Factors Influencing Customer Satisfaction with Personal Online Banking Services: A Study of Bank of China

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Abstract
Digital banking has revolutionized customer financial institution interactions. But the move online isn't a guarantee of customer satisfaction as people are now demanding bank platforms to be useful, convenient, secure, reliable and responsive. This study aimed at investigating the factors affecting personal online banking customers' satisfaction with their services in the context of customers of the Bank of China. The conceptual framework combined the Technology Acceptance Model (TAM) and the electronic service quality and online banking security viewpoints. Four independent variables were studied: perceived usefulness, perceived ease of use, security and privacy, and service quality. The dependent variable was stated as the customer satisfaction. In the present study, a quantitative cross sectional research design was used. This paper uses a simulated data set of 320 personal online banking users for demonstration purposes. Descriptive statistics, Cronbach's alpha, Pearson correlation and multiple regression analysis were used to analyse the data. The example results showed that all four factors had positive relationships with the customers' satisfaction. Security and privacy demonstrated the strongest standardized effect ($\beta = .31, p < .001$), followed by service quality ($\beta = .28, p < .001$), perceived usefulness ($\beta = .22, p < .001$), and perceived ease of use ($\beta = .16, p = .002$). The regression model accounted for 63% of the variability of customer satisfaction. Based on the findings, the online banking service providers should focus on security and privacy, reliability, responsiveness and usefulness of services and ensure user friendly interface. The study offers a practical guideline to comprehend customer satisfaction in the increasingly digital banking landscape in China.

Keywords: customer satisfaction, online banking, perceived usefulness, perceived ease of use, security, service quality, Bank of China

1. Introduction
The banking sector has been transformed by digital transformation. Internet, mobile, digital payment, and other technology-based banking services have been

steadily integrated into traditional banking. Now, instead of walking into a bank branch, customers can move funds, check account information, pay bills, view investments, and conduct many other financial transactions. As a result, the overall customer satisfaction of digital banking has come into focus.

Online banking offers a lot of advantages to both customers and financial institutions. Accessibility and convenience, transaction speed, and lowered reliance on branch hours are all advantages to customers. Banks will be able to operate more efficiently, reach a wider customer base, and lower some of the transaction costs. However, digital banking comes with its problems. Consumers might have concerns related to cyber security, privacy, accuracy of transactions, availability of systems, complexity, and the quality of services when there are problems.

The factors influencing customers' acceptance and assessment of online banking have thus been more studied. Davis (1989) developed the Technology Acceptance Model (TAM) that suggests perceived usefulness and perceived ease of use are the key factors of users' acceptance of information technology. However, in online banking environment, customers have to face sensitive personal and financial data. This means that technology acceptance alone has limited implications for customers' evaluations. There are also trust and security issues that are considered as important factors in internet banking (Suh & Han, 2002).

Further evidence comes from studies within the Chinese banking domain, which considered a number of aspects of the online banking experience. In China, for instance, Yoon (2010) investigated ease of use, design, speed, security, information content and customer support as the antecedents of satisfaction with online banking. The results showed that there were a number of technology and service related variables that were found to significantly affect satisfaction, but these varied based on customer online banking experience.

Customer satisfaction is especially important because if customers are satisfied with the service, they will continue to use it, have positive attitudes toward the service provider and keep the relationship going for the long haul. For digital banking, customer satisfaction extends beyond just functionality; it's also about how customers feel the service is adding value, experience ease of use, feels secure in sharing their financial data, and receives reliable support.

The Bank of China is an appropriate example to consider these questions as digital channels have gained importance in their retail business. Knowing the criteria customers use to assess personal online banking can offer valuable insight for enhancing digital banking approaches and customer relationship management.

The aim of this research was hence to examine the factors that affect the customer satisfaction related to personal online banking services in the case of Bank of China. In particular, perceived usefulness, perceived ease of use, security and privacy and service quality were examined as potential factors affecting customer satisfaction.

1.1 Research Objectives

The study had the following objectives:

1. To examine customers' perceptions of usefulness, ease of use, security and privacy, service quality, and satisfaction with personal online banking.
2. To determine the relationships between perceived usefulness, perceived ease of use, security and privacy, service quality, and customer satisfaction.

1.2 Research Hypotheses

Based on the theoretical framework and previous research, the following hypotheses were proposed:

H1: Perceived usefulness has a positive influence on customer satisfaction with personal online banking.

H2: Perceived ease of use has a positive influence on customer satisfaction with personal online banking.

H3: Security and privacy have a positive influence on customer satisfaction with personal online banking.

H4: Service quality has a positive influence on customer satisfaction with personal online banking.

2. Literature Review

2.1 Customer Satisfaction in Online Banking

When it comes to online banking, customers desire a pleasant experience. Customer Satisfaction is the overall assessment by a customer to determine the product or service experience has met or exceeded expectations. According to Oliver (1980), satisfaction is explained by an expectation-disconfirmation paradigm, which involves the process of comparing perceived performance to the customer's expectations.

In digital banking, satisfaction is a measure of customers' perceptions of digital banking technology-based services. The assessments may be done on convenience, access, transaction accuracy, security, responsiveness, information quality and overall performance.

In banking, customer satisfaction is a key element as there is a lot of trust involved in banking relationships along with repeat transactions. In fact, negative perceptions can emerge when the bank's traditional branch network is working well but the systems are not. However, if, despite the good performance of the bank's traditional branch network, the customer encounters system failures, security concerns,

complicated interfaces or poor problem resolution, he or she can develop negative perceptions of the bank.
The multidimensionality of online banking satisfaction has been validated by previous empirical studies. According to Yoon (2010), design, speed, security, information provision, and customer support had positive impacts on the satisfaction of online banking in China. Similarly, Banu et al. (2019) showed the relationships between the technology-related factors, trust, security, perceived usefulness, and customer satisfaction in online banking.

2.2 Technology Acceptance Model

One of the main theoretical foundations of this study is the Technology Acceptance Model. Davis (1989) suggested that two beliefs, perceived usefulness and perceived ease of use, are crucial in the process of explaining why people adopt information systems.
Perceived usefulness is the extent to which a person thinks using a specific technology will be helpful in performing a task. In online banking, usefulness can be expressed as quicker turnaround, easy access to the accounts, effective payment system, and the ability to perform financial activities anytime.
Perceived ease of use is the extent to which the user believes that operating the system is easy (Davis, 1989). An easy-to-use interface, clear instructions, easy navigation, and straightforward transaction process can help create ease of use for online banking customers.
Since then, TAM has been widely adopted in online and mobile banking. Suh and Han (2002) further advanced the views of technology acceptance by adding the concept of trust to the studies of internet banking, showing that trust was a significant factor besides usefulness and ease of use.

2.3 Perceived Usefulness and Customer Satisfaction

An online banking service that is seen as useful is likely to be considered favourably by customers. Some online banking services can save time in the banking process, make it easier for people to access their financial services, and enable them to oversee their financial affairs in a more efficient way.
Banu et al. (2019) found that perceived usefulness was significant for online banking satisfaction and caused the mediation of relationships among various technology and customer related factors. Perceived usefulness goes beyond the adoption of technology and can be part of customers' post adoption evaluation of the service.
According to the current study, perceived usefulness can be defined as the perception of customers that personal online banking service increases their

banking efficiency, saves time, enhances their convenience and enables them to manage banking activities well.

2.4 Perceived Ease of Use and Customer Satisfaction

The perceived ease of use of this product is very high, and it makes the customer very satisfied. The other fundamental element of TAM is ease of use. A complex banking system can make banking more difficult and frustrating, whereas a simple banking system can make banking easier and more efficient. Complex banking systems can make banking harder and more frustrating, and simple banking systems can make banking easier and more efficient.

Cheng et al. (2006) used TAM in the context of Internet banking and proved that perceptions of Technology are important factors in the explanation of Internet banking adoption. But, the influence of how easy it is to use can vary between different types of customers. Ease of use was not significant in the customer groups examined by Yoon (2010), while other factors like design, security, speed, information quality and support were significant.

The mixed results suggest that ease of use is still a theoretical construct, and its significance should be measured in specific digital banking applications.

2.5 Security and Privacy

Digital financial services are especially sensitive to security and privacy concerns since customers are sending sensitive personal and financial data via electronic systems. Security is defined as customers' confidence that their transactions are safe from unauthorized access, fraud and technological threats. Privacy is about collecting, storing, processing and protecting the personal information of customers as appropriate.

Due to the use of sensitive information in online financial transaction, Suh and Han (2002) highlighted the role of trust in internet banking. Perceived web security was also added to an extended TAM in Cheng et al. (2006).

Aboobucker and Bao (2018) conducted a study on security and privacy, perceived risk, trust, and website usability in the context of internet banking and highlighted the importance of the factors in determining customers' reaction to internet banking. Banking research of more recent times has not left behind the importance of system security as an important determinant of satisfaction with electronic banking services (Raza et al., 2021).

Therefore, one would expect that satisfaction would be directly related with security. If customers think that their transactions, passwords, personal and account information is sufficiently protected, they should have more confidence and satisfaction in online banking.

2.6 Service Quality

Service quality is the customer's judgement of service delivery. Parasuraman et al. (1988) defined service quality based on the dimensions of service given: reliability, responsiveness, assurance, empathy, and tangibles. The principles behind SERVQUAL were initially applied to a traditional service context, but the model has had an impact on electronic service quality research.

For online banking, service quality might relate to system reliability, proper transactions, speed of response, availability of help, informative information, and the ability to resolve issues. Digital channels cut down on direct interactions with employees, but they don't take the place of customers' need for service support.

Raza et al (2021) found that service quality was a significant factor in the satisfaction level of the electronic banking services. In the same way, the study of online banking has found that the factors of customer support, reliability, convenience and security are relevant factors in the evaluation of their services.

From these theoretical and empirical bases it was proposed here that service quality has a positive effect on customer satisfaction.

The proposed research framework consists of four independent variables and one dependent variable:

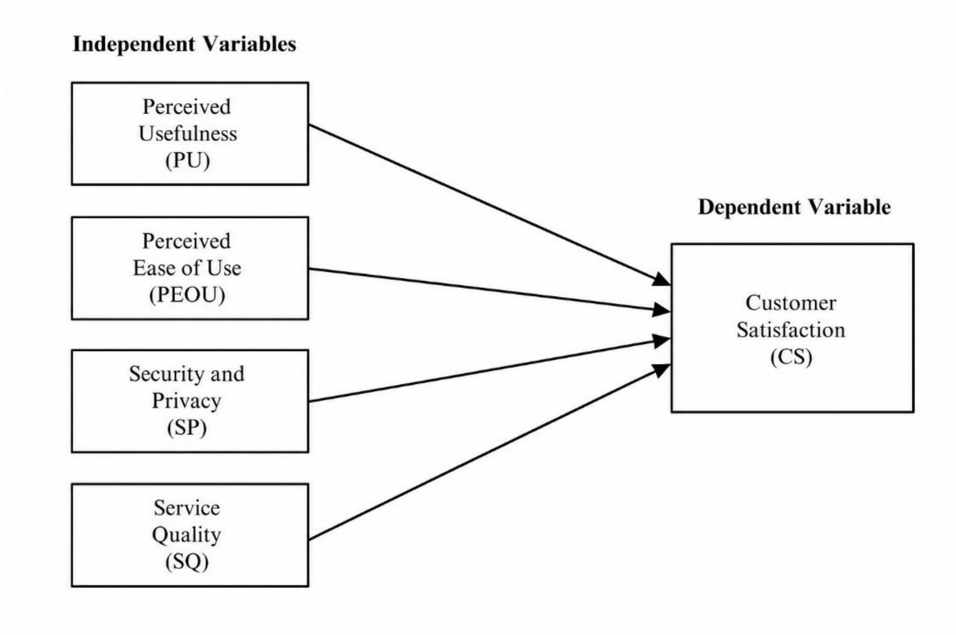

Figure 1 Conceptual framework

3. Research Methodology

3.1 Research Design

The study adopted a quantitative, cross-sectional survey design. This approach was appropriate because the research sought to measure customers' perceptions and statistically examine relationships between the proposed independent variables and customer satisfaction. The target population consisted of individual customers who had experience using Bank of China personal online banking services. For illustration of the proposed research design and statistical reporting format, the present paper uses of 320 respondents.

3.2 Research Instrument

Data were measured using a structured questionnaire divided into two sections. The first section contained demographic questions, while the second measured the research constructs. A five-point Likert scale was applied:

The illustrative instrument consisted of 20 measurement items:

Perceived usefulness: 4 items
Perceived ease of use: 4 items
Security and privacy: 4 items
Service quality: 4 items
Customer satisfaction: 4 items

Measurement items were adapted conceptually from established technology acceptance, service quality, and online banking literature (Davis, 1989; Parasuraman et al., 1988; Suh & Han, 2002; Yoon, 2010).

3.3 Data Analysis

The sample data were analyzed using:

1. Frequency and percentage for respondent characteristics;
2. Mean and standard deviation for descriptive analysis;
3. Cronbach's alpha for internal consistency reliability;
4. Pearson's correlation coefficient for relationships among variables; and
5. Multiple regression analysis for testing the research hypotheses.

Statistical significance was evaluated at the .05 level.

4. Results

4.1 Respondent Characteristics

The sample consisted of 320 online banking customers. Of these respondents, 52.5% were male and 47.5% were female. The largest age category was 26–35 years (36.9%), followed by 36–45 years (27.5%). Approximately 73% of respondents reported using online banking at least several times per month.

These characteristics indicate an illustrative sample with substantial exposure to personal online banking.

4.2 Reliability Analysis

Table 1
Reliability of the Measurement Scales

Construct	Items	Cronbach's α
Perceived Usefulness	4	.88
Perceived Ease of Use	4	.86
Security and Privacy	4	.91
Service Quality	4	.90
Customer Satisfaction	4	.92

All constructs produced Cronbach's alpha values above .80, demonstrating strong internal consistency for the illustrative measurement scales.

4.3 Descriptive Statistics

Table 2
Descriptive Statistics of the Research Variables

Variable	Mean	SD	Interpretation
Perceived Usefulness	4.18	0.59	High
Perceived Ease of Use	4.12	0.62	High
Security and Privacy	4.05	0.66	High
Service Quality	4.09	0.61	High
Customer Satisfaction	4.15	0.60	High

The illustrative results demonstrate generally favorable evaluations of personal online banking. Perceived usefulness obtained the highest mean ($M = 4.18$, $SD = 0.59$), followed by customer satisfaction ($M = 4.15$, $SD = 0.60$).
Although security and privacy received a high overall evaluation ($M = 4.05$, $SD = 0.66$), the construct had the lowest mean among the five variables. This suggests that security remains an area where further improvement could potentially increase customer confidence and satisfaction.

4.4 Correlation Analysis

Table 3

Correlations Between the Independent Variables and Customer Satisfaction

Variable	1	2	3	4	5
1. Perceived Usefulness	1				
2. Perceived Ease of Use	.58**	1			
3. Security and Privacy	.51**	.49**	1		
4. Service Quality	.55**	.52**	.57**	1	
5. Customer Satisfaction	.65**	.57**	.70**	.69**	1

Note. $N = 320$. **p** < .01.

All independent variables were positively and significantly correlated with customer satisfaction. Security and privacy demonstrated the strongest bivariate relationship with satisfaction ($r = .70$, $p < .01$), followed by service quality ($r = .69$, $p < .01$), perceived usefulness ($r = .65$, $p < .01$), and perceived ease of use ($r = .57$, $p < .01$).

4.5 Multiple Regression Analysis

Multiple regression analysis was performed to determine the relative influence of the four independent variables on customer satisfaction.

Table 4

Multiple Regression Predicting Customer Satisfaction

Predictor	B	SE	β	*t*	*p*
Constant	0.42	0.16	—	2.63	.009
Perceived Usefulness	0.22	0.05	.22	4.46	< .001
Perceived Ease of Use	0.15	0.05	.16	3.11	.002
Security and Privacy	0.28	0.05	.31	6.08	< .001
Service Quality	0.27	0.05	.28	5.39	< .001

Model statistics: $R = .79$, $R^2 = .63$, Adjusted $R^2 = .62$, $F(4, 315) = 133.98$, $p < .001$. The model explained approximately 63% of the variance in customer satisfaction, indicating substantial explanatory power in the illustrative dataset.

Security and privacy had the strongest standardized effect on customer satisfaction ($\beta = .31$, $p < .001$). Service quality was the second strongest predictor ($\beta = .28$, $p <$

.001), followed by perceived usefulness ($\beta = .22$, $p < .001$) and perceived ease of use ($\beta = .16$, $p = .002$).

4.6 Hypothesis Testing

Table 5
Summary of Hypothesis Testing

Hypothesis	Relationship	β	*p*	Result
H1	PU → Customer Satisfaction	.22	< .001	Supported
H2	PEOU → Customer Satisfaction	.16	.002	Supported
H3	Security & Privacy → Customer Satisfaction	.31	< .001	Supported
H4	Service Quality → Customer Satisfaction	.28	< .001	Supported

All four research hypotheses were supported in the illustrative analysis.

5. Discussion

The aim of this study was to investigate factors that affect customer satisfaction towards their personal online banking. The results presented in an illustrative manner show that all the factors, such as perceived usefulness, perceived ease of use, perceived security and privacy, and service quality have positive effects on customer satisfaction.

First, perceived usefulness had a large effect on customer satisfaction. Theoretically this finding is consistent with the TAM (Davis, 1989). When online banking enables customers to do the financial transaction smoothly, get the service easily and save time, the customers are more satisfied. This finding is also consistent with Banu et al. (2019) who found the perceived usefulness as an important mechanism in determining satisfaction with online banking.

Second, perceived ease of use had a positive effect on satisfaction, albeit a small one when compared to the other four factors. The finding indicates that while user-friendly design is still important, today's online banking customers may see usability as an expected standard and not a differentiator. Customers may be increasingly prioritizing security, reliability and overall service in digital applications as they become more experienced. This meaning is consistent with Yoon (2010) who indicated that the value of the attributes of online banking might differ depending on the experience of the customers.

Thirdly, security and privacy were the strongest predictors of customer satisfaction. This finding is significant as online banking deals with financial assets and personal information that is confidential. Customers need to feel their transactions are secure, their authentication is reliable, and their personal information is properly secured. This finding was consistent with the previous studies, which highlighted the issue of security and trust in internet banking (Aboobucker & Bao, 2018; Cheng et al., 2006; Suh & Han, 2002).

Fourth, service quality was a very important factor affecting customer satisfaction. Online banking is not just a technology platform; it is also a channel to provide services. They judge if the transactions are done properly, the systems are working correctly, the information is accurate, and help is available when problems arise. The finding aligns with the research findings which showed that service quality plays a significant role in electronic banking customer satisfaction (Raza et al., 2021).

Overall, these results are indicative of the multi-dimensional nature of customer satisfaction with online banking. Easy-to-use is not enough when customers don't trust the security of the platform or when they experience poor service quality. Likewise, great security will not make up for the lack of usability or service support. An integrated approach is needed, one that considers the technological usability, functional value, security, privacy, and the quality of the services provided by banks.

6. Conclusion and Recommendations

This study designed and showed a Bank of China personal online banking customer satisfaction model. According to 320 respondents, perceived usefulness, simplicity of use, security and privacy, and service quality all increased consumer happiness. Security and privacy had the greatest impact, followed by service quality, perceived utility, and perceived simplicity of use. The four factors explained 63% of customer satisfaction variance.

The findings have several managerial implications. First, online banks should improve authentication, transaction monitoring, fraud detection, privacy protection, and consumer security communication. Customers should see and comprehend security methods as well as their effectiveness.

Second, banks should constantly improve digital services. System availability, transaction correctness, response speed, information quality, and customer assistance are essential to online banking quality.

Third, adding features that simplify clients' finances will make digital banking platforms more valuable. Integration of payments, transfers, financial management, notifications, investment data, and personalized services may boost value.

Finally, design should prioritize usability. Customers with varying technology experience should find interfaces intuitive, consistent, accessible, and suitable.

6.1 Theoretical Contribution

The study contributes conceptually by integrating TAM with security/privacy and service quality perspectives. Traditional TAM emphasizes usefulness and ease of use, whereas online banking requires additional consideration of financial risk, privacy, reliability, and customer service.

The model therefore demonstrates that customer satisfaction in digital financial services can be more effectively explained by combining **technology acceptance factors with trust-related and service-related factors**.

6.2 Practical Contribution

For banking managers, the findings indicate a potential priority sequence: Security and Privacy → Service Quality → Perceived Usefulness → Perceived Ease of Use → Customer Satisfaction. This suggests that investment in digital banking should extend beyond interface development. Cybersecurity, privacy management, system reliability, customer support, and useful banking functionality are important elements of an integrated customer satisfaction strategy.

6.3 Limitations and Future Research

The present paper has several limitations. Most importantly, the statistical results presented here are simulated for research-writing demonstration and therefore should not be interpreted as empirical evidence concerning actual Bank of China customers.

Future empirical research should collect verified customer survey data and may extend the model by including trust, perceived risk, perceived value, digital banking experience, continuance intention, and customer loyalty. Researchers could also apply structural equation modeling to simultaneously evaluate measurement quality and structural relationships.

Comparative studies between different commercial banks, geographic regions, age groups, and levels of digital banking experience could further clarify how customer expectations differ across market segments.

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