

ONLINE BANKING ACCEPTANCE AMONG UNIVERSITY STUDENTS: AN EMPIRICAL INVESTIGATION

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ABSTRACT

The rapid advancements of information and communication technologies in recent times have provided vast growth opportunities for online banking services in many parts of the world today. Such trends will mean more research needs to be undertaken to comprehend the development of this form of banking in the financial sector. Specifically, the aim of this study is to identify those important factors that will influence the adoption of online banking services among university students, a segment of society that could potentially champion online banking in Malaysia. Factors that were examined include the level of income convenience, security, privacy, financial charges and online platform quality. A total of 2500 respondents participated in the study giving a response rate of 31.25%. The findings of this study reveal that three out of the five hypotheses were supported. Security level, online platform quality and convenience have a significant impact on the level of acceptance in online banking. . However, income level and financial charges do not seem to have any significant impact on online banking acceptance. Thus, it is concluded that bank management should make efforts to enhance data security protection, improve online experience and provide superior customer services to increase the online banking acceptance among their young customer base.

Keywords: *Online banking, bank operations, internet adoption.*

INTRODUCTION

Cybercitizen Finance Study by Cyber Dialogue had indicated that as at the end of 1998 the number of consumers performing banking online had grown to 6.3 million. There are 50,000 internet account holders in Malaysia and this is assumed to imply at least 1.5 million effective Internet users in the country which is about 7.5 per cent of the Malaysia population (Guru, Ismail, Prasad, & Vaithilingam, 2001). This figures shown the potential of the online banking usage in Malaysia. With the statistics above, it has shown the opportunity for the commercial banks to promote the use of online banking to young intellectuals within the country.

Besides that, there were more online shoppers in Malaysia. Most of the online shoppers did their transactions through electronic payment. Based on statistics released by Bank Negara Malaysia (BNM), there are 43.6 million electronic payment transactions made

per capita compared to 14.3 million in 2003 (Electronic payments on the rise). The surge in online banking is driven primarily by the flexibility and convenience that such modes of banking provider. Notwithstanding, the growing potential of online banking, barriers to adoption among youths still exist in the form of internet fraud and theft (Amin, 2007), concerns over data security and poor service and over complication (Jun & Cai, 2001).

Internet banking is an area of study that has been attracting much research efforts lately. Some researchers attempt to examine barriers to adoption (Rotchanakitumnuai & Speece, 2003) while others tend to focus on factors affecting the acceptance of this increasingly potential mode of banking (Gerrard & Cunningham, 2003; Wang, Wang, Lin, & Tang, 2003; Akinci, Aksoy, & Atilgan, 2004). The basic premise of this study is to examine internet adoption among university students. The rationale of focusing on young university students can be seen in several aspects. Firstly, young intellectuals are more technological savvy and increasingly more affluent (Mustaffa, Ibrahim, Amizah, Mahmud, Ahmad, Chang & Mahbob, 2011), factors that are indeed crucial for leading internet banking adoption. Furthermore, the youth segment represents a sizable portion of the Malaysian population (around 18.7%) which in turn signifies an important potential for the banking industry (Mustaffa et al., 2011). The phenomenon growth of smart phone usage which in turns correlates with increasing widespread internet access among youths present remarkable potential of internet banking growth. A survey done in the USA, indicate that about 47% of teens own a smart phone and a great majority of this age group access the internet using their phones (Madden, Lenhart, Duggan, Cortesi & Gasser, 1999). Thus the rise of smart phone usage may potentially coincide with the growing potential of online banking. Specifically, the study seeks to examine the factors affecting the internet banking adoption rate among university students. Factors under study will include convenience, accessibility, bank online platform quality, security and financial charges. Findings of the study could potentially assist bankers in developing their internet banking strategy and offerings to better appeal to the youth segment by comprehending the factors most crucial in affecting their adoption.

LITERATURE REVIEW, THEORETICAL FRAMEWORK, RESEARCH QUESTION AND HYPOTHESES.

Literature has point to several important factors that can potentially be important in affecting the choice of internet banking adoption among young consumers. These factors include income level, convenience, bank online platform quality, security, fees and charges (Poon, 2008; Hway-Boon & Yu, 2003).

Income Level

Income level represents an important variable that could very well affect internet banking adoption. A study in Australia has found that young and wealthier consumers tend to be more likely to adopt online banking (Sathye, 1999). Poon et al. (2008) echoes similar results by claiming that the upper and middle income group is more likely to adopt internet banking.

Convenience

Convenience is often argued as one of the main attraction of internet banking (Ramsay and Smith, 1999; Chung & Paynter, 2002). According to Black, Lockett, Winklhofer, & Ennew, (2001), convenience represents an increasingly important source of competitive advantage. Poon (2008), argues that convenience is a crucial source of satisfaction for banking customers and thus efficiency and accessibility of online banking is seen to be quite attractive. Banks which is increasingly more market oriented is increasingly seeking for a more competitive platform from which to improve their service convenience (Devlin, 1995). Raddon Financial Group conducted a survey on the importance of convenience to the overall profitability of banks. The financial group found that convenience level has a significant impact on returns, with higher level of convenience leading to higher return on assets overall (Handel, 2014). Angus Reid Public Opinion in conjunction with TD Bank has conducted a survey on US consumers in relation to online banking experience. The survey shows that convenience is one of the most crucial factors driving online banking adoption (Yurcan, 2012). Another survey done on banking consumers indicated that the prime driver for internet banking adoption are due to an increased need for convenience in terms of 24/7 access and time savings (Pew, 2003). In recent times, high levels of workplace internet usage have also been associated with the adoption of internet banking (Durkin, 2004)

Bank Online Platform Quality

Some studies point to the importance of the quality of the online banking platform in affecting consumers' adoption (Jayawardhena & Foley, 2000; Jun & Cai, 2001). Jun & Cai (2001) have pointed out the importance of the online platform to be user friendly and customized to the needs and preference of banking consumers. Jayawardhena & Foley (2000) found that browser speed and download times greatly affect the experience satisfaction of online banking customers. Hence great effort must be extended to ensure that the speed of retrieving data, loading, downloading and response time must be at a satisfactory rate to retains and attract online consumers.

Online Security

Prior researches have indicated that online security represents a very important aspect that can genuinely influence the adoption of online banking (Black, Lockett, Winklhofer, & Ennew, 2001; Chung & Paynter 2002, Rotchanakitumnuai & Speece, 2003; Wang, Wang, Lin, & Tang, 2003; Pikkarainen, Karjaluoto, & Panila, 2004; Jaruwachirathanakul & Fink, 2005; Ndubisi & Sinti, 2006). Security has constantly been cited as the main concern for bank customers in online banking adoption studies (Black et al., 2002; Siu and Mou, 2005). In particular, Rotchanakitumnuai & Speece (2003), have argued that security is a major concern that prevents consumers to use the internet channel to undertake their banking activities. Most of the consumers are very concern with security issues as they feared unauthorized access to their private information by hackers or falling victim to fraudulent

practices. In addition, consumers are also very concern over the transmission of malware that may disrupts their operating systems and databases (Rotchanakitumnuai & Speece, 2003). Pikkarainen, Pikkarainen, Karjaluoto, & Panila (2004), claimed that consumers tend to trust banks that are sensitive to security issues and concerns. Thus, it is crucial for banks to develop security measures that protect the security and privacy of their customers' data and assets (Wang, Wang, Lin, & Tang, 2003). Similar conclusions are drawn from the study by Jaruwachirathanakul & Fink (2005), which found that the online banking systems must be continuously enhanced to guarantee the integrity of online transactions so as to build consumer confidence. Overcoming consumers' concern over security therefore remains an important and significant challenge in promoting internet banking usage (Black, Lockett, Winklhofer, & Ennew, 2001). Security, privacy, trust and risk concerns may impact consumer internet banking choices.

Online vulnerability has been found to be worrying concern with conducting financial transactions online. In the first quarter of 2005, a report shows that 80 percent of global phishing attempts are aimed at the financial services sector (IDC, 2005). Hain et al. (2003), discover that conventional banking consumers' shows more concerns over security and privacy issues than their internet banking counterparts implying the need to alleviate these fears to encourage a higher level of adoption.. Long term experience with the internet which in turn establishes trust has been found to be instrumental in encouraging the adoption decision (Gartner, 2003). Thus, it can be observed that trust in the online model could be effectively linked to consumer evaluation on security and privacy issues (Wang et al., 2003). Similar observations are found in other studies establishing the fact that trust or confidence in the online banking system must first be achieved in order for adoption of internet banking to take place (Suh and Han, 2002; Rexha et al., 2003)

Financial Charges

Jayawardhena & Foley, 2000 has argued that online model offers a banking platform that could potentially help many banks to reduce operating costs, and such savings could be transferred as competitive services for consumers which in turn will be attracted to adopt this form of service for their banking needs. In fact, Jun & Cai (2001), found that cost savings has driven some banks to offer lower service fees and higher interest rate of return to encourage customer to participate in their online banking platform. Finally, Sathye, (1999) have warned banks against charging unreasonable fees which will undesirably prevent respondents from adopting internet banking.

Theoretical Framework

Based on the theoretical and empirical literature discussed above, a theoretical framework was developed (see Figure 1). The theoretical framework shows that the decision to adopt online banking is potentially influenced by the variables of income, convenience, online platform quality, security and financial charges.

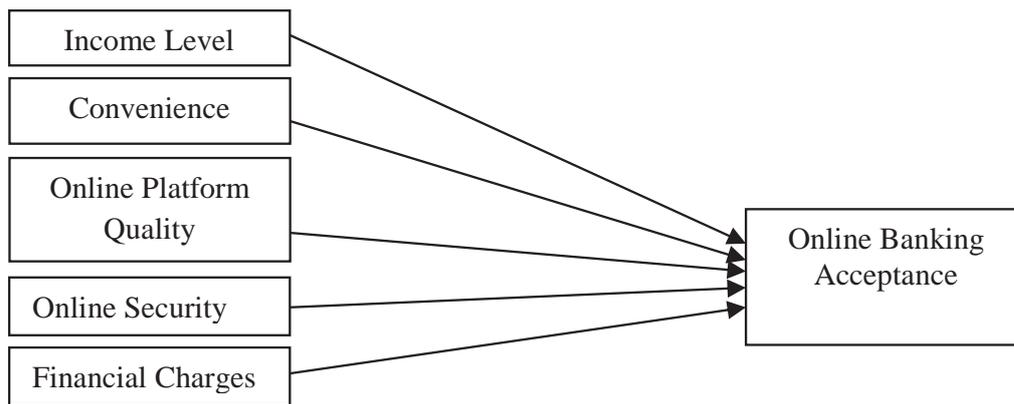


Figure 1: Proposed Theoretical Framework

Research Question

1. Is there a relationship between income level and online banking acceptance of university students?
2. Is there a relationship between convenience level and online banking acceptance of university students?
3. Is there a relationship between online platform quality and online banking acceptance of university students?
4. Is there a relationship between online security and online banking acceptance of university students?
5. Is there a relationship between financial charges and online banking acceptance of university students?

Hypotheses

Based upon the theoretical framework outlined in Figure 1, the following hypotheses are provided:

- H1: The greater the income level the greater will be the acceptance of online banking among university students.
- H2: The greater the convenience level the greater will be the acceptance of online banking among university students.
- H3: The greater the online platform quality the greater will be the acceptance of online banking among university students.

H4: The greater the online security the greater will be the acceptance of online banking among university students.

H5: The lower the financial charges the greater will be the acceptance of online banking among university students.

METHODOLOGY

Sampling

An established private university in Kuala Lumpur, Malaysia was approached to participate in this study. The institution was selected for the following reasons:

- i. The private university is reputedly one of the most renowned and largest private higher educational institutions to offer undergraduate programs in various disciplines in the Northern Region of Malaysia.
- ii. All students in the university were able to complete the questionnaire in English.
- iii. The author has worked in the institution and is knowledgeable on the structure of the university as well as the students' characteristics which match the objective of this study.
- iv. The author has been granted permission to administer questionnaires in the institution.

The university under study was established in 1986 and today offers a variety of programs ranging from professional certificates to master degrees in areas of Hospitality, Business, Mass Communication, Design and Health Sciences. The total population of students within the institution at the time of this study was 8000 students. The questionnaires were distributed on September 2013 and a total of 2500 were returned, giving a response rate of 31.25 percent.

Instrument

The instrument used was essentially adapted and modified from the questionnaires developed by Poon (2008) and Mat (2010). Their instrument were modified and adapted in order to better suit the local context of Malaysia. The instrument is comprised of three sections with the first part emphasizing on gathering data on demographics of the surveyed students. The second and third part is comprised of 23 questions on factors affecting online banking acceptance and 5 questions measuring online banking acceptance. These are aimed at eliciting the sample's perception on the impact of transformational leadership on job

satisfaction. A 5-point Likert Scale was employed in measuring the respondent's extent of agreement with various statements listed in assessing their given perceptions.

Data Screening and Analysis

Responses from 100 respondents for the questionnaire employed were coded into and subsequently analyzed using SPSS version. The dataset is then subjected to the process of data screening to identify outliers and it was found that none of them have Mahalanobis (D2) values of more than the χ^2 value ($\chi^2=49.73$; $n=23$, $p<.001$). Subsequently, univariate normality computations were conducted using z-scores of skewness statistics. For those entry where Z-score skewness of more than 2 were found, steps need to be taken for these to be transformed since it is considered as non-normal data (Hair, Black, Babin, Anderson & Tatham, 2006). Thus, the z-score skewness values more than 2 were transformed using reflect function for negative values followed by square root function and ending in reflect function. For positive z-values, reflect function was omitted (Tabachnik & Fidell, 2007). The transformed variables were then used in the regression analysis and normality of data is therefore established successfully.

RESULTS

Descriptive Statistics

With reference to Table 1, descriptive analyses reveal that the age of respondents are predominantly centered around 18-21 years (81.1%) which is the typical age distribution of a private university undergraduate student population. Analyses on race indicates that the majority of the respondents are Chinese (82.5%) followed by other nationalities (13.9%), Malay (0.7%) and Indians (2.9%). On the gender aspects, 54.7% of the respondents are male while 45.3% are female. With reference to Table 2, the income group which the respondents predominantly belongs to are below the range of RM1,000.

Table 1: Profile of Respondents

Demographic variables	Frequency	Percentage
Age		
18	22	16.1
19	34	24.8
20	19	13.9
21	36	26.3
22	12	8.8
23	10	7.3
24	4	2.9
Gender		
Male	75	54.7
Female	62	45.3
Ethnicity		
Chinese	113	82.5
Indian	1	0.7
Malay	4	2.9
Others	19	13.9

Table 2: Income Level of Respondents

Demographic variables	Frequency	Percentage
Income		
Below RM 1000	108	78.83
RM1001-RM2000	14	10.22
RM2001-RM3000	5	3.65
RM3001 and above	10	7.30

Hypotheses Results

Table 3: Model Summary

Model	R	R square	Standard Error of the Estimate
1	0.612	0.374	1.12512

Table 4: Coefficients

Model	Coefficients	Sig.
Income Level	0.002	0.215
Convenience Level	0.012	0.003
Online Platform Quality	0.286	0.001
Online Security	0.326	0.039
Financial Charges	-0.0012	0.312

With reference to Table 3, it could be observed that 37.4% of the variation in the dependent variable (online banking acceptance) could be explained by the combined effects of the independent variables (Income level, Convenience Level, Online Platform Quality, Online Security and Financial Charges).

In terms of the hypotheses, based on the results of Table 4, it could be surmised that hypothesis 2, hypothesis 3 and hypothesis 4 are supported in the research model, given that the variables of convenience level, online platform quality and online security have been found to have a positive influence on online banking acceptance at a statistically significant level of 5 percent.

CONCLUSION

Based upon the results of the analysis it could be seen that out of the five hypotheses, three hypotheses are supported statistically and hence provide valuable insights on the factors influencing online banking acceptance. As a whole, the model established could be used to explain approximately 37.4% of the variance in online banking acceptance of university students in Malaysia. Specifically, convenience is found to have an influence on online banking acceptance. This finding reinforces the notion propagated by established studies that convenience remains a prime motivator for online banking adoption (Ramsay and Smith, 1999; Blac et al., 2001; Chung and Paynter, 2002). Also, the study discover that online banking platform quality has a significant impact on online banking adoption, indicating the importance of the overall online experience to potential users of this new form of banking. Furthermore, online security is found to have a significant impact on online banking acceptance. This finding is consistent with the previous work of others in literature which stresses that banking consumers are very concerned with privacy and security of their confidential information over cyberspace when conducting their banking online (Blac,

Lockett, Winklhofer, & Ennew, 2001; Chung & Paynter 2002, Rotchanakitumnuai & Speece, 2003; Wang, Wang, Lin, & Tang, 2003; Pikkarainen, Karjaluoto, & Panila, 2004; Jaruwachirathanakul & Fink, 2005; Ndubisi & Sinti, 2006). However, hypotheses one and five are found to statistically insignificant. In particular, income level is found to have little significant impact on the level of online banking acceptance. This may be due to the fact that most university students are still economically dependable and hence their income level is not significant given that access to the internet and funding is provided by their parents. Lastly, financial charges do not seem to affect online banking acceptance as well. This may be due to the fact that most university students are not price elastic to the financial charges given that these charges are borne primarily by their parents. In conclusion, the research shed new light on the important factors affecting online banking acceptance. Bank management should make effort in improving online security by investing in web-site security to alleviate client fears of data theft and internet fraud. Bank management must also invest substantially in website and information technology infrastructure to provide conducive and convenient online experience to encourage more of their clientele to adopt online banking. A well trained and effective customer service team that provides superior service recovery and support would also greatly ease the transition from conventional to online banking adoption.

FUTURE RESEARCH

Future researchers might wish to conduct similar studies on larger scales, testing the similar model with the use of much larger samples to further validate the findings or provide greater generalizability. Researchers might also be interested to study the impact of other significant socio-demographic variables such as occupation, gender, education level or technological exposure on on-line banking acceptance in Malaysia.

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