

A Study on the Internet Banking Behavior of Enterprises and Their Influencing Factors

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Abstract. The purposes of this paper are to study the behavior of enterprises' internet banking (EIB) and their influencing factors by using literature analysis and questionnaire survey. The results show that EIB average frequency of Chinese interviewees is 4.0 times per month and their monthly amount of EIB is RMB 333,000. Their perceived usefulness, risk and platform convenience are the significant influencing factors of EIB, the effects of their perceived usefulness and perceived platform convenience are positive and the other is negative. The individual variables of respondents, including their gender, age and identity, mostly have significant impacts on the EIB and their influencing factors.

1. Introduction

In 2018, the services of internet banking have become the main financial services for enterprises, while very few literatures discuss the enterprises which use the bank service through the internet banking platform. This paper aims to analyze the behavior of enterprises' internet banking (EIB) and their influencing factors, and then provide EIB - related policy recommendations for the government and enterprises. According to Analysys (2018), Industrial and Commercial Bank of China (ICBC), Construction Bank of China (CBC) and Agricultural Bank of China (ABC) have more than 5 million enterprises which use the services of internet banking. There are more credit audit systems and financial services for EIB, such as the system of certificate identification, the trade financing and the annuity of enterprises, so EIB could strengthen and accelerate the finance management, operation efficiency, and cash flow of enterprises.

Internet banking of commercial banks has been gradually accepted and widely used by enterprises, for their virtual characteristics, financial innovation, and personalized services. According to Shanghai iResearch Market Consulting Co., Ltd. (2013; 2010) more than 85.0% of internet banking amount in 2009 came from enterprises, and the number of Chinese EIB accounts in 2012 was 10.1 million, an increase of 26.0% over the same period last year. According to the China Financial Certification Center (2017), the proportion of Chinese EIB users was 79%. The China Banking Regulatory Commission (CBRC) issued the Information Technology Risk Management Guidelines for Commercial Banks in 2009, which has prompted commercial banks to further strengthen the protection of customer information and the popularization of EIB.

According to the review of literatures, the Chinese researches about EIB in title began in 2005 and were most in 2012, with a sum of 38 articles until March 18th, 2018. The most topics on EIB are the status, advantages and disadvantages, as well as risk supervision of Internet banking of enterprises. At present, there is no literature on peoples' behavior of EIB. The topics on the influencing factors of EIB were mostly the cognition of EIB, brand, and cost sensitivity, etc.; and the gender, age, and education of the enterprise's financial officer would comprehensively affect the behavior of EIB.

From the literature review, the influencing factors of EIB should be their perceived usefulness, risk, and platform convenience. The perceived usefulness of EIB includes its operation convenience, privacy protection, after-sales services, brand identity and so on. IBM (2011) argues that the

redesigning of EIB platforms which purpose is to provide a more intuitive user interface, and it could improve the “stickiness” of customer on EIB. The perceived risk of EIB includes their credit risk, safety risk, and operational risk etc. Sun (2015) classifies the risk of EIB into its network risk, operational risk, and government transparency risk. Lassar, et al. (2005) believes that the frequency and proficiency of peoples’ Internet using would affect the acceptance of internet banking platform. Tyler and Stanley (2001) argues that enterprise seem to prefer traditional type of banking rather than EIB. Zineldin (1996) found there are differences between the banks and enterprises depending on the size of the enterprises. As small companies usually keep in touch with one bank, while large enterprises keep in touch with several banks. The perceived platform convenience of EIB means its various functions, strong autonomy, limitless time or space, as well. Sun (2015) considers that EIB has “3A” characteristics, namely its service of Anytime, Anywhere, and Anyway. Zhu (2014) believes that the problems encountered by customers in the EIB process are often complex and diverse, and customers’ loyalty would inevitably be reduced, once their experiences are compromised.

According to the above discussion, this paper would not only analyze the EIB behavior and its influencing factors, but also discuss the influence of the gender of financial decision makers, the scale of enterprises and the type of industry. As Hassanuddin, et al. (2012) points out that women are significantly more risk averse than men. Zhu (2014) believes that the gender, age, education, Internet access and other factors of financial decision-makers have a comprehensive impact on their behavior of EIB. Zhu (2014) also believes there should be the relationship between the size of the enterprise and its behavior of EIB. In general, the larger is the size of the enterprise, the stronger is the willingness of EIB.

In addition to the preface, the structure of this article is divided into three parts. The second part is the analysis of the questionnaire results, and the third part is the conclusions and recommendations.

2. The analysis of questionnaire results

This questionnaire survey was completed internet in China from September 26th to November 19th 2018. A total of 419 copies were fully filled out and recycled, and all respondents were EIB customers. The statistic results on individual variables are as follows: 1. Gender: 54.2% males and 45.8% females. 2. Age: 42.7% of the respondents were under the age of 30, 45.8% were between the ages of 30 and 50, and 11.5% were over the age of 50. 3. Identity: business operators accounted for 48.0%, financial managers accounted for 52.0%. 4. Industry type: manufacturing industry accounted for 74%, service industry accounted for 26%. 5. The tool access to EIB: 59.4% used mobile phones and 40.6% used computer. 6. Platforms (ranked from high to low): ICBC accounted for 41.8%, CBC for 38.9%, Industrial Bank of China (IBC) for 35.4%, local banks for 20.1%, and other for 20.5%.

The statistics on the variables of EIB behaviour are as follows: EIB average frequency is 3.8 (the standard deviation is 2.1), EIB average time is 1.8 hours per day (the standard deviation is 0.8), and EIB average amount is RMB 332,900 (the standard deviation is 22.8). The results of their factors are as follows: about three quarters of respondents approving with all factors, and their factors which ranking from large to small are their perceived usefulness, risk, and platform convenience. For example, 85.4%, 63.4% and 97.0%of respondents agreed with the perceived usefulness, risk, and platform convenience of EIB.

In this paper, the variance analysis of the influencing factors of EIB behaviour is shown in table 1. According to table 1, the notable influencing factors on EIB behaviour include their perceived usefulness, risk and platform convenience. The positive influencing factor of EIB average time is the perceived platform convenience, while the reverse influencing factor is the perceived risk. The positive influencing factor of EIB average frequency is the perceived platform convenience, while the reverse influencing factor is the perceived risk. The positive influencing factor of EIB average amount is the perceived platform convenience and the perceived usefulness, while the reverse influencing factor is the perceived risk.

Table 1. The variance analysis of the behaviour of EIB and its influencing factors.

		The behaviour of EIB		
		EIB average frequency	EIB average time	EIB average amount
Influencing factors	Perceived usefulness	161.4***	4.4*	74.8***
	Perceived risk	1039.7***	30.2***	57.1***
	Perceived platform convenience	149.8***	14.8***	39.6***

Note: *p < 0.05, **p < 0.01, ***p < 0.001

In order to study further, this paper discusses the effects of gender, identity, usage pathway, age of respondents on their EIB behaviour and its influencing factors by their results of independent samples t test (see Table 2). Table 2 shows that the gender, identity, tool, and age of respondents have a significant impact on the EIB behaviour, such as the EIB average frequency, time and amount of female respondents are significantly higher than those of male by 2.6 times per week, 0.6 hour per day, and RMB 229,000 per month. The EIB average frequency and amount of financial officer are significantly higher than those of enterprises' owner by 1.5 times per week and RMB 61,000. The EIB average frequency, time and amount of respondent whose tool is mobile phone are significantly higher than those of respondent whose tool is computer by 0.5 times per week, 0.03 hours per day, and RMB 95,000. As the age of respondent grows, the EIB average frequency and time has significantly decreased.

According to Table 2, we can find that the gender, identity and age of respondent have significant impacts on its influencing factors, such as its perceived usefulness and platform convenience of female respondent are significantly higher than those of male, while its perceived risk is the opposite. Its perceived usefulness and platform convenience of financial officer are significantly higher than those of enterprise owners, while its perceived risk is the opposite. As the age of respondent grows, its perceived risk and platform convenience decreases, while its perceived usefulness is the opposite.

Table 2. The results of independent samples T test of EIB behaviour and its influencing factors by the gender, identity, tool, and age of respondents.

		Age	Identity	Tool	Age
		F(T)	F(T)	F(T)	F
EIB	Average frequency	20.3 *** (20.4 ***)	43.9*** (8.3***)	6.3* (2.4*)	24.0***
	Average time	3.9* (8.4***)	5.5*** (5.5***)	10.7*** (0.4)	12.6***
	Average amount	84.2*** (11.5***)	2.8*** (2.8***)	70.2*** (-4.7***)	3.2*
Influencing factors	Perceived usefulness	21.2 *** (10.4***)	9.1* (5.5***)	22.1*** (-1.3)	14.4***
	Perceived risk	30.7*** (-17.4***)	35.5*** (-5.7***)	16.9*** (-.19)	29.6***
	Perceived platform convenience	104.8*** (13.1***)	32.7*** (3.5***)	22.3*** (0.02)	15.4***

Based on the above findings, this paper suggests: 1. Governments should increase enterprises' willingness of EIB through policies about their perceived usefulness, risk and platform convenience. According to the above results, respondents' approval rates of their perceived usefulness, risk and platform convenience are more than 63%. According to the Law on the Promotion of Small and Medium-sized Enterprises of the People's Republic of China, the governments should encourage the enterprises related Internet to provide services to small and medium-sized enterprises, supporting them in the application of Internet technology, such as research and development, designing, manufacturing, operation and management, in order to improve the production methods and efficiency.

2. The EIB promotion strategies of commercial banks should be different according to the gender, age and position of EIB users. According to the above results, the EIB behavior and its influencing factors would vary according to the enterprise variables. 3. The perceived usefulness, risk and platform convenience of EIB are significant influencing factors on EIB behavior. Therefore, the government and commercial banks should take the influencing factors of EIB behavior into consideration when making policies about EIB, as more complete supporting services of EIB platform should be provided.

4. According to the above results, its perceived usefulness is an important factor that affects EIB behavior. Therefore, commercial banks should consider the topics of user information protection mechanism, customer service, and brand. 5. For its perceived risk is an important factor that restricts people's behavior of EIB. Therefore, the commercial bank should strengthen its risk control ability. This paper argues that commercial banks should care about the topics of credit audit standards, credit risks, anti-fraud, internet security, the follow-up services, and operational risks. 6. According to the above results, its perceived platform convenience is an important influencing factor on EIB, so commercial banks should simplify the steps of EIB.

3. Conclusion

With the development of small and medium-sized enterprises and the continuous maturity of Internet technology, EIB has been most and more important for the development of Chinese enterprises, which should be studied by commercial banks, enterprises and scholars. This paper aims to explore the EIB behavior and its influencing factors, and to analyze the impact of the gender, age, identity and tool of respondent.

The statistical results of the questionnaire survey are: 1. This paper divides EIB behavior into EIB average frequency, time and amount. However, the EIB average frequency, time and amount in China could be developed in China. 2. Its perceived usefulness, risk, and platform convenience have significant impacts on EIB behavior. Therefore, the relevant policies and regulations of the government and commercial banks should consider these influencing factors. 3. The gender, age and identity of respondent have significant impacts on EIB behavior. Commercial banks, governments and scholars should formulate and research the EIB topics related to enterprise variables.

The results of this paper show that the services of EIB (proportions) used by respondents are bill (71.97%), payment settlement (68.08%), transfer (53.23%), investment and financing (38.86%), loan (34.06%) and foreign exchange (7.27%). In the context of globalization, commercial banks should actively improve enterprises' acceptance of EIB foreign exchange services. The business types on EIB of ABC, BOC, ICBC and CCB are listed in Table 3. The results show that their business types of EIB are almost the same, while their difference is the personalized service for enterprises, as CCB's customized services, ICBC's national debt trading services.

The suggestions of Commercial banks should be: 1. The promotion of EIB behavior of small and medium-sized enterprises. 2. The improvement of EIB business structure of commercial banks. 3. The upgradation of the business functions, types and after-sales service of EIB. Due to the popularity of Internet technology and smart devices, the acceptance of electronic payment is higher in China today. Under the new situation of "Internet +", EIB has become an important business of commercial banks. The number of small and medium-sized enterprises in China accounts for more than 90% of the total number of enterprises, while most enterprises have not yet established a habit of EIB.

This paper suggests that the future research direction is the impact of enterprise size and its location on EIB behavior and its influencing factors. Shi (2013) found that the size of the enterprise will affect its EIB behavior. Wei (2017) stressed the impact on EIB behavior by the location of enterprises. Another topic of future research is EIB brand selection of the enterprise financial manager.

Table 3. The comparison of EIB business types of the four major banks in China.

Commercial bank business type	ABC	BOC	ICBC	CCB
Fund management	Global cash management, Risk management	Customizing the time and amount of aggregation , supplement the enterprise reserve	Self-service Purchase and purchase of account-keeping national debts	Pre-order the time of external payment of free account funds
	Payment services, liquidity management, information query and aggregation, external payments			
Investment and finance	Providing deposit products linked to interest rates, exchange rates, commodity prices, and stock indices	Transfer services between banks and companies	Bookkeeping national debts; Voucher type national debts	Private banking services
	To provide the services to purchase, redemption, holding inquiries, dividends of on-line financial management products			
Foreign exchange service	Foreign exchange deposit, foreign exchange loan, foreign exchange remittance, international settlement, credit investigation			

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