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Perceptions of Customer Satisfaction, Switching Costs and Customer Retention: An Empirical Study of Basic and Advanced Internet Banking Users in Hong Kong

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Classification: *GJMBR-A JEL Classification: G21, L81, L86; FOR Classification: 350303*



PERCEPTIONS OF CUSTOMER SATISFACTION, SWITCHING COSTS AND CUSTOMER RETENTIONAN EMPIRICAL STUDY OF BASIC AND ADVANCED INTERNET BANKING USERS IN HONG KONG

Strictly as per the compliance and regulations of:



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I. INTRODUCTION

Utilization of Internet banking services continues to show healthy growth in Hong Kong. There were 4.9 million personal and 307,000 business Internet banking accounts at the end of 2007, compared with 3.8 million personal and 234,000 business accounts in 2006 (Hong Kong Monetary Authority, 2008). Internet banking allows customers to access banking services 24 hours a day, 7 days a week. Like ATMs, Internet banking empowers customers to choose when and where they conduct their banking transactions.

Previous researches on self-service technologies as well as technology adoption cycles indicated the importance of considering consumer heterogeneity in technology settings (Dabholkar and Bagozzi, 2002; Meuter et al., 2003). Internet banks offer a variety of services to retail customers. Customers choose services appropriate for their needs. Hence, respondents of this research were divided into two segments, namely, basic and advanced Internet banking users, according to the level of sophistication of

respondents; they were expected to have a stronger impression of their main bank compared to a bank they did little business with.

II. RESEARCH MODEL AND HYPOTHESIS

In spite of the rapid adoption of Internet banking and the importance of customer satisfaction, switching costs and customer retention to the banking industry, empirical research on customer satisfaction, switching costs and retention of Internet banking customers has been scant in extant literature. Specific objective of this research is to examine if there are significant differences in levels of customer satisfaction, switching costs and customer retention between the segments of basic and advanced Internet banking users. The research model of this study is shown in Figure 1.

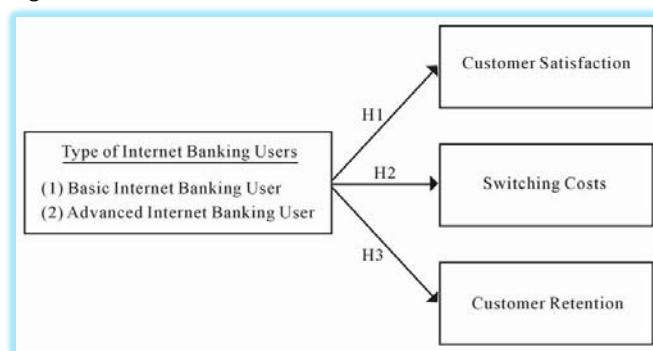


Figure 1: Research model

1) *Customer satisfaction of basic and advanced Internet banking users*

Numerous studies have shown that customer satisfaction is related to repurchase intentions and attitudinal loyalty (Anderson and Sullivan, 1990; Boulding et al., 1993; Cronin and Taylor, 1992; De Ruyter et al., 1996; Fornell, 1992; Magi and Julander, 1996; Taylor and Baker, 1994; Zeithamel et al., 1996). Empirical results indicated that the Internet banking customers were more satisfied with their bank than customers who do not use Internet banking services (Mols, 1998). Wong (2005) found that customer

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satisfaction was perceived to be significantly different between basic and advanced Internet banking users. The finding shows that advanced Internet banking users were more satisfied with their Internet banks than basic Internet banking users. Using the aforementioned literature, the first hypothesis was formulated:

H1: Advanced Internet banking users are more satisfied with services provided by their main Internet banks than basic Internet banking users.

2) *Switching costs of basic and advanced Internet banking users*

The Internet may also make it easier for consumers to search and compare the offerings of different firms. This makes the market more transparent, leading to increased price competition in businesses which offer easily comparable services and are unable to build significant switching barriers or close relationships with the customers. This increases competition leading to lower profits (Bakos, 1991; Birch and Young, 1997; Evans and Wurster, 1997). Sheshunoff (2000) stated that the single most important factor for full service Internet banks is the need to create powerful switching barriers. Sheshunoff argued that once a customer moves to full-service Internet banking with electronic bill payments and automatic fund transfers, the likelihood of that customer moving to another bank is significantly diminished. The main reason for this is that switching always requires much time and effort on part of the individual customer. Using the aforementioned literature, the second hypothesis was formulated:

H2: Advanced Internet banking users will perceive higher switching costs for changing their main Internet banks than basic Internet banking users.

3) *Customer retention of basic and advanced Internet banking users*

Improving customer retention may be more challenging in the Internet economy than in the traditional economy. The shift from traditional branch banking to Internet banking has made new strategies to attract new customers and retain existing ones more critical (Karjaluoto, 2002; Wong, 2005). Reichheld (1996) found that a five percent increase in customer loyalty produces an eighty-five percent increase in profitability in the banking industry. Viewed in this light, it is postulated that managing effective customer retention strategies can be regarded as a vitally important issue in the banking industry. Wong (2005) argued that once a basic Internet banking user starts to use and eventually adopts advanced Internet banking services, switching to another bank becomes more difficult. Therefore, it should be easier for banks to retain such customers. Using the aforementioned literature, the third hypothesis was formulated as:

H3: Advanced Internet banking users will have higher propensity to stay with their main Internet banks than basic Internet banking users.

III. RESEARCH METHODOLOGY

1) *Selection of industry*

This empirical research was conducted within the context of the retail Internet banking industry in Hong Kong. The retail Internet banking setting is regarded as a continuous purchasing setting particularly suited to the objectives of this research. This setting is qualitatively distinct from discrete purchasing patterns (Ranaweera and Prabhu, 2003; Wong, 2005). First, relationships between banks and Internet banking users are generally of a long-term nature, which is a suitable context to study the effects of customer satisfaction, perceived switching costs and customer retention. Second, in a continuous purchasing setting, switching the main Internet bank is not as simple as walking into another bank. Due to the incumbent costs, switching to another main Internet bank requires considerable time and effort. As a result, the switching decision is made only after considerable thought.

2) *Questionnaire design*

An online questionnaire was employed as the means of data collection. The questionnaire items were first written in English. The Chinese version of the questionnaire was then developed by applying Brislin's (1980) recommendation to minimize the problem of lack of equivalence between English and Chinese versions. Specifically, English version of the questionnaire was first translated into Chinese by a Chinese translator and was then translated back into English by another Chinese translator to check the translation's accuracy. When a major inconsistency occurred in the translation, a discussion between two translators was conducted to reconcile the differences. The precise wording of the questionnaire was based on original English language version and it was adjusted suitably to ensure that it was smooth and natural sounding, as well as equivalent, in both languages. Pilot testing the final version of the online questionnaires with 15 basic and 15 advanced Internet banking users was also conducted in order to ensure the appropriateness of questions' wording, format and structure.

To facilitate response, highly structured questions were used in the design of the questionnaire. Bank customers aged 18 or above constituted the target population of this research. Participation in this research was voluntary. The online questionnaire was placed on a free survey server for one month. The questionnaire was also submitted to popular free search engines in Hong Kong to request participation in the survey.

IV. MEASURES OF CONSTRUCTS

1) Construct validity and Reliability Tests

Customer retention, customer satisfaction and switching costs were all measured using multiple items, on seven-point Likert-type scales with anchors "1=strongly disagree" and "7=strongly agree", based on validated scales from extant literature. Following Ruyter and Bloemer (1999), exploratory factor analysis was employed to confirm the underlying structure of the three measures. A common factor analysis with varimax rotation was undertaken for 11 items of the three constructs of customer satisfaction, switching costs and customer retention. The results confirmed that the three constructs, which were previously validated, are uni-dimensional, factually distinct and applicable in education setting. As reported in Table 1, the proportion of variance accounted for by each of the rotated factors

is frequently reported in literature to indicate the relative importance of each factor. The customer satisfaction, switching costs and customer retention accounted for 21.011%, 34.211% and 18.546% of variance of the eleven items. In total, the three factors accounted for 73.768% of variable variance. Cronbach's coefficient alpha was used to examine reliability of the three scales of customer satisfaction, switching costs and customer retention. The lowest estimate of reliability was reported for the customer retention scale ($\alpha=0.8628$). Estimates for customer satisfaction and switching costs scales were 0.9064 and 0.9384, respectively. Since the coefficient alpha of each scale was above the acceptable value of 0.700 (Nunnally, 1978), all three scales were considered to be reliable.

Scale Items		Factor Loadings
Customer Satisfaction (<i>eigenvalue=2.311, variance=21.011, alpha=0.9064</i>)		
1.	I think I did the right thing when I chose my main Internet bank.	0.893
2.	Overall, I am happy with my main Internet bank.	0.830
3.	My main Internet bank meets my expectation.	0.814
Switching Costs (<i>eigenvalue=3.763, variance=34.211, alpha=0.9384</i>)		
1.	It is risky to change my main Internet bank as the new provider may not give good services.	0.884
2.	I would feel frustrated if I terminated my current relationship with my main Internet bank.	0.875
3.	It would cost me a lot of time to change my main Internet bank.	0.851
4.	Considering everything the cost to stop using my main Internet bank and start up with a new main Internet bank would be high.	0.846
5.	It would cost me a lot of effort to change my main Internet bank.	0.844
Customer Retention (<i>eigenvalue=2.040, variance=18.546, alpha=0.8628</i>) What do you think are the chances of switching to an alternate main Internet bank		
1.	within the next three months?	0.837
2.	within the next six months?	0.756
3.	within the next one year?	0.741

2) Measures

Customer satisfaction: Following Cronin et al. (2000), this research conceptualized the construct of customer satisfaction as evaluation of an emotion reflecting the degree to which Internet banking users believe their main Internet banks evoke positive feelings. Consistent with Cronin et al., the customer satisfaction measure includes three items in this research; one item reflected the emotional category and two items reflected the evaluative category. The score of customer satisfaction of each respondent was

calculated by adding scores of the three items and then dividing it by three. Hence, the range of scores is from 1 to 7. Switching costs: Following Porter (1980), the construct of switching costs, in this research, were conceptualized as the perception of the magnitude of additional costs required for Internet banking users to terminate the current relationship with their main Internet bank and secure an alternative. Switching costs are identified as a factor contributing to maintaining a relationship (Morgan and Hunt, 1994). Morgan and Hunt stated that switching costs are of an economic

nature only. However, switching cost may comprise psychological and emotional costs also. Switching costs, in this research, were measured by five items adapted from the switching costs measure developed by Ping (1993). The score of switching costs of each respondent was calculated by adding scores of the five items and then dividing it by five. Hence, the range of scores is from 1 to 7.

Customer retention: The construct of customer retention, in this research, was defined as the propensity of an Internet bank user to stay with his/her main Internet bank. Accordingly, this research measured customer retention by adapting a three-item formative scale that was used to measure "propensity to leave" in a business-to-business relationship (Morgan and Hunt, 1994) and in a business-to-customer relationship (Ranaweera and Prabhu, 2003). The three items measured the likelihood of the respondents leaving their main Internet banks at three different points of time in the future: after three months, six months and one year. The overall score was a summation of the three weighted items. Following Morgan and Hunt, the first item was weighted four times, the second two times, and the third item was left unweighted. Hence, the range of scores is from 1 to 7.

V. ANALYSIS OF RESULT

1) Response rate

After one month of posting the questionnaire on the web, 743 responses were received. The number of responses was considered sufficient for data analysis as for populations of 10,000 and more. Most experienced researchers would probably consider a sample size between 200 and 1,000 respondents (Alreck and Settle, 1985). The number of visits to the

web page vis-à-vis the number of actual survey responses was not measured. Though the response rate was acceptable, non-response bias, as recommended by Armstrong and Overton (1977), was tested. Specifically, respondents were divided into two groups, namely, early and late respondents, in order to compare mean values of responses of the two groups. It was assumed that responses of late respondents were likely to be similar to non-respondents. The results of this analysis indicated that no significant differences existed, for the three constructs, between the two groups at the 0.05 level, confirming the absence of significant non-response bias.

2) Demographic profiles of basic and advanced Internet banking users

Apart from deriving support for the hypotheses of this research, it is also important to examine the demographic variables associated with basic and advanced Internet banking users. Demographic backgrounds in terms of gender, age, marital status, education, occupation, income and ethnicity were investigated with a Chi-square test in order to find out the differences between basic and advanced Internet banking users. The results (Table 2) show that in case of education, occupation and income there were significant differences between basic and advanced Internet banking users ($p < 0.01$). The results clearly purport that advanced Internet banking users are more educated, professional, and wealthier than basic Internet banking users. There were no significant differences between basic and advanced Internet banking users in terms of gender, age, marital status and ethnicity

Table 2: Demographic profiles of basic and advanced Internet banking users

	Basic Internet banking users %	Advanced Internet banking users %	Chi-square	df	P-value
Gender					
Male	51.4	54.2	0.555	1	0.456
Female	48.6	45.8			
Age					
18-24	27.4	21.9	9.952	5	0.077
25-34	25.3	30.8			
35-44	22.5	27.2			
45-54	15.4	10.8			
55-64	5.7	6.7			
65 or above	3.7	2.5			

<u>Marital Status</u>					
Married	52.5	53.6	2.266	2	0.322
Single	44.9	45.3			
Others	2.6	1.1			
<u>Education</u>					
Form 5 or below	32.1	11.9	79.027	4	0.000
Form 7	23.8	15.3			
Diploma or certificate	17.8	18.9			
Undergraduate degree	15.1	25.0			
Postgraduate degree	11.2	28.9			
<u>Occupation</u>					
Manager, administrator or professional	22.2	41.1	43.718	6	0.000
Clerk	39.9	21.4			
Service worker or shop sales worker	20.6	18.3			
Craft or related worker	1.8	2.5			
Plant, machine operator or assembler	4.7	6.1			
Student	5.7	5.0			
Others	5.0	5.6			
<u>Income</u>					
HK\$5,999 or below	17.0	1.1	134.94 4	8	0.000
HK\$6,000 to HK\$7,999	14.6	4.2			
HK\$8,000 to HK\$9,999	13.6	8.9			
HK\$10,000 to HK\$14,999	12.3	13.1			
HK\$15,000 to HK\$19,999	12.8	12.5			
HK\$20,000 to HK\$24,999	11.5	13.9			
HK\$25,000 to HK\$29,999	9.7	15.3			
HK\$30,000 to HK\$39,999	6.8	15.6			
HK\$40,000 or above	1.8	15.6			
<u>Ethnic Group</u>					
Chinese (Hong Kong)	97.1	97.5	0.098	1	0.754
Others	2.9	2.5			

3) Internet banking usage patterns of basic and advanced Internet banking users

Table 3 shows results of Chi-square test between basic and advanced Internet banking users in terms of patterns of their Internet banking usage. It is evident that in respect of the number of years with the main Internet bank, frequency of Internet banking usage and number of Internet banks a customer has accounts with there are statistically significant differences between basic and advanced Internet banking users ($p < 0.01$). The results clearly purport that advanced

Internet banking users have been longer with their main Internet banks, have used their main Internet banks more frequently, and have had more Internet banking accounts than basic Internet banking users. However, there is no difference between choice of Internet banks between basic and advanced Internet banking users. This result indicates that brand equity of individual banks is about the same among basic and advanced Internet banking users.

	Basic Internet banking users %	Advance d Internet banking users %	Chi- square	df	P- value
NAME OF MAIN INTERNET BANK					
Hong Kong Shanghai Bank Corporation	31.9	28.9	5.703	6	0.457
Hang Seng Bank	25.3	28.6			
Bank of China	19.6	20.0			
Citibank	8.4	5.8			
Standard Chartered Bank	6.8	6.1			
The Bank of East Asia	4.2	6.9			
Others	3.9	3.6			
<u>Years with Main Internet Bank</u>					
Less than 12 months	29.8	9.7	83.497	4	0.000
13 to 24 months	24.8	21.7			
25-36 months	21.9	19.4			
37 to 48 months	16.4	23.3			
More than 48 months	7.0	25.8			
FREQUENCY OF USAGE					
Every day	32.6	13.3	106.232	4	0.000
A few times per week	31.3	15.0			
Once a week	15.4	20.0			
Once a month	13.1	26.1			
Less than once a month	7.6	25.6			
<u>Number of Internet Banks</u>					
Only 1	55.1	27.8	57.266	2	0.000
2	23.5	35.6			
3 or more	21.4	36.7			

VI. HYPOTHESIS TESTING

In order to further test the perceptual differences of customer satisfaction, switching costs and customer retention between basic and advanced Internet banking users, an independent-sample T-test was conducted. As Table 4 indicates customer satisfaction, switching costs and customer retention were perceived to be significantly different between basic and advanced Internet banking users ($p < 0.01$). The findings imply that advanced Internet banking users were more satisfied with their main Internet banks, perceived more difficulty in switching their main Internet banks, and displayed more loyalty to their main Internet banks than the basic Internet banking users.

Table 4: Independent-sample t-test between basic and advanced Internet banking users (* $p < 0.01$)

Variables	Segment of Internet Banking Users	Mean	T-test for Equality of Means (Equal variances assumed)				Hypotheses
			t-value	df	p-value (2-tailed)	Mean Difference	
Customer Satisfaction	Basic	3.466	2.916	741	0.004*	0.321	H1: Supported
	Advanced	3.787					
Switching Costs	Basic	3.383	2.893	741	0.004*	0.320	H2: Supported
	Advanced	3.704					
Customer Retention	Basic	3.864	5.421	741	0.000*	0.578	H3: Supported
	Advanced	4.441					

VI. CONCLUSIONS AND IMPLICATIONS

Since there are few published studies relating to demographic profiles of basic and advanced Internet banking users in Hong Kong, the findings of this research provide valuable information for bankers to understand the differences between the two segments in Hong Kong.

For the basic Internet banking segment, banks should implement a reward program in order to encourage basic Internet banking users to use one or more of advanced Internet banking services. At the same time, banks should also implement a customer relationship program so as to increase customer satisfaction. Once a satisfied basic Internet banking user starts to use and eventually adopts advanced Internet banking services, their switching to another bank will be more difficult, making it easier for the bank to retain them.

For the advanced Internet banking segment, focus of banks should be to maintain both high customer satisfaction and high switching costs. There are two possible ways to achieve these objectives. First, banks should segregate advanced Internet banking users into sub segments with similar customer characteristics (e.g., segments using bills payment, funds transfer and securities trading) and regularly promote the benefits of using these services in order to increase customers' perceived satisfaction of using each individual advanced Internet banking service. Second, banks should encourage existing advanced Internet banking users to consume more advanced

Internet banking services. As more advanced banking services are adopted, advanced Internet banking users will perceive higher switching costs and find it more difficult to switch.

VII. LIMITATIONS

There are three major limitations of this research. First, research investigating actual retention, rather than intention to keep using Internet banking services, will perhaps be more relevant and revealing. Although previous research has always used intention to stay as a surrogate for actual retention (Garbarino and Johnson, 1999; Morgan and Hunt, 1994; Rust and Zahorik, 1993; Shemwell et al., 1994; Sirohi et al., 1998), intention to continue using Internet banking services may not accurately represent actual retention. Second, this empirical research was based on the survey of Internet banking industry. Naturally, the findings of this research are most likely to hold for other similar low customer contact and mass service contexts with continuous purchasing patterns (Ranaweera and Prabhu, 2003). This research needs to be replicated for other Internet-based services to further validate the results of this research. Finally, respondents of this research were divided into two segments, namely, basic and advanced Internet banking users, according to the sophistication level of Internet banking services used. As advanced Internet banking users were defined as users who used Internet banking to pay bills, transfer funds and/or trade in securities, this definition might be considered too generic. The definition of advanced

Internet banking users might have improved if respondents were able to state which advanced Internet banking services they actually used.

VII. FUTURE RESEARCH

Although this research has served to reveal certain aspects of customer satisfaction, switching costs and retention of customers in the context of Internet banking in Hong Kong, there is still room for further research in order to ascertain and enrich the findings of this research. First, since Internet banking relies heavily on maintaining relationships with customers (Barnes, 1997), hypotheses of this research should be tested in other kinds of e-commerce industries, such as Internet retailing and Internet travel agencies, in order to strengthen the generalizability of the findings of this research. Second, the results of segment analysis indicate that the perceived customer satisfaction, switching costs and customer retention varies in different customer segments. Future research should examine heterogeneity of the perceived customer satisfaction, switching costs and customer retention among different advanced Internet banking segments. Specifically, future research can segment the advanced Internet banking segment into sub segments such as bills payment, funds transfer and securities trading and analyze their satisfaction, switching costs and retention.

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