

# Research on Space-time Utility of WeChat Payment

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**Keywords:** WeChat payment, WeChat red envelopes, Social platform, Community

**Abstract:** WeChat is a social software developed by Tencent, and in 2013 loaded with WeChat payment function. Since the WeChat red envelopes War fame, WeChat payment will soon become a payment in life by virtue of its convenience and fun, and occupy quickly a certain market based on the social platform of WeChat. Firstly, this paper describes the origin and development of WeChat payment and then discusses the timeliness, spatial temporal connectivity of WeChat payment. Meanwhile, it also points out the insufficient in protecting the interests of consumers and make recommendations, the paper discusses the direction of community development of WeChat payment at the end of the article.

## 1. Introduction

The first WeChat began to enter people's vision in January 2011, at that time, the version was WeChat1.0 of iOS, in May, WeChat released new version, loaded with voice chat function, in August and October, new functions -- "to see nearby people" and "shake, drift bottles" were added respectively, in December, WeChat launched 3.5 version, this version joined one of the most important feature was two-dimensional code. In April 2012, WeChat4.0 of iOS was to be released, and the feature of "circle of friends" concerned most, professionals believed that this was an attempt for "social platform" of WeChat, at the same time, WeChat supported third-party applications sharing the news and music to the WeChat friends.

In August 2013, Tencent officially released WeChat5.0, opened WeChat payment mode. The introduction of WeChat payment makes WeChat can be directly achieved transaction and settlement within the application, so that the various functions of WeChat could achieve ecological closed-loop, this is a key step in the commercialization of WeChat. In September, WeChat added drops taxi function in the product. In March 2014, WeChat announced official WeChat payment interface had been opened for the service number certified, in June, WeChat payment released several new products including "WeChat change" with stored-value function as well as credit card payment function. Nowadays, QQ recharge, Tencent recharge center, Guangdong Unicom, McDonald's, micro buy, Hong Kong Airlines, the public comment ect, support WeChat payment. In view of the convenience and high frequency interaction of WeChat, as of 2015, all the number of WeChat (include overseas edition) users had more than 600 million, an increase of 37% with respect to the previous year. There had been nearly a third of users binding bank card through WeChat in the 600 million users, according to the 2015 financial statement of Tencent released, the total revenue of Tencent was 26.594 billion yuan, and the net profit was 7.584 billion yuan.

WeChat payment is based on fast payment that binding bank card, its application scenarios include: public number payment, to complete payment on the business pages within WeChat; app payment, consumers can transfer the WeChat to complete payment within the app; scanning code to pay which is more commonly used as a scene, that is, the use of WeChat two-dimensional code scanning to complete payment; credit card payment, sellers scan the barcode of consumers to complete payment. The above scenarios make the consumers to be analysis of the object, and for the sellers, they can also join WeChat payment. In March 2013, WeChat opened to all the certified service number, in September of the following year, in order to provide more users with WeChat payment platform for electronic business, the service number applied for payment function will be no longer charge 20 thousand yuan deposit, dropping the threshold. This action greatly stimulated the potential businessmen to register WeChat payment. Some analysts said that the data is expected to exceed the number of Taobao sellers.

WeChat red envelope is an important form based on WeChat payment. WeChat red envelope is an application launched in 2014 by WeChat, it can be achieved to accept red envelopes, checked the mail log and withdrawals on its functions. In 2015, WeChat red envelopes interacted with the Spring Festival Gala, then it became one of the main dinner menus, so the red envelopes became one of the greatest interests by many WeChat users.

WeChat red envelope is so popular depends on the role of its features: firstly, convenience, users only need to bind a bank card in their own WeChat, then they will be able to receive “red envelopes everywhere” without going outside, while the users can choose red envelopes to one friend or several friends at the same time. Secondly, interests, WeChat red envelope is a novel conception from designation, with electronically red envelope replacing the traditional New Year red envelope is unconventional, meanwhile, it is more like a social game, many users always in a “red envelope rush” atmosphere, the atmosphere will generate excitement and expectation from the heart and fully mobilizes the enthusiasms of the users, especially young people. Finally, the sociability, WeChat red envelope is based on WeChat to develop, and the core business of WeChat is the social application, except for product design itself, the social chain has become a key reason to be widespread, every interaction among friends or between friends and us will make WeChat red envelope spread farther.

Some scholars have also studied WeChat payment from different aspects, Zhao Xu (2014) illustrated the effect of WeChat payment for financial consumers from three aspects, for example, innovative financial payment way made financial consumption more convenient, innovative financial planning model made financial consumer channels more widely, innovative financial marketing let the number of financial consumer get increased, then described the deficiencies of WeChat payment [1]. Yinke Jiang and Yi Xiao (2014) discussed the credit problems from account security risks, network virtualization, imperfect credit system and legal system [2]. Tujin Li, Ling Ding (2015) analyzed the way of WeChat payment, including public number payment, app payment, scanning two-dimensional code payment, credit card payment, and on this basis to explore the advantages of WeChat payment [3]. And some foreign scholars make research on the domestic mobile payment market. Jie Guo, Harry Bouwman (2016) started from a set of propositions to analyze the multi-faceted of Chinese mobile payment market, and identify the links between adoption process and business ecosystem structure, at last, they proposed the mobile payment ecosystem analysis framework that could be used to study the future complex business ecosystem [4].

## 2. The timeliness of WeChat payment

WeChat payment realizes the instant payment by means of mobile communication tools, this brings great convenience for consumers and sellers, so the shops in the streets, we can see various scenes that scanning code to pay, the innovation avoids the inconvenience of carrying large amounts of cash or bank cards for consumers.

From the consumer’s view, consumers can use the WeChat payment function as long as associated with a bank card whether anytime, anywhere. And from the view of business, when they use WeChat to receive payment, the money doesn’t directly transfer into seller’s account, but stored in third-party payment mechanism – TenPay, that is, the business of WeChat account is no money. However, for the entire payment process, the transaction has finished. As shown in Fig.1:

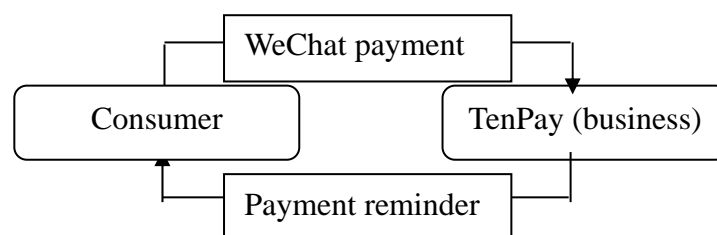


Fig.1 WeChat payment process

In fig.1, the consumer can make WeChat as a medium of payment, when the money arrives TenPay account, WeChat will automatically remind successful payment in page, which represents the end of

the payment process. Therefore, the WeChat payment is more like the process of a one-way to pay, it does not require interaction between consumers and sellers, and thus with respect to the traditional payment method greatly reduces the time scale.

In modern life, the continuous conversion of the fragmentation of time and the scenes of space is a true portrayal of people's life, WeChat merges different spatial and temporal scenarios, that is, WeChat allows people to keep various scenes of current work, life and learning into the WeChat, so people will work with high efficiency for they can efficiently handle their own affairs in different space scenes. To be based on WeChat, therefore, it also generally maintains effective conversion efficiency in different time and space conversions, if WeChat payment can be used for more space scenes, it will be more and more popular. And the WeChat red envelope is an innovation on the different dimensions of time and space.

WeChat red envelope is applied widely in WeChat payment, the users need to firstly bind bank card or directly use WeChat change, then they can add WeChat red envelope with filling in specific amount and selecting the number of red envelope, then the WeChat red envelope can be sent out, and when the others open the red envelope, the money will be automatically transferred to the WeChat change, and the users associated with bank card can also choose the money to withdraw in the bank card. WeChat red envelope continues to affect people's lives by means of mobile communication tool, users can achieve the operation that distributes or grabs red envelopes, so that "once the phone in hand, thousands of miles of red can be made".

### 3. The space connectivity of WeChat

WeChat is essentially a kind of social software, popular among friends and family, thereby they can establish their own "circle of friends", while WeChat payment is an important attempt to open its business mode, so WeChat payment will inevitably have various features of WeChat.

In sociology, the network has two main characteristics: the first is density, that is, the extent of the association with each other in the network, it includes very loose links and close links, such as our friends know each other but not only with ourselves, this is a close network, on the contrary, this relationship is loose; the second is the involvement with multiple relationships, this refers to various ways of two people involved in the intercourse, such as people who are working and people with advanced degrees are most likely to have multiple communication relationships. Among the relationships of "WeChat friends", people tend to know each other, but this relationship is not an absolute one to one, the relationship between friends and us is close and strong, we have high frequency interaction with our friends, during the period of interaction may involve more ways to enjoy a variety of social activities. Therefore, both from the virtual space or the physical space, the relationship of "circle of friends" will be more stable.

Meanwhile, sociologist Harvey and Macnab (2000) discussed the constraints of time and space in communication, and divided the constraints into synchronous physical presence, synchronous virtual scene, asynchronous physical presence and asynchronous virtual scene four models [5]:

Table1 The constraints of time and space in communication

Timing \ Extensity		The constraints of space in communication	
		same place	remote
The constraints of time in communication	synchronize	a. synchronous physical presence: talk face to face	b. synchronous virtual scene: mobile phone、telephone conference
	asynchronous	c. asynchronous physical presence : guest article、phone message	d. asynchronous virtual scene : printed matter、telegraph、 e-mail

WeChat is in asynchronous virtual scene, and it realizes a separated process that people in specific places and events, people can achieve communication and exchange not required by the presence of availability, time and space cut different occasions to coordinate social activities provides the basis

for the reorganization of space and time, Internet technology makes the modern means of communication to have rapid development, the relationship has also been expanded to a larger extent.

WeChat payment develops rapidly based on frequent interaction with friends, in essence, it implants traditional payment service into itself by using the social chain, and the mobile platform has tremendous ability to communicate, our friends will open WeChat payment as long as sending a WeChat red envelope, up to now, the number of WeChat users in mobile communication tools has exceeded 600 million, such a large user group also shows its great power of spread and influence, and lays the position in the mobile payment.

#### 4. Problems and Solutions

WeChat payment brings a lot of convenience to people in life, with the increase in the number of users of mobile communication, WeChat payment is also expanding its own range of users, but in the rights of consumers, there are also many shortcomings:

Firstly, property security vulnerabilities, WeChat payment depends on the cell phone, but on the technical side, the virus soared in recent years in mobile payment brings a great deal of risks to consumer's property, meanwhile, criminals may disguise as friends to defraud based on WeChat, this may causes more property security risks to the users.

Secondly, insufficient in equal status, "WeChat payment user service agreement" is the service agreement needs to be signed when users bind their bank card, the related provisions say: "TenPay only provides WeChat payment service, we are not involved in transactions of specific product or service, when you use the payment service, any dispute or liability generated by transaction of goods or service need to be resolved or bore by your own, while in "WeChat e-commerce services agreement", moreover, Tencent says that in the provisions of WeChat service, Tencent only provides users with platform of exhibition and trade information, any damage caused by using the service, Tencent is no responsibility for compensation. From these provisions, it is clear showing the inferior status of consumers, the rights of consumers are easily to be impaired.

Thirdly, lack of privacy, in the service agreement of WeChat "LiCaiTong" says that in order to provide financial service, TenPay has right to provide personal information of financial consumer to the financial institution, including but not limited to name, ID number, phone number, e-mail, address, ect, but the agreement service does not guarantee the confidentiality and bear related responsibility for the privacy of consumers.

In response to above shortcomings, the official WeChat, relevant legal authorities, regulatory authorities should establish a good collaborative protection system:

The first, improve the technical safety standards, with the development of network technology need to update existing technical standards and take the necessary precautions to kill virus, when staff manages the user information in the background should match static scans to determine whether the data transfer process to be infected by virus, so that to make sure the information is safe and reliable.

Secondly, improve the information disclosure and privacy protection system, WeChat should try to disclose more information about the financial institutions on the relevant financing function so that consumers can understand the qualification of financial institutions and the fee, income of the products, ect. For the false information should be corrected or deleted, meanwhile, WeChat should obtain consent and authorization of individuals when they collect the information of users, and make sure that the information of user will not be used for other purposes other than the service with no disclosing, altering, damaging or even selling personal information.

Thirdly, the establishment of complaints feedback and infringement compensation mechanism, because of the virtual nature of the Internet, there are often interests disputes between consumers and business, but the official WeChat have no related processing mechanism, rights nowhere will damage the user's degree of goodwill, therefore, the official WeChat should set up special channels of complaints feedback and compensation mechanism, such as the establishment of industrial complaints regulatory committee to process the disputes, while the establishment of a special fund

account for processing liability resulted from accidents so that the rights of consumers will be better protected.

## 5. Conclusions-The community of WeChat payment

WeChat payment obtains rapid development based on the social characteristics of WeChat, and WeChat becomes more and more popular with frequent interactions among friends, so there is one concept of mobile community to be born based on the interactions, that is, there are mutual interests or concerns to compose a group, it builds a good bridge of trust among insiders, because of the mutual recognition and trust among insiders, the rate of successful transaction taken place in the group will be higher.

Under the guidance of mobile community model, the mobile community users are very easily converted into mobile payment users, because of its characteristics, the group has very strong network externalities, that means, there will be more and more people participate in the group with more users in the mobile community, such as sina weibo developed mobile wallet, facebook developed virtual payment applications, this has demonstrated the ambition of converting the social instant messaging clients into mobile payment users. In addition, the compatibility and migration between computers and mobile phones also determines the Internet payment users will become an important source of mobile payment users, to be relied on the migration of offline or Internet platform will be more efficient than without such mediation, so the old platform like the land, and the mobile payment like the crop on the land, it can be harvested constantly. Alipay mobile payment is based on this foundation, and it achieves rapid development of its mobile payment by means of the platform migration behaviors, moreover, this phenomenon is not a zero-sum game between Internet payment and mobile payment, but a complementary relationship. Internet platform plays a role of training and educating the users, the mobile payment makes use of the mobility to undertake Internet users successfully, such as WeChat to achieve rapid growth of subscribers in the early based on the large user groups of mobile QQ.

Community model brings new development direction for WeChat payment even mobile payment industry, in the premise of social platform continues to expand its scope of business, WeChat payment is improving its business functions in order to offer a better payment experience for consumers.

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