

Internet Banking Acceptance Of Malay And Chinese Ethnic Group In Malaysia. Based On The Theory Of Planned Behavior

Khalil Md-Nor,
Universiti Teknologi Malaysia, MALAYSIA
m-khalil@utm.my

Mohd Pital Zainal
INCEIF, MALAYSIA
mpital@inceif.org

ABSTRACT

This study examines factors that influence the acceptance of Internet banking among Malay and Chinese ethnic group in Malaysia using the theory of planned behavior. Respondents of this study were final year business students and MBAs in four public universities in Malaysia. Data collected from questionnaires were analyzed using multiple regressions. For both ethnic groups, the results show that attitude and subjective norm both have significant effect on the intention to use Internet banking. Interestingly, the effect of perceived behavioral control on the intention to use Internet banking was significant on the Malay ethnic group but not on the Chinese ethnic group. Practical implications were proposed.

Key Words: Internet banking, behavioral intention, the theory of planned behavior

1. Introduction

Researchers have attempted to understand factors that influence the acceptance of information technologies by adopting different views and perspectives. Examining the effect of perceived usefulness and perceived ease of use [1] on the intention to use a technology for instance, suggesting an attempt to link factors that influence individuals' intention to use a certain technology by looking at the characteristics of the technology itself.

The theory of reasoned action [2], on the other hands, seems to suggest that the intention to use a certain technology is influenced by individual's inner evaluation of the technology i.e., attitude and the influence of people who are closed to him i.e., subjective norm. Reviews of literature on technology acceptance seem to indicate that factors that may influence individuals to accept a certain technology may come

from the technology itself, users and external environment.

This paper attempts to examine factors that influence an individual's intention to use Internet banking by using the theory of planned behavior as its theoretical framework. We take the step of dividing the samples into two groups based on their ethnic background to see whether there is any salient different in the factors that influence the intention to use the Internet banking between the two groups. We postulate that individual differences which are associated with the ethnic group may influence factors that affect the intention to use the technology.

2. Theory of Planned Behavior

The theory of planned behavior (TPB) [3] has been widely used in technology acceptance research. The theory postulates

that the intention to engage in a certain behavior is influenced by three independent determinants i.e., attitude toward the behavior, subjective norm, and perceived behavioral control. The theory of planned behavior is shown in Figure 1.

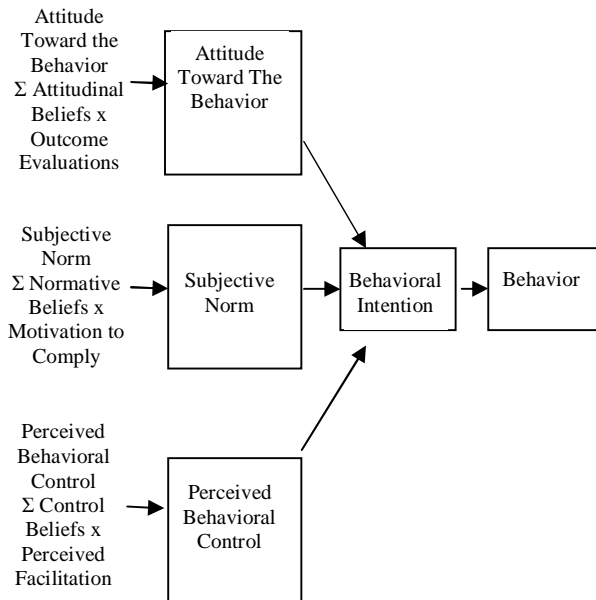


Figure 1. Theory of Planned Behavior

According to Ajzen [3], attitude toward the behavior reflects an individual's evaluation or general feeling toward a target behavior. It indicates his or her positive or negative evaluation about performing the behavior. The attitude toward a behavior is a product of beliefs about the behavior and the individual's evaluation of the outcome resulting from that behavior. The theory hypothesizes an individual's intention to perform a behavior will be higher when the individual has positive evaluation of performing the behavior [3].

Subjective norm refers to an individual's perceived social pressure to perform or not to perform a target behavior. Like attitude, the subjective norm is a composite construct. It is a compound of normative beliefs about a certain behavior and the individual's motivation to comply with relevant others [2]. Mathieson [4] suggests that normative beliefs indicate an individual's perception of the influence of opinion among reference groups and

motivation to comply indicates the extent the individual wants to comply with the wishes of the referent other. This suggests that an individual acts based on his or her perception of what others think he or she should do and his or her intention to adopt a behavior is potentially influenced by people close to him or her.

Ajzen [3] defines perceived behavioral control as an individual's perception of ease or difficulty of performing a behavior. It is a composite of control beliefs about a certain behavior and the individual's perceived facilitation of each control belief. Control beliefs reflect the individual's beliefs of his or her ability to perform the behavior, which are affected by external resources (e.g., time and money) and internal component (e.g., ability and self-efficacy). Perceived facilitation indicates the individual's assessment of the importance of each control belief or the extent of which a control belief facilitates or inhibits performance of the behavior [3].

The theory has been used in a wide variety of settings including IT acceptance research. Table 1 summarizes some of the studies that have utilized TPB in their research framework.

Table 1. Studies Utilizing TPB

Source	Relevant Findings
Mathieson [4]	[Spreadsheet] Intention to use the spreadsheet was predicted by attitude and perceived behavioral control. The relationship between subjective norm and intention was not significant.
Taylor and Todd [5]	[Computing Resource Center] TPB provided a good fit to the data. Attitude, subjective norm and perceived behavioral control were significant determinants of behavioral intention. Behavioral intention significantly affected usage behavior.

Harrison et al. [6]	[Information Technology] The findings supported the theory. Intention to use information technology was predicted by attitude, subjective norm, and perceived behavioral control.
Hu and Chau [7]	[Telemedicine] Attitude and perceived behavioral control were found significantly affected the physicians' intention to use a telemedicine technology. Subjective norm was not significant.
Limayem et al. [8]	[Online Shopping] Attitude, subjective norm, and behavioral control were significant determinants of online shopping intention.
Venkatesh et al. [9]	[Software] Men were strongly influenced by attitude. Women were strongly influenced by subjective norm and perceived behavioral control.
Riemenschneider et al. [10]	[Software Development Methodology] Attitude and subjective norm were found to have a significant influence on intention.
Gentry and Calantone [11]	[Shop-Bot] TPB work in predicting Shop-Bot use.
George [12]	[Internet purchase] The study did a partial test of TPB (only attitudinal beliefs i.e., privacy and Internet trustworthiness were examined). The study found that privacy and Internet trustworthiness beliefs significantly affected attitudes, in turn affected the intention to purchase.

3. Research Model

The purpose of this study is to test empirically factors that influence the intention to use Internet banking among Malay and Chinese Malaysian ethnic group using the theory of planned behavior as the main theoretical framework. The study further examined the salient differences on the degree of influence of attitude, subjective norm and perceived

behavioral control on the intention to use Internet banking between these two ethnic groups. The research model is shown below.

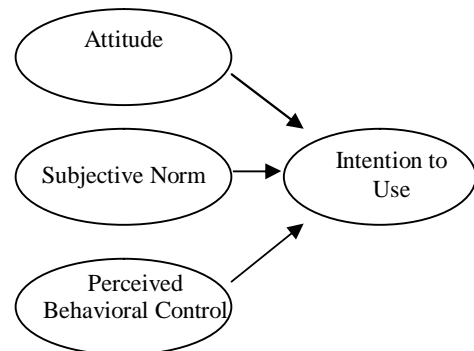


Figure 2. Research Model

4. Methodology

The study was conducted in four public universities in Malaysia where the target respondents were final year business students and MBAs. Questionnaires were distributed with the assistance of professors to their students in class. The data was subjected to reliability test and factor analysis before the final analysis was conducted. Two multiple regressions were run, one on Malay data sample and another on Chinese data sample.

5. Analysis

We distributed 1350 questionnaires. One thousand one hundred and sixty four questionnaires were returned. The final count for this study was 742, after discarded incomplete responses, responses from Internet banking users, and responses from other races. Table 2 shows the respondents' demographic profile. Majority of them were undergraduates and females. The mean age of the respondents is about 22 years old.

Table 2. Demographic Profile

Variable	Category	Frequency	Percent
Gender	Male	157	21.2
	Female	585	78.8
Age	20-21	409	55.1
	22-23	252	34.0
	23+	81	10.9
Class standing	Undergraduates	684	92.2
	MBA's	58	7.8
Race	Malay	401	54.0
	Chinese	341	46.0

Cronbach's reliability test was performed on the data and showed a relatively high level of internal consistency. A principal component analysis with varimax rotation was conducted and all items were found to load relatively well on their factors. Results of the reliability test and factor analysis are shown in Table 3 below.

TABLE 3. Rotated Component Matrix

Items	F1	F2	F3	F4
Attitude1	.774			
Attitude2	.796			
Attitude3	.849			
Attitude4	.829			
Attitude5	.787			
PBC1		.686		
PBC2		.747		
PBC3		.774		
Social Influence1			.806	
Social Influence2			.855	
Social Influence3			.860	
Social Influence4			.875	
Social Influence5			.857	
Intention1				.831
Intention2				.852
Intention3				.825
Intention4				.856
Intention5				.842
% Variance	21.76	11.23	23.29	23.53
Cronbach alpha	0.94	0.75	0.93	0.95

Notes: Only loading >0.4 are shown; Extraction method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization; A rotation converged in 6 iterations. KMO = 0.938, Bartlett's = Sig.

In this study, two multiple regressions were run. The regressions results for Malay and Chinese respondents are shown in Table 4 and 5 respectively. An examination of VIF indicates that the threat of multicollinearity is low. As rule

of thumb, a VIF value that is less than 10 suggests a non-threat of multicollinearity problem [13].

Table 4. Regression Results (Malay)

Multiple $R = 0.668$
 R square = 0.446
Adjusted R square = 0.442
Standard error = 0.7723

	DF	Sum squares	of	Mean square
Regression	3	190.885		63.628
Residual	397	236.799		0.596
$F = 106.675$		Significance $F = 0.000$		

Variable	Beta	t	Sig.	VIF
Attitude	0.507	11.040	0.000	1.510
Subjective Norm	0.148	3.064	0.002	1.683
Perceived Behavioral Control	0.111	2.260	0.024	1.721

Table 5. Regression Results (Chinese)

Multiple $R = 0.667$
 R square = 0.444
Adjusted R square = 0.440
Standard error = 0.875

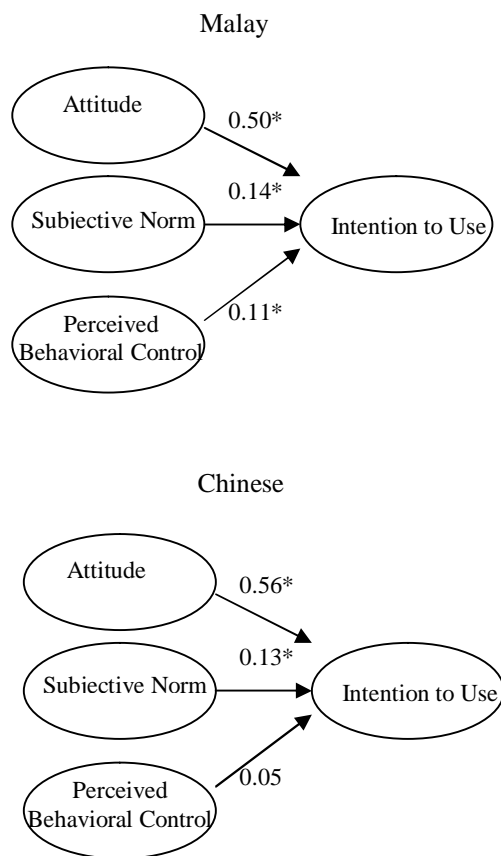
	DF	Sum squares	of	Mean square
Regression	3	206.855		68.952
Residual	337	258.529		0.767
$F = 89.880$		Significance $F = 0.000$		

Variable	Beta	t	Sig.	VIF
Attitude	0.561	11.364	0.000	1.480
Subjective Norm	0.136	2.811	0.005	1.410
Perceived Behavioral Control	0.058	1.117	0.265	1.658

The regressions results show that both final models (i.e., Malay and Chinese) are significant. The results also show that for both groups, attitude and subjective norm

were found to have a significant positive influence on the intention to use Internet banking. However, perceived behavioral control influences on the intention to use was found significant in the Malay group but not in the Chinese group.

Further examination on the coefficients of the regression model for both groups reveals no noticeable difference in the standardized beta coefficient for attitude and subjective norm constructs. This suggests that the degree of influence of these factors on the intention to use Internet banking of the two ethnic groups is quite identical. The results of the regressions are shown in Figure 3 below.



Note: * significant at <0.05

Figure 3. Final Model

6. Discussion and Contribution

This study examines the influence of attitude, subjective norm and perceived behavioral control on the intention to use

Internet banking among the Malay and Chinese Malaysian ethnic groups. With the exception of perceived behavioral control, where its influence on the intention to use Internet banking is significant in Malay group but not in the Chinese group, the results of the study show that attitude and subjective norm, both have positive effect on the intention to use Internet banking for both groups.

The positive influence of attitude on the intention to use Internet banking seems to suggest that before Internet banking to be adopted, the potential users should first to have a positive attitude about it. This implies that in practical terms, in order to encourage the use of Internet banking, banks should create positive attitude among the potential users about Internet banking. Attitude on Internet banking can be enhanced by depicting its usefulness, ease of use and compatibility to the current banking experience; its potential to improve users' image and by providing opportunity to try the service [14].

The results of the study also show that perceived behavioral control has a positive significant influence on the intention to use Internet banking among the Malay group. Practical implication of this result is that banks need to enhance the potential users' beliefs of their ability to perform the Internet banking. This can be achieved by making the Internet banking easy to use, which may increase the confidence level of the users in term of their ability to use the technology. Banks can also provide Internet banking facility in their brick and mortar branches or any strategic sites to ensure that those who don't have the resources such as computer are able to use the service.

The study has also found that subjective norm has a positive influence on the intention to use Internet banking for both ethnic groups. The result suggests the importance of people close to the potential users in influencing the intention to use the service. Banks might consider promoting

the Internet banking through people close to the potential users such as friends, family members and colleagues. Advertising portraying the use of Internet banking among close associates can also be considered.

Interestingly, this study has found that perceived behavioral control influences on the intention to use Internet banking is only have effect among the Malay ethnic but not among the Chinese ethnic group. One possible explanation for this may be linked to individual characteristics of the respondents' ethnic group. The respondents of this study were students in four public universities in Malaysia. Experience of one of the researchers in this study teaching students from the two ethnic groups seems to indicate that unlike Malay students, in general Chinese students are slightly more confident. Their high level self-confidence may influence their perception on their ability to use Internet banking and explain the "non-factor" i.e., no significant influence of perceived behavioral control on the intention to use Internet banking.

In summary, factors that influence the intention to use Internet banking among different ethnic groups can be similar. While attitude and subjective norm influence the intention to use Internet banking among Malay and Chinese ethnic groups, the influence of perceived behavioral control is only significant among the Malay ethnic group. A contribution of this study indicates that individual differences which might be influenced by the person's values and culture should be taken into account in the study to predict factor that influence information technology acceptance.

7. Limitation

This study is not without limitations. One limitation of the study is the issue of generalizability. The respondents of the study were students in four public universities in Malaysia. Having students

as the respondents for this study may limit the generalizability of the findings. The findings were represented by the limited fraction of the population i.e., students and not from the general public. Future study may consider surveying the general public so that the issue of generalizability can be mitigated.

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