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Conceptual Model on Internet Banking Acceptance in China with Social Network Influence

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Abstract— The Internet of Things and Industry 4.0 is changing the way we live including Internet Banking. Although, the government has been encouraging, the acceptance of internet banking is still not well received by Chinese customers. The reason is because they are more concerned about the economic development on the banking industry, and less concerned about technology acceptance and its development. This lack of acceptance is also attributed to the current lack of social network influence to internet banking which including its weak compliance, lack of identification, and lack of internalization. This paper aims to identify the factors that may be influencing IB acceptance by proposing a model which can determine customer's behavioural intention based on social network influence. The TAM, UTAUT and the Social Influence Theory (SIT) were simultaneously adopted for this study. It is to use the TAM model's perceived ease of use and perceived usefulness, the UTAUT model's social influence, and the SIT's compliance, identification and internalization factor for the analysis. For this purpose, a preliminary study was first administered so as to identify customers' attitude of the IB acceptance. Thirty respondents were recruited for a structured interview. The behavioural intention and social network influence on internet banking in China was then examined with the proposed model. It appears that the model can be used to forecast Chinese customers' acceptance of internet banking. It will give benefits to bank and society on paying attention to the influence of social network for internet banking in China.

Keywords— Internet banking; acceptance test; social network influence; TAM, UTAUT; Social Influence Theory (SIT); customer behavioural intention.

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I. INTRODUCTION

Today's sophisticated technology has transformed the banking system, one of which is Internet banking (IB) that has prevailed worldwide [1]. Due to the advancements of lifestyles, systems, and products, IB offers many advantages such as convenience, safety, and usefulness in financial transactions [2]. With the Internet of Things and Industry 4.0, many governments across the world are beginning to attach great importance to IB, hence the wide encouragement for people to use IB. Despite the huge user-base of social networks, there seems to be some indifference to the acceptance of IB by customers [3].

China has one of the largest markets for the Internet finance industry. Nowadays, IB still needs to have better performance even though it carries many benefits. For example, IB is not well accepted. This, therefore, makes it a research of value and significance, particularly for the many users of China [4]. Despite having a huge social network

base, the users of IB in China are still not as encouraging. It is possible that IB carries several shortcomings that may require improvement [5],[6]. For instance, IB has the weakness exemplified by a lack of social network influence (SNI). Then, there is a great potential for research, and to make improvements to encourage customer acceptance through the SNI [7].

The potential of IB has been mentioned previously as, "Any use of information and communication technology and electronic means by a bank to conduct transactions" [8]. In China, IB is a financial self-service channel that offers customers an entry into their banking accounts without the need to go to the physical bank for trans-actions [9]. There are normally two types of banks that offer customers IB services. The first of these are the traditional commercial banks which now use the Internet as a new alternative trading channel to provide banking services [10]. In the meantime, the bank customers still have the opportunity to go to the bank branches to manage their banking transactions. The second of these are the virtual banks (such as Internet-

only, branchless, e-commerce or Internet banks) [11] which do not have any physical branches. These virtual banks only provide banking services through the Internet. In China, for example, there are two virtual banks [12], one of which was launched by Tencent, called WeBank. It was formally established on December 16, 2014 as the first private bank with IB in China. The second virtual bank is called MYBank, the first commercial bank in China whose core system is based on cloud computing architecture. It was initiated and set up by Ant Financial who is a major shareholder. It officially opened on June 25, 2015. Behind the rise of WeBank and MYBank is the emergence of China's two Internet giants which provide deep information and technical support for IB - Tencent and Ali, both of which also have powerful social network bases. It appears that the Internet of Things and Industry 4.0 were going to enhance the development of IB needs, based on the SNI.

The virtual and conventional banks offer two types of IB in China. First, entity banks with Internet channel offers one form of IB; this depends on the perceived credibility and guarantee provided by the banks. Second, other forms of IB are offered by the virtual banks such as WeBank and MYBank, both of which are growing fast because of the support provided by the two Internet giants. The IB service is jointly launched and is highly valued and encouraged by the government and banks with the hope that its acceptance would be embraced by the huge social network base of China [13]. This makes it a necessity to examine how SNI can be used to enhance the acceptance of IB in China.

Like it or not, the transformation of technology makes it necessary for the IB system to be embraced throughout the world, including China. Its advantages are reflected in its ease in use, its usefulness, and its credibility. All of these should serve to interest potential customers in IB acceptance. As the world's largest emerging economy, China has the market demand due to its huge social network base. Nonetheless, the concept of IB is still not well received by users because of the lack of SNI. Since IB is a kind of online service in the financial market, the need to consider technology acceptance and SNI must be made by users [5]. This means that there is room for improvement to increase its acceptance [6],[5]. Under the Internet of Things and Industry 4.0, there is great potential for research to be done and to improve the customer behavioural intention (CBI) towards IB acceptance through SNI in China [14].

Past studies also mentioned the problem of less acceptance of the IB from all over the world [3]. The World Bank (2019) had similarly reported that only 4% of approximately 25 million users of the American banking services actively use e-banking while 12% of German consumers use the Internet for banking or shopping. This shows that IB acceptance is still not as popular. This implies that IB currently needs to assert its roles further by the SNI [15],[16],[13].

The total number of bank accounts in China amounts to 10.662 billion whereas the number of IB accounts amounts to only 0.417 billion. It shows the percentage of IB account is still low. This is confirmed by the Ipsos (2018) statistics as noted in Figure 1 below. Moreover, the number of IB users in China has been noted to be increasing extremely slowly as evidenced by the three years; 2017 (399.11 million), 2018

(417.15 million) and 2019 (420.23 million). This shows that the percentage of users is increasing slowly from 52% in 2018 to 53.2% in 2019. Figure 2 further illustrates that the number of IB users in China is currently growing at a low rate. The two figures clearly show that customers' acceptance of Internet banking (IB) is weak, with low acceptance, and has not yet reached the expected levels.

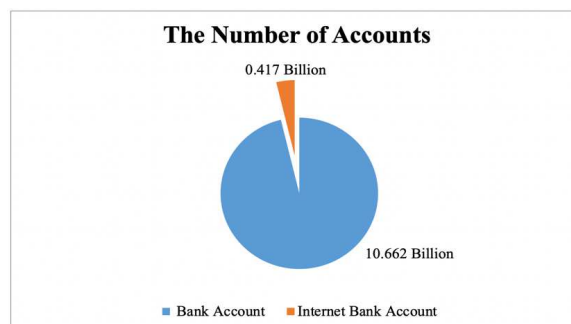


Fig. 1 The number of account (Bank account and IB account). Source: Ipsos, 2018

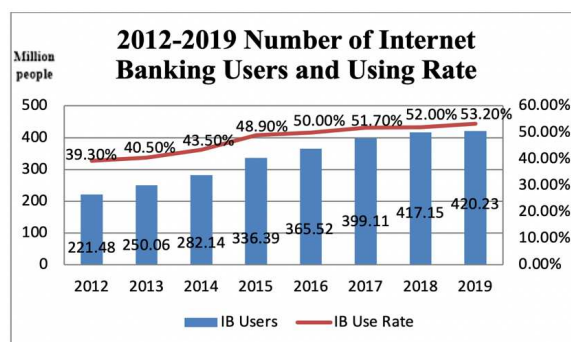


Fig. 2 2012-2019 Number of IB users and using rate. Source: CNNIC (China Internet Network Information Center), 2019

The acceptance of IB appears to be low among users in China possibly because of the weak SNI [17],[15],[18],[13],[16]. Three specific problems can be traced to the lack of the SNI and hence, the low IB acceptance: (a) its weak compliance to behaviour due to the lack of the social effect of the accepting influence from social networks such as friends, peers, online chat groups [19],[20] b i) its low identification caused by inadequate influential endorsements such as celebrity endorsements [21],[22],[23] and (c) its lack of internalization in that individuals do not find the contents rewarding [24],[22],[25]. Previous researchers [26],[13],[16] have also mentioned the lack of SNI. The weak SNI including compliance, identification, and internalization influence IB acceptance.

Most of China's netizens are aged between 20 to 49 years old; hence they are more likely to be IB users too. The analysis also indicated that the proportion of netizens aged 20-49 in China using IB did not differ very much; for instance, in December 2017, the percentage of users was 67.2% whereas in June 2018, it was to 67.1% (CNNIC, 2018). This means that IB in the context of China would be better recognized and accepted by the same group of Chinese netizens who tend to connect through social networks under the Internet of Things and Industry 4.0. This outcome suggests that there is a possibility for China to develop a strong customer base derived from the social

network base for IB acceptance. Thus far, Internet usage in China is mainly utilized by users of this age group. This means that IB acceptance can be approved through SNI with the wide social network base. For this to happen, more research needs to be conducted to facilitate IB acceptance.

According to CNNIC (2018), China had 802 million Internet users in June 2018, with 29.68 million of the users rated as new Internet users in the first half of 2018. This implies that the size of the Chinese netizens and the Internet penetration rate is expanding as more and more of the Chinese population are using the Internet with huge SNI.

Internet Banking (IB) is currently, less well received by the Chinese Internet users. [27],[5],[13],[17],[18],[16] had attributed this to the lack of SNI. Under the Internet of Things and Industry 4.0, social network seems to be connecting people increasingly because of the expansion and certainty of the SNI. Based on this, it is expected that this will benefit the netizens to also accept IB. This will benefit both the customers and the bank industry [28]. However, as previous studies [3] show, the acceptance of IB is still low. Thus, it suggests that the SNI may have been weakly complied with and the cause of this weak compliance may be its lack of identification and lack of internalization [29],[30],[22]. This becomes a serious obstacle [14] in the context of China, as verified by [20],[16] who proposed that the improvement of SNI would increase IB acceptance in the Internet financial market.

This paper aimed to identify the factors that may be influencing IB acceptance by proposing a model which can determine CBI based on social network influence. The TAM, UTAUT and the Social Influence Theory (SIT) were simultaneously adopted for this study.

II. MATERIAL AND METHOD

A. Justification of Factors Selection

A summary of the past studies looking at the factors affecting CBI and the acceptance of IB is presented in Tables 1 and 2. It is noted that the SNI, as a new variable, was performed in previous studies in relation to the Kelman' Social Influence Theory (SIT) on CBI. The model detected seven factors which may have contributed to the lack of acceptance of IB and these included: perceived usefulness, perceived ease of use, social influence, perceived credibility, compliance, identification, and internalization (Tables 1 and 2).

The TAM, UTAUT and the Social Influence Theory (SIT) were simultaneously adopted for this study. It was to use the TAM model's perceived ease of use and perceived usefulness, and the UTAUT model's social influence. The SIT's compliance, identification, and internalization factors for the analysis on CBI, which had used the three factors to examine user acceptance of social networking sites [31], namely travel experiences [32] as well as stock-taking [33] were not used on IB acceptance.

Based on Table 2, compliance, identification and internalization were not tested by previous researchers on IB acceptance, but the 3 factors were related to the problem and the objective of this study to be applied as new variables to CBI on IB. Perceived ease of use and perceived usefulness

are normally tested as main influencing factors on IB. Social influence, which is related to the problem in this study, was also tested by previous researchers on IB acceptance from customer's behavioural intention.

1) *Perceived Ease of Use:*

Safeena *et al* [37] in a cross-cultural study in Jordan, found that perceived ease of use played an important role in predicting behavioural intention on IB for clients, especially among Jordanian customers from their perspective. These results showed that perceived ease of use, perceived usefulness, and perceived risk would significantly influence customer behavioural intentions (CBI) to accept IB.

2) *Perceived Usefulness:*

Chawla *et al* [42] also empirically stated the role of perceived usefulness in contributing to customers' willingness, especially for clients to adopt Internet banking. Recently, they highlighted the vital role of perceived usefulness in encouraging Iranian customers to accept IB.

3) *Perceived Credibility:*

Perceived credibility is a fundamental condition for customers to do any banking or financing activities, such that if banking customers could trust new technology and information credibly, they would be willing to use them [40]. Perceived credibility for consumers is the most important factor in Internet commercialization.

4) *Social Influence:*

Venkatesh *et al* [36] states, "social influence is defined as the degree to which an individual perceives that important others believe he or she should use the new system." Social influence comes from an individual's awareness due to their families, friends, peers, colleagues, and social groups. This study also included social influence on Internet banking services in the TAM model. It is vital to a person whether he/she should accept IB services.

B. Justification of Model Selection

In examining past studies, a comparison of the factors derived from different models was made, as illustrated in Table 3.

The TAM contains no factors, such as perceived credibility or social influence in influencing CBI. In comparison, the UTAUT model observed that social influence had a significant influence on CBI for IB acceptance [16] In the SIT model [29],[22],[3]. it was found that compliance, identification, and internalization influenced behavioural intention. However, when the SIT model was combined with the TAM and the UTAUT model, the findings showed that they impacted IB acceptance. Based on this outcome, the current study adopted and combined the TAM, UTAUT and SIT models as measures to fill the gap in the literature that focuses on the factors of technology acceptance, with regards to IB, and the factors of compliance, identification, and internalization in influencing CBI on IB acceptance in China.

TABLE I
SUMMARY OF THEORY ON FACTORS TO CBI

Theory	Perceived ease of use	Perceived usefulness	Perceived credibility	Social influence	Compliance, identification & internalization
[34]	✓ (TAM)	✓ (TAM)	Not tested	Not tested	Not tested
[35]	Not tested	Not tested	Not tested	✓	Not tested
[36]	Not tested	Not tested	Not tested	(UTAUT) ✓	Not tested ✓
[22],[29],[30]	Not tested	Not tested	Not tested	(UTAUT) Not tested	(SIT)

(✓) = Tested

TABLE II
SUMMARY OF PREVIOUS STUDY ON FACTORS TO CBI ON IB

Previous study	Perceived ease of use	Perceived usefulness	Perceived credibility	Social influence	Compliance, identification & internalization
[37]	✓	✓	✓	Not tested	Not tested
[38]	✓	✓	✓	✓	Not tested
[39]	✓	✓	Not tested	✓	Not tested
[40]	✓	✓	Not tested	Not tested	Not tested
[41]	✓	✓	✓	Not tested	Not tested
[42]	Not tested	✓	Not tested	Not tested	Not tested
[43]	Not tested	Not tested	Not tested	✓	Not tested
[44]	✓	✓	✓	Not tested	Not tested
[45]	✓	✓	✓	Not tested	Not tested
[46]	✓	✓	✓	Not tested	Not tested
[47]	✓	Not tested	✓	✓	Not tested
[48]	✓	✓	✓	Not tested	Not tested
Frequency of factor	11	11	8	6	0

(✓) = Influences BI

TABLE III
COMPARISONS OF FACTORS ON DIFFERENT MODELS

Model	Dependent variables (DV)	Independent variables (IV)	Researchers & year
Technology Acceptance Model (TAM)	Behaviour	Perceived usefulness, perceived ease of use	[34]
Extended TAM (TAM2)	Intention to use, usage behaviour	Subjective norm, Image, Job relevance, Result demonstrability, Perceived usefulness, Perceived ease of use	[49]
TAM3	Behavioural intention, behaviour	Perceived usefulness, Perceived ease of use, Subjective norm, Image, Job relevance, Output quality, Result demonstrability	[50]
Unified Theory of Acceptance and Use of Technology (UTAUT)	Behavioural intention, behaviour	Performance expectancy, Effort expectancy, Social influence, Facilitating conditions	[35]
Social Influence Theory (SIT)	Behavioural intention, behaviour	Compliance, Identification, Internalization	[22],[29],[30]

TABLE IV
SUMMARY OF COMPARISONS OF FACTORS ON DIFFERENT MODELS

Independent variables	Support rate	Model
Perceived usefulness	3	TAM, TAM2, TAM3
Perceived ease of use	3	TAM, TAM2, TAM3
Social influence	1	UTAUT
Compliance (subjective norm)	3	TAM2, TAM3, SIT
Identification	1	SIT
Internalization	1	SIT

The TAM contains no factors, such as perceived credibility or social influence in influencing CBI. In comparison, the UTAUT model observed that social influence had a significant influence on CBI for IB acceptance [16]. In the SIT model [29],[22],[3], it was found that compliance, identification, and internalization influenced behavioural intention. However, when the SIT model was combined with the TAM and the UTAUT model, the findings showed that they impacted IB acceptance. Based on this outcome, the current study adopted and combined the TAM, UTAUT and SIT models as measures to fill the gap in the literature that focuses on the factors of technology acceptance, with regards to IB, and the factors of compliance, identification, and internalization in influencing CBI on IB acceptance in China.

C. Social Network Influence (SNI)

Social network influence (SNI) is defined as the degree of social influence affecting the CBI in IB acceptance. It seems that SNI may be impacted by social influence as it reflects the degree of the individual's attitude towards IB usage. [16] noted that the CBI may be influenced by the referent others. This is similar to the psychological attachment that one develops through social influence [51]. Mark Zuckerberg, the founder of Facebook, also mentioned that, "People influence people. Nothing influences people more than a recommendation from a trusted friend" [52].

The SIT model suggests that changes of behaviour can be molded by social influence which arises from three levels of psychological attachment. These three processes are regarded as a characteristic set of antecedent conditions matching the individual's responses such as thoughts and feelings so that the individual engages in accepting the induced behaviour. Previous studies had used the SIT to examine user acceptance of social networking sites [31] travel experiences [32] as well as stock-taking [33]. The compliance, identification, and internalization are significant to influencing behavioural intention as the three factors of SNI. In this study, SNI was measured by three factors: compliance (subjective norm), identification (social identity), and internalization (group norm); which also reflect the three processes of social influence as noted in SIT [30]. Figure 3 illustrates.

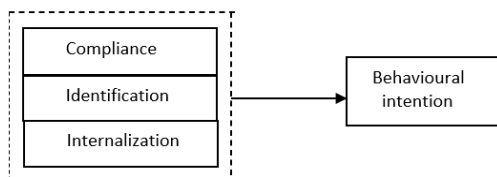


Fig. 3 Kelman's Social Influence Theory (SIT).

As mentioned earlier, despite the Chinese government's encouragement, IB usage among Chinese users is still not widely accepted. It was also mentioned that such weakness of acceptance may be attributed to the lack of SNI such as weak compliance, lack of identification and lack of internalization. Based on this, the current study aimed to examine the factors influencing the CBI on IB acceptance from the perspective of the SNI. It is hoped that the outcome can be utilized to assist the banking industry of the country. As has been noted, previous studies [17],[15],[18],[13],[16] had asserted that IB is still not well accepted due to the lack of SNI. Using the SIT recommended by [22] this study aimed to examine three processes of social influence such as compliance, identification, and internalization as a measure to test IB acceptance.

1) Compliance:

According to [53] compliance refers to the process whereby the individual's behaviour is influenced by compliance when implemented under surveillance. In this regard, compliance is the individual's perception of the services offered by IB, and this is the same as the subjective norm. Compliance is that process where the individual would be rewarded, hence gets the desired response when person complies accordingly. This is assumed to also affect and influence the individual's acceptance of IB. [54] mentioned that compliance is similar to the preliminary phase of making decisions when adjusting to a group norm (because the user has no former usage or practice experience). The individual tends to depend more on the usual subjective norm in making the decision to use or not to use a particular service. This is therefore, the first stage or process of influence by the SNI, which includes friends, peers and online chat groups.

2) Identification:

The next factor to influence an individual's acceptance effect is identification. This is when a person wants to establish a satisfying self-defining connection to another individual or organization [22] but in the current study, it was associated with influence for IB acceptance. [22] stated that it is one of three varieties of social influence. The individual's behaviour may be influenced by someone who is respected and admired such as a famous celebrity. Under the SNI, this is also similar to what others have termed as psychological attachment [51]. Identification relates to individuals who may change feelings of membership when among a group with greater than before usage experiences [32]. After association with the extended and realized group, the user can have a feeling of social identity. Thus, identification is revealed through social identity; it becomes

the individual's identification which is connected with a particular group.

3) *Internalization:*

As the last process, internalization is perceived to be a group norm, shared by other members of a group such as goals, beliefs, values, and appointments [55]. These group norms (internalization) are derived from a user's own values, which then integrate with the parts of their personal norms [32]. While the users' own intentions correspond with group norms, these individuals may thus accept IB by following the group norm through internalization. [22] also asserted that internalization is a factor influencing the users' behaviour through group norms which come from other people in the group. Internalization indicates that an individual's awareness and behaviour are connected to the influence of a specific community or group. Nevertheless, there is still a gap for identifying and applying internalization as one factor of SNI as a measure to analyse IB acceptance.

This study is quantitative in design. There is research design in this section. The process of the research methodology is derived from five phases which are also depicted in the operational framework. They include: Phase 1 - Primary phase; Phase 2 - Design and development model phase; Phase 3 - Evaluation of the model phase; Phase 4 - Data collection and analysis phase, and Phase 5 - Writing the report phase.

▪ *Primary Phase*

Phase 1 consists of: the literature review of previous studies that are related to CBI on IB, preliminary studies focusing on relevant interviews, and the development of the problem statement. Finding the problem about IB at the primary phase is important for a better understanding of the research background, and the significance of CBI towards IB acceptance. This is then followed by the search for the factors affecting customers' attitudes or CBI on IB. The literature review is thus important as it also supports the development of a relevant research model.

Following the above, a pilot study was conducted based on a structured interview with 30 respondents, focusing on their attitudes or CBI towards IB acceptance. The preliminary results were able to highlight the problem and the users' attitudes or CBI on IB acceptance as noted below.

▪ *Design and Development Model Phase*

In Phase 2, the process of the design and development is explained. First, a proposed model was developed as a research model. This was then followed by the research hypotheses following which the operationalization of the variables was defined. Second, the instrument design and development were developed so as to process a set of questionnaires that could be used for the current study. Finally, the study population and the samples were determined.

▪ *Evaluation of the Model Phase*

In Phase 3, the evaluation of IB acceptance was tested on the users. The experts' evaluation and the respondents' input were performed so as to gather comments which could be used to further develop the instrument for the actual study.

Following the actual testing, users' performance and the CBI were observed, and further evaluated so as to obtain the desired results.

▪ *Data Collection and Analysis Phase*

In Phase 4, focus was given to analysis where the collected questionnaires were screened and then assessed so as to obtain the research results. The respondents were those aged between 20 to 49 years old, hence they were more likely to be IB users. For the main research, a total of 400 questionnaires were distributed to Chinese netizens based in China. The quantitative analysis of the data was performed using SPSS version 25.

▪ *Data Collection and Analysis Phase*

In Phase 5, the process involved writing the report of the analysis which pointed towards the completion of this study. The analysed results would then be scrutinized and discussed.

III. RESULT AND DISCUSSION

According to the preliminary study, the problem was the low acceptance of IB, especially from lack of compliance (subjective norm), identification (social identity), and internalization (group norm) as shown in Figure 8. The result of question 5 in the preliminary study was related to the three processes of SIT [22]. Further, based on previous studies, there is the proposed model including TAM' perceived ease of use and perceived usefulness, the UTAUT model's social influence, and the SIT's compliance, identification and internalization factors to influence behavioural intention.

A. *Preliminary study*

The preliminary findings were generated based on the input of 30 respondents who were recruited for the structured interview. The aim was to determine the Chinese netizens' attitude towards IB acceptance. 15 males and females participated via emails and online videos.

The interview asked the respondents, who were also customers of the banking industry whether they accepted the idea of CBI on the acceptance of IB. Their responses for this study also included other details, such as their acceptance of banks, the existence of their bank accounts and other information as noted in Figure 4. 100% of the respondents indicated that they had bank accounts and they accepted IB. In comparison, 80% (24 of the 30 customers) stated their refusal to accept IB and only 20% (6/30) accepted IB. This outcome shows the Chinese customers' weak acceptance of IB.

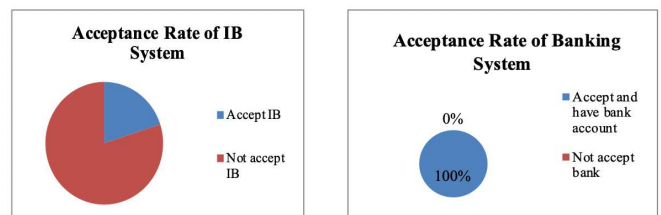


Fig. 4 Statistics of the result of question one in the preliminary study.

When asked the reasons for the acceptance of IB, several factors emerged, as shown in Figure 5 below. Most respondents thought that the ease of use, usefulness and security were important, but they ignored other factors like social influence.

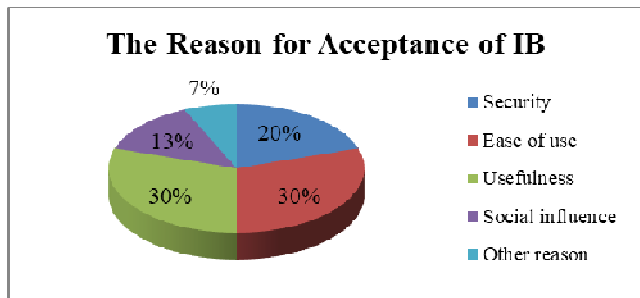


Fig. 5 Statistics of the result of question two in the preliminary study.

The respondents were further asked how social network influenced their lives. The outcome is displayed in Figure 6. It shows that SNI is very essential to the individuals, especially the Internet of Things and Industry 4.0. The outcome is further presented in Figure 7 which shows that IB acceptance could be affected by SNI. Only 10% of the respondent’s has perceived that IB was not influenced by social network while 90% thought that it could influence IB acceptance. In this regard, more attention should be paid to the concept of SNI on CBI for IB acceptance.

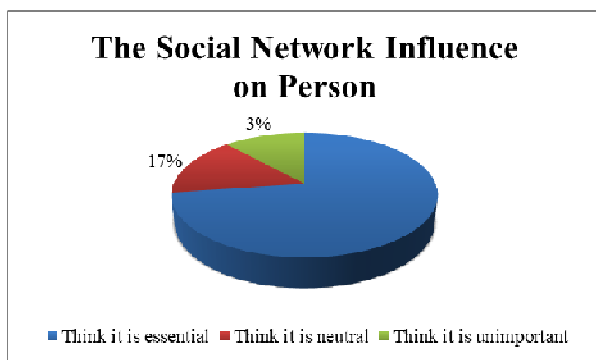


Fig. 6 Statistics of the result of question three in the preliminary study.

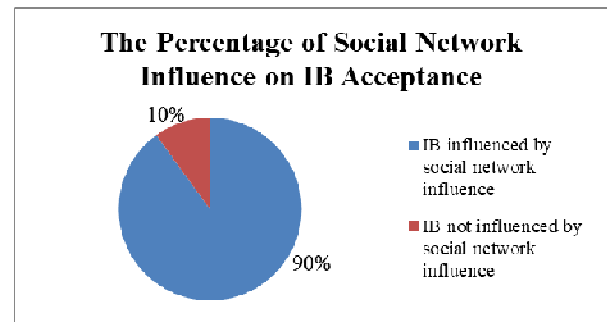


Fig. 7 Statistics of the result of question four in the preliminary study.

The above results suggest that when examining the SNI, an in-depth study was carried out to unravel the details by asking what the reasons were for not accepting IB (Figure 8). It seemed obvious that the first process in the SNI had affected the individuals’ IB acceptance which is attributed to the lack of the presence of the others around them (e.g. friends, peers and online chat groups). The second process in the SNI was also traced to the lack of social identification (e.g. advertising, endorsements, or emotional identity) for IB acceptance. The last process of the SNI was linked to the lack of reward or promotional activity (e.g. payment or transfer deduction). Based on the outcome derived from the preliminary study, it can be noted that the problem of low IB acceptance indicates that there is still a need to understand what factors could influence CBI for IB acceptance, especially factors related to SNI.

The results showed the respondents’ attitude on CBI for IB acceptance, and the results also showed that SNI is essential in influencing a person’s behavioural intention. These findings were consistent with the processes of the SNI in influencing IB acceptance; they were also related to the three processes of the SIT [30] which encompassed: compliance. It appears that the individuals’ decision to accept IB was dependent on subjective norms such as friends, peers, and online chat groups (27% compliance as shown in Figure 8) [54]. The SIT construct proposed by [22] showed that identification influenced individuals’ behaviour, particularly identification made by someone who is respected and admired such as famous people or celebrities or emotional identity (13% for identification as shown in Figure 8).

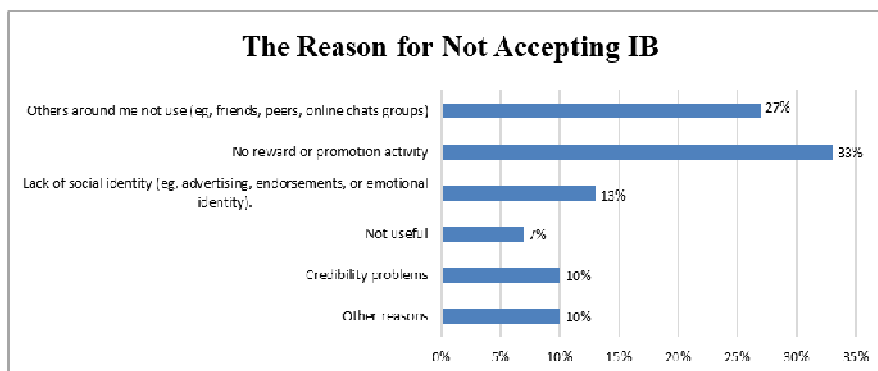


Fig. 8 Statistics of the result of question five in the preliminary study.

Finally, the SIT construct [22] also showed that internalization influenced users’ behaviour through group

norms arising from people with social influence (33% for internalization as shown in Figure 8). The outcome derived

from the preliminary study thus identified the problem of IB acceptance among Chinese respondents as well as the factors of CBI on IB acceptance. The behavioural intention and social network influence on IB in China were then examined with the proposed model, which consisted of perceived ease of use, perceived usefulness, perceived credibility, social influence, compliance, identification, and internalization.

B. The Conceptual Model

As mentioned earlier, the current study adopted three models by combining the TAM and the UTAUT model with the additional construct of the SIT to examine IB acceptance. Based on the facts in the preliminary studies in China, the construct was adopted. It contained three main SNI processes which had not been utilized in previous studies.

All the constructs of the SIT [22] were included and integrated in this study as previous studies had used them before for examining user acceptance of social networking sites [31], travel experiences [32] as well as technology acceptance such as stock-taking [33]. These studies suggest that the SIT could be applied for examining the benefits of the SNI on customers' actual behaviour. Therefore, the SNI was specially proposed for the current study for examining CBI on IB acceptance.

In the TAM, an important process was connected between the individual's behavioural intention to accept a technology and their actual behaviour [56]. However, in the UTAUT model, social influence was considered to be an important

factor which can influence CBI [16]. Previous studies [57],[58] also combined the TAM and the UTAUT model for researching behavioural intentions. This study considered the influence of the SNI factors on CBI in IB acceptance due to its low acceptance impacted by the SNI. As mentioned earlier, the proposed model contained factors of technology acceptance which included: perceived ease of use, perceived usefulness, perceived credibility, and social influence while the factors of the SNI encompassed compliance, identification, and internalization (Figure 9 below). Therefore, we hypothesized that:

H1. Perceived ease of use has a positive influence on customer behavioural intention in actual IB acceptance.

H2. Perceived usefulness has a positive influence on customer behavioural intention in actual IB acceptance.

H3. Perceived credibility has a positive influence on customer behavioural intention in actual IB acceptance.

H4. Social influence has a positive influence on customer behavioural intention in actual IB acceptance.

H5. Compliance has a positive influence on customer behavioural intention in actual IB acceptance.

H6. Identification has a positive influence on customer behavioural intention in actual IB acceptance.

H7. Internalization has a positive influence on customer behavioural intention in actual IB acceptance.

H8. Customer behavioural intention positively influences actual IB acceptance.

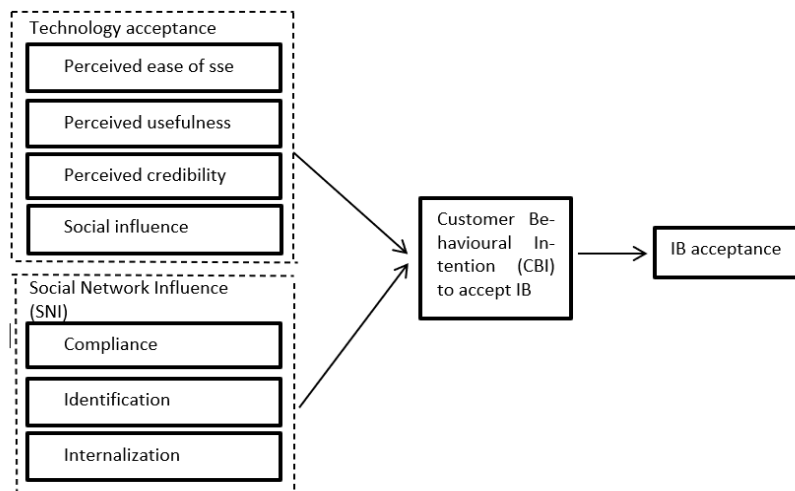


Fig. 9 Conceptual model of IB acceptance

IV. CONCLUSION

This study examined the weak IB acceptance by Chinese respondents through a structured interview which comprised looking at the factors influencing CBI on actual IB with the SNI. The proposed model, which was able to show that by integrating the factors of technology acceptance and the SNI processes to CBI in IB acceptance, confirmed the need to examine the concept of SNI on IB acceptance. The outcome of this preliminary study can fill the gap on the influence of SNI on IB acceptance by combining the TAM, the UTAUT model, and the SIT.

Future studies may consider using the SIT construct to examine other areas of technology. Previous studies had

used the SIT to examine the user acceptance of social networking sites [31], travel experiences [32] as well as technology acceptance such as stock-taking [33] under the Internet of Things and Industry 4.0, the adoption of the SIT, and the influence of the SNI need to be further explored so that their benefits can be revealed. The limitation of the current study is that only 30 respondents had participated, and it only involved Chinese customers. In future research, data collection and analysis should involve more respondents so that the results highlighting the influence of SNI on IB acceptance would be more concrete and this would be of benefit to the bank industry, the government, and the customers themselves.

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REFERENCES

- [1] S. Rahi, M. Ghani, F. Alnaser and A. Ngah, "Investigating the role of unified theory of acceptance and use of technology (UTAUT) in internet banking adoption context," *Management Science Letters*, vol. 8, no. 3, pp. 173-186, 2018.
- [2] Y. Zhang, Q. Weng and N. Zhu, "The relationships between electronic banking adoption and its antecedents: A meta-analytic study of the role of national culture," *International Journal of Information Management*, vol. 40, pp. 76-87, 2018.
- [3] N. C. Martin, D. Igboanugo, E. Freeman, C. S. Oddih, M. Sajjad and M. Sajjad, "A theoretical insight on e-banking (Internet Banking) Framework in developing countries. In *Proceedings of the International Conference on e-Learning, e-Business, Enterprise Information Systems, and e-Government (EEE)*, pp. 68-75, 2018.
- [4] S. Li, M. Easterby-Smith and J. F. Hong, "Towards an understanding of the nature of dynamic capabilities in high-velocity markets of China," *Journal of Business Research*, vol. 97, pp. 212-226, 2019.
- [5] F. Alnaser, M. Ghani and S. Rahi, "Service quality in Islamic banks: The role of PAKSERV model, customer satisfaction and customer loyalty," *Accounting*, vol. 4, no. 2, pp. pp. 63-72, 2018.
- [6] Y. Xu, "Design and research of bank Internet financial product pricing model," *Cluster Computing*, vol. 22, no. 6, pp.14913-14918, 2019.
- [7] A. Vahdat, A. Alizadeh, S. Quach and N. Hamelin, "Would you like to shop via mobile app technology? The technology acceptance model, social factors and purchase intention," *Australasian Marketing Journal (AMJ)*, 2020.
- [8] N. O. Ndubisi and Q. Sinti, "Consumer attitudes, system's characteristics and internet banking adoption in Malaysia," *Management Research news*, vol.29, no. ½, pp. 16-27, 2006.
- [9] Q. Xing, J. Hei and L. Pu, "Analysis on the influence of the introduction of NetsUnion on the third-party payment and UnionPay in China," In *2018 2nd International Conference on Education Science and Economic Management (ICESEM 2018)*. Atlantis Press, 2018.
- [10] Z. Chen, Y. Li, Y. Wu and J. Luo, "The transition from traditional banking to mobile internet finance: an organizational innovation perspective-a comparative study of Citibank and ICBC," *Financial Innovation*, vol. 3, no. 1, pp. 1-16, 2017.
- [11] J. M Lee and H. J. Kim, "Determinants of adoption and continuance intentions toward Internet-only banks," *International Journal of Bank Marketing*, vol. 38, no. 4, pp. 843-865, 2020.
- [12] Y. Zhang, X. Chen, X. Liu and N. Zhu, "Exploring trust transfer between internet enterprises and their affiliated internet-only banks," *Chinese Management Studies*, vol. 12, no. 1, 2018.
- [13] Y. Qu, W. Rong, H. Chen, Y. Ouyang and Z. Xiong, "Influencing factors analysis for a social network web-based payment service in China," *Journal of theoretical and applied electronic commerce research*, vol. 13, no. 3, pp. 99-113, 2018.
- [14] W. Chaouali, I. B. Yahia and N. Souiden, "The interplay of counter-conformity motivation, social influence, and trust in customers' intention to adopt Internet banking services: The case of an emerging country," *Journal of Retailing and Consumer Services*, vol. 28, pp. 209-218, 2016.
- [15] C. Murendo, M. Wollni, A. De Brauw and N. Mugabi, "Social network effects on mobile money adoption in Uganda," *The Journal of Development Studies*, vol. 54, no. 2, pp. 327-342, 2018.
- [16] Z. Xu, Y. Li and L. Hao, "An empirical examination of UTAUT model and social network analysis," *Library Hi Tech*. <https://doi.org/10.1108/LHT-11-2018-0175>, 2019.
- [17] S. Kim, J. Kandampully and A. Bilgihan, "The influence of eWOM communications: An application of online social network framework," *Computers in Human Behavior*, vol. 80, pp. 243-254, 2018.
- [18] K. J. Patel and H. J. Patel, "Adoption of internet banking services in Gujarat: an extension of TAM with perceived security and social influence," *International Journal of Bank Marketing*, vol. 36, no. 1, pp. 147-169, 2018.
- [19] D. G. Ngugi, E. Sawe, D. Nguyen and A. Bertsch, "Modelling and measuring acceptance and use of internet banking: The systematic development of an instrument," *Review of Integrative Business and Economics Research*, vol. 9, no. 2, pp. 24-45, 2020.
- [20] C. B. Zhang, Y. N. Li, W. Bo and J. L. Dong, "How WeChat can retain users: Roles of network externalities, social interaction ties, and perceived values in building continuance intention." *Computers in Human Behavior*, vol. 69, pp. 284-293, 2017.
- [21] S. V. Jin, "Celebrity 2.0 and beyond!" Effects of Facebook profile sources on social networking advertising. *Computers in Human Behavior*, vol. 79, pp. 154-168, 2018.
- [22] H. C. Kelman, "Interests, relationships, identities: Three central issues for individuals and groups in negotiating their social environment," *Annual Review of Psychology*, vol. 57, pp. 1-26, doi:10.1146/annurev.psych.57.102904.190156, 2006.
- [23] J. H. J. Min, H. J. J. Chang, T. M. C. Jai and M. Ziegler, "The effects of celebrity-brand congruence and publicity on consumer attitudes and buying behavior," *Fashion and Textiles*, vol. 6, no. 1, pp. 10, 2019.
- [24] M. Clark, "Converting purchase commitments into purchase fulfillments: An examination of salesperson characteristics and influence tactics," *Industrial Marketing Management*, vol. 85, pp. 97-109, 2020.
- [25] F. Testa, O. Boiral and I. Heras-Saizarbitoria, "Improving CSR performance by hard and soft means: The role of organizational citizenship behaviours and the internalization of CSR standards," *Corporate Social Responsibility and Environmental Management*, vol. 25, no. 5, pp. 853-865, 2018.
- [26] S. Badi, L. Wang and S. Pryke, "Relationship marketing in Guanxi networks: A social network analysis study of Chinese construction small and medium-sized enterprises," *Industrial Marketing Management*, vol. 60, pp. 204-218, 2017.
- [27] X. Hu, X. Chen and R. M. Davison, "Social support, source credibility, social influence, and impulsive purchase behavior in social commerce," *International Journal of Electronic Commerce*, vol. 23, no. 3, pp. 297-327, 2019.
- [28] K. Wu, J. Vassileva and Y. Zhao, "Understanding users' intention to switch personal cloud storage services: Evidence from the Chinese market," *Computers in Human Behavior*, vol. 68, pp. 300-314, 2017.
- [29] H. C. Kelman, "Compliance, identification, and internalization: Three processes of attitude change," *Journal of Conflict Resolution*, vol. 2, pp. 51-60. doi:10.1177/002200275800200106, 1958.
- [30] H. C. Kelman, "Social influence and linkages between the individual and the social system: Further thoughts on the processes of compliance, identification, and internalization," *Perspectives on social power*, pp. 125-171, 1974.
- [31] P. Ifinedo, "Applying uses and gratifications theory and social influence processes to understand students' pervasive adoption of social networking sites: Perspectives from the Americas," *International Journal of Information Management*, vol. 36, no. 2, pp. 192-206, 2016.
- [32] T. Oliveira, B. Araujo and C. Tam, "Why do people share their travel experiences on social media?" *Tourism Management*, vol. 30, pp. 105447, 2020.
- [33] L. Graf-Vlachy, K. Buhtz and A. König, "Social influence in technology adoption: taking stock and moving forward," *Management Review Quarterly*, vol. 68, no. 1, pp. 37-76, 2018.
- [34] K. Davis and J. W. Newstrom, "Human behavior at work: Organizational behavior," 1989.
- [35] V. Venkatesh, M. Morris, G. Davis and F. Davis, "User acceptance of information technology: Toward a unified view," *MIS Quarterly*, vol. 27, no. 3, pp. 425-478, 2003.
- [36] V. Venkatesh, J. Y. Thong and X. Xu, "Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology," *MIS quarterly*, vol. 36, no. 1, pp. 157-178, 2012.
- [37] R. Safeena, A. Kammani and H. Date, "Exploratory study of internet banking technology adoption,". In *Technology Adoption and Social Issues: Concepts, Methodologies, Tools, and Applications*, pp. 333-355. IGI Global, 2018.
- [38] A. G. Cudjoe, P. A. Anim and J. G. N. T. Nyanyofio, "Determinants of mobile banking adoption in the Ghanaian banking industry: A case of access bank Ghana limited," *Journal of Computer and Communications*, vol. 3, no. 2, pp.1, 2015.
- [39] G. Mortimer, L. Neale, S. F. E. Hasan and B. Dunphy, "Investigating the factors influencing the adoption of m-banking: A cross cultural study," *International Journal of Bank Marketing*, vol. 33, no. 4, pp. 545-570, 2015.

- [40] A. A. Alalwan, A. M. Baabdullah, N. P. Rana, K. Tamilmani and Y. K. Dwivedi, "Examining adoption of mobile internet in Saudi Arabia: Extending TAM with perceived enjoyment, innovativeness and trust," *Technology in Society*, vol. 55, pp. 100-110, 2018.
- [41] M. H. Koksai, "The intentions of Lebanese consumers to adopt mobile banking," *International Journal of Bank Marketing*, vol. 34, no. 3, pp. 327-346, 2016.
- [42] D. Chawla and H. Joshi, "The moderating effect of demographic variables on mobile banking adoption: An empirical investigation," *Global Business Review*, vol. 19, no. 3, pp. 90-113, 2018.
- [43] S. K. Abbas, H. A. Hassan, J. Asif, H. M. Junaid and F. Zainab, "What are the key determinants of mobile banking adoption in Pakistan," *International Journal of Scientific & Engineering Research*, vol. 9, no. 2, pp. 841-848, 2018.
- [44] Hanafizadeh, P., Behboudi, M., Koshksaray, A.A. and Tabar, M.J.S. (2014). "Mobile-banking adoption by Iranian bank clients", *Telematics and Informatics*, vol. 31, no. 1, pp.62-78.
- [45] K. Hartono and W. Wahyono, "The influence of satisfaction, variety seeking and alternative attractiveness to switching behaviour through switching intentions. *Management Analysis Journal*, vol. 7, no. 3, pp. 340-351, 2018.
- [46] M. U. Hassan, A. Iqbal and Z. Iqbal, "Factors affecting the adoption of internet banking in Pakistan: An integration of technology acceptance model and theory of planned behaviour," *International Journal of Business Information Systems*, vol. 28, no. 3, pp. 342-370, 2018.
- [47] A. Tarhini, M. El-Masri, M. Ali and A. Serrano, "Extending the UTAUT model to understand the customers' acceptance and use of internet banking in Lebanon: A structural equation modeling approach," *Information Technology & People*, vol. 29, no. 4, pp. 830-849, 2016.
- [48] K. Ben Mansour, "An analysis of business' acceptance of internet banking: an integration of e-trust to the TAM," *Journal of Business & Industrial Marketing*, vol. 31, no. 8, pp. 982-994, 2016.
- [49] V. Venkatesh and F. D. Davis, "A theoretical extension of the technology acceptance model: Four longitudinal field studies," *Management Science*, vol. 46, no. 2, pp. 186-204, 2000.
- [50] V. Venkatesh and H. Bala, H. "Technology acceptance model 3 and a research agenda on interventions," *Decision Science*, vol. 39, no. 2, pp. 273-312, 2008.
- [51] Y. Malhotra and D. F. Galletta, "Extending the technology acceptance model to account for social influence: Theoretical bases and empirical validation," In *Proceedings of the 32nd Annual Hawaii International Conference on Systems Sciences*. HICSS-32. Abstracts and CD-ROM of Full Papers, pp. 14. IEEE, 1999.
- [52] (2017) M. Zuckerberg, The AZ quotes. [Online]. Available: <http://AZquotes.com/>
- [53] M. Kang and M. A. Schuett, "Determinants of sharing travel experiences in social media," *Journal of Travel & Tourism Marketing*, vol. 30, no. 1, pp. 93-107, <https://doi.org/10.1080/10548408.2013.751237>, 2013.
- [54] N. Chung and H. Han, "The relationship among tourists' persuasion, attachment and behavioral changes in social media," *Technological Forecasting and Social Change*, 123, pp. 370-380, 2017, <https://doi.org/10.1016/j.techfore.2016.09.005>.
- [55] T. Zhou and H. Li, "Understanding mobile SNS continuance usage in China from the perspectives of social influence and privacy concern," *Computers in Human Behavior*, vol. 37, pp. 283-289, 2014.
- [56] M. Ahmad, "Review of The Technology Acceptance Model (TAM) in internet banking and mobile banking," *International Journal of Information Communication Technology and Digital Convergence*, vol. 3, no. 1, pp. 23-41, 2018.
- [57] J. Khalilzadeh, A. B. Ozturk and A. Bilgihan, "Security-related factors in extended UTAUT model for NFC based mobile payment in the restaurant industry," *Computers in Human Behavior*, vol. 70, pp. 460-474, 2017.
- [58] L. W. Ling, A. G. Downe and W. F. W. Ahmad. Determinants of computer usage among educators: A comparison between the UTAUT and TAM models," In *2011 National Postgraduate Conference*, 1-6, September. IEEE. 2011.