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A COMPREHENSIVE ANALYSIS OF MOBILE BANKING ADOPTION: INSIGHTS FROM THE UTAUT2 MODEL AND PERCEIVED TRUST

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Abstract

Science and technology advancements, along with the development of communication technology, have expanded the functions of mobile phones, a traditional communication tool. Mobile banking, with the advantage of providing banking services anytime and anywhere, has overturned the limitations of traditional banking business hours and regions, providing financial services to customers anytime and anywhere and significantly reducing the cost of financial services. This study examines mobile banking users' adoption intention and usage behavior using the UTAUT2 model combined with the theory of perceived trust from the user's perspective. This study surveyed 256 Chinese mobile banking users through an online questionnaire. The results show that (1) performance expectations, facilitating conditions, price value, and usage habits have a significant positive impact on the adoption intention of mobile banking users; (2) perceived trust also has a significant positive impact on the adoption intention of mobile banking users; (3) facilitating conditions, adoption habits, and adoption intention have a significant positive impact on the usage behavior of mobile banking users.

Keywords: Mobile banking; UTAUT2 model; perceived trust; adoption intention; usage behavior

INTRODUCTION

With the advancement of science and technology and the increasing maturity of information and communication technology, mobile terminal technology and 3G and 4G network technology are developing daily. Smartphones have become an indispensable part of people's daily lives, promoting the emergence of mobile applications. The rise of mobile applications has changed how consumers and service providers engage in service delivery, saving people's time and economic capital and improving the quality and efficiency of their lives and services. To attract and retain more potential customers, banks have recently accelerated the layout of mobile terminals and actively developed mobile banking services with mobile communication device users as the target to provide high value-added services. Mobile banking, as a new technological development, allows users to enjoy financial services through smartphones at any time and place, such as balance inquiry, transfer business, investment and financial management, and even direct financial transactions, covering many non-cash and non-physical services, increasing the bank's revenue. To further advance the development of mobile banking, it is essential to continue expanding the user base. As a result, understanding whether users are willing to adopt mobile banking and identifying the factors that influence their adoption intention and behavior have become critical issues that banks need to address urgently.

With the vigorous development of new technology acceptance research in academia, more and more related theoretical models have emerged. Venkatesh, Morris, Davis, and Davis (2003) found that the theories of technology acceptance models proposed in the past have corresponding explanatory power in their respective fields. Therefore, they integrated these theories and proposed the UTAUT model. In 2012 they expanded this model and proposed a more complete UTAUT2 model (Venkatesh, Thong, & Xu, 2012). Some studies in the past have confirmed that this theoretical model can be applied in multiple fields and can effectively explain the degree of user acceptance and adoption of new technologies (Khechine, Lakhal & Ndjambou, 2016). However, mobile banking is an innovative financial service model. A review of the existing literature reveals that most domestic research on mobile banking user acceptance and adoption is based on the earlier-developed TAM or UTAUT model. Although the UTAUT2 model has been proposed for many years and involves multiple research fields, few studies have used it to measure mobile banking user acceptance and adoption. It is necessary to fill this research gap. In addition, based on the theory of perceived trust in consumer behavior, this study adds the factor of perceived trust to the UTAUT2 model. It examines the effect of perceived trust on user adoption intention to improve the user acceptance and adoption model of mobile banking. Finally, with the rapid

development of mobile banking, major banks have actively developed mobile banking services to provide customers with more diverse and convenient financial services. This research helps us understand what makes people want to use mobile banking and how they use it. The information allows banks to improve their mobile banking services and gives them something to consider when planning their businesses, developing marketing strategies, and improving their services. The subject holds enormous significance for both academic research and managerial practice.

In summary, this study aims to examine the adoption intention and usage behavior of mobile banking users from the perspective of mobile banking users, based on the UTAUT2 model and combined with the perceived trust theory in mobile Internet. The findings are hoped to provide a reference for bankers when conducting mobile banking business.

LITERATURE REVIEW AND THEORETICAL FOUNDATION

Mobile Banking

From the information systems perspective, mobile banking is one of the leading technological innovations of financial institutions. It can combine mobile communications and electronic money. Various countries have gradually valued it due to its inherent independence of time and place. Mobile banking, or mobile banking, refers to using mobile communication technology and equipment to provide multiple financial services. Compared with traditional bank counters, mobile banking can reduce the cost of conventional bank development models and improve the industry's operational efficiency and quality level. On the other hand, it provides customers a convenient way to obtain complete and timely information. It enables them to use mobile communication devices to handle various banking and financial services at any time and place, at a low cost, safely, and reliably (Baptista & Oliveira, 2015).

UTAUT2 model

Venkatesh, Thong, and Xu (2012) proposed the UTAUT2 model based on the UTAUT model. The model added three influencing factors: hedonic motivation, price value, and habit; deleted the voluntary factor; and added research on the relationship between facilitating conditions and willingness to use. Past studies have confirmed that the UTAUT2 model can effectively explain users' acceptance and adoption of new technologies in different environments and has better explanatory power than the UTAUT model.

The influencing factors in the UTAUT2 model mainly include performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit. In contrast, personal background factors such as gender, age, and experience serve as

moderating variables. Performance expectancy refers to the extent to which an individual believes that using new technologies can enhance their performance. Effort expectancy indicates how difficult or easy an individual perceives the use of new technologies to be, as well as the level of effort required to utilize them. Social influence pertains to how the use of new technologies by an individual is affected by the opinions and behaviors of the surrounding groups and environment. Facilitating conditions relate to the extent to which an individual believes that the availability of organizational support or infrastructure aids in the adoption of new technologies. Hedonic motivation reflects the amount of happiness or pleasure an individual derives from using new technologies. Price value is the assessment of the trade-off between the benefits one gains from using new technologies and the financial costs associated with them. Finally, habit refers to the conscious awareness of an individual's specific behavior that results from learned experiences. As can be seen from Figure 1, an individual's behavioral intention will be directly affected by performance expectations, effort expectations, social influence, facilitating conditions, hedonic motivation, price value, and habits, while facilitating conditions and habits will also directly affect an individual's use of new technologies beyond behavioral intention (Venkatesh, Thong & Xu, 2012).

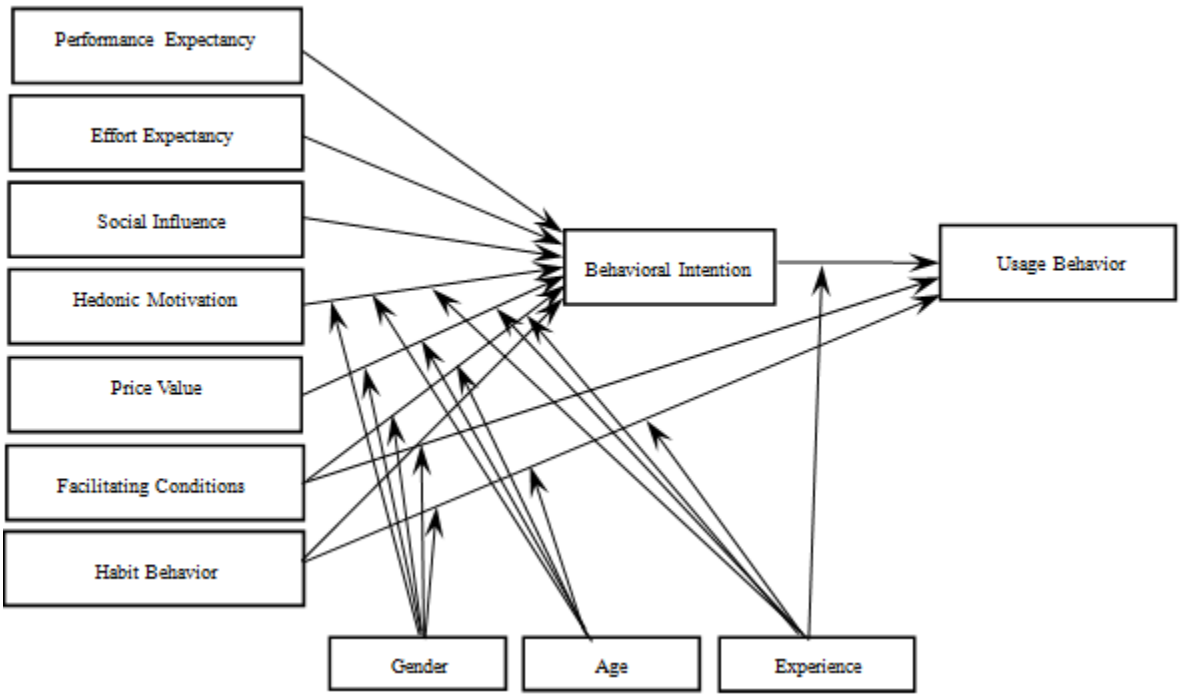


Figure 1. UTAUT2 model

With the rapid development of Internet mobile terminal technology, there are more and more studies on the willingness to adopt new technologies based on the UTAUT2

model. For instance, Qu et al. (2018) looked into what makes college students want to use MOOCs. They found that performance expectations, effort expectations, promotion conditions, and learning habits all have a big positive effect on their willingness to use MOOCs. Shaw and Sergueeva (2019) investigated the non-monetary benefits of mobile commerce. The results showed that privacy concerns and performance expectations have a significant positive impact on perceived value, and hedonic motivation and perceived value have a considerable positive impact on willingness to use. These research results provide a theoretical basis for the development of this study.

Perceived Trust Theory

Perceived trust refers to the degree of trust consumers have in the products and services provided by an enterprise, including trust in the enterprise and the products and services themselves. In consumer behavior, since consumers only know things at the beginning, as the number of transactions increases and the chances of successful purchases increase, perceived trust will affect consumers' purchase decisions and desire for repeated purchases. In recent years, in the field of e-commerce, the variable of perceived trust has attracted more and more attention from scholars. For example, For instance, Huang and Jiang (2013) tested the correlation between perceived usefulness and willingness to use mobile payment. The results showed that users' trust in operators positively correlates with their desire to use mobile payment. Zhang and Li (2015) took the Internet finance-Yu'ebao as an example to conduct a study. They found that perceived trust significantly impacts customers' willingness to use Yu'ebao.

Research Model

In addition to being widely used in studying the acceptance and adoption of new technologies, the UTAUT2 model can also be used to test users' acceptance and adoption behavior in mobile e-commerce. Based on the UTAUT2 model and the theory of perceived trust in the mobile Internet, this study examines the factors affecting bank users' willingness to adopt and use mobile banking behavior. This study added perceived trust to the model. The hedonic motivation factor was removed from the original model because mobile banking has no entertainment features, and users will focus on the business features more than the hedonic ones. In addition, this study uses gender, age, and usage experience as control variables to control their effects. Finally, a model of the influencing mechanism of mobile banking users' willingness to adopt and use behavior was proposed, as shown in Figure 2.

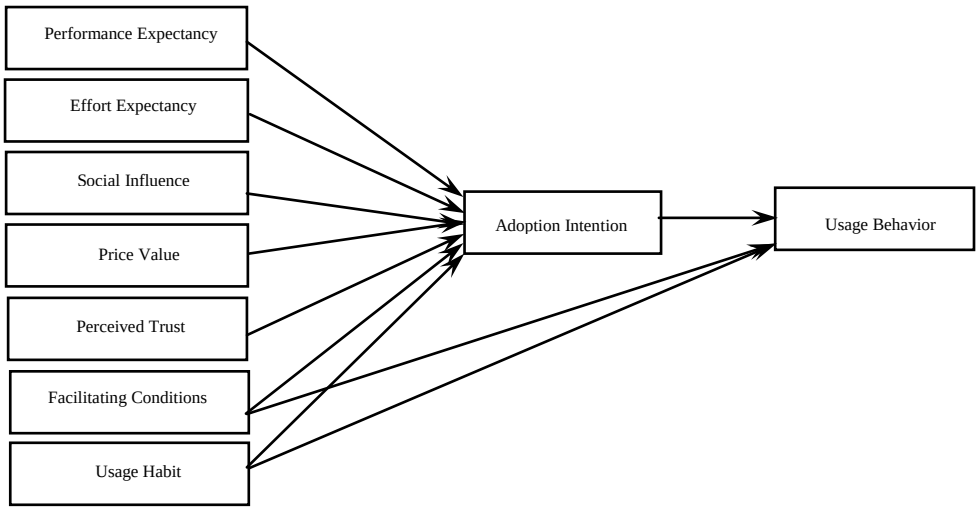


Figure 2. Research model

Performance expectations, effort expectations, social influence and adoption intention

Performance expectations in this study refer to the extent to which users perceive that using mobile banking can improve the efficiency of their financial services. Venkatesh et al. (2012) believe in the UTAUT2 model that performance expectations are one of the key factors affecting user behavioral intentions. When a particular technology improves the user's work efficiency, the user's behavioral intention will gradually increase. Yang (2005) found that users will be encouraged to actively use mobile commerce if they gain helpful knowledge to solve problems during use effectively. Lee, Cheung, and Chen (2007) pointed out that performance expectations positively impact mobile users' willingness to use multimedia information services. Arenas Gaitán et al. (2015) explored the factors influencing the elderly's use of online banking. The results showed that performance expectations and effort expectations were positively correlated with the elderly's willingness to use online banking.

Effort expectancy in this study refers to the degree of difficulty that users perceive when using mobile banking. Venkatesh et al. (2012) believed that effort expectancy would also affect users' willingness to adopt a particular technology. When users perceive the technology is easy to use, their behavioral intention will be stronger. Knutsen's (2005) study found that effort expectancy positively impacts the acceptance and use of mobile service users. Yu's (2012) study pointed out that effort expectancy positively impacts customers' behavioral intention to use mobile banking. Alalwan, Dwivedi, and Rana (2017) studied the factors influencing Jordanian bank users' adoption of mobile banking. The survey results

found that performance expectations and effort expectancy positively impacted users' willingness to use mobile banking.

The social influence in this study refers to the extent to which the surrounding groups and environment influence the user's use of mobile banking. Venkatesh et al. (2012) pointed out in the UTAUT2 model that social influence also affects the user's behavioral intention. When users feel that the surrounding groups and environment are using the technology, their behavioral intention to use it will be stronger. Nysveen et al. (2005) pointed out that when individuals use mobile services in public places, they usually observe the usage behavior of others around them and will be influenced by others. Lu et al. (2008) believed that social influence is one of the key factors affecting users' willingness to use mobile commerce. Yu's (2012) research further pointed out that social influence positively impacts customers' behavioral intention to use mobile banking.When users believe the technology can improve their efficiency and is easy to use, or the surrounding groups and environment use it, they are more likely to use it. Therefore, we propose the following hypothesis.

Hypothesis 1: Performance expectations positively impact the adoption intentions of mobile banking.

Hypothesis 2: Effort expectations positively impact the adoption intentions of mobile banking.

Hypothesis 3: Social influence positively impacts the intention to adopt mobile banking.

Price value and adoption intention

The price value in this study refers to the trade-off between the help users get from using mobile banking and the economic cost they pay. Venkatesh et al. (2012) believe that the equipment and resources required to use new technologies (such as 4G services, smartphones, and Wi-Fi) will bring additional financial costs to users. This scenario prompts users to consider whether the help they get is more beneficial than the economic cost they pay before using new technologies. Users will be more enthusiastic about adopting the technology as the price value increases. Lee, Kwon, and Schumann (2005) pointed out that monetary value is a key factor affecting the adoption of Internet banks. Baptista and Oliveira (2015) found that price value positively impacts the willingness of mobile banking customers in Africa. When users think that the cost-effectiveness of mobile banking is higher, their intention to use it will be stronger. Therefore, we propose the following hypothesis.

Hypothesis 4: Price value positively impacts the intention to adopt mobile banking.

Perceived trust and adoption intention

In this study, perceived trust refers to the degree of trust that users have in the mobile banking services provided by the bank. In the e-commerce environment, trust means that consumers have confidence in the merchant's integrity, ability, and friendliness. When the merchant can meet consumers' expectations of honesty, ability, and friendliness, it will reduce perceived risk and generate greater trust motivation, affecting consumers' purchasing decisions (Kim, Ferrin & Rao, 2008). Luarn and Lin (2005) explored the behavioral intention of Taiwanese bank customers to use mobile banking. The results indicated that perceived trust significantly impacts customers' willingness to use mobile banking. Zhou's (2011) research confirmed that initial trust is one of the key factors determining users' mobile banking use. In addition, Hanafizadeh et al. (2014) studied the factors that affect Iranian bank customers' adoption of mobile banking. The results showed that compatibility with lifestyle and perceived credibility are essential prerequisites for explaining customers' adoption of mobile banking. When users have a higher degree of trust in mobile banking, their intention to use it will be stronger. Therefore, we propose the following hypothesis:

Hypothesis 5: Perceived trust positively impacts the intention to adopt mobile banking.

Facilitating conditions, adoption intention and usage behavior

This study calls for "facilitating conditions" like wireless network technology and the creation of mobile client applications that make it easier for people to use mobile banking. Venkatesh et al. (2012) pointed out in the UTAUT2 model that facilitating conditions directly impact users' willingness and behavior to use the technology. When users feel that the relevant equipment or resources required to use the technology are complete, they will be more willing to use it. Mobile banking usually requires unique technology, resources, and equipment support (Alalwan, Dwivedi & Williams, 2016). Therefore, customers will be more motivated to use mobile banking if they can obtain some support services and resources and believe it is compatible with other technologies they already use. Yu (2012) found that facilitating conditions positively impact customers' behavior in using mobile banking. Alalwan, Dwivedi, and Rana (2017) studied the factors affecting the adoption of mobile banking by Jordanian bank users. The survey results indicated that facilitating conditions positively impacted users' behavior in using mobile banking. More help with mobile banking increases a user's intention to use it. Therefore, we propose the following hypothesis.

Hypothesis 6: Facilitating conditions positively impact the adoption intentions of mobile banking.

Hypothesis 7: Facilitating conditions have a positive impact on the use behavior of mobile banking.

Usage habits, adoption intention, and usage behavior

The usage habits in this study refer to the degree of self-consciousness in mobile banking due to acquired learning. According to the theory of planned behavior, repeated actions will lead to a positive behavioral attitude, which can be triggered by individuals who have a positive attitude or relevant clues in the environment. Individuals will adopt corresponding behaviors once they encounter such positive attitudes and intentions. For instance, once individuals become accustomed to using mobile phones for email management, they plan to utilize them for other business purposes. Therefore, habits are perceptual structures that reflect the results of previous experiences. Individuals' past experiences will affect their beliefs, transforming them into habits that affect their future behavior. Verplanken and Wood (2006) pointed out that when users have less cognitive ability to process environmental information under environmental changes, they will be more inclined to use established habits to guide their behavior. In addition, Limayem, Hirt, and Cheung (2007) found that habits directly impact the use of new technologies and the willingness to use them. Baptista and Oliveira (2015) found that users' habits positively influence their willingness and behavior to use mobile banking services. The stronger a user's intention to use the mobile phone, the more they are accustomed to using it for various services, including banking. Therefore, we propose the following hypothesis.

Hypothesis 8: Usage habits positively impact the willingness to adopt mobile banking.

Hypothesis 9: Usage habits have a positive impact on the use of mobile banking.

Adoption intention and usage behavior

The adoption intention in this study refers to the user's subjective acceptance of mobile banking, which will directly affect usage behavior. According to the theory of rational behavior, individual behavior is usually determined by their intention to take action, and the theory of planned behavior regards individual intention as a significant predictor of personal behavior. Venkatesh et al. (2012) pointed out in the UTAUT model that the user's willingness to use will directly impact their usage behavior. Martin, Oliveira, and Popoviè (2014) found that customers' desire to use online banking positively impacts their usage behavior. Additionally, Alalwan, Dwivedi, and Rana (2017) discovered that the willingness of bank clients to use mobile banking can be a strong predictor of their usage patterns. We can conclude that users' usage behavior will be more noticeable the more strongly they intend to use. Consequently, we put up the following theory:

Hypothesis 10: Mobile banking usage behavior is positively impacted by adoption intention.

RESEARCH METHODS

Research Sample and Data Collection

This study's research subjects are bank users with experience in using mobile banking services who must pass screening questions to confirm their eligibility. The study adopts a questionnaire survey method. Survey participants can be of any gender, age, or region if they meet the requirements. The platform distributes the questionnaire electronically. The platform system directly collects the online questionnaire after the subjects complete it. After excluding participants who did not meet the eligibility criteria, the platform system collected 256 valid questionnaires. The subjects are primarily female, accounting for 61.72%; the age is mainly 20-30 years old, accounting for 47.66%; the education level is mostly college, accounting for 60.55%; the frequency of use is mostly once a week, accounting for 20.70%; the most used functions are query services, accounting for 82.03%, followed by transfer and remittance services, accounting for 70.70%.

Measuring tools

This study is based on previous questionnaires related to the technology acceptance model. We designed it from the perspective of mobile banking users, incorporating the unique characteristics and specific circumstances of mobile banking. The questionnaire items are measured using a Likert-type five-point scale (1 = strongly disagree to 5 = strongly agree).

The assessment of performance and effort expectations employs the scales developed by Venkatesh, Thong, and Xu (2012), consisting of four questions each. Examples include "I consider mobile banking highly beneficial in my daily routine" and "I find it straightforward to acquire proficiency in its use."

The measurement of social influence and facilitating conditions uses the scales of Venkatesh, Thong, and Xu (2012), which have 3 and 4 questions, respectively. Examples include "People who are important to me (such as family members and relatives) think I should use mobile banking" and "I have the necessary resources (such as Internet phones) to assist me in using mobile banking." The Cronbach's α coefficients of the scales are 0.95 and 0.93, respectively.

The measurement of price value and usage habits adopts the scale of Venkatesh, Thong, and Xu (2012), which has 3 and 4 questions, respectively. Examples include "The price of mobile banking is reasonable" and "Using mobile banking has become a habit of my life." The Cronbach α coefficients of the scales are 0.92 and 0.97, respectively.

The measurement of perceived trust adopts the scale of Alalwan, Dwivedi, and Rana (2017), which has six questions. Examples include "I trust mobile banking." The scale's Cronbach's α coefficient is 0.95.

The measurement of adoption intention and usage behavior follows the scale of Sripalawat, Thongmak, and Ngramyarn (2011), which has 3 and 3 questions, respectively. Examples include "I am willing to continue to use mobile banking" and "I will continue to use mobile banking." The Cronbach α coefficients of the scales were 0.93 and 0.94, respectively.

In addition, this study also used the user's gender, age, and usage experience as control variables based on the theoretical model. Past studies have shown that these personal background factors affect the user's adoption intention and behavior.

Data analysis method

This study used SPSS 23.0 software to perform statistical analysis on the collected data and verified the hypotheses proposed above through regression path analysis. Before the hypothesis verification, the scale's reliability and validity were analyzed, and the correlation between variables was tested through correlation analysis.

ANALYSIS AND RESULTS

Confirmatory Factor Analysis

Table 1 shows the results of the confirmatory factor analysis. As can be seen from the Table 1, the theoretical model (nine-factor model) constructed in this study has a model fit index of $\chi^2/df = 2.42$, RMSEA = 0.08, NFI = 0.98, NNFI = 0.99, CFI = 0.99, and IFI = 0.99, indicating that the model fits perfectly and has good convergent validity. In addition, this study established four competing models to compare with the nine-factor model, as follows: (1) Four-factor model: The six independent variables of the UTAUT2 model are combined into one factor; (2) Three-factor model: The six independent variables of the UTAUT2 model and perceived trust are combined into one factor; (3) Two-factor model: The six independent variables of the UTAUT2 model, perceived trust, and adoption intention are combined into one factor; (4) One-factor model: All variables are combined into one factor.

From Table 1, we can see that the nine-factor model we made for this study fits a lot better than the other four models we tested, which means it has good discriminant validity.

Table 1. Results of confirmatory factor analysis

Model	χ^2	*df*	$\Delta\chi^2$	RMSEA	NFI	NNFI	CFI	IFI
Nine-factor model	1188.46	491	—	.08	.98	.99	.99	.99
Four-factor model	4318.97	506	3130.51**	.17	.94	.94	.95	.95
Three-factor model	5176.34	512	3987.88**	.19	.93	.93	.94	.94
Two-factor model	5394.33	519	4205.87**	.19	.93	.93	.94	.94
One-factor model	5586.55	527	4398.09**	.19	.93	.93	.94	.94

Note: ** $p < 0.01$.

Correlation analysis among variables

Table 2 presents each research variable's mean, standard deviation, and correlation coefficient matrix. Performance expectation, effort expectation, social influence, facilitating conditions, and user adoption intention are all significantly positively correlated ($r = 0.73$, $p < 0.01$; $r = 0.61$, $p < 0.01$; $r = 0.67$, $p < 0.01$; $r = 0.75$, $p < 0.01$); price value, usage habits, perceived trust, and user adoption intention are all significantly positively correlated ($r = 0.77$, $p < 0.01$; $r = 0.77$, $p < 0.01$; $r = 0.81$, $p < 0.01$); facilitating conditions, usage habits, adoption intention and user usage behavior are all significantly positively correlated ($r = 0.75$, $p < 0.01$; $r = 0.75$, $p < 0.01$; $r = 0.89$, $p < 0.01$). These analysis results are consistent with the previous hypothesis.

Table 2. Results of correlation analysis

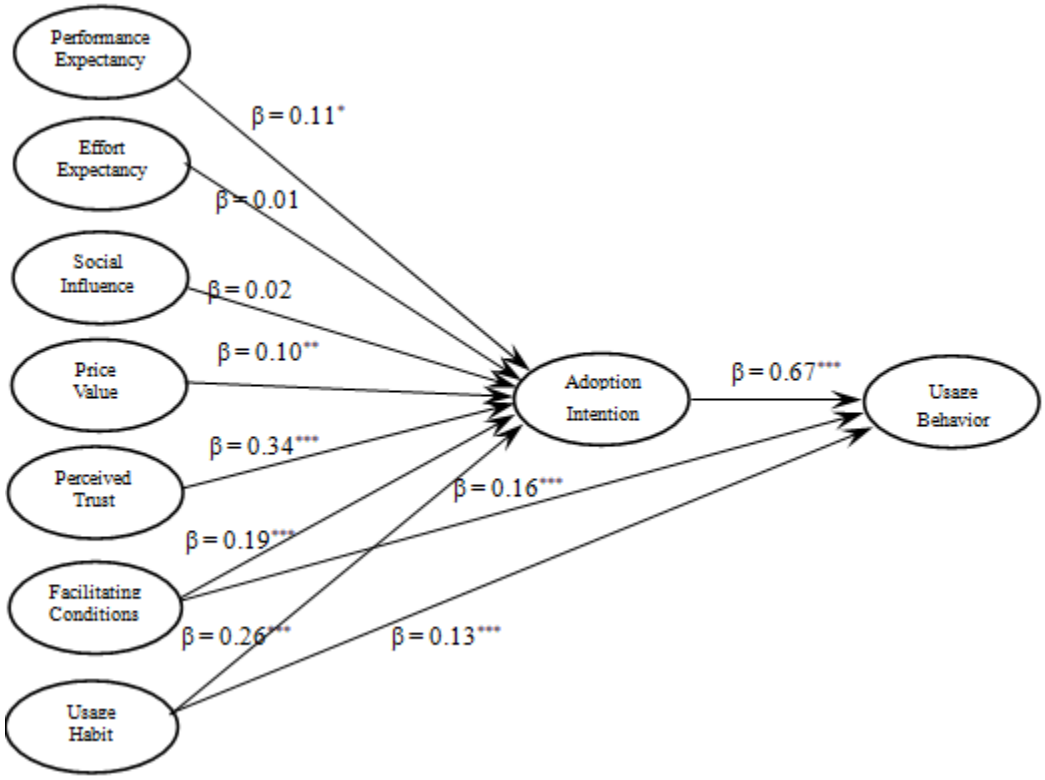
Variable	Mean	SD	1.	2.	3.	4	5.	6.	7.	8.	9.
1. Performance expectations	3.79	0.82	—								
2. Effort expectations	3.95	0.79	.65**	—							
3. Social influence	3.53	0.82	.66**	.53**	—						
4. Price value	3.66	0.77	.73**	.65**	.65**	—					
5. Perceived trust	3.54	0.69	.64**	.57**	.64**	.74**	—				
6. Facilitating conditions	3.79	0.75	.68**	.69**	.62**	.77**	.70**	—			
7. Usage habits	3.55	0.92	.74**	.53**	.69**	.70**	.69**	.64**	—		
8. Adoption intention	3.66	0.73	.73**	.61**	.67**	.77**	.81**	.75**	.77**	-	
9. Usage behavior	3.68	0.73	.71**	.60**	.64**	.77**	.79**	.75**	.75**	.89**	—

Note: The coefficients in the table are Pearson correlation coefficients.

** $p < 0.01$.

Regression analysis among variables

Figure 3 shows the results of the regression path analysis. After controlling for the user's gender, age, and experience (frequency of use), performance expectations, price value, facilitating conditions, and usage habits have a significant positive impact on the user's adoption intention (β = 0.11, p < 0.05; β = 0.10, p < 0.1; β = 0.19, p < 0.001; β = 0.26, p < 0.001). Hypothesis 1, Hypothesis 4, Hypothesis 6, and Hypothesis 8 are all supported. However, the positive impact of effort expectations and social influence on user adoption intention did not reach a significant level (β = 0.01, ns; β = 0.02, ns). Hypothesis 2 and Hypothesis 3 were not supported. Perceived trust significantly impacts user adoption intention (β = 0.34, p < 0.001), and Hypothesis 5 is supported. In addition, facilitating conditions, usage habits, and adoption intention also have significant positive effects on user usage behavior (β = 0.16, p < 0.001; β = 0.13, p < 0.001; β = 0.67, p < 0.001). Hypothesis 7, Hypothesis 9, and Hypothesis 10 are all supported.



Note: The regression coefficients in the figure are standard β coefficients.

*p < 0.05, **p < 0.01, ***p < 0.001.

Figure 3. Results of regression path analysis

CONCLUSIONS

This study starts from the user's perspective, takes mobile banking users as the research object, and studies the adoption intention and usage behavior of mobile banking users based on the UTAUT2 model combined with the perceived trust theory. The results indicate that performance expectations and price value positively impact users' willingness to use mobile banking. As customers, the more they perceive that mobile banking can improve the efficiency of handling financial services for themselves, save time or money costs for handling financial services, and make financial transactions more convenient and complete transactions faster, the more willing they will be to use mobile banking. However, the results also indicate that effort expectations and social influence positively impact users' willingness to use mobile banking but have not yet reached a significant level. This study speculates that most users are very familiar with mobile Internet products and belong to a well-experienced group, so they have enough knowledge and ability to use mobile banking easily. Additionally, social influence refers to the contagious nature of living groups. The promotion of mobile banking has intensified recently. Because each bank has been pushing this hard and third-party payment has been growing quickly, people use it without thinking about it, so social pressure doesn't have a big effect on their decision to use it. However, we still recommend future research to gather more diverse and significant data for verification, which will enhance the credibility of the research conclusions.

SUGGESTIONS FOR MANAGEMENT

Based on the above research conclusions, this study puts forward the following management suggestions for reference by bankers when conducting mobile banking business:

Enhance users' performance expectations and perceived trust in mobile banking

The research conclusions show that performance expectations and perceived trust positively impact the willingness to use. Although the mobile banking business is developing rapidly, there are still shortcomings in handling related businesses. For instance, the process of opening mobile banking at the business hall counter still requires complex procedures. Therefore, banks should actively expand the product functions of mobile banking and promote system upgrades. This is necessary to cater to the needs of users and motivate them to utilize mobile banking. Furthermore, we recommend that banks implement robust electronic banking security laws and regulations, along with the introduction of advanced network security technologies. To protect the property safety of customers, reduce the risks of using mobile banking, promote users' trust in mobile banking, and encourage more users to use mobile banking.

Pay attention to factors that may affect user usage habits

The research conclusion indicates that usage habits have a positive impact on usage intentions and behavior. Currently, most mobile banking users are concentrated in the age group of 20–30, and third-party payment software led by Alipay has seized part of the market, hindering the development of mobile banking. In addition, banks are slow to develop innovative services, and the corresponding media publicity efforts are also unsatisfactory. Therefore, it is recommended that banks actively develop exceptional businesses (such as investment and financial management, online payment, etc.), make mobile banking operations more convenient and the interface more transparent, increase user stickiness to mobile banking, and then shape user usage habits for mobile banking.

LIMITATIONS AND FUTURE DIRECTIONS

This study still has several limitations. First, this study collected data by simultaneously measuring all variables using self-assessment questionnaires. It may lead to common method bias and causal confusion. To make the research process more thorough, it is suggested that future studies use different ways to measure, like the actual number of times or frequency of use, or use a longitudinal research strategy to measure at different points. For example, at the first time point, researchers could look at factors that might affect adoption; at the second time point, they could look at adoption intentions; and at the third time point, they could look at actual use behavior. Secondly, other potential factors may affect mobile banking users' willingness and behavior. This study is only based on the UTAUT2 model and adds perceived trust to the research. Future studies should add other variables that may affect the research, such as perceived risk, operator service quality, etc., to complete the research model.

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REFERENCES

Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust. International Journal of Information Management, 37(3), 99-110.

Alalwan, A. A., Dwivedi, Y. K., & Williams, M. D. (2016). Customers' intention and adoption of telebanking in Jordan. Information Systems Management, 33(2), 154-178.

Arenas Gaitán, J., Peral Peral, B., & Ramón Jerónimo, M. (2015). Elderly and internet banking: An application of UTAUT2. Journal of Internet Banking and Commerce, 20(1), 1-23.

Baptista, G., & Oliveira, T. (2015). Understanding mobile banking: The unified theory of acceptance and use of technology combined with cultural moderators. Computers in Human Behavior, 50, 418-430.

Baptista, G., & Oliveira, T. (2015). Understanding mobile banking: The unified theory of acceptance and use of technology combined with cultural moderators. Computers in Human Behavior, 50, 418-430.

Hanafizadeh, P., Behboudi, M., Koshksaray, A. A., & Tabar, M. J. S. (2014). Mobile-banking adoption by Iranian bank clients. Telematics and Informatics, 31(1), 62-78.

Huang, L. & Jiang, K. (2013). Factors influencing consumers' willingness to use mobile payment. Social Scientist, (03), 76-49.

Khechine, H., Lakhal, S., & Ndjambou, P. (2016). A meta-analysis of the UTAUT model: Eleven years later. Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration, 33(2), 138-152.

Kim, D. J., Ferrin, D. L., & Rao, H. R. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. Decision Support Systems, 44(2), 544-564.

Knutsen, L. A. (2005, January). M-service expectancies and attitudes: Linkages and effects of first impressions. In Proceedings of the 38th annual Hawaii International Conference on System Sciences (pp. 84a-84a). IEEE.

Lee, E. J., Kwon, K. N., & Schumann, D. W. (2005). Segmenting the non-adopter category in the diffusion of internet banking. International Journal of Bank Marketing, 23(5), 414-437.

Lee, M. K., Cheung, C. M., & Chen, Z. (2007). Understanding user acceptance of multimedia messaging services: An empirical study. Journal of the American Society for Information Science and Technology, 58(13), 2066-2077.

Limayem, M., Hirt, S. G., & Cheung, C. M. (2007). How habit limits the predictive power of intention: The case of information systems continuance. MIS Quarterly, 705-737.

Lu, J., Liu, C., Yu, C. S., & Wang, K. (2008). Determinants of accepting wireless mobile data services in China. Information & Management, 45(1), 52-64.

Luarn, P., & Lin, H. H. (2005). Toward an understanding of the behavioral intention to use mobile banking. Computers in Human Behavior, 21(6), 873-891.

Martins, C., Oliveira, T., & Popovič, A. (2014). Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application. International Journal of Information Management, 34(1), 1-13.

Nysveen, H., Pedersen, P. E., Thorbjørnsen, H., & Berthon, P. (2005). Mobilizing the brand: The effects of mobile services on brand relationships and main channel use. Journal of Service Research, 7(3), 257-276.

Qu, L. Y., Zhou, Y. Q., Zhao, X. R. & Zhang, Z. H. (2018). Research on the effect factors of college students' MOOC learning: Based on UTAUT2. Journal of Hubei University of Education, 35(8), 47-57.

Shaw, N., & Sergueeva, K. (2019). The non-monetary benefits of mobile commerce: Extending UTAUT2 with perceived value. International Journal of Information Management, 45, 44-55.

Sripalawat, J., Thongmak, M., & Ngramyarn, A. (2011). M-banking in metropolitan Bangkok and a comparison with other countries. Journal of Computer Information Systems, 51(3), 67-76.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly, 425-478.

Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. MIS Quarterly, 157-178.

Verplanken, B., & Wood, W. (2006). Interventions to break and create consumer habits. Journal of Public Policy & Marketing, 25(1), 90-103.

Yang, K. C. (2005). Exploring factors affecting the adoption of mobile commerce in Singapore. Telematics and Informatics, 22(3), 257-277.

Yu, C. S. (2012). Factors affecting individuals to adopt mobile banking: Empirical evidence from the UTAUT model. Journal of Electronic Commerce Research, 13(2), 104.

Zhang, C. H. & Li, L. K. (2015). A study on factors influencing the adoption willingness of internet finance customers in China. East China Economic Management, 29(10), 161-167.

Zhou, T. (2011). An empirical examination of initial trust in mobile banking. Internet Research, 21(5), 527-540.