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A Study of User Adoption Factors of Mobile Banking Services Based on the Trust and Distrust Perspective

YAO Huili[a],*; LIU Shanzhi[b]; YUAN Yinghui[b]

[a] Professor, School of Economics and Management, Jiangsu University of Science and Technology, Ph.D., research direction is the mobile commerce. School of Economics and management, Jiangsu University of Science and technology, Zhenjiang Jiangsu 212003, China.
[b] School of Economics and management, Jiangsu University of Science and technology, Zhenjiang Jiangsu 212003, China.
*Corresponding author.

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Abstract

A large numbers of banks have paid attention to promote the Mobile banking service because this could provide real-time services ubiquitously and reduce the operating cost. However, the existence of risk and uncertainty in mobile banking may cause lack of trust so that consumers have pause and ponder to this services. Firstly, according to the differences between trust and distrust relationship, this article sets sight that the users' adoption to mobile banking is decided by the trust and distrust. Distrust is mainly affected by uncertainty avoidance, perceived cost, perceived risk; in the meanwhile, trust is influenced by the trust propensity, consumer cognition, perceived benefit and system quality. Finally, we build the adoption model based on the perspective of trust and distrust in order to provide a theoretical reference to mobile banking prolongation.

Key words: Mobile banking; Adoption; Trust; Distrust

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INTRODUCTION

Mobile banking (also known as mobile banking) refers to an electronic banking innovation business using mobile network and mobile communication technology to realize connection of mobile phones and other mobile devices banking system as well as getting a variety of financial services through the mobile interface or SMS. This new mode allows the user to access to financial services in any time, place and context, thereby changing the rules of competition in the inter-bank. The banks are no longer just concerned about the number of outlets and coverage, but more focused on providing professional and personalized service.

In recent years, China's major banks have invested a lot of money and technology to carry out mobile banking, making it a new profit growth point. "Research report of mobile banking users in 2012" shows that the size of the mobile banking users reached 98 million by the end of 2012, and is expected to exceed 300 million by the end of 2015; the scale of asset disposal reached 900 billion yuan until the end of 2012, and will exceed 9 trillion by the end of 2015. The above data indicates good prospects for the development of mobile banking. However, there exists a series of problems in the process of mobile banking development such as imperfect technology, unsafe funds safeguard, system deficiencies and the relatively high costs. The studies of technical, marketing and operational mode have shown that mobile banking consumers are always in the virtual mobile trading environment, which increases the likelihood of perceived risk such as information fraud, loss of privacy and funds passage. In addition, bank reputation, the quality of service of mobile operators, mobile context, consumer self-efficacy and many other uncertainties as well as doubts about the technology and the lack of understanding of the transaction program make consumers' ability of controlling transactions weakened. The users are always

in a passive position, giving rise to the problem of user trust in mobile banking. Based on the above analysis, scholars began to introduce the factor of trust into the mobile banking users' adoption behavioral research. MIN, JI & MENG (2008) conducted empirical study of mobile banking, which shows that trust, especially the institutional trust, has positive impact on the adoption intention; LUO, LI, & ZHANG *et al.* (2010) considered the characteristics of mobile banking and proposed the user acceptance model based on combination of trust and perceived risk; Hsiu (2011) combined innovation diffusion theory with trust and constructed the integrated model accepted by mobile phone users; WANG, PANG & LUO (2009) analyzed the initial trust dimensions of mobile phone banking consumers; TAO (2012) empirically studied the effect of trust on attitude toward using, and put forward to establish users' initial trust in mobile phone bank from the center and the periphery routes.

According to the above scholar's point of view, trust is a key factor affecting the adoption intention. To win the trust of users, mobile banking will eventually be adopted. However, trust in mobile banking is diverse. The object of consumer trust not only includes banks but also other factors as mobile network operators, operator interface, trading system and trading situations et al. Some of the factors can let users generate a sense of trust, and others make customers do not trust. Rational consumers usually do not completely trust and distrust, but in a limited trust status of coexistence of trust and distrust. Previous studies considered trust as a single dimension. They regarded distrust as the extreme of trust, which ignores the impact of distrust on user adoption. In fact, distrust is also a mechanism for handling risk, playing an equal role with trust in the individual decision-making. Therefore, in order to enhance the rate of mobile banking adoption, we should not only consider the factors that affecting the user's trust, but also explore the reasons for distrust. By reducing distrust, we can thereby increase the user trust. This article firstly discriminated the relationship of trust and distrust, then classified factors affecting user adoption as two aspects¾trust and distrust and specifically analyzed the impact factors of these two aspects, and finally built the user adoption model based on the dual perspective of trust and distrust.

1. RELATIONSHIP BETWEEN TRUST AND DISTRUST WITHIN USER ADOPTION

In recent years, the relationship between trust and distrust is hot issues scholars concerned. Single-factor concept established on the interpersonal concept hold that trust and distrust are the both ends of the same concept. The two are mutually exclusive and opposite: distrust is the antithesis of trust, higher trust is equivalent to lower distrust, and learning trust can bring about understanding of distrust. Lewicki *et al.* (1998) questioned the above understanding. He believed that the individual cognition and perception in the communication process were changing. Individuals can not only find others trusted but also recognize others distrust aspects, which means that trust relationship is diverse. The individual can either trust or trust another one. Trust meant an act of goodness to be trusted by the positive expectations, usually accompanied by positive emotions such as hope, security and self-confidence; distrust indicated negative expected towards others' victimization, usually accompanied negative emotions such as suspicion, fear, and worry etc. Distrust is not the opposite of trust. A high degree of confidence is not equivalent to not existing of distrust. Low trust does not mean high level of distrust. So he thought that trust and distrust are two different concepts, which can co-exist. The idea that Lewicki proposed has been further expand by subsequent scholars. Mcknight *et al.* (2006) carried out a comparative study of trust and distrust in the role of using the site. He found that they had different impact on the consumer behavior. Trust had a greater impact on whether the user listen to site advice, however, distrust had a greater impact on the willingness of users to provide personal information; Benamatia *et al*. (2007) carried empirical research and found that trust and distrust were separate, and distrust had a negative impact on user's intention. After full understanding of strengths and weaknesses of the network banks, customers would generate trust in some aspects and yield distrust in others. Consumers determined the boundaries of trust through a certain level of distrust, resulting in limited trust. This limited trust established on the basis of mutual supervision, in order to avoid the losses caused to the user because of blind trust; Carroll *et al.* (2009) also pointed out that in contrast, distrust was greater than the effect of trust on the user intention to use. Chinese scholars YAN (2010) summarized the problem of distrust during Chinese consumers' online purchase and found that trust and distrust were different in function and antecedent variables; CHEN *et al.* (2010) further divided interpersonal trust into four quadrants in accordance with the level of trust and distrust, namely low trust and distrust, low trust and high distrust, high trust and low distrust, high trust and distrust. Correspondingly, they subdivided online banking customers into four categories, that is, hesitation, blindly skeptics, blind trust and limited trust. From the above research, the concept of trust and distrust are separated. In the process of user adoption of mobile banking, trust and distrust exist objectively. Trust means the anticipation on capacity, goodwill and integrity of the trusted party, while distrust reflects expectations of Individuals on others' inability, negative motivation and damage behavior. Both are different in antecedents and after effect.

2. INFLUENCING FACTORS OF TRUST IN USER ADOPTION

The most important purpose for consumers to use mobile banking is to improve efficiency. Therefore, before accepting the service, consumers usually search for information on the business scope, operating procedures, and banking policy of the products, and compared with the knowledge, skills, and past experience of their own. When consumers deem that using phone banking can complete his expectations for specific actions, and can therefore bring benefits, their performance will be positive. Trust is precisely manifested as the perception of capacity, goodwill and integrity of the object. Therefore, factors that can give users positive predictions can actively influence trust.

2.1 Trust Tendency

Among factors that influence user trust in mobile banking, trust propensity belongs to internal stability factors, specifically contains trust belief and trust stand. The former refers to consumers' confidence in relying on mobile banking based on the general experience and social cognitive of dealing with banks in the past life; the latter does not change according to different usage scenarios. It can be expressed as the initial attitude of the individuals with the lack of understanding of the mobile banking system, but must make trust judgment whether to trust. Usually, individual varies in learning and growth experience and personality characteristics. The user's disposition to trust which means the consistency trend of being willing to rely on other people or things will be different, specifically manifested as follows:

(1) Impact of personality traits. Usually Introverted, easy-going and open users express a higher level of trust towards things change, while nerve and conscientious consumers are more sensitive to things, showing a lower level of trust.

(2) Role of risk appetite. The essence of trust is the users' willingness to bear risks. Risk-seeking users typically have strong willingness to risk, showing a high degree of trust. On the contrary, risk aversion users usually resist risk. They display a low level of trust in the risk environment.

(3) Different use experience. For users, especially those potential users who have not yet come into contact with mobile banking, some similar experience is an extremely important source of trust. Individuals will, on the one hand, form the cognition of electronic media according to similar practices such as the use of online banking and telephone banking for payment, on the other hand, can acknowledge the usefulness and entertainment of the mobile phone business through the experience of mobile value-added services, and thus realize the formation of trust on the mobile banking system.

2.2 Consumer Cognition

Cognition-based trust is an important part of consumer trust, which generates from impression on the counterpart in the interpersonal communication. Individual awareness of mobile banking includes two aspects, that is, the availability cognition and the usefulness cognition.

(1) Availability cognition. It is the evaluation of the ease of using mobile banking, which is subject to the effects of self-efficacy. Self-efficacy is a subjective judgment or conviction of individuals for their own whether they can take advantage of existing skills to complete a particular activity successfully, which represents the individual's self-confidence and competence of an activity. Generally, consumers will choose environment that they can cope with, while avoid activities beyond their own abilities so that they can not control or respond to. Therefore, if mobile banking can be able to achieve easy learn, friendly man-machine interaction, and real-time help, customers would think that they have the ability to control, resulting in higher self-efficacy. This feeling will increase their confidence in using mobile banking, and in turn strengthen the goodwill of mobile banking through confident psychological and form emotional trust. On the contrary, if the function is very cumbersome, users must invest a lot of time and effort to learn. The difficulties would make users cast doubt on their ability, which can reduce self-efficacy and eventually cause self-distrust , so abandon using mobile banking.

(2) Usefulness cognition. It reflects the improvement of individuals' life or work quality by using mobile banking system. Mobile banking is built on the basis of wireless network technology. Its biggest advantage is to provide users with real-time information and ubiquitous services. Users can query and management their capital accounts at any time and get the latest financial information, thereby reducing the time of customers waiting in line. In addition, using mobile banking can also save transaction costs. Data have shown that costs of achieving one off-site transfer business through mobile banking are less than 20% of the business outlets charge; What's more, through the establishment of online experts, the bank can provide one-on-one answer at all times. At the same time, the bank can offer one-on-one personalized service according to each user's situation and improve customer added value through active call through the user information they got.

2.3 Perceived Benefit

Perceived benefit impact user trust and determine behavior motivation. The prominent benefits of using mobile banking lie in convenience and scenario supply.

(1) Traditionally, users should go to the business outlets to accept financial services, which not only has time and position constraints but also have to wait for a particularly long time. In the online banking environment, users must use fixed equipment such as computers to access to information. As a result, users are limited to a certain geographical location. However, through mobile banking, users can carry mobile devices such as mobile phones,

PDA, etc. to access to the network and banking system, thereby accept the service at any time in anywhere. This breaks through the restrictions of time and space, greatly improving the living and working efficiency, which has particular attraction for rural local users that are lack of bank outlets and internet is not widespread.

(2) Another advantage of the mobile banking is scenario supply. The bank can provide personalized information or services according to the needs of users, such as mobile location-based services, which is according to the user's geographical location and display nearby ATM network location information on the interface. In addition, the bank could also joint merchant to carry out mobile phone business activities and uses terminal targeting capabilities to provide merchant discount information.

2.4 System Quality

System quality is directly related to users' experience, reflecting mainly in the following three aspects:

(1) Quality of information. The value of information to customers is reflected in the authenticity and accuracy. Currently, there exists certain information asymmetry between the user and the bank. The bank is in the information superior position, which is well aware of the operation mechanism and product advantages of mobile banking. On the contrary, the user is the inferior party.

They have reasons to suspect that the bank has opportunistic tendencies to conceal related content, thus fraud. So, in order to obtain user trust, it must be possible to eliminate information asymmetry. On the one hand, the bank should be true in the release of information, not rhetorical facts or conceal the truth. For instance, when describing benefits that mobile banking will bring, the bank inform the user risk they may face. At the same time, the bank should be updated the released information in order to ensure its timeliness. This is because that outdated information would not fail to deliver benefits, on the contrary, may make the wrong decisions. The resulting disutility will make users cast doubt on the ability of mobile banking.

(2) Interactive performance. Interactive performance of mobile banking is manifested as users' easy and quick control of human-computer interaction device and performing a variety of command and requirements coming from a phone. If the design of the various operations module of the mobile banking system is easy to understand and operate, the user generally think the interactivity of the system is better. However, while the bank's mobile phone banking service has converted from traditional WAP mode to client software mode and interface seems more intuitive currently, the human-computer interface design is more complex. It is still not flexible enough, and therefore can not meet the user's individual needs.

(3) Response. During the operation, the response time is a direct impact on the user's mood and work efficiency, which is a focus of the game between mobile banking and online banking. Lots of customer complaint that when using the phone bank for a banking business, each page needs nearly 40 seconds to operate. And this business needs to operate through a lot of pages, so clients should keep waiting. This is one of the reasons causing the dissatisfaction of the mobile banking users.

3. INFLUENCING FACTORS ANALUSIS OF USERS ADOPTION'S DISTRUST

Mobile banking in China has developed for more than ten years. It can be comparable to traditional banking and online banking in function, it also has formed its own comparative advantage. But in fact, compared to the huge mobile phone users, the number of the potential and actual users is still small. China's mobile banking is still far behind compared to Japan and South Korea, Europe and the United States. According to a statistical data from Erin Consulting Group, more than 90% of the people are not mobile banking users, 52% of the people said the main reason why do not use or do not intend to use mobile banking is distrusting mobile banking. Thus it can be seen, distrust has become the crucial reason that lead to people don't use mobile banking. Like trust, distrust is also the psychological reactions of consumers. Unlike trust, distrust presents negative emotions. Individuals expect others are lack of ability, malicious or irresponsible, so they protect themselves from unfavorable state . Current perceived risk, perceived cost and special consumption habits are the main causes of the users' distrust.

3.1 Perceived Risk

Perceived risk means that the consumers of cannot determine whether mobile banking can achieve the desired goals and may bear risk, it is the first element of the lack of trust in the use of mobile banking. The more risk the users perceive, the deeper the negative emotions of users will be, the distrust to mobile banking will be stronger. The risk consumers perceive is concentrated in the following aspects: (1) Technical risk. Mobile banking is a new technological innovation, banks launch a variety of technical solutions based on their own platform to enhance their competitiveness, and vigorously promote the superiority and reliability of their programs. But in the condition of personal innovation generally low, the potential users based on information asymmetry still suspect whether the existing technology is able to guarantee the security of information transmission, whether it can effectively avoid virus infection, and whether it can prevent information fraud effectively; (2) Privacy Disclosure Risk. When consumers use mobile banking, they are required to fill out personal privacy and sensitive information. For example, people need to input the phone number, ID number, account numbers and passwords to land. This information may be stolen due

to viruses or technical loopholes when passed through a wireless network; another problem is that the phone will leave the operating record, the existing technology is not sufficient to eliminate all the imprint, some users worry about the accidental loss of the phone may result in the disclosure of personal information; (3) Legal Remedies Risk. At present, China's directly applicable law for the new mobile banking business is not perfect so that the rights and obligations of the transaction parties are not clear. Consumers worry that seeking legal protection may be blocked if encountering mobile banking losses, this potential danger causes consumers' distrust of mobile banking; (4) Reputation Risk. Reputation is an entity's credibility formed by the past social behavior in the public. The reputation risk perceived by the users includes reputation risk caused by the third party and the banks' own reputation risk. The third party, including all partners of the bank, such as communications service providers, securities services providers and so on. If consumers are not satisfied to the service quality provided by the third party, they may distrust the overall mobile banking business. In addition, due to the information asymmetry, consumers will doubt that bank might not trustworthy and fraud in the transaction. Negative evaluation from themselves, the public, public opinion and recommenders as well as banks showing lack of capacity in handling disputes and responding to critical issues, which lead to consumers doubt about the capacities of mobile banking guarantee financial security and providing reliable financial transactions services, and even will lead to reputation risk of the bank itself.

3.2 Perceived Cost

Perceived cost of mobile banking is the possible long-term and short-term cost estimated by consumers, it directly restricts users, especially the decision-making of the non-experienced users. The higher the cost perceived, the more reluctant consumers use the services. Perceived cost includes: (1) Equipment cost. Using mobile banking has certain requirements to mobile terminal equipment. WAP mode can support all the mobile phones which open network service. JAVA mode can be installed in the CDMA mobile phones. More advanced client forms can only be installed on a smart phone. Mobile users, such as small screen and without Internet access mobile phone users, cannot access mobile banking. Thus the users who want to obtain a good experience will face the problem of mobile phone upgrade, which will undoubtedly increase the equipment cost of users; (2) Individuals will face transaction cost when using mobile banking. The cost not only contains network traffic fees of the mobile phone, but also the monthly fee charged by commercial banks, such as CCB phone banking charges 6 Yuan per month as function fee. However, now the homogeneity degree of mobile banking and online banking is high in function. By contrast, users don't need to pay the service charge when using online banking. Although most banks promise to offer discounts for mobile banking users during business extension in parts of the mobile banking business, such as transfer business, and to give the customers a certain free trial period. But such measures will only produce incentive on a part of customers, and cannot maintain a long-term stickiness, and have no attraction for those who do not use the preferential business. Therefore, the high perceived cost makes the users concern and affect their adoption intention.

3.3 Uncertainty Avoidance

Uncertainty avoidance is a very important cultural dimension, usually refers to the tolerance degree about uncertainty and ambiguous situation. The empirical study finds culture can cause differences to people's behavioral attitude and cognitive process. Channels of establishing trust are different in different cultural environments. Various dimensions of culture, especially uncertainty avoidance dimension plays a regulatory role to consumer trust (CHEOLHO YOON, 2009). High uncertainty avoidance means that society is rules-oriented, consumers are lack of innovation, the tolerance degree about uncertainty of the new technology and ambiguous situation is low; while people in low uncertainty avoidance society, people have a high tolerance about uncertainty, they easily accept new ideas and change, they are willing to take risks, such environment is conducive to the diffusion of new technology. Currently China's the degree of uncertainty avoidance is high affected by economic, material, especially the system (WANG, 2007). The establishment of trust tends to rely on institutional factors. Consumers usually hold hesitating attitude to mobile banking which is a new IT product. They expect to a series of laws, regulations, treaties and the system created to limit and reduce uncertainty before they receive the service. In addition, they are also willing to listen to others' views to access information through the users' experience. Individuals tend not to use if surrounding people using mobile banking are few.

4. BUILD USER ADOPTION MODEL

As can be seen from the analysis above, trust and distrust are not opposing the existence, they are the two separate concepts, they act on the adopted by the user's decision-making together. we can see trust disposition, consumer awareness, Perceived benefit and system quality determines the user trust what's more the user distrust is mainly by the perceived risk ,perceived cost and uncertainly avoidance three factors after the further analysis between the trust and distrust. Based on above, we propose the following assumption:

H1: The degree of trust and the adoption intention of mobile phone banking user are a significant positive correlation.

H2: The degree of distrust and the adoption intention of

mobile phone banking user are a significant negative correlation.

H3: Trust disposition and the user's degree of trust are a significant negative correlation.

H4: Consumer awareness and the user's degree of trust are a significant negative correlation.

H5: Perceived benefit and the user's degree of trust are a significant negative correlation.

H6: System quality and the user's degree of trust are a significant negative correlation.

H7: Perceived risk and the user's degree of distrust are a significant negative correlation.

H8: Perceived cost and the user's degree of distrust are a significant negative correlation.

H9: Uncertainty avoidance and the user's degree of distrust are a significant negative correlation.

Based on the above assumptions, we build the following user adoption of model, as the Figure 1 shown:

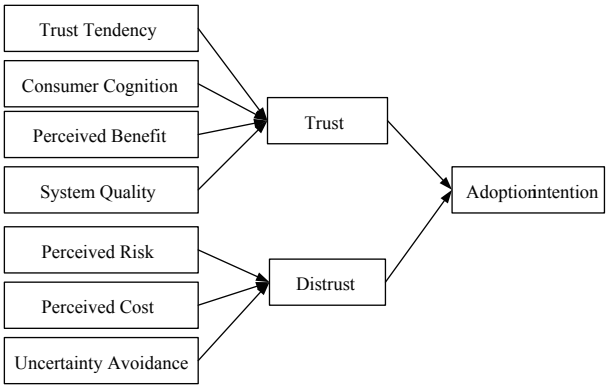

Figure 1
Mobile Banking User Adoption Model Based on the Dual Perspective of Trust Distrust

CONCLUSIONS

This paper is established mobile banking user adoption model in the dual perspective of trust and distrust on the basis of theoretical analysis. The model description that both of the trust and distrust will affect users' adoption to mobile banking adoption intention, therefore in the marketing process of mobile phone banking, we should not only strengthen user's trust, but also weaken user's distrust. The former would be realized by designing better interface of interactive performance, extending the user experience period, enhancing publicity efforts, and providing personalized products or services. And to achieve the latter, the banks should further reduce the tariff standard, and enhanced the reliability of the technique, In addition, they cooperate with other relational businesses of industry chain such as mobile phone operators introducing transparent and feasible operation of regulatory mechanisms in order to compensate for the lack of domestic laws and regulations. The result of this paper will lay a theoretical foundation for the next empirical research.

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