

Understanding Internet Banking in China : Focused on Process Quality, Outcome Quality, Customer Satisfaction, Reuse and Word of Mouth

Kyoung-Hwan Kim* · Shi Jin** · Young-Il Chang***

Abstract

This paper is an empirical study especially to understand recent Chinese internet banking users' behavior and intentions through the process quality, outcome quality, customer satisfaction, reuse and word of mouth on internet banking service. The results of this study are as follows. First, perceived process quality of internet banking service affects the outcome quality, and both quality have a direct relation to customer satisfaction. It is found that Chinese internet users perceive a difference between process quality and outcome quality of internet banking service. And the reuse of the internet banking is decided by customer satisfaction as well as the word of mouth of the internet banking.

For successful internet banking business in China, internet marketers should recognize that the service quality consists of the process quality and the outcome quality, and they should organize a new campaign that takes this information into consideration. And considering the process quality effect, they should pay attention to service process as well as the direct merit of services. And if an internet banking service properly meets customer demands, internet users would constantly use internet services and would share good experiences with their neighbors. Therefore the result of our study will be of working-level help for financial company in China.

Keywords : Chinese Internet Banking, Process Quality, Outcome Quality, Customer Satisfaction, Reuse, Word Of Mouth.

1. Introduction

Information and communication technology enables traditional financial institutions to expand their business to and through the internet. Internet banking is an internet based service enabling people to do financial transactions, account management, and so on [Hua, 2009]. In essence, internet banking is an electronic consumer interface and an alternative channel of distributions [Bradley and Stewart, 2003]. All main financial services featured by a traditional bank can be fulfilled through internet banking [Hua, 2009]. Internet banking has been regarded as the most important way to reduce cost and maintain or enhance services for consumers. Due to the usefulness of internet banking, it has been introduced and used in many banks and in many different countries [Calin, 2002; Kari et al., 2006; Laforet and Li, 2005].

China is one of the most promising markets for the internet business. According to the 23rd Statistical Survey Report on internet development in China published by the China Internet Network Information Center in January 2009 [CNNIC, 2009], by December 31, 2008, China had reached 298 million internet users. Internet penetration in China had reached 22.6%, surpassing the world average. The number of internet users in China had increased by 88 million from 2007, an annual growth rate of 41.9%. These numbers suggest that China is still experiencing rapid growth in internet usage. China surpassed the United States in its number of internet users in June 2008, and is now ranked first in the world. The internet pene-

tration rate in China has realized another leap forward, catching up with and surpassing the average level in the world [CNNIC, 2009].

Developments in internet technology should result in a sustained banking revolution. Driving this revolution are changes in customer expectations, rapid technological advances and intense industry competition that have placed extraordinary pressure on China's nascent banking sector to modernize and reform [Stakelbeck, 2005]. To better compete in this market, it is suggested that internet banking service may be an effective strategic response [Lu et al., 2005]. Internet banking services in China are expected to grow quickly. However, only 23.4 percent of Chinese internet users use online banking services, far lower than the 39.1 percent in Korea and the 53 percent in the United States according to China Internet Network Information Center [CNNIC, 2009].

The fast-changing environment increases the difficulty of obtaining a clear and current understanding of Customers [Zhang, 1996]. So we need to study the present Chinese customers in order to understand the huge financial market's future. But previous researches [Hua, 2009; Zhao et al., 2008] have shown that consumer adoption is influenced by different factors.

Therefore we surveyed internet user's behavior using internet banking service in China and analyzed service quality, customer satisfaction, reuse and word of mouth that influenced the continuous usage of internet banking service in China. This study uses a research model that involves the service quality-cus-

tomer satisfaction model. Especially, we re-search whether Chinese internet users distinguish process quality and outcome quality in internet banking services, and what is relationship among the relative items of the model.

2. Theoretical Background

2.1 Process Quality and Outcome Quality

Marketing literature has defined service quality in terms of what users receive during their interactions with service providers, and how this technical quality is provided to the recipients [Grönroos, 1984; Parasuraman et al., 1988]. Grönroos [2000] divided service quality into two components, functional quality and technical quality. Functional quality is defined as the process that a customer perceives for the duration of a service. Technical quality is defined as the outcome that a customer perceives from a service.

SERVQUAL, a common service quality measurement method that measures 5 dimensions [Dabholkar and Overby, 2005; Kang, 2006], can be used to measure the interaction process between a customer and a service provider [Parasuraman et al., 1988]. There are studies that Reliability and Responsiveness are the outcome quality measure [Brady and Cronin, 2001; Hui et al., 2004] and that the division of the process and the outcome is equivocal [Lloso et al., 1988]. Reliability and Responsiveness measurements are concerned with the process quality; they measure how customers are given services, and there is a clear difference between the process and the outcome [Rha and Rhee,

2008]. Outcome quality is the quality of service that the customer perceives [Rha and Rhee, 2008]. Prior studies [Wong and Sohal, 2003; Powpaka, 1996; Brady and Cronin, 2001] indicate that there are several outcome quality variables that define perceived experience quality : superiority, receptivity, satisfaction, tangibility, and significance of service quality.

There have been studies that suggest that SERVQUAL lacks the ability to explain and predict service quality. SERVQUAL is seen as a method to measure the process quality of the interaction process between a consumer and a service provider [Lloso et al., 1998; Yi and Lee, 2001]. Therefore it has been increased the studies considering difference of process quality and outcome quality recently [Brady and Cronin, 2001; Dabholkar and Overby, 2005; Rha and Rhee, 2008]. These studies investigated the causal relationship between process quality, outcome quality, and customer satisfaction. Rha and Rhee[2008] argue that process quality and outcome quality are antecedents of customer satisfaction in their study in public services. Their study indicates that process quality has both direct and indirect influences on the outcome quality of customer satisfaction.

In the Service Value Chain, the process always precedes the outcome[Slack et al., 2004]. The Service Value Chain is defined as the following : the process quality is the service quality a customer perceives for the duration of services, and the outcome quality is the service quality that the customer perceives after having received services. In this sequence, process quality precedes outcome quality, so in a causal

model, perceived process quality for the duration of a service affects the outcome quality of that service.

Based on the aforementioned information, Hypothesis 1 is proposed as follows :

Hypothesis 1 : The perceived process quality of internet banking affects the perceived outcome quality of internet banking.

2.2 Process Quality, Outcome Quality, and Customer Satisfaction

Customer satisfaction/dissatisfaction models effectively predict customer behavior in a variety of contexts [Oliver, 1997]. Customer satisfaction is evaluated based on a customer's recent service experiences [Boulding et al., 1993]. Evaluations of customer satisfaction should be based on all purchase experiences of a customer, not on any specific purchase experience [Johnson and Fornell, 1991]. Previous studies of conventional retailing have pointed out that service quality positively influences customer satisfaction [Cronin et al., 2000; Johnson and Fornell, 1991]. Similar conclusions have been proposed in studies of website and online shopping [Lee and Lin, 2005; Park and Kim, 2006]. Among studies of the telecom industry, Wang et al. [2004] investigated the telecom industry in China, and Kim et al. [2004] investigated mobile phone services in South Korea respectively. These studies supported the idea that service quality positively influences customer satisfaction [Kue et al., 2009]. The researches of fi-

nancial services, in particular, adopted service quality dimensions on customer satisfaction [Yi and La, 2003] and supported service quality effects for customer satisfaction [Lim and Choi, 2007; Yi and La, 2003].

We divided service quality of internet banking service into process quality and outcome quality. And the following hypotheses can be proposed :

Hypothesis 2 : Perceived process quality of internet banking affects customer satisfaction with internet banking.

Hypothesis 3 : Perceived outcome quality of internet banking affects customer satisfaction with internet banking.

2.3 Customer Satisfaction, Reuse, and Word of Mouth

Achieving high customer satisfaction has become the central focus of most firms' corporate strategies. According to Parasuraman et al. [1988], the cumulative perspective of the transaction is a more effective factor for evaluating the service performance of firms, and more effective for predicting consumers' post-purchase behaviors [Wang et al., 2004].

The results of previous customer service studies [Kettinger et al., 2009] indicate that customer satisfaction with information systems influences a user's decision to reuse a service [Brady et al., 2001; Cronin et al., 2000; Lee and

Lin, 2005]. Consumers that experience a higher level of satisfaction tend to have stronger intentions to repurchase or recommend the purchased product [Zeithaml et al., 1996]. When customer satisfaction is enhanced, repurchases can occur more frequently. Studies of mobile services in Canada and China support this argument [Turel and Serenko, 2006; Wang et al., 2004]. Lin and Wang[2006] discovered a positive relationship between customer satisfaction and customer loyalty in their study of mobile commerce. Studies of information system [DeLone and McLean, 2003; Bhattacharjee, 2001; Choi and Kong, 2008] success support the relationship between user satisfaction and user behavior, as well as the causal relationship between satisfaction and information system retention behavioral intention.

About word of mouth, many previous studies[Yi and Lee, 2006; Beak and Han, 2007] support the customer satisfaction was a significant antecedent to word of mouth.

Hypothesis 4 and Hypothesis 5 follows :

Hypothesis 4 : Customer satisfaction with internet banking affects re-use of internet banking.

Hypothesis 5 : Customer satisfaction with internet banking affects recommend of internet banking.

2.4. Internet banking service in China

Internet banking grew slowly in 2008, and the present use rate was 23.4% [Zhe, 2008]. The primary users of internet banking are college

students and white collars. College students have basically opened corresponding bank accounts when they enter college to facilitate the management of schools and financial management between students and parents. College students and white collars who have received higher education have better skills for internet operation, and have very strong use demand of internet banking. But they do not trust the security of internet banking business at present, which affects the rise of the user proportion [CNNIC, 2009].

The bank in China has seen extensive growth in its internet banking program recently with several large cities too.

According to Stakelbeck's report [2005] the Industrial and Commercial Bank of China, the country's largest state-owned commercial bank, noted that its internet banking transactions totaled 17 trillion yuan in the first five months of 2005, up 27 percent from the same period in 2004. This marked a dramatic increase from only five years ago when internet banking transactions totaled only 15.4 billion yuan.

In July 2004, China Construction Bank (CCB), the largest internet bank in Hong Kong serving over 60 percent of the online bankers in the city, reported its internet banking business was developing rapidly. In October 2004, CCB noted that over 10 million new online banking accounts were opened in 2004, while transaction volumes grew by 40 percent over 2003 figures. The bank recently described its e-banking service as "a core strength and fundamental to its business" [Stakelbeck, 2005].

The Chinese government has also recognized

the importance of internet banking to the country's continued economic growth. The People's Bank of China, the country's central bank, announced in September that it would oversee all electronic payment businesses and grant licenses for internet service providers.

China is in the midst of a sustained banking revolution [Stakelbeck, 2005].

The success of the revolution depends on whether the bank meet the banking needs of a growing internet banking users or not. Therefore China will need to implement a financial modernization program that addresses both the vast opportunities and inherent risks associated with an internet banking system.

Our study covers many concepts and hypotheses for examining what affects customer's behavior of internet banking service in China. The research model proposed in this study is depicted in <Figure1>.

3. Hypothesis Testing

3.1. Data Collection

This study aims at examining what influence to customer satisfaction and post-use behavior

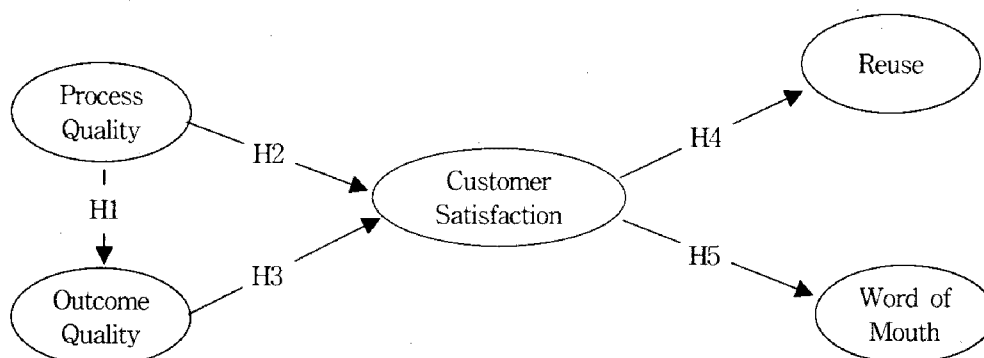
of internet banking and what relationship is between the factors.

A questionnaire was created in containing items that reflected the research model using related works

As for the data collection, a questionnaire written in Chinese, the research subject in this study consists of Chinese consumers who are currently using, or have used, the internet banking services. Most of the respondents were college or graduate school students. The reason for choosing this specific type of consumer is that they are the users who are the active internet users and use a lot of the internet on searching information [CNNIC, 2009]. The survey was conducted during the period of March 23th 2009 to April 3th 2009. A total of 300 questionnaires were distributed, among which 270 were collected and used in the analysis. The distribution of the sample was 157 males (58.1%) and 113 females (41.9%).

3.2. Variables and Measurement

Simply defined, internet banking is "an electronic channel used to provide retail and commercial banking products and services to cus-



<Figure 1> Research Model

tomers.”

The definition Process quality and Outcome quality follows that of Rha and Rhee[2008] : the process quality that customer perceives for the duration of service and the outcome quality that customer perceives from outcome of service. The measurement items of process quality were selected with SERVQUAL instrument seen as the process quality [Dabholkar and Overby, 2005; Kang, 2006]. The measurement items of outcome quality were selected with reference to Rha and Rhee [2008].

And the definition of customer satisfaction, reuse and recommend follows that of Kettinger et al. [2009], Reuse and Word of Mouth effect were measured using existing items, Customer satisfaction was assessed by overall satisfaction scale.

The collected data were analyzed using the program SPSS windows 16.0 and Amos 16.0

3.3. Reliability and Validity Tests

A reliability analysis and validity analysis were conducted on the measurement items for the conceptual variables used in this study, that is, the value of process quality, outcome quality.

An exploratory factor analysis was conducted for validity verification using the Varimax rotation method and maximum likelihood method. Based on the factor analysis results, the items with little common features of measurement variables or those that belonged to other concepts were excluded. Cronbach's α -value was used to verify the internal consistency of the concepts that were confirmed by the factor

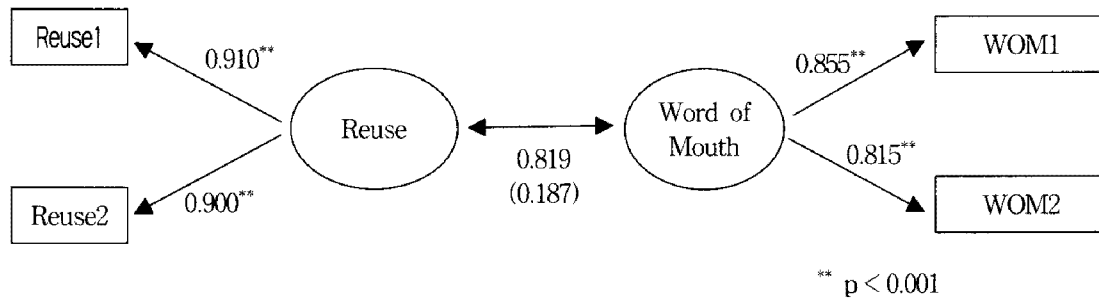
analysis. According to Nunnally [1978], an Cronbach's α -value higher than 0.7 can be interpreted as having reliability, while value is 0.5 in exploratory studies. <Table 1> present Cronbach's α -value of the measurement tool and the factor analysis results of the measurement items obtained by using the varimax method. According the results, Each factor confirmed the reliability and validity.

Next, a confirmatory factor analysis was conducted on the measurement items that were verified by exploratory factor analysis and reliability testing. <Figure 2> shows exploratory factor analysis of reuse and word of mouth. According to the confirmatory factor analysis results, even though the Adjusted Goodness of Fit Index (AGFI) value is relatively low considering the goodness-of fit standard, it does not impose problems in assessing the convergent validity <Table 2>.

As such, the reliability and validity of the data were confirmed, implying that the data are appropriate for hypothesis testing.

<Table 1> Exploratory Factor Analysis and Reliability Test

Item	Factor1	Factor2	Cronbach's α
Process quality 1	.891	.124	0.884
Process quality 2	.848	.216	
Process quality 3	.792	.300	
Process quality 4	.742	.426	
Process quality 5	.680	.150	
Outcome quality 1	.152	.909	0.774
Outcome quality 2	.300	.829	
Eigen Values	3.267	1.870	
% of Variance	46.667	26.711	
Cumulative %	46.667	73.378	



() is sampling error

$\chi^2 = 7.059$ (d.f. = 1, $p = 0.08$),
 GFI = 0.987, AGFI = 0.872, RMR = 0.029

<Figure 2> exploratory factor analysis of Reuse and Word of Mouth

<Table 2> Confirmatory Factor Analysis

Item	Estimate	Standard Estimate	t-value	p-value
Reuse 1	1.000	0.910		
Reuse 2	1.087	0.900	18.354	0.0001
Word of Mouth 1	1.000	0.855		
Word of Mouth 2	.509	0.815	13.648	0.0001
$\chi^2 = 7.0593$ (d.f. = 1, $p = 0.08$) GFI = 0.987, AGFI = 0.872, RMR = 0.029				

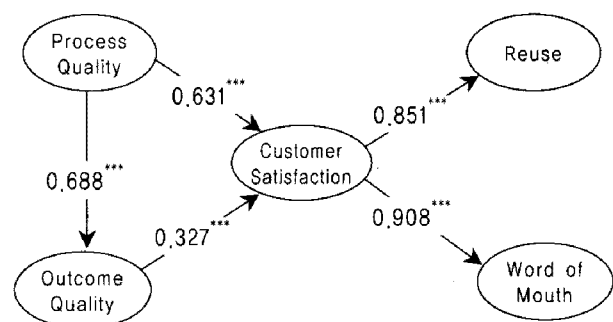
3.4 Hypothesis Testing

Prior to the hypothesis testing, a test GFI of research model was conducted. <Figure 3> shows the result of this analysis.

The Chi-square statistic was 172.635, d.f. = 49, $p = 0.000$, indicating an adequate model fit. The RMR was 0.88, GFI was 0.908, AGFI was 0.854. The Adjusted Goodness of Fit Index (AGFI) value is relatively low and The RMR was a little great. But the test results indicate that the model is appropriate for the hypothesis testing.

Hypothesis 1, which assumes a relationship between process quality and outcome quality,

was not rejected at the 99.9% significance level. This implies that perceived process quality of internet health information influence to per-



* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$

$\chi^2 = 172.635$ (d.f. = 49, $p = 0.000$)
 GFI = 0.908, AGFI = 0.854, RMR = 0.88

<Figure 3> Results of the analyses

<Table 3> Summary of Hypothesis Testing

H	Path	Path Coefficient	t-value	p-value	Result
H1	Process Quality → Outcome Quality	0.688	8.684	0.000	Supported
H2	Process Quality → Customer Satisfaction	0.631	7.250	0.000	Supported
H3	Outcome Quality → Customer Satisfaction	0.327	4.076	0.000	Supported
H4	Customer Satisfaction → Reuse	0.851	11.721	0.000	Supported
H5	Customer Satisfaction → Word of Mouth	0.908	10.562	0.000	Supported

ceived outcome quality. Hypothesis 2 concerns the relationship between process quality and customer satisfaction. The path estimate was 0.631, the hypothesis was not rejected at a significance level of 99.9%. So Process quality influences direct to customer satisfaction.

Hypothesis 3 is about the relationship between outcome quality and customer satisfaction. P-value of this path was 0.0001, the hypothesis was supported at a significance level of 99.9%. Therefore the result verified that outcome quality of internet banking has influence to internet user's satisfaction.

Hypothesis 4 concerns the relationship between customer satisfaction and internet banking reuse. The path coefficient was 0.851 and was adequate at a significance level of 99.9%. The result shows there is strong relationship between customer satisfaction and reuse of internet banking in china. And the analysis of hypothesis 5 indicates that customer satisfaction influences direct to word of mouth intention. The p-values of them are lower than 0.001 with a statistical significance and the path coefficient is 0.908. Hypothesis 5 was supported at a significance level of 99.9%.

The results are summarized in <Table 3>

4. Conclusion

In order to understand the Chinese internet banking users' behavior and intention, the interrelationships among process quality, outcome quality, customer satisfaction, reuse and word of mouth on the internet banking services are analysed and empirically investigated in this study. The results of this study are as follows.

First, perceived process quality of internet banking service affects the outcome quality, and both two have a direct effect to customer satisfaction. It is found that Chinese internet users should perceive a difference between process quality and outcome quality of internet banking service.

Internet banking users have got more and better skills and experiences for internet operations through using other internet services. So they should be sensitive to the process quality of internet banking. Chinese college students whom we surveyed have already experienced the internet banking service and were intelligent enough to distinguish the difference between the process quality and the outcome quality in their internet banking.

Therefore, for successful internet business in

China, internet marketers should recognize that the service quality consists of the process quality and the outcome quality, and they should organize a new campaign that takes this information into consideration. And considering the process quality effect, they should pay attention to service process as well as the direct merit of services.

It is also found that the reuse and the word of mouth of the internet banking should be decided by customer satisfaction. In Chinese internet banking service, customer satisfaction is antecedent to reuse and word of mouth like various service models. For continuous use and maximization of word of mouth effects in Chinese internet banking, the bankers focused on customer satisfaction. But customer satisfaction changes according to customer expectation of the services. Chinese consumers are going to have more internet experiences as time progresses, and they will scrutinize internet services. If an internet business properly meets these demands, internet users would constantly use internet services like internet banking and would share good experiences with their neighbors.

The Chinese market will need more and better services as time goes on, and China's market potential is enormous. Still there are a variety of barriers that tend to prevent foreign capital from entering the service industry in China; however, the nature of the internet market is decidedly more open, with relatively less restrictions.

The result of our study, Chinese internet banking users perceive the quality in detail like process and outcome and there are close rela-

tionship among relative variables, will be of working-level help for financial company in China. For doing a successful business of internet banking service in China, the marketers should always keep the findings of this study in mind.

Although the sample size might not be sufficient enough to cover the explosive growth of the Chinese internet market, Chinese internet banking users surveyed in this study are to be potentially the most powerful consumers in China sooner or later. It is also should be considered that most of the internet users in China do not actively use the internet for banking service yet. So in future researches in this area it is need that the researchers should take these limitations into account and conduct more specified studies.

Reference

- [1] Baek, M. Y. and S. L. Han, "Retailer's Service Quality on Customer Value, Customer Satisfaction and Word-of-Muth Intention", *Journal of Korea service management society*, Vol. 8, No. 2, 2007, pp. 79-103.
- [2] Bhattacharjee, A., "Understanding information systems continuance : an expectation, confirmation model", *MIS Quarterly*, Vol. 25, No. 3, 2001, pp. 351-370.
- [3] Boulding, W., A. Kalra, S. Richard,, and V. A. Zeithaml, "A dynamic process model of service quality : From expectations to behavioral intentions", *Journal of Marketing Research*, Vol. 30, No. 1,

- 1993, pp. 7-27.
- [4] Bradley, L., and Stewart, K., "The Diffusion of Online Banking", *Journal of Marketing Management*, Vol. 19(9/10), 2003, pp. 1087-1109.
- [5] Brady, M. K. and J. Cronin, Jr., "Some new thoughts on conceptualizing perceived service quality : a hierarchical approach", *Journal of Marketing*, Vol. 65, No. 3, 2001, pp. 34-49.
- [6] Calin, G., "Online banking in transition economies : The implementation and development of online banking systems in Romania", *The International Journal of Bank Marketing*, Vol. 20, No. 6, 2002, p. 285.
- [7] Choi, H. S. and H. S. Kong, "A Study of Affiliate Program Satisfaction and Consumer Loyalty in Service Companies : Focused on Korean and Japanese Consumers", *JKT* Vol. 12, No. 3, 2008, pp. 107-131.
- [8] CNNIC, Statistical Survey Report on the Internet Development in China, Jan. 2009.
- [9] Dabholkar, P. A. and J. W. Overby, "Linking process and outcome to service quality and customer satisfaction evaluations : and investigation of real estate agent service", *International Journal of Service Industry Management*, Vol. 16, No. 1, 2005, pp. 10-27.
- [10] DeLone, W. H. and E. R. McLean, "The DeLone and McLean model of information system success : a ten-year update", *Journal of Management Information Systems* Vol. 19, No. 4, 2003, pp. 9-30.
- [11] Grönroos, C., "A service quality model and its marketing implications", *European Journal of Marketing*, Vol. 18, No. 4, 1984, pp. 36-44.
- [12] Grönroos, C., *Service Management and Marketing : A Customer Relationship Management Approach* (2nd Ed.), Chichester : John Wiley and Sons, 2000.
- [13] Hua, G., "An Experimental Investigation of Online Banking Adoption in China", *Journal of Internet Banking and Commerce*, Vol. 14, No. 1, 2009, pp. 1-12.
- [14] Hui, K. H. X. Zho, X. Fan and K. Au, "When does the service process matter? A test of two competing theories", *Journal of Consumer Research*, Vol. 31, No. 2, 2004, pp. 465-475.
- [15] Johnson, M. D., and C. Fornell, "A framework for comparing customer satisfaction across individuals and product categories", *Journal of Economic Psychology*, Vol. 12, No. 2, 1991, pp. 267-286.
- [16] Kang, G., "The hierarchical structure of service quality : integration of technical and functional quality", *Managing Service Quality*, Vol. 16, No. 1, 2006, pp. 37-50.
- [17] Kari, P., Tero, P., Heikki, K., and Seppo, P., "The measurement of end-user computing satisfaction of online banking services : empirical evidence from Finland", *The International Journal of Bank Marketing*, Vol. 24, No. 2/3, 2006, p. 158.
- [18] Kettinger, W. J., S. H. Park and J. Smith, "Understanding the consequences of information systems service quality on IS service reuse", *Information and Mana-*

- gement xxx*, 2009, pp. 1-7.
- [19] Kim, M. K., Park, M. C., and Jeong, D. H., "The effects of customer satisfaction and switching barrier on customer loyalty in Korean mobile telecommunication services", *Telecommunications Policy*, Vol. 28, No. 2, 2004, pp. 145-159.
- [20] Kuo, Y. F., C. M. Wu and W. J. Deng, "The relationships among service quality, perceived value, customer satisfaction and post-purchase intention in mobile value-added services", *Computers in Human Behavior*, Vol. 25, 2009, pp. 887-896.
- [21] Laforet, S., and Li, X., "Consumers' attitudes towards online and mobile banking in China", *International Journal of Bank Marketing*, Vol. 23, No. 5, 2005, pp. 362-380.
- [22] Lee, G. G., and Lin, H. F., "Customer perceptions of e-service quality in online shopping", *International Journal of Retail and Distribution Management*, Vol. 33, No. 2, 2005, pp. 161-176.
- [23] Lim, Y. T. and Choi, D. O., "A Study on Financial Institution's Quality of Service and Customer Satisfaction", *JIEB*, Vol. 20, 2007, pp. 2485-2508.
- [24] Lin, H. H., and Wang, Y. S., "An examination of the determinants of customer-loyalty in mobile commerce contexts", *Information and Management*, Vol. 43 No. 3, 2006, pp. 271-282.
- [25] Llosa, S. J. L. Chandon and C. Orsingher, "An empirical study of SERVQUAL dimensionality", *The Service Industries Journal*, Vol. 18, No. 2, 1998, pp. 16-44.
- [26] Lu, M.-T., Liu, C.-H., Jing, J., Huang, L. J., "Internet banking : strategic responses to the accession of WTO by Chinese banks", *Industrial Management and Data Systems*, Vol. 105, No. 4, 2005, pp. 429-42.
- [27] Nunnally, J. C., *Psychometric Theory*, New York : McGraw-Hill., 1978.
- [28] Oliver, R. L., *Satisfaction : A Behavioral Perspective on the Consumer*, New York : McGraw-Hill, 1997.
- [29] Parasuraman A., Berry L. L. and V. A. Zeithaml, "SERVQUAL : a multi-item scale for measuring consumer perceptions of the service quality", *Journal of Retailing*, Vol. 64, No. 1, 1988, pp. 12-40.
- [30] Park, C. H., and Kim, Y. G., "The effect of information satisfaction and relational benefit of consumers' online shopping site commitments", *Journal of Electronic Commerce in Organizations*, Vol. 4, No. 1, 2006, pp. 70-90.
- [31] Powpaka, S., "The role of outcome quality as a determinant of overall service quality in different categories of services industries : an empirical investigation", *The Journal of Services Marketing*, Vol. 10, No. 2, 1996, pp. 5-25.
- [32] Rha, J. Y. and S. K. Rhee, "Service quality and customer satisfaction in the public sector : analyzing the causal relationship between process quality, outcome quality, and customer satisfaction", *Service Management*, Vol. 9, No. 1, 2008, pp. 181-205,

- [33] Slack, N., S. Chambers and J. Roberts, *Operations Management*(4th Ed.), Harlow : Pearson Education Ltd, 2004.
- [34] Stakelbeck, Jr., F., "China and e-Banking", *In the National Interest*, from <http://www.inthenationalinterest.com>, 2005.
- [35] Turel, O., and Serenko, A., "Satisfaction with mobile services in Canada : An empirical investigation", *Telecommunications Policy*, Vol. 30, No. 5, 2006, pp. 314-331.
- [36] Wang, Y., Lo, H. P., and Yang, Y., "An integrated framework for service quality, customer value, satisfaction : Evidence from China's telecommunication industry", *Information Systems Frontiers*, Vol. 6, No. 4, 2004, pp. 325-340.
- [37] Wong, A. and A. Sohal, "A critical incident approach to the examination of customer relationship management in a retail chain : an exploratory study", *Qualitative Market Research : An International journal*, Vol. 6, No. 4, 2003, pp. 248-262.
- [38] Yi, Y. J. and J. Y. Lee, "A Reexamination of the Measurement and Consequences of Service Quality : Development and Application of the KS-SQI Model", *JKMA*, Vol. 16, No. 1, 2001, pp. 1-26.
- [39] Yi, Y. and S. La, "The Relative Effects of Three Dimensions of Service Quality on CS-A Comparative Study of Existing vs. Potential Customers-", *JKMA*, Vol 18, No. 4, 2003, pp. 67-97.
- [40] Yi, Y. J. and S. J. Lee, "Determinants of Customers' Information Engagement and the Moderating Effect of Involvement : Focused on WOM and Cooperation", *Korea Journal of Marketing* Vol. 8, No. 3, 2006, pp. 13-40.
- [41] Zeithaml, V. A., Berry, L. L., and Parasuraman, A., "The behavioral consequences of service quality", *Journal of Marketing*, Vol. 60, No. 2, 1996, pp. 31-46.
- [42] Zhang, Y., "Chinese consumers' evaluation of foreign products : the influence of culture, product types and product presentation format", *European Journal of Marketing*, Vol. 30, No.12, 1996, pp. 50-68.
- [43] Zhao, A. L., Hanmer-Lloyd, S., Ward, P. and Goode, M. M. H., "Perceived risk and Chinese consumers' internet banking services adoption", *International Journal of Bank Marketing*, Vol. 26, No. 7, 2008, pp. 505-525.
- [44] Zhe, D., "ICBC Online Banking Keeps Up with Immense Traffic During the Beijing 2008 Games Using F5 BIG-IP Web-Accelerator", <http://www.f5.com>, 2008.

■ Author Profile



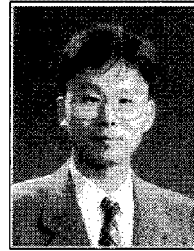
Kyoung-Hwan Kim
 2004 Inje University (Ph. D)
 2009 Lecturer, Kyong Sung
 University.
 2009 Technical Expert, E&I
 Center

Major research concerns : Internet Service,
 e-commerce, Medical Information System, U-
 Health, etc.



Shi Jin
 Professor, Business Dep. of
 Wangli University in Ningbo,
 Zhejiang, China
 2009 Ph. D Candidate at Inje
 University

Major research concerns : Banking Systems,
 e-commerce, Quality Management etc.



Young-Il Chang
 1998 Seoul National University
 (Ph. D)
 Professor, School of Mana-
 gement, Inje University
 Major research concerns :

Operations Management, e-commerce, Quality
 Management etc.