and products, because of the good brand image and product quality. Under this trend, the western merchants are more likely to move into big China market successfully and gain maximum profit. Depending on the American McKinsey&Company, the Chinese consumers' consumption value would will reach 27 trillion Yuan in 2022 compared to 10 trillion in 2012 (Spelich, 2014).

As the the booming tourism, every year lots of Chinese people plan to travel abroad. While having a trip overseas, the tourists usually pay much for the luxury goods and brands. Usually, the tourists used to get tax refunds at airports and stores overseas, whereas, it takes long time to apply and withdraw this funds from overseas. Luckily, Alipay has worked on a tax return program with some certain European member states in Mid-July 2014. In this way, the tourists are allowed to receive their tax refunds via Alipay app (iResearch News, 2014). With this tax refund program, the European tourism and local economy more or less will be boosted, because of the big Alipay user base (+550 million) and mutual promotion. In short, the role of Alipay in international ecommerce business is more and more critical.

6.2 For society in general

For now, as the fast development of internet and mobile technology, the society has been undergoing a tremendous change in diverse aspects. For the work, it is much convenient and easy for people to undertake their work with telecommunication techniques and associated digital devices, leading the revolution of working ways. For the study, it is more easily for people to access the public libraries or resources for e-learning with the universe network. For the life, it is more convenient and cheaper for people to shop from existing thousands of webshops other than at physical stores only. In China, Alipay is viewed as the most preferred payment method making the online shopping more pleasure and improving shopping experience for online shoppers. As throughout a wide variety of public and financial services, Alipay not only changes the people's daily life, and also pushes the associated ecommerce sectors forward. It is witnessed that the Alipay is embedded into society and life smoothly on the basis of a multi-function payment tool across the China.

6.2.1 Daily life

Initially, Alipay is regarded as a pure payment tool for online shopping. After these years' improvement and innovation, Alipay is being transformed as an all-in-one universe toolset involved in payment, public, financial services, and more. In the past, people used to shop at physical stores, but in this way, it takes them much time to go there for choosing and paying for goods. Nowadays, with the booming ICT and ecommerce business, more and more stores are put on e-shopping platform, in which the buyer is able to get a full range of products and much lower price than at offline stores. As a result, most internet users join in online shopping to purchase goods and services via existing online shopping

platforms such as Tmall.com or Taobao.com in China.

Alipay acts as a payment solution that provide an easy-to-use, safe, and swift way for online shoppers to complete their payment. And Alipay also aims to simplify and improve the China's credit system concept on the basis of its confidence-building and innovative technologies, and so far Alipay has already won lots of consumers' hearts (Taobao3.99.com, 2015). In daily life, when the people need to make/receive a payment, they often adopt modern e-wallet like Alipay instead of traditional payment method such as cash, bank cards, check to pay for themselves.

Actually, Alipay also brings a big impact towards financial products to Chinese. By using built-in Yu'eBao application, which allows the users to make an investment here with low threshold. On the one hand, Alipay Yu'eBao helps provide an easy and trusted way for people especially the young to maximum increase their revenues through investing remaining funds in Alipay account or associated bank accounts; on the other hand, it boosts the development of financial service. As a multi-functional tool, Alipay makes numerous contributions to public services across the China. Working with public institutions, Alipay enable users to pay for all kinds of utilities fees, taxi rides, movie tickets, education fees, and so more. It really simplifies the payment process and makes the payment more efficiently. In addition, Alipay cooperates with major hospitals in some big cities to enable the local patients to make an appointment directly with desired doctor through hospital reservation system, further, they can receive the diagnostic results and pay for medical fees via Alipay. Consequently, this collaboration provides a convenient way for patients to book doctors, and reduces the current big pressure of hospitals.

All in all, Alipay makes it easier to pay for all kinds of goods and services for people, meantime, making the life happier and more convenient.

6.2.2 Mobile payment on the rise

Currently, with the ongoing advances in mobile technology and internet infrastructure, more and more Chinese web users shift their shopping platform from PC to mobile devices, in particular to smartphones. According to the 31th statistical report conducted by China Internet Network Information Center (CNNIC), the internet population has topped 632 million, an increase of 14.42 million over the end of 2013 (CNNIC, 2014). At the same time, Mobile online Users saw a corresponding growth of 26.99 million, so that the number of mobile population reached 527 million by the end of June 2014. CNNIC's report also shows that the percentage of mobile internet accounted for 83.4%, up by 2.4% over the end of 2013 and surpassed 80.9% for the first time (CNNIC, 2014). But, the proportion of web users using tablet for online shopping declined from 34.8% to 33.7% from January through June of 2014 (iResearch News, 2015). It is seen that Chinese internet users prefer Mobile phones over PCs and Tablets as the main as shopping terminal.

Alipay as a clear leader of online payment service, which dominates over half of e-payment market share in China. According to iResearch, there are more than 550 million real-name active Alipay users up to now, and the mobile users among them reached over 190 million, which represents nearly 34.5%. In every day, Alipay handles average 80 million transactions, especially during Alibaba Group's 11.11 Shopping Festival, the amount of daily transactions is always triple the increase as usual. Besides, 21% of all transactions were carried out with mobile terminals during this 11.11 Shopping

Festival period. According to 2014 Alipay Annual Spending Report, the Alipay mobile payments took 54% of total transactions during the previous 10 months, growing by 32% compared to 2013 (Lee, 2014).

In order to meet the current trend towards mobile payment, Alipay has added many new mobile payment services to its Alipay wallet app, called online-to-offline (O2O) services. With this new services, Alipay enables its consumers to conduct their payment via smartphones regardless of online or offline. In other words, in addition to paying for online goods and services, Alipay mobile wallet, as well as allowing users to pay for offline purchases such as taxi rides and movie tickets. Back in 2013, the mobile ecommerce value in China was 37.5 billion Yuan (\$6.2 billion) according to the iResearch data (Melanie, 2013). But just one year later, the China mobile mobile payment GMV hit 2,001,560 million Yuan by the end of Q1 2015 (iResearch Views, 2015). At present, the Alipay accounts for 77.1% of entire China's Mobile payment marketshare, followed by Tenpay with 13.5% only (iResearch Views, 2015).

Now, Alipay is a key player in mobile payment service in China, prospering the whole mobile ecommerce business directly. Besides, as long as more consumers join the mobile payment leger and using Alipay, the Chinese mobile ecommerce will continue to rise year by year.

6.2.3 Logistics development

As the booming e-commerce business and healthy ecommerce environment, the online shopping becomes more and more popular in China. One of the key procedures during the online transaction is the logistics system that ships the order to its destination. Unfortunately, the growth of China's logistics sector was very slow over the past years, and the fact is that the out-of-date logistics network can not meet the demands of actual market any more. In practice, it is evaluated that the e-commerce transactions will hit 30 billion Yuan daily in the next 5 to 8 years, and the amount of packages will increase to 200 million a day (CRIENGLISH.com, 2014). More importantly, the requirements of consumers have changed quickly, today, they care the consumption experience other than shopping process online as well. In order to improve the total efficiency and delivery service quality, the e-commerce companies like Alibaba Group teams up with China logistics industries, as well as meeting the urgent expectation of consumers namely "as soon as possible for their orders" as well (CRIENGLISH.com, 2014).

From the parcel delivery infrastructure perspective, China logistics system is plaguing fragmented and underdeveloped nationwide, along with a lots of constraints such as a lack of warehouse space and advanced logistics technology (JimErickson, 2013). On the contrary, the China e-commerce trade prospered to a whopping increase over the past years. According to statistics, the online webshops generate more than 29 million parcels every day, roughly 70% carried out with Taobao, the Alibaba Group's official e-shopping platform within China. So it is a touchy issue for the old logistics system to process so many parcels daily.

In view of this, Alibaba Group established a China Smart Logistics Network (also called Cainiao) in May 2013, in partner with retailer Yintai Group and primary Chinese carrier companies such as Shengtong, Yuantong, Zhongtong, Yunda and S.F. Express Co. The aim of this delivery system is to create an absolutely advanced IT-driven logistics processing ecosystem, which involved with e-commerce business, courier companies,

warehouse companies, third-party logistics service providers and supply chain managers (JimErickson, 2013). With this commination, the parcel delivery system has capability to handle nearly 30 million packages per day, representing 30 billion transaction value. For consumers, it will bring a big change in terms of order delivery, in other words, the articles bought online could be transferred to them anywhere in China in 24 hours or parcels delivered cross-border can arrive in 72 hours (EricksonJim & WangSusan, 2015).

At present, the Cainiao logistics network system is on its way to building an open, transparent and shared logistics data platform and expanding its delivery service to as more areas and regions as possible around the world. So far, the Cainiao logistics service has already covered over 34 cities (expected to 50 cities in the end of 2015), 1200 villages and rural provinces and even 213 overseas countries and regions (EricksonJim & WangSusan, 2015).

It is expected that the China Smart Logistic Network would effectively drive the innovation and revolution of China Logistics sector, so that the China e-commerce business will continue to prosper as long as the delivery system and services improve.

6.3 Research result

In China, Alipay has already successfully integrated into people's daily life, where it serves as an all-in-one multi-function mobile tool that allow people to conduct all kinds of payment activities and other related financial activities. The fact is that Alipay plays an influential role in economy, society across the China. It is concluded that a good digital online payment will boost the development of economy nationally and internationally in terms of e-commerce business, as well as making a big contribution to the improvement of daily life, the rise of mobile payment, and the development of logistics system. In short, it guides us to a better and more convenient future.

7 Conclusion

China is on its way to building a continental scale economy model, meanwhile, after implementing a series of strategic initiatives, the economy is on the upswing especially the ecommerce economy within China. As the penetration rate of internet network is bigger and bigger in China, so more and more internet users like shopping online via diverse e-shopping platforms on their PCs, Smartphones, and Tablets. In order to support the booming online shopping, there are a lot of excellent online payments applied for all kinds of individuals and merchants. Alipay acts as a popular payment channel in China becoming the leader of online ecommerce payment methods that provide an easy-to-use, secure, swift way to make/receive a payment between buyer and seller during transaction. Alipay is so popular also has its own reasons, in a word, it has own unique characteristics that matches the flavor of Chinese consumers.

Up to now, we can find out the answers to the main research question: "How to organize a digital online payment in a cultural context" based on the systematic study on Alipay. It is summarized as follows:

- From the economic context perspective, a digital online payment should fit the local actual economic context by meeting the requirements and initiatives of economic development for the purpose of facilitating the growth of economy.
- From the transaction security perspective, a good digital online payment solution should be an extremely strong protection system that embeds the highly advanced encryption, transmission, and anti-attack techniques into the payment system to help protect the user privacy, account safety and assets, and transaction completeness for its customers, as well as fitting the rapidly changing environment. In addition to these, there are also other three key drivers to ensure the payment security. The first one is to create a health and fair transaction environment by formulating a set of strict transaction rules and regulations under the Consumer Protection Laws. The second one is to train its employees for forming a strong awareness of mutual-supervision and risk-detection during their daily work. The last one is to create a tight connection to its stakeholders and customers for sharing and communicating security information and issues timely.
- From the operation efficiency perspective, a good digital online payment should focus on the following four things. The first one is able to improve and expand its payment services in a wide range of industries nationwide for meeting a wide variety of demands from its customers. The second one is able to possess positive and motivated cultural value of enterprise, pushing itself forward. The third one is able to expand its payment services to overseas market, where the overseas merchants can also directly conduct a business with domestic consumers. The last one is to have a full understanding of local culture and consumer preference before launching a digital online payment system.
- From the payment impact perspective, a good digital online payment will boost the development of economy nationally and internationally in terms of e-commerce business, as well as making a big contribution to the improvement of daily life, the rise of mobile payment, and the development of logistics system.

No matter how kind of results, if the online payment service provider is able to organize its payment service in a cultural context with the spirit of entrepreneurship, innovation, and an unwavering concentrate on meeting the demands of its customers in terms of payment experience and transaction security, it must will have its own position across a cultural context.

The future research can be focused on how to organize a cross-border online payment more smoothly and efficiently worldwide, as well as paying more attention to the integration of online payment system with other systems in a cultural context.

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