

The Process and Effect of M-Payment in China

Rachael Diviney

School of Economics, Shanghai University, China

Corresponding Author: Rachael Diviney

Abstract:

Aims and Objectives: This essay aims to illustrate how third-party payment systems clear and settle transactions. It will then explore how these companies have affected the traditional banking industry and what the reaction has been.

Methodology: This essay focusses on the mobile payment industry in China, specifically the companies Alipay and WeChat pay. It uses primary sources to explain the companies, their systems and how they function. It also draws on peer research and secondary sources to illustrate how these systems are affecting the banking industry.

Findings: The growth of third-party payment systems has benefited the consumer as transactions are now easier and cheaper. However, the banking industry faces a number of issues with regard to a loss of power and market share.

Research Limitations/implications: Due to time and funding restrictions, this essay is unable to explore some of the theoretical implications of third-party payment systems.

Practical Implications: Mobile payments are an inevitability around the world. China is an early adopter and so can show the effect that these systems have on an economy.

Originality/Value: This essay looks at an emerging aspect of the settlement process which is growing in power and influence. It is a timely analysis as Apple begin the roll out of their own mobile payment system. Unlike much other work on the topic, this essay takes a very practical approach to the development of these systems and the effect they have.

Date of Submission: 11-10-2019

Date of acceptance: 26-10-2019

I. Introduction

It is not an exaggeration to say that the internet has dramatically changed the way the world functions. From communication to shopping to education, every sector and every industry has moved online. The financial industry is no exception. The internet has already revolutionised the industry with the introduction of online banking and telecommunication transfers. The check is practically a relic of the past. However, the internet is a site of constant change and innovation which is leading the financial industry towards another seismic shift. The emergence of third-party payment organisations is once again changing the way in which we process exchanges of money. This essay will explore how these third-party companies, such as Alipay and WeChat, are affecting the system. It will look at how the transactions are cleared and settled instantaneously, what effect these companies are having on traditional banking and what the industry and government's reaction has been. This essay will focus specifically on China due to the massive popularity and widescale adoption of third-party payment systems which is practically unparalleled around the world. While this essay will take a focused look at the emergence of Chinese mobile payments, there are clear global implications. The global economy has grown to the extent that almost no national economy truly stands separate from the world. China is the world's fastest growing and second largest economy. As such, the changes taking place in their economy will undoubtedly have international reach. In addition, other companies have taken note of the success of WeChat and Alipay and are following suit. Google and Apple have both launched similar programs in the United States. Therefore, it is beneficial at this time to look at how mobile payments have evolved in China in order to predict how other companies may follow.

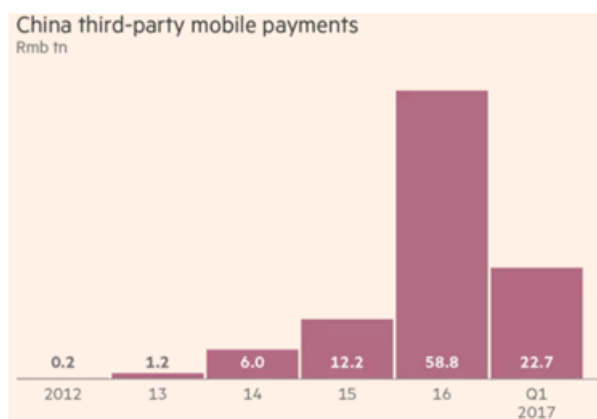
II. Discussion

Background

This essay will be looking at the mobile payment apps of WeChat and Alipay which have seen a meteoric growth of popularity in China. This growth took many by surprise and has left other companies scrambling to catch up. China was one of the first companies to adopt this form of mobile payment to such an extent. For many in China, these apps have replaced cash and card payments. WeChat was originally just a messaging app which allowed it users to communicate with others online. It also acted as a social media platform, with users sharing pictures, music and commentary. The feature of WeChat Wallet added a payment

aspect to the app which enabled users to pay for goods and services as well as being able to transfer money to friends¹. Alipay is a mirror image of WeChat, it is primarily a payment app with some added communication and social media features. Alipay is the most popular payment app on the market in China at the moment, with a market share of 48.8% while Tenpay¹ holds 18.7% of the market². Users can top up money to their Alipay profile or connect it directly to their bank accounts. They can then use a number of different methods to send or receive money. While the app allows users to pay vendors for goods and services, it also can transfer money to friends and contacts³. While both WeChat and Alipay have added a vast array of features to increase their popularity and improve their usability, this essay will focus on the payment aspects which are at the chore of these apps. At first glance, the idea of mobile payments may seem like a simple and logical progression of modern technology. In reality however, the process is quite complicated particularly as both WeChat and Alipay emphasise instant transactions. These new payment methods push settlement systems to the current limits of their capabilities. While the offer many new opportunities, they also have the potential to reshape the industry. This essay will explore the possible effects and how the government is working to control this emerging technology.

The concept of mobile payments, or ‘m-payments’, is surprisingly nebulous. It refers to a number of different payment methods which use a mobile phone somewhere in the process. This can be as a plastic body, an identifier, a communication channel, a computer or a payment terminal⁴. They can be used for paying online, proximity payment or for P2P payment. A useful definition is that mobile payments are the transaction of monetary value with mobile communication equipment and wireless communication technology². While this may seem like a brand-new development in its infancy, the idea of m-payments has existed for quite a while and this is actually the second wave of m-payment technology and development. The first wave occurred in the 90s and 2000s and was related to three key factors; the spread of mobile phones, the expected expansion of m-commerce and the dotcom boom⁴. The most important factor was the increasing popularity of mobile phones. By 2002 there were already more than 2 billion mobile phone owners and there were more phone-based chip cards than payment cards with chips⁴. The technology for mobile payment began to be developed and used, however, the dotcom crash of the 2000s quickly ended these endeavours. A great many technological and online based companies went bankrupt and confidence in the industry was badly shaken. Larger companies did not want to risk developing the necessary technology to facilitate mobile payments. For many years it seemed as though fear had killed the possibility of m-payments, but in recent years online based companies have once again gained prominence and this time they are far more stable. The growth of internet-based companies revitalised m-commerce and opened the door to m-payments. By its nature, the industry required internet payment. This began with bank card payments, much like in a physical store, where bank card details were given.



Figureno.1

Later companies like PayPal grew as third-party payment options, users no longer needed to give their details to each online vender, making transactions more secure.

Now companies are combining the third-party payment concept with mobile technology to bring online payments into the physical world. This second wave of m-payment development is much more promising as it is building on decades of development and is using the familiarity that the public now has with electronic and online transactions to grow their user base. The growth of m-payments in China is remarkable. In the first quarter of 2013, mobile payments totalled 296.51 billion RMB which was a growth of 185.3%².

How M-payment Settlement Works

Alipay and WeChat serve a vital role in the payment process as third party programs. They connect users and banks over the internet, essentially acting in the role of credit guarantor and technical support². When

a user wishes to make a transaction, these apps essentially conduct the transaction between the bank of the payer and the receiving bank. Of all third-party mobile payments, 93.1% are remote mobile internet payments². In the case of WeChat and Alipay, this means that the payer uses either a QR, phone number or existing contact. The app then either accesses the bank account directly or uses the pre-loaded balance. The required amount is transferred from the payers online mobile account to the mobile account of the receiver. The receiver can then either keep the balance on the app or transfer it to their bank account. These third-party apps act as a middleman, facilitating the transaction between the two parties. However, they also have the added benefit of acting as a payment guarantor, giving the payer the confidence to continue the transaction. This is important in the age of the internet when many transactions are not done in person and identity is easily hidden. The payer is not giving their bank details which secures against fraud or theft and if the service that was payed for is not provided the apps can be used to reclaim the money paid. An additional beneficial aspect is the ability to combine numerous bank accounts. By doing this, users can complete payments without the need to use online or mobile banking. This saves on transaction fees which, overtime and multiple transactions, can add up to large savings for the user. While this is extremely useful for the users of these apps, it is less favourable for the banking industry. Later this essay will explore how m-payments are changing and affecting the banking industry and what is being done in reaction to these changes.

An important factor in m-payments, and in the modern economy in general, is electronic currency. Once again, this is a topic with varied definitions and theories. However, it is generally agreed to be a “currency value represented by virtual accounts, stored in electronic devices” and is an “acceptable method of payments for issues and entities beyond close business partners,”². The complication is that electronic currency goes beyond acting as a means of exchanges and storing value, but also has the functions of a financial product². M-payments are not just like bank cards, which represent deposited cash and are more ‘electrified currency’. As m-payments create a new system of exchange, it is expected that this mobile currency will increase in power and importance.

How M-Payments Differ from Traditional Methods of Exchange

Before third party payments emerged, user interaction with the banking system was much less efficient. There were two main connections, that between the clients and the commercial banks and the connection between the commercial banks and the central bank. As users could not set up direct connections with the central bank, operations had to be conducted with commercial banks on an individual basis². Not only was this a cumbersome process which required much time, it also meant that the clients were subject to multiple fees. It may seem counterintuitive to add yet another step to this process, but by doing this, third-party systems have been a great benefit to their users. The user only has to interact with one entity, the third-party system, which then makes connections with the individual banks on their behalf. This saves the user time, energy and money. If a person needed to make five payments to five different banks, they would be charged a fee five times by their bank. Instead of paying a fee each time they wish to transfer money to another bank, users can simply pay one fee to transfer the total amount to the third party and then send the money to each bank free of fees.

One of the most important aspects of m-payments is the instantaneous transaction. Most people use Alipay or WeChat wallet to make small transactions like paying for food at a restaurant or buying groceries. These point of transaction payments must be processed and settled immediately, or these apps would not be usable. This settlement issue becomes even more complicated as the value of the transaction increases. Traditionally high value transactions were settled on an individual basis while low value transactions were grouped together and cleared in batches, usually at the end of the day⁵. One of the ways that WeChat wallet and Alipay have used to prevent these issues effecting their users is the pre-pay function. By ‘topping up’ one’s account, the money is transferred from the bank to the m-payment account. This means that when one wants to use the app for a point of payment transaction, the money is already cleared and settled, thus there is no wait time. The pre-clearance method is also recommended by the European Central Bank^{5 6}. As the process of m-payments is so different from that of traditional banking, the banking industry is being forced to adapt its systems to this new system.

How M-payments Effect the Banking Industry

As previously shown, traditionally settlements of high value transactions are processed individually while low value transactions are batch processed at the end of the day. However, instant payments are forcing automated clearing houses to change this system. ACHs are beginning to implement a system where transactions are processed and settled in frequent cycles⁵. Batch clearing is increasing in frequency and speed. The demand for around the clock, instant settlement is pushing the current system to its limits already⁷. It is likely that as the popularity of m-payment services like WeChat and Alipay increase, the system will prove unable to meet the demand. The systems must adapt to meet the needs of increased transaction volume and speed without compromising on security and risk levels. In order to adequately meet the developing needs of the

market, ACHs will need new systems, technology and increased research and development, all of which take time and cost money. WeChat and Alipay are causing massive changes in how transactions are processed without having to contribute resources to these changes. They gain the benefits and avoid the negative consequences.

Earlier the massive increase in popularity of m-payments was mentioned, Alipay and WeChat are claiming an ever-growing share of the market as more people switch cash for their phones. The reverse of that statistic is that banks are losing that market share to the m-payment apps. In addition to the loss of market, the way these apps operate further decreases the amount of fees the banks collect. As the apps act as a middleman, there is an extra layer of privacy between the client and the bank. Banks can no longer track each transaction to its final destination, the only recipient they can see is the app itself. This dramatically reduces the information the bank can collect on its clients which have been used for a number of things, such as market research and client evaluations.

The rise of m-payments is not an entirely negative development for the banking industry. While it does diminish their power, it could also solidify their position in the market. The internet is causing dramatic changes to almost every industry, with much of the traditional organisation being replaced by online equivalents. It may appear that m-payments are doing the same to banks, however, they actually have the potential to strengthen the position of the banks moving forward. If banks acknowledge these new participants not as competitors, but as partners they can create a mutually beneficial relationship. Users of the apps will need bank accounts, while those with bank accounts will need to use the apps. As they become more and more engrained in Chinese society, both banks and third-party payments can benefit.

Reactions to the Growth of M-payments

The use of third-party payments has added another link in the process of payment and transference of money. This new disruption has caused much concern for the government. Because banks cannot see the final destination of a transaction, their reports to the central bank only show the third party. On the other side of the transaction, the receiving bank only knows that the payment is coming from the third party⁸. Because the central bank can't see where everything is going to and coming from, the potential for fraud and other illegal activities is high. The third party is an unknown entity within the chain which can be used to obfuscate illegal activity such as fraud, embezzlement and making payments to unlawful groups like gangs. In order to counter this, the People's Bank of China has ordered all third-party payment companies to use a new centralised clearing house as of October Fifteenth⁹. The central bank's decision will allow the government to track payments which previously could be hidden. This will also remove a powerful advantage that Alipay and WeChat had over their competitors. The data that these companies collect will now be shared and can be used for targeted advertising among other profitable and ethically controversial endeavours. Previously, these apps had tight control of this information and so could charge high fees to advertisers. The increased competition will lower what they can charge for what was once proprietary information. This move is loss for groups like Alipay and WeChat and was likely designed to slow their rapid growth and potential dominance in the market. It also serves to strengthen the position of the banks, which in China are all state owned.

This ruling also somewhat helps to address an issue posed by m-payments which is not often discussed. That is the how m-payment systems are beginning to act like separate sub-economies. When money is transferred into one of these apps, it is not always transferred back into the banking system immediately. Money is removed from the bank network and is circulated between user accounts. It is unknown how long ¥1 remains within the app network before it re-enters the traditional banking system. It could theoretically be transferred from account to account indefinitely. Not only does this potential scenario pose an existential threat to the banking industry, it also raises many questions regarding the functioning and regulation of this new financial product. By integrating the third-party payment companies into the existing mainframe, it helps to control and monitor this possibility.

III. Conclusion

As technology continues to develop at a rapid pace, the world will repeatedly undergo large changes in the way it functions. This is true for every aspect of our lives. This essay has shown how m-payment apps function differently from traditional clearing and settlement systems. The popularity of these apps gives them the power to change the pre-existing systems to the detriment of the establishment. While the banking industry underwent a technological revolution previously it was done to lower costs, improve usability and strengthen their institutions. The current change is coming from an external source and is gaining in power. These m-payment apps work as a middleman in the transaction process. They provide their users with lower costs and heightened security, confidence and privacy. They reduce the market share of the banks, lower the number of transaction fees collected and block them from viewing the final destination of the transaction. The demand for instant settlement is putting pressure on automated clearing houses to move towards high frequency batch

processing, however, this must be balanced with security concerns. The Chinese government has moved to integrate and regulate these new m-payment companies. This undercuts their dominance by forcing them to share collected data with competitors. This move also allows the government to monitor the systems for illegal activity. Apps like Alipay and WeChat are having a massive effect on the finance industry in China and have implications for the global economy, particularly as the west attempts to replicate their success. This essay recommends that further research be undertaken on the possible impact of m-payment apps on the economy. Questions have been raised about how these apps may create internal micro-economies, removing money from the traditional systems. The possible long-term implications are endless, ranging from the undermining of the banking industry to the development of a singular global system.

References

- [1]. WeChat (2017). *WeChat e-commerce/m-commerce*. [Online] Available at: <http://www.wechatagency.com/wechat-ecommerce-mcommerce.html> [Accessed on 19/11/2017]
- [2]. Xie, P., Zou, C. and Liu, H., 2015. *Internet Finance in China: Introduction and Practical Approaches*. Routledge.
- [3]. Alipay (2017). *HK wallet – SDK, Technical Guide*. [Online] Available at: https://global.alipay.com/service/app_hk/1 [Accessed on 19/11/2017]
- [4]. Sofia, (2016). Instant Payments: Clearing and Settlement Issues. *Let's Talk Payments*. [online] Available at: <https://letstalkpayments.com/instant-payments-clearing-and-settlement-issues/> [Accessed at 27/10/2017]
- [5]. Górka, J. ed., 2016. *Transforming payment systems in Europe*. Springer.
- [6]. European Central Bank, (2017). *Instant Payments*. [Online] Available at: <https://www.ecb.europa.eu/paym/retpaym/instant/html/index.en.html> [Accessed on 17/11/2017]
- [7]. Tsosie, C. (2014). Mobile payments take a click, but processing takes days. *Nerdwallet*, [online]. Available at: <https://www.nerdwallet.com/blog/banking/banking-news/slow-mobile-payments/> [Accessed on 15/11/2017]
- [8]. Khiaonarong, T., 2014. Oversight issues in mobile payments.
- [9]. Wildau, G. (2017). China targets mobile payments oligopoly with clearing mandate. *Financial Times*, [online]. Available at: <https://www.ft.com/content/3bcb5150-7cce-11e7-9108-edda0bcbc928> [Accessed 17/11/2017].
- [10]. Figures
- [11]. Fig 1, Wildau, G. (2017). China targets mobile payments oligopoly with clearing mandate. *Financial Times*, [online]. Available at: <https://www.ft.com/content/3bcb5150-7cce-11e7-9108-edda0bcbc928> [Accessed 17/11/2017].

Rachael Diviney "The Process and Effect of M-Payment in China." *IOSR Journal of Economics and Finance (IOSR-JEF)*, vol. 10, no. 5, 2019, pp. 34-38.