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Internet Banking in Hong Kong: Expected Service Quality and Intention to Use

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Abstract

Nowadays a lot of banks develop their own business-to-customer online banking services in order to save cost and satisfy the need of their customer. Understanding the customer' s expectation is crucial for the success of Internet banking service. This study will try to explore some critical factors of Internet banking service quality and Intention to use Internet banking. A modified Attribute-based model was used in this study. Reliability Test and Path Analysis were used to assess the expected service quality of Internet banking and its associations towards experience. The findings showed that speed of delivery, control, enjoyment and security had significant positive effects on expected Service Quality of Internet banking while the expected service quality had significant effects on Intention to use Internet banking.

Introduction

Hong Kong has an extremely dynamic business environment. A key enabler in the changing process is the use of new information technology. New technologies promise to bring expanded and innovative capabilities enabling organizations to improve their effectiveness and to carry out their mission more successfully. Most companies today in Hong Kong are under severe pressure to proceed with the needed organization transformation in order to cope with the increasing rates of environmental change and turbulence. Companies cannot escape the effects of plunging asset values, slowing consumption, and high interest rate after the Asian financial crisis. Internet Banking seems to be a promising direction for the bank to deliver their banking service to their customer at anytime and anywhere with a minimum operation cost. This study will try to explore some critical factors affecting Internet banking service quality and Intention to use Internet banking in Hong Kong.

Banks, as service providers, always want to reduce the production cost and improve their service. In the old day, they used automated Teller Machine (ATM) technology to provide 24-hours financial service to their customer [15]. In Hong Kong, people always use ATMs to perform their transaction; around 3 million transactions per day are processed by the two major ATM Networks. Around 2000 ATM terminals are installed by these two major ATM networks across HK, Macau, and other cities in the Quangdong province. Ha mlet [9] predict Phone Banking and Internet banking is the future trend for the banking services.

As an international financial center, Hong Kong has great potential to develop e-commerce, especially e-banking. The Economist Intelligence Unit ranks Hong Kong's e-business readiness as ninth in the world, and second in Asia. And, according to Forrester Research, Hong Kong will be among the lead group of economies in Asia-Pacific to register e-business hyper-growth, with the value of e-business surging to US$70 billion in 2004. Internet banking is growing rapidly in HK. There are twelve banks offering business-to-customer online banking service for their customers.

Increasing labor costs and improving technology encourage service firms to consider offering technology-based self-service options to consumers [6]. The emergence of self-service options within services is crucially important to long-team productivity [1] because it may benefit both consumer and service organization. The consumer can save their time and cost. Besides, they can control their own business [3]. The service providers can reduce the production cost and improve their service.

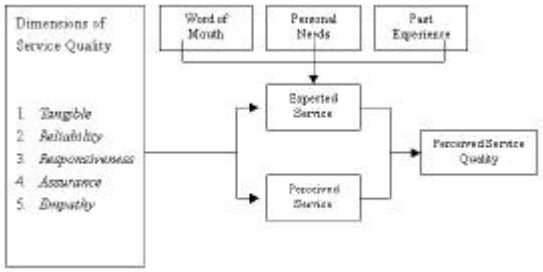
The issue of security is one of the largest concerns which can inhibit wide spread usage of this new technology. There is some news about the hacker entering into the

bank's system, stealing the personal information of the customers. Therefore, adequate information security for banks' services is one of the key focuses of the HKMA. Hong Kong Monetary Authority ensures the regulatory framework for e-banking keeps up with the industry & technological developments without stifling innovation. It issued Guidance Note on Management of Security Risk In Electronic Banking Service (7/2000) a Guidance Note on Independent Assessment of Security Aspects of Transactional E-banking Services (9/2000) and a Guideline on the Authorization of Virtual Banks under section 16 (10) of the Banking Ordinance (5/2000) to ensure the authorized institutions reaching the international standards.

Measurement of Service Quality

Service quality is an important issue for service providers since it relates to success in their businesses [6, 13, 16]. According to Liu and Arnett [4], one of the factors with Web site success in the context of electronic commerce is service quality. Understanding factors affecting service quality is important for any e-commerce, including Internet banking. However, it is very difficult to measure service quality since service is intangible, heterogeneous, inseparable and perishable [1]. Therefore, many scholars established many models to analyze the critical factors in service quality.

Fig. 1 *- Service Quality as Conceptualized by Parasuraman, Zeithaml, and Berry (1988)*



In the early 1980s, concerns about customer satisfaction and product quality became emerging tides in the affairs of industry and academia. SERVQUAL, the most commonly used model for measuring service quality, was designed by Parasuraman et al [13] in 1988. It is used to measure both perceived performance (P) and customer expectations (E). Cronin and Taylor [5] wrote:

> *The SERVQUAL scale based on Parasuraman, Zeithaml, and Berry's (1988) gap theory, which suggests that the difference between consumers' expectations about the performance of a general class of service providers and their assessment of the actual class performance of a specific firm within that class drives the perception of service quality.*

$$\mathbf{Q = P - E}$$

> *Where P & E are the ratings on the corresponding perception and expectation statements.*

Five service quality perceptual dimensions are derived Parasuraman et al [13]:

> *Tangible: Physical facilities, equality, and appearance of personnel*
>
> *Reliability: Ability to perform the promised service dependably and accurately.*
>
> *Responsiveness: Willingness to help customers and provide prompt service.*
>
> *Assurance: Knowledge and courtesy of employees and their ability to inspire trust and confidence.*
>
> *Empathy: Caring, individualized attention the firm provides its customers.*

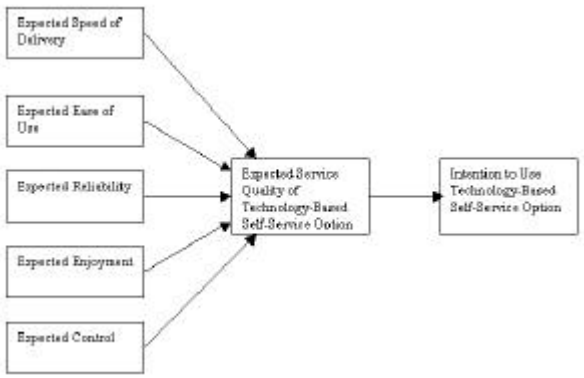
Fig 1 showed the model designed by Parasuraman et al in 1988. However, Cronin and Taylor [5] believed that there were some problems in SERVQUAL, so the performance-based scale, called SERVPERF, developed. SERVPERF still based on the 5 service quality perceptual dimensions. However the service quality is based on performance only rather than the difference of the performance and expectation.

SERVQUAL Conceptual Model is used to measure the service quality of the service sector, but not Information Systems. It is difficult to evaluate the Empathy and Assurance if SERVQUAL / SERVPERF is used. There is limited personal interaction in Information Systems, especially in the technology-based self-service option.

An alternative model, as showed in Fig. 2, called attribute-based model, was developed to evaluate service quality [6]. It is specifically based on what consumers would expect from such options. Base on the findings from the qualitative research conducted by Dabholkar [6] in 1996 and other past research finding on service delivery, self-service, and use of technological products, five attributes are found.

Liu and Arnett [4] believe that quick responsiveness is one measure component of service quality. Time saving is the major reason for at-home banking [12]. For electronic shopping and banking, time is an essential factor to the customer. Therefore, speed of delivery should be one of the critical factors for the customer to evaluate the service quality.

Fig. 2 *- Attribute-Based Model*



Perceived ease of use is a significant secondary determinant of people's intentions to use the computers according to Davis et al [7]. The customers may feel a threat to them if a new product is difficult to use. "One reason may be related to saving actual effort expended. Another reason may be to reduce social risk" [6]. So Ease of use should be the second critical factor in service quality. Parasuraman et al [13] suggested that reliability is an important dimension when the service quality is measured. Davis et al [7] found that the performance of the options is an important factor. As a result, Reliability is also a critical factor in service quality.

Davis et al [8] also found that customers will have fun when they use the computer technology. Dabholkar [6] also finds that enjoyment has strong, positive on service quality. The likelihood of a repeat visit to a Web Site is enhanced when the visitors find the visitor enjoyment [4]. Enjoyment is also an attribute in service quality.

People who choose self-service options are for control [1, 2, 3]. They want to control their own business. Control becomes one of the attributes in service quality.

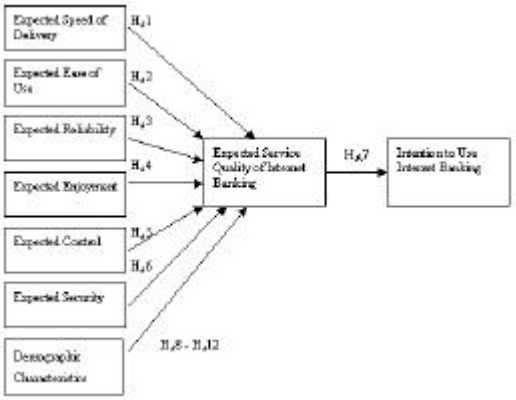
Five attributes of service delivery that are important to potential customers of technology-based self-service options are proved. They are expected speed of delivery, expected ease of use, expected reliability, expected enjoyment and expected control. Dabholkar conducted a study to test this model for the technology-based self-service option, i.e. computerized touch screen to order a meal in a fast food shop.

The study conducted by Dabholkar confirmed that attribute-based model is an effective measure to evaluate information systems service quality since the R^2 for service quality was 0.55 for waiting time group, 0.73 for high waiting time, and 0.70 for the control group. R^2 for intention of use was 0.65 for waiting time group, 0.67 for high waiting time, and 0.50 for the control group.

Methodological considerations

A revised Attribute-Based model was employed in this study (Fig. 3) since the factors affecting Internet banking service quality and Intention to use Internet banking were discussed. Although this model was not particular for the web-based options, it was suitable for the technology-based self-service option, such as B2C Internet banking. Expected security was introduced to the model since it was an important issue for electronic commerce. Two students stealing credit card information of customer in Hong Kong and Shanghai Banking Corporation Limited raised more Hong Kong people concerning security issue of Internet banking. Dummy variables, such as age, income level, education level, gender and experience of using Internet banking, were introduced to assess the expected service quality of Internet banking, intention to use Internet banking and their associations towards demographic characteristics. It could help the banks to know the specific needs and characteristics among their different target groups in order to plan the services to satisfy customers' needs.

Fig. 3 *– a revised Attribut-Based model*



On the other hand, there were some criticisms on the use of the SERVQUAL measure to assess the quality of information systems services. Thomas [17] finds that the use of difference scores in calculating SERVQUAL contributes to the problems with the reliability, discriminant validity, convergent validity, and predictive validity of the measure. Kettinger and Lee [18] indicate that there is the "illusion of replicability" when the SERVQUAL measure is used in the IS field. SERVPERF was not a suitable measure to evaluate the technology-based self-service option since 5 components, which used in SERVQUAL, were still employed in SERVPERF. It was difficult to evaluate the Empathy Since there was no personal interaction in the technology-based self-service option.

The analysis focused on the modified attribute-based

model and twelve hypotheses were constructed based on model, as follows:

1. Expected Speed of Delivery
"Time could be interpreted to include waiting time as well as the time taken for active delivery of the service" [6]. For Internet banking, time could be the time to load the web page, the time to finish a transaction and the updated information.
H_A1: Expected speed of delivery of the Internet banking service will have a positive effect on expected service quality of Internet banking.

2. Expected Ease of Use
"Customers may be concerned about ease of use for several reasons. One reason may be related to saving actual effort expended. Another reason may be to reduce social risk" [6]. For Internet banking, complication and confusion of using Internet banking service could be included. Besides, how many work the user need to do and effort the user need to pay for using the Internet banking also need to consider. Interface design also can affect the ease of using Internet banking
H_A2: Expected ease of using the Internet banking service will have a positive effect on expected service quality of Internet banking.

3. Expected Reliability
Dabholkar [6] finds that reliable options could reduce the risk of using the service, so the customer will be more willing to use. For Internet banking, reliability could be interpreted to include the accuracy as well as the level the Internet banking can satisfy the user.
H_A3: Expected reliability of using the Internet banking service will have a positive effect on expected service quality of Internet banking.

4. Expected Enjoyment
For the Internet banking, enjoyment includes providing user entertainment, interest and fun.
H_A4: Expected enjoyment from using the Internet banking service will have a positive effect on expected service quality of Internet banking.

5. Expected Control
Dabholkar [6] extending the concept from perceptions to expectations, expected control is defined as the amount of control a customer expects to have over the process or outcome of a service encounter For the Internet banking, expected control is defined as the amount of control a customer expects to have over the Internet banking transaction.
H_A5: Expected control in using the Internet banking service will have a positive effect on expected service quality of Internet banking.

6. Expected Security
Adequate information security for banks' services is one of the key focuses of the HKMA. From the customers' point of view, protection of personal information was most important issue when they consider security. In Hong Kong, 77% of Internet users who have never purchased products online, 86% say that they have been holding back out of fear that others might use their credit card number, or other private information, without their consent.
H_A6: Expected security in using the Internet banking service will have a positive effect on expected service quality of Internet banking.

7. Expected Service Quality of Internet banking
From the service firm's perspective, unless expected service quality is translated into actionable behavior, there is little benefit for the firm [6]. An individual who believes that Internet banking will be high in quality would intent to use Internet banking, as long as price and other situational factors are the same for alternative banking services.
H_A7: expected service quality of the Internet banking service will have a positive influence on intention to use the Internet banking service.

8. Demographic characteristics
a) Income
Two income groups, i.e. low-income group (no income – $14,999/month) and high-income group (above $15,000/month), were classified. Since banks were more likely to differentiate the customer by their income or their deposit.
H_A8: Income of customer will have an effect on expected service quality of Internet banking

b) Age
Three different groups of people could be classified by age, i.e. youth (below 18 – 25), adult (26-40) and middle age & elderly (40-above 60). Since Internet became common in Hong Kong since 1994. Therefore youth was supposed to have more chance to use Internet in their education. Adult was supposed to have more chance to use computer since computer was commonly use since 1980s. Elderly was supposed to have less chance to learn computer and the Internet since there was no computer and Internet in Hong Kong during their education period.
H_A9: Age of customer will have an effect on expected service quality of Internet banking.

c) Gender
Male and female were supposed to have different point of view, especially attitudes toward using computer. Attitude will affect the Intention to use Internet banking.
H_A10: Gender of customer will have an effect on expected service quality of Internet banking.

d) Experience
Two groups of people, i.e. user and non-user, were classified since user would base on their prior experience to assess the service quality, but non-user would base on

their knowledge and expectation to assess the service quality.
H_A11: Experience of customer will have an effect on expected service quality of Internet banking.

e) Education Level
Two Groups of people, i.e. low education group (Primary, Secondary and Vocational/technical School) and high education group (Degree or above) since higher education group was supposed to have more chance to use computer and the Internet in their education period and their job.
H_A12: Education Level of customer will have an effect on expected service quality of Internet banking.

The survey results

The sample taken was the customer of 12 banks, which were B2C Internet banking providers. They were the potential user of Internet banking who have experience of using Internet and ATMs service. Since they are more willing to use internet-based self-service options. The questionnaire consisted of 3 major parts. The first part was used to measure the expected service quality of Internet Banking service. Participants were asked to base on their perception / adoption to indicate their opinion on each of 32 items that was affecting or was being affected by the expected service quality. All 32 items used a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). The second part asked questions about the reasons why the participants use or do not use personal Internet banking. Last part was used to collect the general information about the participant. Total 317 questionnaires were received.

The data collected was first analyzed using the Cornbach' s Alpha Test to test for the reliability. Reliability is the extent to which the questionnaire is free from measurement error. Therefore, a reliable instrument will measure the same object with consistent and error free result. The aim of conducting the reliability is to secure that all the data collected was reliable and free from measurement error before accessing the next analysis step. The higher the consistency is, the more the reliability is claimed. In this study, all the constructs reliability is greater than 0.7, which indicate the instruments used were reliable.

The Path Analysis with Multiple Regression was used to investigate the impact of attributes on the expected service quality of Internet banking and the intention to use Internet banking for all respondents. Under the Path Analysis, there are two kinds of variables, i.e. exogenous and endogenous variables. (Keller & Warrack, 1998) The direct and indirect effects towards the variable should be calculated. The one-way ANOVA was used to determine if the means varied among different demographical characteristics at 95% confidence level.

Table 1 showed the summary of general profile of the respondents. Total 317 copies of questionnaires were received. For the Gender, 47% of total respondents were male and 53% were female. For the Education Level, only 0.3% of total respondents achieved Primary School Level, 29.7% achieved Secondary School Level, 7.3 % achieved Vocational / Technical School Level and 62.8% achieved University or above Level. For the Age, 1.3 % of total respondents were under 18, 58.7% were 18-25, 20.8% were 26-30, 15.8% were 31-40, 2.8% were 41-50, 0.6 % were above 50.

Table 1 *- General Profile of the Respondents*

General Profile	Frequency	Valid Percent
Usage		
Non-User	247	77.9%
User	70	22.1%
Gender		
Female	168	53%
Male	149	47%
Education level		
Primary School	1	0.3%
Secondary School	94	29.7%
Vocational / Technical School	23	7.3%
University or above	199	62.8%
Age		
Under 18	4	1.3%
18-25	186	58.7%
26-30	66	20.8%
31-40	50	15.8%
41-50	9	2.8%
Above 50	2	0.6%
Total No. Of Respondents	317	

Table 2 showed number of people using different services in Internet Banking. Multiple Accounts Checking, transfer Funds, Statement Enquiry and Financial Information were the popular services using by the user. Few of customers enquired mortgage loan, placed new time deposit placement and renewed existing ones.

Table 2 *- Distribution of services used*

Service	***Frequency***
Multiple Accounts Checking	***60***
Transfer Funds	***42***
Buy/Sell Foreign Currency	***6***
Buy/Sell Stock and/or Securities	***15***
Financial Information	***24***
Statement Enquiry	***28***
Mortgage loan Enquiry	***3***
Place New Time Deposit Placement and Renew Existing Ones	***5***

The Multiple Regression was made in order to find out the path coefficients in the model. In the model, Expected Speed of Delivery, Expected Ease of Use,

Expected Reliability, Expected Enjoyment, Expected Control and Expected Security and demographic characteristics were exogenous variables while Expected Service Quality of Internet Banking and Intention to use Internet banking were endogenous variables. Two equations were formed to after running the Multiple Regression and the results were shown in ***Table 3*** and ***Table 4.*** The overall effects of each attribute to Intention to use Internet banking were shown in ***Table 5.***

Table 3 *- Indirect Effect*

Prediction of Expected Service Quality of Internet banking		
Variable	Beta	p-value
Expected Speed of Delivery	0.208	0.000***
Expected Ease of Use	0.116	0.051
Expected Reliability	0.086	0.163
Expected Enjoyment	0.288	0.000***
Expected Control	0.128	0.022*
Expected Security	0.198	0.000***
Income	-0.032	0.477
Education Level	0.057	0.135
Gender	0.019	0.608
Age1	0.038	0.307
Age2	-0.020	0.637
Experience	0.054	0.148
R^2		0.629
F		42.766

Table 3 showed that Expected Speed of Delivery, Expected Ease of Use, Expected Reliability, Expected Enjoyment, Expected Control, Expected Security, Income, Education Level, Age, Experience and Gender affect the simple linear regression result of Expected Service Quality of Internet banking. Expected Speed of Delivery, Expected Ease of Use, Expected Reliability, Expected Enjoyment, Expected Control, Expected Security, Income, Education Level, Age, Experience and Gender can explain 62.9% of the variance in Expected Service Quality of Internet banking. The F-test (F=42.766 and p-value = 0) indicated that the complete model fits very well.

Besides, Expected Speed of Delivery (â = 0.208) was positive related to Expected Service Quality of Internet banking in which the p-value was at the most significant level (0.000*** < 0.05). Therefore, the null hypothesis was rejected and the H_A1 was confirmed. Expected speed of delivery of the Internet banking service will have a positive effect on expected service quality of Internet banking.

Expected Ease of Use (â = 0.116) was not related to Expected Service Quality of Internet banking in which the p-value was 0.051. Therefore, the null hypothesis was confirmed and the H_A2 was rejected. Expected ease of using the Internet banking service will not have a positive effect on expected service quality of Internet banking.

Expected Reliability (â = 0.086) was not related to Expected Service Quality of Internet banking in which the p-value was 0.163. Therefore, the null hypothesis was confirmed and H_A3 was rejected. Expected reliability of using the Internet banking service will not have a positive effect on expected service quality of Internet banking.

Expected Enjoyment (â = 0.288) was positive related to Expected Service Quality of Internet banking in which the p-value was at the most significant level (0.000<0.05). Therefore, the null hypothesis was rejected and H_A4 was confirmed. Expected enjoyment from using the Internet banking service will have a positive effect on expected service quality of Internet banking.

Expected Control (â = 0.128) was positive related to Expected Service Quality of Internet banking in which the p-value was 0.022*. Therefore, the null hypothesis was rejected and H_A5 was confirmed. Expected control in using the Internet banking service will have a positive effect on expected service quality of Internet banking.

Expected Security (â = 0.198) was positive related to Expected Service Quality of Internet banking in which the p-value was at the most significant level (0.000*** < 0.05). Therefore, the null hypothesis was rejected and H_A6 was confirmed. Expected security in using the Internet banking service will have a positive effect on expected service quality of Internet banking.

Income (â =-0.032), Education Level (â = 0.057), Sex (â = 0.019), Age1 (â = 0.038), Age2 (â = -0.020) and Experience (â = 0.054) were not related to Expected Service Quality of Internet banking in which the p-values were not at the most significant level (> 0.05). Therefore the H_A8, H_A9, H_A10, H_A11 and H_A12 were rejected. Income, Age, Gender, Experience, and Education Level will not have an effect on expected service quality of Internet banking.

Table 4 *– Direct Effect*

Prediction of Intention to use Internet Banking		
Variable	Beta	p-value
Expected Service Quality	0.459	0.000***
R^2		0.211
F		84.152

Table 4 showed that the simple linear regression of Intention to use Internet Banking is affected by Expected Service Quality of Internet Banking. Expected Service Quality of Internet Banking (â = 0.459) was positive related to Intention to use Internet Banking in which the regression coefficient was at the most significant level (0.000*** < 0.05). Therefore, the hypothesis was rejected and H_A7 was confirmed. Expected service quality of the Internet banking services will have a positive influence on intention to use the Internet

banking services.

***Table 5** – Direct and Indirect effect of each attribute*

	Direct Effect to Intention to Use Internet banking	Indirect Effect to Intention to Use Internet banking
Expected Speed of Delivery		0.208 * 0.459 = 0.0955
Expected Ease of Use		0.116 * 0.459 = 0.0532
Expected Reliability		0.086 * 0.459 = 0.0395
Expected Enjoyment		0.288 * 0.459 = 0.1322
Expected Control		0.128 * 0.459 = 0.0588
Expected Security		0.198 * 0.459 = 0.0909
Expected Service Quality	0.459	
Income		-0.032 * 0.459 = -0.0147
Education Level		0.057 * 0.459 = 0.0262
Gender		0.019 * 0.459 = 0.0087
Age1		0.038 * 0.459 = 0.0174
Age2		-0.020 * 0.459 = -0.0092
Experience		0.054 * 0.459 = 0.0248

Table 5 showed total effects of each attribute to Intention to Use Internet banking in Revised Attribute-Based Model. The total effect Expected Service Quality of Internet banking and Expected Enjoyment to Intention to use Internet banking was the greatest. Hence, it was the most significant factor for Intention to use Internet banking. Expected Speed of Delivery and Expected Security also had great effect on Intention to use Internet banking.

***Fig. 4** - Direct and Indirect Effects of each attribute to Expected Service Quality of Internet banking and Intention to Use Internet banking in Revised Attribute-Based Model*

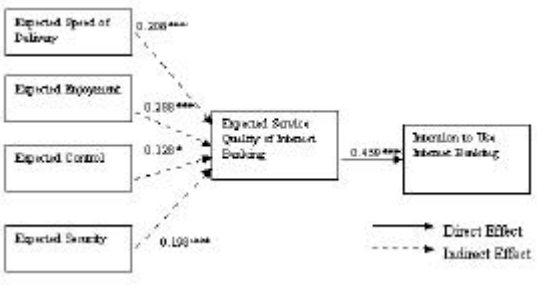


Fig 4 showed the direct and indirect effects of each attribute to Expected Service Quality of Internet banking and Intention to Use Internet banking**.** All the insignificant effects were deleted.

One-way ANOVA was used to determine if the means varied among different demographical characteristics including age, income, gender, education level and experience at 95% confidence level. Table 6 was the summary of five results of One-way ANOVA.

***Table 6** – Demographic Characteristics differences*

Demographic Characteristics	Difference among group	Attributes which have difference	Implications
Income	No	--	
Education Level	Yes	Intention to use Internet banking	Higher education group had higher Intention to use Internet banking than Lower education group.
Gender	Yes	Intention to use Internet banking	Male had higher Intention to use Internet banking than female.
Experience	Yes	Expected Ease of Use	User had higher expected ease of use than non-user .
		Expected Reliability	User had higher expected reliability than non-user .
		Expected Enjoyment	User had higher expected enjoyment than non-user.
		Expected Control	User had higher expected control than non-user.
		Expected Security	User had higher expected security than non-user .
		Expected Service Quality	User had higher expected service quality than non-user
		Intention to use Internet banking	User had higher intention to use Internet banking than non-user.
Age	No		

Differences between user and non-user were significant in 8 Items, i.e. Expected Ease of use, Expected Reliability, Expected Enjoyment, Expected Control, Expected Security, Service Quality and Intention to Use. Differences among the groups of Education Level and Gender for Intention to Use were significant also. There was no difference in the groups of Age and Income Level.

Conclusions

A modified attribute-based model, adding Expected Security, income level, age, gender, education level and experience, was tried to introduce so as to illustrate the adoption of Internet banking. The findings showed that Expected Speed of Delivery, Expected Control, Expected Enjoyment and Expected Security had significant effects on Expected Service Quality of Internet banking. The findings also showed that Expected Service Quality had significant effects on Intention to use Internet banking. However, there is no

evidence to indicate that Expected Reliability, Expected Ease of Use, Income, Gender, Age, Education Level, and Experience affected Expected Service Quality of Internet banking.

For the Expected Speed of Delivery, the result was not consistent with other research. The results shown that speed of delivery had a strong effect on Expected Service Quality of Internet banking. However, Dabholkar [6] finds that speed of delivery did not have an effect on service quality of technology-based self-service option. It was because the nature of Internet banking is different from that of computerized, touch screen meal ordering machine. Internet Banking, as a business-to-customer (B2C) electronic commerce (EC), allowed customers to enjoy the banking service through Internet at anytime and anywhere. Internet banking enabled customers to handle their transaction in their home. Customers needed not go to the physical branch of the banks. The traveling time could be saved. In Hong Kong, time is money. People would like to save their time to do other things.

For the Expected Ease of Use, there was no significant (marginal insignificant at 5% level) impact on Expected Service Quality of Internet banking. It was partly consistent with the result of the research done by Dabholkar [6] in 1996. He finds that Expected Ease of Use could affect Expected Service Quality of technology-based self-service option for the high waiting time and control groups, but not for the low waiting time situation. In fact, most of the web page design was very user friendly. The customer though it was not a selling point of the web page in order to attract the customer. Therefore, ease of use was not a critical factor to determine the service quality.

For the Expected Reliability, the result was consistent with other research. According to the finding, Expected Reliability had no effect on Expected Service Quality of Internet banking. Dabholkar [6] finds also that Expected Reliability did not have an effect on service quality of technology-based self-service option. On the other hand, Expected Reliability had strong positive effect on the Intention to use Internet banking. It was because since customers would get great loss if Internet banking service was not reliable and the customers were not willing to use the service. No one was willing to take risk. Besides, reliability belonged to system quality, not service quality.

For the Expected Enjoyment, the result was consistent with other research. Dabholkar [6] finds that Expected Enjoyment has a strong, positive effect on service quality of technology-based self-service option. Expected Enjoyment also had positive direct effect on Intention to use Internet banking. It was because enjoyment was an important factor in determining the repeat visit the web site.

For the Expected Control, the result was consistent with other research. Dabholkar [6] found that Expected Control had a strong, positive effect on service quality of technology-based self-service option. Hong Kong people would prefer more flexible banking service since the working schedule was very tight. 24-hour Internet banking service enabled customer to handle their financial transaction whenever they like.

For the Expected Security, it had positive effect on service quality. People would prefer security service rather than insecurity one since they would get loss if others stole their person information.

For the Expected Service Quality of Internet Banking, the result was consistent with other research. According to the finding, Expected Service Quality had no significant effect on Intention to use Internet banking. Dabholkar [6] found that Expected Service Quality of technology-based self-service option had a strong, positive effect on Intention to use technology-based self-service option. However, the commend of the respondent shows that most people concerned about the system quality and their personal needs rather than service quality when they use Internet banking.

According to the result of the research, a modified attribute-base model, adding Expected Security, was suitable to evaluate the expected service quality of Internet banking. The findings showed that Expected Speed of Delivery, Expected Control, Expected Enjoyment and Expected Security had significant positive effects on Expected Service Quality of Internet banking and Expected Service Quality had significant effects on Intention to use Internet banking.

For the comments collected at the end of the questionnaire, most of user expressed that the reasons they use Internet banking are “convenience” and “time saving”. They would consider “convenience”, “security” and the “service charge” when you decide whether you continue to use Personal Internet Banking or not. Most of them believed that they would continue to use online banking service offered by your bank because of “convenience”. For non-user, they expressed that the reasons they do not use Internet banking are “not secure”, “privacy”, “not reliable”, “no need since branch services are very good” and “no human contact”. They would consider “ security”, “service charge”, “ease of use” and “reputation of the banks” before they decide whether you use Personal Internet Banking or not.

Reference

[1] Bateson, J.G.E., “Self-service consumer: An exploratory study”, Journal of Retailing Vol 61 (3), 49-76, 1985

[2] Bateson, J.E.G. and M.K.M. Hui, “Perceived control as a crucial perceptual dimension of the service experience: An experimental study”, in:

C.F. Surprenant, ed., Add value to your service (American Marketing Association, Chicago), 187-192, 1987

[3] Bowen, D.E., "Management customers as human resources in service organizations", Human Resource Management 25 (3), 371-383, 1986

[4] Chang Liu and Kirk P. Arnett, "Exploring the factors associated with Web site success in the context of electronic commerce", Information & Management, Vol.38, p.23-33, 2000

[5] Cronin, J.J. and Taylor. S.A., " Measuring Service Quality: A Reexamination and Extension", Journal of Marketing, Vol.56, July, pp: 55-68, 1992

[6] Dabholkar P.A., " Consumer Evaluations of New Technology – Based Self- Service Options: An Investigation of Alternative Models of Service Quality:, International Journal of Research in Marketing, Vol. 13, pp17-28, 1996

[7] Davis, F.D., R.P. Bagozzi and P.R. Warshaw, "User acceptance of computer technology: A comparison of two theoretical models." Management Science 35 (8), 982-1003, 1989

[8] Davis, F.D., R.P. Bagozzi and P.R. Warshaw, "Extrinsic and intrinsic motivation to sue computers in the workplace", Journal of Applied Social Psychology 22 (14), 1109-1130, 1992

[9] Hamlet C., "Community banks go online", ABA Banking Journal, Vol.92 Issue 3, .61-64, 2000

[10] Holbrook, M.B. and E.C. Hirschman, "The experiential aspects of consumption: Consumer fantasies, feelings and fun", Journal of Consumer Research 9 (September) 132-140, 1982.

[11] Langeard, E., J.E.G. Bateson, C.H. Lovelock and P. Eiglier, "Marketing of service: New insights from consumers and managers, Report No. 81-104 (Marketing Science Institute. Cambridge, MA.), 1981

[12] Ledingham, J.A., "Are consumers ready for the information age?", Journal of Advertising Research 24 (4), 31-37, 1984

[13] Parasuraman, A., Zenithal, V.A. and Berry, L., " SERVQUAL: A Multiple Scale for Measuring Consumer Perceptions of Service Quality". Journal of Retailing, Vol.64, Spring, pp12-40, 1988

[14] Pitt, Leyland F. and Watson, Richard T., "Service Quality: A measure of Information Systems Effectiveness", MIS Quarterly, Jun 95, Vol.19 Issue 2, p173-188, 1995

[15] Rayport J.F., and Sviokla, J.J., "Managing in the Marketspace", Harvard Busienss Review, Nov-Dec, pp:141-150, 1994

[16] Siu Y.M. and Cheung T.H, "An Exploratory Study of Expected Service Quality in Business-to-Consumer E-Commerce: The Case of Internet Banking", the BRC Working Papers, Series no. WP 200003, 2000

[17] Thomas P Van Dyke; Victor R Prybutok and Leon A Kappelman, "Cautions on the use of the SERVQUAL measure to assess the quality of information systems services", Decision Science, Vol.30 Issue 3, p.877-891, 1999

[18] William J. Kettinger and Choong C. Lee, "Replication of Measures in Information Systems Research: The Case of IS SERVQUAL", Decision Sciences, Vol.30 Number 3, p.893-899, 1999