

# INTERNET BANKING SERVICES IN CHINA

Customer Service Quality Delivered Over the Internet

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## ABSTRACT

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Nowadays, the Internet is prevailing and accessible to almost everyone and becomes an important part of people's daily life. People are getting more and more used to using Internet banking services because it provides convenient, faster and cheaper services. The purpose of the thesis is to provide a better understanding of Internet banking in China and the thesis will present and discuss internet bank of two banks, China Construction Bank and China Merchants Bank, focusing on the banks' websites and customer services. The thesis is based on interaction with the websites. A customer survey is conducted to provide a better overview of internet banking and service quality online.

Keywords: internet banking; websites; customer service; e-banking;

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# 1 INTRODUCTION

This chapter starts with a background to introduce the Internet and Internet banking. The problem discussion focuses on banks' online environment and service quality online. In the end of this chapter, the disposition of the thesis is described.

## 1.1 Background

With the advent of the 21st century, modern technology and communication technology with the Internet at the core have been rapidly developed and widely applied, and information technology of world economy is also becoming distinctive characteristics and trends in this century. Today, we have entered the Internet-based network economy era. With the introduction of the Internet and the World Wide Web, electronic commerce has been the main economic form in the 21st century and has had a significant impact on the world's trade. E-commerce is a rapidly growing industry, which has and still changes economy, markets and industry structures. It has also altered products and services and their supply chains, but also consumer behavior and the labor market (Efraim Turban, David King, Jae Lee and Dennis Viehland 2004, 3).

Because of the development of e-commerce, banks have made most parts of their services and business accessible online which is known as Internet banking or e-banking. According to the report, "Risk Management for Electronic Banking and Electronic Money Activities", made by Basel Committee (BCBS 1998), electronic banking refers to the provision of retail and small value banking products and services through electronic channels. Such products and services can include deposit-taking, lending, account management, the provision of financial advice, electronic bill payment, and the provision of other electronic payment products and services such as electronic money.

Internet banking has made it possible for customers to check their account balances, pay their bills, transfer money etc. online. E-banking may not only allow banks to expand their markets but also reduce operating costs. Since October 18, 1995 the world's first Internet bank-Security First Network Bank (SFNB) established in the

United States, online banks have been developed rapidly around the world (Security First Network Bank 2010). Currently, many banks in China, such as Bank of China, China Merchants Bank, Industrial and Commercial Bank of China Limited, etc. have launched Internet banking services. The development of Internet banking has undoubtedly become the new hot spot for banks.

While the number and scale of Internet banking is increasing, the categories of Internet banking services are also becoming more and more. Most banks can provide corporate and individual customers with accounts inquiries, funds transfer, account management, online payment and other services (Efraim Turban, David King, Jae Lee and Dennis Viehland 2004, 3). Websites play very significant and key role in Internet banking. Websites should be able to convey all the information for both current customers and potential new customers via Internet (Shahzad Shariq 2006, 8).

Due to the impact of Internet banking on the banking industry has increased as well as the online competition between banks does, banks need to develop creative solutions of how to provide their customers with easier and high quality online services in order to attain and sustain competitive advantages and customer relationships.

## 1.2 Problem discussion

Competition and changes in technology and lifestyles have changes the face of banking. Banks are now seeking alternative ways to provide and differentiate their services (Credo 2001, 43). A few years ago, people had to visit the bank branch physically in order to carry out banking errands. These days, internet banking has made it easier for customers to choose when and where to bank. An increasing number of banks now aim to develop Internet solutions for banks transactions in order to survive. Developing Internet banking activities provide banks with numerous advantages. Advantage is that through e-banking banks can better maintain the relationship with customers. E-banking provides the convenience and flexibility of 24 hour banking from home or working place which otherwise becomes difficult

in hectic schedules and busy lives (Mrs. Jigisha D. Pardesi 2007, 12.1). Other advantages are that e-banking increases revenues and banks can easily gain competitive advantages through differentiation of banking services and image improvement (ISPO European Commission 2001, 53).

Internet banking has changed the interaction between banks and their customers. It is difficult for banks to maintain a good service level online. A well designed website creates an interest in the firm and its offerings, and it should also offer the users opportunities to reconstruct the website in their minds so that it matches their cognitive structures (C. Gronroos, F. Heinonen, K. Isoniemi & M. Lindholm 2000, 244). When customers evaluate the quality of service when they use Internet banking services, their satisfaction depends on website features, and therefore it is of great importance to analyze website features of banking services delivered over the Internet. Speed of download, content, design, interactivity, navigation and security features (Shahzad Shariq 2006, 9) should be taken into consideration in order to analyze website features.

Due to the convenience the Internet banking offered to their customers, banks have to manage to offer desired services to gain their customers' loyalty, which would impose a major challenge on them.

### 1.3 Purpose

The purpose of the thesis is to provide a better understanding of Internet banking in China, based on the internet bank of two banks, China Construction Bank and Industrial and China Merchants Bank, focusing on the banks' websites and customer services.

In order to reach this purpose the research questions are stated as below:

- How banks can provide their customers with good online services?
- What aspects of CCB's and CMB's websites should be improved in order to provide high quality service online?

The first research question will focus on the two banks' website design, and the data observed from the website will be compared with quantitative data. In order to answer the second research question, both the respondents' answers from China Construction Bank and the respondents' answers from China Merchants Bank will become integrated to analyse what aspect of customer service online should be improved.

#### 1.4 Disposition

There are six chapters included in this thesis, as shown in Table 1.

Table 1 Disposition of the Thesis

Chapter	Content
Introduction	This chapter presents an introduction to this thesis. A brief background to the research area is given, followed by the problem discussion and the purpose of the research.
Literature review	This chapter presents the literature review followed by the conceptual framework.
Methodology	The purpose of this chapter is to present the chosen methodology, we used in this thesis.
Collected data	In this chapter, the results of our studies from direct observation and survey will be presented.
Data analysis	The qualitative and quantitative data will be analyzed according to the literature discussed in the conceptual framework.
Conclusions	The results from analysis will be discussed and conclusions will be drawn.



## 2 LITERATURE REVIEW

The previous chapter provided the background and the problem discussion of this thesis. The aim of this chapter is to provide the relevant literature in the field. In the beginning of this chapter a presentation of the website design will provide a basic knowledge of its importance and impact. Furthermore, customer services are introduced with the intention to provide the reader with an understanding of high quality services of Internet banking. The remaining parts discuss developments and situations in Internet banking in China.

### 2.1 Website

The backbone of Internet banking is connectivity with net. Banks maintain their websites on the World Wide Web and offer their customers the ability to perform financial transactions such as paying bills. Websites plays a key role in deciding how to deliver services to customers.

A website is a collection of related web pages, images, videos or other digital assets that is addressed relative to a common Uniform Resource Locator (URL), often consisting of only the domain name, or the IP address, and the root path ('/') in an Internet Protocol-based network(Wikipedia 2010). There is no doubt that both corporations and individual customers can benefit from using websites. Corporations can publicize their businesses, services or products to millions of potential customers, while customers can benefit from the latest news or prices. Businesses can greatly expand their markets, no need to constrain the focus to only the local scene, but by using the Internet, businesses can venture into international and regional markets, with greater ease (weblinkindia.net 2010). Every website owner/developer, on a global basis, is enabled to (Lawrence & Tavakol 2007, 5)

- Express a feeling or an idea
- Promote a business
- Market a product
- Form a community
- Help others
- Have fun

- Encourage exploration
- Promote or trigger a new interest
- Distribute and access information
- Experiment with new technology
- Be independent
- Be global

People can be attracted by clearly and logically organized websites. If customers have to take time to find the information they are looking for, they are unlikely to stay on the website. A good website should satisfy the customer's needs to ensure repeated visits in order to gain customers' loyalty. And some times, user instructions are needed so that customers can navigate the website properly.

#### 2.1.1 Website design

The Internet banking services need to provide the functions of marketing, promoting, and transacting products and services. The website design of an Internet bank needs to consider these goals. In this competitive banking industry, it is essential to strive for high website quality as well as to satisfy customer needs. According to Lawrence and Tavakol (2007), good website design should include several characteristics as shown in Table 2.

Table 2 Characteristics for Good Website Design

Source: Lawrence and Tavakol, 2007

- A website should have a clear overall purpose.
- The design and content should reflect the needs of the target audience and purpose of the site.
- The design should aim at creating an appropriate visual layout and ‘mood’ for the site (the aesthetics).
- Usability is very important – typically targeting simplicity and clarity.
- Adopting a user centred design process is effective good practice.
- Documentation needs to be carried out as part of the process.
- Appropriate navigation styles and relevant content are crucial characteristics of a website.
- Prototyping and iteration are encouraged in the process.
- A structured, stepped approach is favored.
- Testing of designs and implementations must be carried out.

In order to keep a long-term relationship with customers, there are four main features that banks should pay attention to when they establish their own websites. The following features are selected based on the discussion above.

- Appearance (text, graphics etc.)
- General design
- Navigation
- Security

### **Appearance**

When a customer open the website of an internet bank, the appearance of the website would give the customer a first expression. The information listed in the page should be perfectly clear; text should be big enough to read, but not to big; background should not interrupt the text and make reading easier on the screen (checklist for webpage design 2010). Furthermore, it is important to use graphic elements such as photos to break up large areas of text. The last but not least, the page on the website should be ideally short.

**General design**

In this digital world, people use Internet for convenience and speed. They would not tolerate slow access. Pages download quickly perhaps becomes the most critical factor for websites. Customers can do financial transactions with minimum pages. If the customers find it is not easy to use the website to do transactions, they may not continue to browse the website.

Links allow customers to gain relevant information directly. The color of links should be clear enough to customer and the customer can tell the difference between visited and unvisited links.

**Navigation**

The navigation on the website should be simple and reliable. It should be consistent throughout the website. Navigation buttons or bars are easy to understand and use and can provide customers with a clue as to where they are, what page of the site they are currently on (checklist for webpage design 2010). It is better to have an index or site map for a large site.

**Security**

The growth of the Internet provides people with many conveniences today. Unfortunately, that growth also leads the hackers to increase. Without proper website security, information on the website can be changed, infected or stolen easily. Nowadays, people always hear about websites that get hacked, get damaged with viruses, and get passwords or credit card information stolen. Banks should try their best to support websites with appropriate security so that the trust of customers will be increasing. It is the most important thing for banks to ensure a safe site for their customers.

**2.2 Customer services**

Companies should keep in mind that the customer is the key to success. It is certain that customer should be at very heart of the company's decision making. Whether

people do shopping in real world or in virtual world, they need high quality products and services.

Due to the development of information technology, improvements in customer service are being made possible by an underlying network of information technology (Austin 1992, 26). E-commerce is the major worldwide distribution channel for goods and services (Efraim Turban, David King, Jae Lee and Dennis Viehland 2004, 3). Services delivered over the Internet create challenges to service providers. It is easy and cheap for corporations to have their own websites or even to do business online. However, it is not easy to survive in this competitive industry. Customers can access amounts of information of products and services and can easily compare different products before they make their purchases online.

With the constant development in technology, the financial market is changing fast. People do not need to go to the bank office to carry out their banking errands. In order to succeed in the banking industry, banks have to deliver high service quality. It is a challenging task to provide their customers with high service quality because of the intangibility of service. Services cannot be felt or smelled, so it is hard for banks to improve the service quality and for customers to evaluate the service quality. Competition online is intense and banks need to provide high service quality to keep their customers using their services and not choosing other banks. Striving for an online competitive advantage means that eService quality improvement initiatives should begin with defining the customers' needs and preferences (Yang, Ahmed, Ghingold, Boon, Mei & Hwa 2003, 12)

There are a range of studies on the dimensions and attributes of online service quality. The following table presents a summary of different authors that has measured online service quality dimensions in their research.

Table 3 Review of the main studies on the dimensions of e-service quality

Source: Dr Dan Remenyi 2007, 333

Author	Dimensions	Context
Dabholkar(1996)	Web site design, reliability, delivery, eases of use, enjoyment and control.	e-Service
Zeithaml et al. (2000)	Efficiency, reliability, fulfillment, privacy, responsiveness, compensation, and contact	Online retailing
Yoo and Douthu (2001)	Ease of use, aesthetic design, processing speed, and security.	Online retailing
Cox and Dale (2001)	Web site appearance, communication, accessibility, credibility, understanding and availability.	Online retailing
Jun and cai (2001)	Website design, information, eases of use, access, courtesy, responsiveness, and reliability.	Online banking
Yang (2001)	Web site design, security and information.	Online retailing
Wolfenbarger and Gilly (2002, 2003)	Web site design, reliability, security, and customer service	Online shopping sites
Zeithaml et al. (2002)	Security, communication, reliability, responsiveness and delivery.	e-service
Madu (2002)	Performance, features, structure, aesthetics, reliability, serviceability, security and system integrity, trust, responsiveness, service differentiation and customization, web store police, reputation, assurance and empathy.	e-quality
Loiacono et al. (2002)	Information, interactivity, trust, response time, web site design, intuitiveness, flow, innovativeness, integrated communication, business process and substitutability.	Online retailing
Yang and Jun (2002)	Web site design, security, reliability, responsiveness, accessibility and customization	Online retailing

Based on the discussion above, there are five dimensions chosen from previous

studies:

- Website design
- Security
- Responsiveness
- Customization
- Accessibility

### **Website design**

The User Interface is a key determinant of online Service Quality (Grönroos, Heinonen, Isoniemi & Lindholm 2000, 249). Web page design needs continuous update so that customer needs would be fulfilled. Website aesthetics and layout are of great importance. And navigation of the website is not only the button on the page, but also the tool to help the user browse the website.

### **Security**

Security is of serious concern when using IT-based services. In order to run business successfully, banks should try to establish trust with the customer. Customers are unwilling to bond with online services when there is no confidence in the provider's competency and honesty (Gummerus, Liljander, pura & vanriel 2004, 175). Users therefore want a highly visible privacy policy that tells them precisely how the company will use their data (Ha 2004, 336). If customers believe that IT-based payment channels are not secure or their personal information may be abused by others, this will discourage them from making banking transactions online. Therefore, firewalls are necessary and form a barrier between the outside Internet and the banks' internal network.

### **Responsiveness**

Responsiveness represents the service provider's ability to respond quickly to requests and suggestions, and to provide assistance for customers when there are problems (Gummerus, Liljander, pura & vanriel 2004, 177). Customers expect quick feedback on requests. If it takes long time to respond to customer's requests, customer would not stay on the website.

**Customization**

The importance of customization is that companies distinguish themselves from their competitors by creating unique qualities to satisfy customers' specific needs. Customized information does not necessarily mean more information, but rather information of higher quality (Ha 2004, 337). Lack of the face-to-face touch, it is difficult for companies to customize their services to customers' needs. Companies should make every effort to fulfill their target market's requirements.

**Accessibility**

Accessibility is a critical factor for any website. The speed of access and loading following pages are of great importance. People prefer to use a well organized and attractive website. Furthermore, multiple language options are vital factor for fulfilling customers in Internet banking.

### 2.3 Internet banking in China

E-banking, also known as Internet banking, cyber banking, virtual banking, online banking and home banking, includes various banking activities conducted from home, business, or on the road instead of at a physical bank location (Efraim Turban, David King, Jae Lee and Dennis Viehland 2004, 99). Because of the intense competition among the banks, banks are changing and improving their services all the time. The customers can manage their everyday economy in an easier and more efficient way as well as gain lower fees or no fees benefits when using Internet banking. Chinese domestic banks have quickly realized the importance of implementing these new technologies and new services in order to seize the market and gain competitive advantage. Since 1990s, banks in China have continuously innovated through IT-based products and services, such as automatic teller machine (ATM), telephone banking and electronic cash cards.

In 1996, the Bank of China (BOC) began developing Internet banking which indicates that Chinese Internet banking was getting into the preparatory stage. After Internet banking spread out rapidly, China Merchants Bank (CMB) launched an



Internet payment system in 1997 and started online banking service in Shenzhen with a brand of “network” in 1998. In 1999, BOC started its online banking services, including online information service, account inquiry, account transfer, online payment, and fund collection and payment. By the end of 2002, all state owned banks and joint-equity banks have started Internet banking, among which, 21 banks have started online transaction business. After 2003, various banks have released their own online banking products and services, such as “financing @ home” of ICBC and “e-banking” of Agricultural Bank of China (ABC). Currently, the law of online banking in China has gradually improved, and online banking services have stepping into a stable development stage. (iResearch 2007, 9)

According to iResearch (2007, 6), online banking market in China gained rapid development in 2007, increased by 163.1% year-on-year. In the year 2008, annual transaction amount has reached RMB 320,900 billion, increased by 30.6% year-on-year. It is expected that in next several years, the Internet banking market will develop into greater maturity, and year-on-year increase rate will keep stable, as is shown in Figure 1.



Figure 1 Transaction Amounts of Chinese Internet Banking

Source: iResearch 2007, 8

## 2.4 Conceptual framework

In order to collect data and answer research questions, this part will explain the main things that are going to be studied based on the literature just reviewed.

The main purpose of the study is to gain a better understanding of Internet banking in China. Based on the objectives of the study, there are two research questions.

Research question 1: How can banks provide their customers with good online services?

In the previous section, we have studied the website. We found that the website is the primary infrastructure for Internet banking. In order to find out how website designs in Internet banking should be, the following characteristics should be considered.

- Appearance (e.g. text, graphics)
  - Simple graphics
  - Text
  - Background
  - Page
  
- General design
  - Speed to download
  - Product/service information content
  - Language options
  
- Navigation
  - Homepage hyperlinks
  - Links
  - Consistent navigation
  - Site maps
  - Search engine
  - Guides

- Security
  - Encryption
  - Operation confirmation
  - Automatically log off

Research question 2: What aspects of CCB's and CMB's websites should be improved in order to provide high quality service online?

It is hard for banks to improve their online services and products without face-to-face contact. In order to find out how website could be used for enhancing customer service online, we have chosen five dimensions from previous studies:

- Website design
- Security
- Responsiveness
- Customization
- Accessibility

## 2.5 Concepts

Internet banking: Online banking (or Internet banking) allows customers to conduct financial transactions on a secure website operated by their retail or virtual bank, credit union or building society.(Wikipedia 2010)

Electronic banking: electronic banking refers to the provision of retail and small value banking products and services through electronic channels. Such products and services can include deposit-taking, lending, account management, the provision of financial advice, electronic bill payment, and the provision of other electronic payment products and services such as electronic money. (BCBS 1998)

Website: A website is a collection of related web pages, images, videos or other digital assets that is addressed relative to a common Uniform Resource Locator (URL), often consisting of only the domain name, or the IP address, and the root path ( '/') in an Internet Protocol-based network(website 2010).

Customer service: Customer service is the provision of service to customers before, during and after a purchase. (Wikipedia 2010)

### 3 METHODOLOGY

This chapter will present the research methods used in this study. This includes research methods, research approach, research strategy, data collection methods and data analysis methods.

#### 3.1 Research purpose

According to Blanche, Durrheim and Painter (2006, 44), there are three classifications of research: exploratory, descriptive or explanatory. The difference among them is the goals of the research.

Exploratory research is used to make preliminary investigations into relatively unknown areas of research. Exploratory studies employ an open, flexible, and inductive approach to research as they attempt to look for new insights into phenomena (Blanche, Durrheim and Painter 2006, 44). It is useful to seek new insights, questions and hypotheses.

Descriptive research aims to describe phenomena accurately, through narrative-type descriptions, classification, or measuring relationships (Blanche, Durrheim and Painter 2006, 44).

Explanatory research aims to provide causal explanations of phenomena. Experimental and quasi-experimental designs are used to determine whether one variable causes another (Blanche, Durrheim and Painter 2006, 44).

The research purpose is mainly descriptive and exploratory. It is descriptive because descriptive data has been collected through direct observation and the collected data will be explained in order to find out the differences and similarities.

#### 3.2 Research approach

The research approach is quantitative, qualitative or mixed.

Quantitative research uses number and statistical methods. It tends to be based on numerical measurements of specific aspects of phenomena; it abstracts from particular instances to seek general description or to test causal hypotheses; it seeks measurements and analyse that are easily replicable by other researchers. (Gary King, Robert Owen Keohane & Sidney Verba 1994, 3)

Qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. It involves the studied use and collection of a variety of empirical materials- case study; personal experience; introspection; life story; interview; artifacts; cultural texts and productions; observational, historical, interactional, and visual texts- that describe routine and problematic moments and meanings in individuals' lives. (Norman K. Denzin & Yvonna S. Lincoln 2005, 3)

Based on the research questions posed above, qualitative research is found to be more appropriate for this study. Additionally, to support the possible finds of the qualitative study, a small quantitative study has been conducted to help us confirm the situation of the service quality in Internet banking in China.

### 3.3 Research strategy

Yin (1994, 3) identifies five distinct research strategies: surveys, histories, archival analyses, experiments, and case studies. There are three conditions to determine an optimal research strategy (Yin 1994, 4). The first and most important condition is to identify the type of research question. In general, 'what' questions may either be exploratory (in which case any of the strategies could be used) or about prevalence (in which surveys or the analysis of archival records would be preferred). However, 'how and why' questions are more likely to use case studies, histories and experiments. (Yin 1994, 6)

Due to questions in this study are based on 'how' question and 'what' question, case study is found to be an appropriate approach in order to gain a better under-

standing of the research area. Case study is suitable for qualitative study. We also have done a small survey as a way of further confirming our findings.

### 3.4 Data selection

Data resources provide evidence for case study research. In principle, evidence can come from at least six sources: documentation, archival records, interviews, direct observations, participant observations, and physical artifacts (Yin 2003, 83). With the scope of the research, observation (interaction with websites) and documentation will be used as sources of data collection.

Due to multiple-case studies add to the validity, precision and the stability of finds. In order to get a better understanding of the situation, two case studies will be conducted. By conducting case studies the results can be compared and the study seen as more convincing. In order to answer the research question, websites of two banks in China were chosen, which are China Construction Bank and China Merchants Bank. Both banks are providing the Internet banking services. It is important to gather information from as many different sources as possible.

Considering the nature of the second research question, a small quantitative survey was conducted with 50 Internet banking customers those who have at least 2 years Internet banking experience from the two banks, 25 respondents from China Construction Bank and 25 respondents from China Merchants Bank. The survey was conducted by a structured quantitative questionnaire.

The questionnaire was based on research questions and conceptual framework. The logical structure of questionnaire followed the order of service quality dimension in the conceptual framework. A 5-point scale was used to grade the customers' satisfaction about the Internet banking services in China.

### 3.5 Data analysis

The goal of data analysis is to highlight useful information and suggest conclusions. According to Miles and Huberman (1994, 10), qualitative data analysis is consisting three flows of activity: data reduction, data display, and conclusion drawing.

Data reduction involves the process of selecting, focusing, simplifying, abstracting, and transforming the data. There are several ways to reduce and transform qualitative data, such as selection, summary and paraphrase. (Matthew B. Miles & A. M. Huberman 1994, 10)

Data display is an organized, compressed assembly of information that permits conclusion drawing and action. Designing a display is analytic activity which includes deciding on the rows and columns of a matrix for qualitative data and deciding which data will be include in which form. (Matthew B. Miles & A. M. Huberman 1994, 11)

Conclusion drawing is the third stream of analysis activity. In this step, the researcher needs to decide the meaning of things by noting regularities, patterns, explanations, possible configurations, causal flows and propositions. (Matthew B. Miles & A. M. Huberman 1994, 11)

In this thesis, these three stages have been followed. I will use the cross-case analysis which is to compare the different case in order to find differences and similarities between the two cases.

For quantitative data analysis, the statistical tool of Microsoft Excel is used for data analysis.

### 3.6 Validity and reliability

There are two valuable measures to define the quality of a research: validity and reliability.



To gain the validity of the study, data was collected from reliable sources and the respondents of the questionnaire were familiar with internet banking-having at least 2 –year experience. Survey questions were made based on the literature review.

To gain the reliability of the study, multiple cases and respondent have been used and research question has been formulated based on the previous studies.

## 4 COLLECTED DATA

This chapter will present data collected from the two case studies. It will also present results from a small quantitative survey consisting of 50 Internet banking users who have at least 2 years internet banking experience from China Construction Bank and China Merchants Bank. It does the same order as the research questions.

### 4.1 Case one: China Construction Bank

The China Construction Bank was founded in 1954 as a wholly state-owned bank under the direction of the Ministry of Finance of the PRC to administer and disburse government funds for construction and infrastructure related projects under the state economic plan (History 2010). Nowadays, it is one of the ‘big four’ banks in the People’s Republic of China. The CCB has an extensive network of 13629 branch outlets. In addition, the bank also has overseas branches in Hong Kong, Singapore, Frankfurt, Johannesburg, Tokyo, Seoul, New York, Ho Chi Minh City and Sydney.

CCB focuses on three core business: corporate banking, personal banking, and treasury operations. The bank provides a number of products and services, including infrastructure loan, residential mortgage and bank cards and seeks to become a world-class bank by providing the best service to the customers. It has gained wide recognition for its practices and efforts in fulfilling corporate social responsibility.

#### 4.1.1 Website of CCB

When I go to the homepage (<http://www.ccb.com/en/home/index.html>), I can get a clear general idea about the structure of the website and the function of the website and CCB. The website does not have moving elements such as graphics or pictures that are flashing or moving. The background is white and in pictures and icons a great deal of colours are used. Most text on the website is black and they are in different sizes depending on whether it is a hypertext link, heading, or a paragraph.

There are four main catalogs on the top of the homepage: personal, corporate, today's CCB, and investor relations. What's more, there are some hot spots on the left side of homepage: Funds, Investments, Dragon Credit Cards, Online Store, CCB workroom. In the centre of the homepage, there are announcements and marketing news of CCB. Language options are available for all users.

For navigation, the user can easily reach from homepage to any desired information through homepage hyperlinks. Product information is available and people can search the desired information of all products and services provided by the bank.

The website can be accessed anytime. It is 24 hours on service. The personalized solution- demo is not available now. The website attempts to provide it as soon as possible to help the person who is using internet banking services first time to learn how to operate transaction in the Internet banking.

For security issues, the bank maintains strict security standards and procedures to ensure the customers' security. Customer ID and password are designed to protect the privacy of customers' banking information. There are two methods to sign in: "general sign in" and "e-Cert sign in". For using "general sign in" methods, customers can only make enquiry of accounts. For using "e-Cert sign in" methods, customers can make enquiry and perform funds transfer online. After signing in, if user was inactive on the website for more than 10 minutes, the user would be automatically signed off.

#### 4.2 Case two: China Merchants Bank

China Merchants Bank was founded in 1987 and it is the first shareholding commercial bank wholly owned by corporate entities. After years of hard work and development, CMB earned permission to enter the American market and became the first Chinese bank to obtain a banking license in the U.S. in 2007.

The bank's innovative and pioneering nature has led them to explore different sectors of open markets and to develop innovative financial products and services. CCB has over five hundred branches in mainland China and one in Hong Kong. It

also maintains correspondent relationships with more than 1200 banks in over 90 countries and regions.

CMB operates its businesses through personal banking business and corporate banking business as well as online banking services. The bank is willing to provide quality products and services and fulfill the social responsibility through various charitable programs.

#### 4.2.1 Website of CCB

In the homepage of CCB's website (<http://english.cmbchina.com/>), there are many subjects and information there. There are four lines of subjects. But some of them are repeated. For instance, personal business, corporate business, CMB info and investor relations are the main subjects, but there is no need to repeat them.

In the left side of the page, the bank lists the recommended business such as Home banking serviced, savings and credit, investment business, and domestic business. The recommendation is useful when people are not familiar with the business of bank.

In the middle part of homepage, there are options under the heads, internet banking special recommended, CMB card, personal business data, and other information. Single click on any link of the category then we will get detailed and relevant information in the same window.

In the right side of the page, there are some links for different services. These services are internet banking, online forum and branch info. Single click on any link then we will get detailed in another window.

CMB website provides customers with language options. Most text on the website is black. There is a link as "Home" in every of its sub pages, which is positioned on the top left side of every page, would allow users to return to homepage. The website manages consistent navigation very well and keeps the same style, same color, same logo, etc. Sitemap can be found on the bottom horizontal links of every

page easily.

The internet banking service in China Merchants Bank is called “All-in-on-net”. It connects the customers’ computer terminals to the mainframe computer at the bank through the Internet or other public information network. The bank tries to offer improved and mature system of online banking service. The new version of online banking service provides customers with more convenient and flexible. Moreover, the system is in real time connection with the modern settlement at the People’s Bank of China, which results in much higher speed and more efficiency (corporate internet banking 2010).

#### 4.3 Survey for customer services

A small quantitative survey has been conducted with 50 respondents in Deyang during the time 5<sup>th</sup> July to 5<sup>th</sup> August, 25 respondents from China Construction Bank and 25 respondents from China Merchants Bank. This survey has been conducted based on structured questionnaire. There are 20 questions in the questionnaire (see appendices). The questionnaire has been developed base on the service quality dimensions that were identified in Literature review.

### Website design

The Table 4 represents the opinions of 50 respondents from both CCB and CMB about the website design dimension related questions (see appendices) from question 1 to 5 in the survey questionnaire. The following table shows how many customers gave the same grade for each different question. Here 1 means strongly disagree, 2 means somewhat disagree, 3 means neutral, 4 means somewhat agree and 5 means strongly agree. The average respondent grade for each question is also provided in the table.

Table 4 Website Design

Website design	Question No.									
	1		2		3		4		5	
	CCB	CMB	CCB	CMB	CCB	CMB	CCB	CMB	CCB	CMB
1	0	0	0	0	0	1	0	0	0	1
2	0	0	1	1	2	3	0	0	2	2
3	2	2	6	8	11	12	2	1	9	10
4	17	17	17	15	11	9	9	8	12	12
5	6	6	1	1	1	0	14	16	2	0
TOTAL	25	25	25	25	25	25	25	25	25	25
Average value	4.2	4.2	3.7	3.6	3.4	3.2	4.5	4.6	3.6	3.3

### Security

The Table 5 represents the opinions of 50 respondents from both CCB and CMB about the security dimension related questions (see appendices) from question 6 to 9 in the survey questionnaire. The following table shows how many customers gave the same grade for each different question. Here 1 means strongly disagree, 2 means somewhat disagree, 3 means neutral, 4 means somewhat agree and 5 means strongly agree. The average respondent grade for each question is also provided in the table.

Table 5 Security

Security	Question No.								
		6		7		8		9	
	Respondent score	CCB	CMB	CCB	CMB	CCB	CMB	CCB	CMB
1	0	0	0	0	0	0	0	0	0
2	0	0	3	2	2	2	1	0	
3	11	10	21	17	16	12	10	11	
4	13	14	1	6	7	11	14	13	
5	1	1	0	0	0	0	0	1	
TOTAL	25	25	25	25	25	25	25	25	
Average value	3.6	3.6	2.9	3.2	3.2	3.4	3.5	3.6	

### Responsiveness

The Table 6 represents the opinions of 50 respondents from both CCB and CMB about the responsiveness dimension related questions (see appendices) from question 10 to 14 in the survey questionnaire. The following table shows how many customers gave the same grade for each different question. Here 1 means strongly disagree, 2 means somewhat disagree, 3 means neutral, 4 means somewhat agree and 5 means strongly agree. The average respondent grade for each question is also provided in the table.

Table 6 Responsiveness

Responsiveness	Question No.										
		10		11		12		13		14	
	Respondent score	CCB	CMB	CCB	CMB	CCB	CMB	CCB	CMB	CCB	CMB
1	1	0	0	0	0	0	0	0	0	0	0
2	2	1	0	0	2	1	0	2	0	0	0
3	9	11	11	7	14	13	5	5	1	1	
4	12	12	11	14	9	11	18	15	13	13	
5	0	1	3	4	0	0	2	3	11	11	
TOTAL	25	25	25	25	25	25	25	25	25	25	
Average value	3.3	3.5	3.7	3.9	3.3	3.4	3.9	3.8	4.4	4.4	

### Customization

The Table 7 represents the opinions of 50 respondents from both CCB and CMB about the security dimension related questions (see appendices) from question 15 to

17 in the survey questionnaire. The following table shows how many customers gave the same grade for each different question. Here 1 means strongly disagree, 2 means somewhat disagree, 3 means neutral, 4 means somewhat agree and 5 means strongly agree. The average respondent grade for each question is also provided in the table.

Table 7 Customization

Customization	Question No.						
		15		16		17	
	Respondent score	CCB	CMB	CCB	CMB	CCB	CMB
1	0	0	0	0	0	0	
2	0	0	0	0	0	0	
3	14	10	7	8	0	5	
4	10	13	8	11	20	17	
5	1	2	10	6	5	3	
TOTAL	25	25	25	25	25	25	
Average value	3.5	3.7	4.1	3.9	4.2	3.9	

### Accessibility

The Table 8 represents the opinions of 50 respondents from both CCB and CMB about the security dimension related questions (see appendices) from question 18 to 20 in the survey questionnaire. The following table shows how many customers gave the same grade for each different question. Here 1 means strongly disagree, 2 means somewhat disagree, 3 means neutral, 4 means somewhat agree and 5 means strongly agree. The average respondent grade for each question is also provided in the table.

Table 8 Accessibility

ACCESSIBILITY	Question No.						
		18		19		20	
	Respondent score	CCB	CMB	CCB	CMB	CCB	CMB
1	17	18	0	0	0	0	
2	5	6	0	0	0	0	
3	3	1	1	1	0	1	
4	0	0	16	14	10	12	
5	0	0	8	10	15	12	
TOTAL	25	25	25	25	25	25	
Average value	1.4	1.3	4.3	4.4	4.6	4.4	



## 5 DATA ANALYSIS

In the previous chapter collected qualitative and quantitative data has been presented. In this chapter, collected data will be analyzed according to the research questions. Furthermore, the collected data will be analyzed by a cross-case analysis.

### 5.1 Research question1: how can banks provide their customers with good online services?

In this section, a comparative study is made for both banks. Data will be presented according to the variables identified in the literature review.

#### 5.1.1 Cross-case analysis (CCB vs CMB)

Table 9 Variable of Appearance

Appearance	CCB	CMB
Simple graphics	Less simple but meaningful	simple and meaningful
Text	Easy to read	Easy to read
Background	Easy to read text on screen	Easy to read text on screen
Page	Ideally short	Less short

The look of the website is important, it is more than just displaying information, but displaying it in a manner so that target users can be attracted to it and they are comfortable with it.

From the comparison it is clear that even though the two banks have different presentation style, the appearance for both banks makes it easy for customers to read. White is the color of the two banks' website background in order to make the text in black easy to read and recognize. Moreover, the page of CCB's website is shorter than CMB's, which increase website appealing.

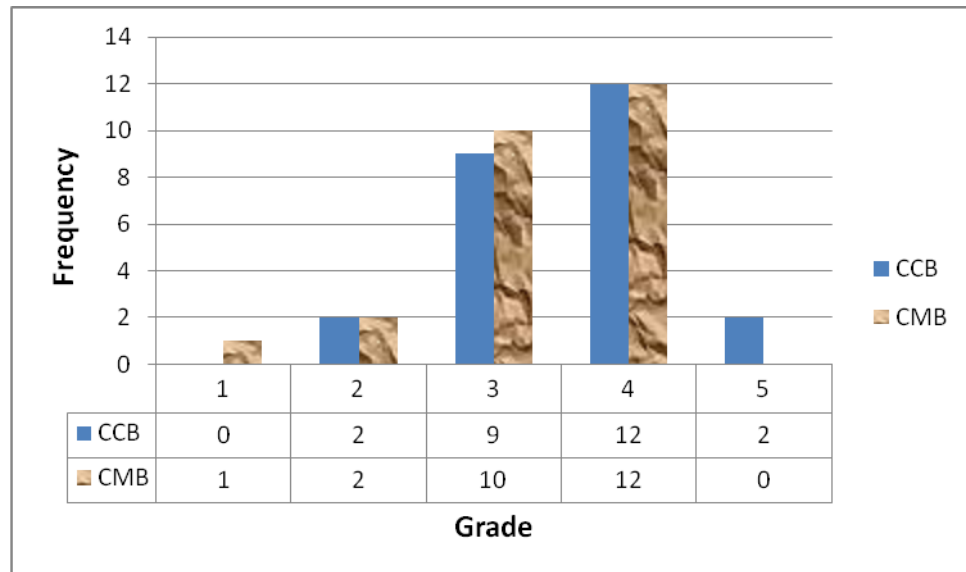


Figure 2 Appearance of the Website

According to the question No.5 of the survey, most respondents satisfied with the appearance of the website as shown in figure 2. For both banks, 12 out of 25 respondents were in agreement about the website aesthetics. Therefore, the responses are coincident with the results from direct observation.

Table 10 Variable of General Design

General design	CCB	CMB
Speed to download	Fast	Fast
Product/service information content	Not too much	Detailed information of banking products and services
Language options	Provided	Provided

Speed is a vital factor and also depends on the user's computing hardware and method of connection. Regarding the speed to download, the two banks do not use complex animation to influence the speed of opening its webpage.

From the table CCB does not present its products and services in homepage while CMB give a lot on presenting their products and services in order to make customers have a better understanding on its banking business. Both websites provide language options: simplified Chinese, traditional Chinese, and English.

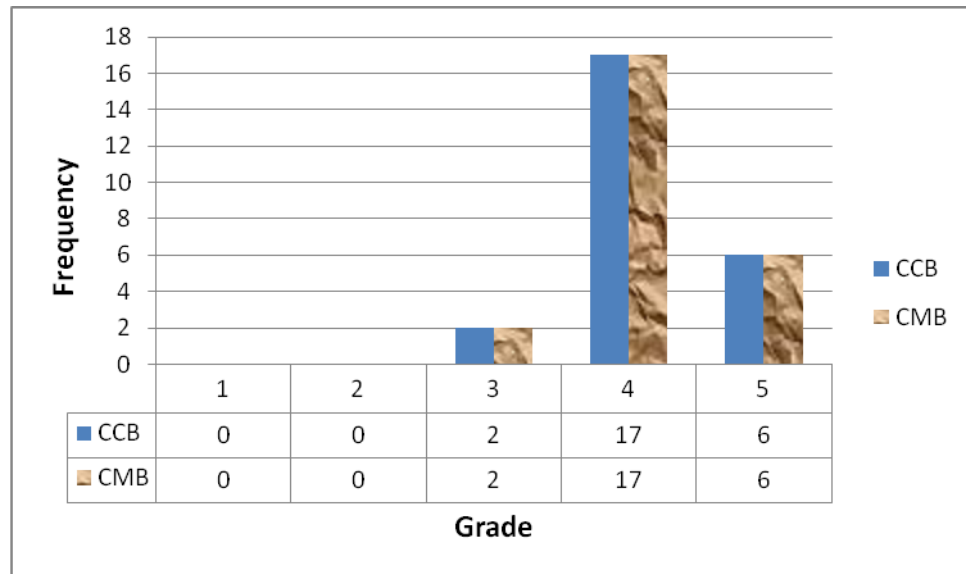


Figure 3 the Speed to Download

According to the survey question No.1, respondents from the two banks on average satisfied with current speed. We can see from the graph that 17 respondents from each bank agreed that the speed to log in or download is fast. The responses are the same as the results of speed observed directly.

Table 11 Variable of Navigation

Navigation	CCB	CMB
Homepage hyperlinks	Provided	Provided
links	Proper and accurate	Proper and accurate
Consistent navigation	Consistent	Consistent
Site maps	Available	Available
Search engine	Provided	Not provided

Navigation is one of the most significant elements in website design and it should be easy and fast for user to arrive at the desired location. From the table one can conclude that both CCB's website and CMB's website perform well on homepage hyperlink setting. Customers can browse between homepage and subpage easily. Sitemap is available on all of the webpage for both banks. CCB provides search engine on its subpages, however, there is no search engine in CMB's website. CMB may be confidence on its well-organized content and links, but they ignores that search engine can add to the convenience.

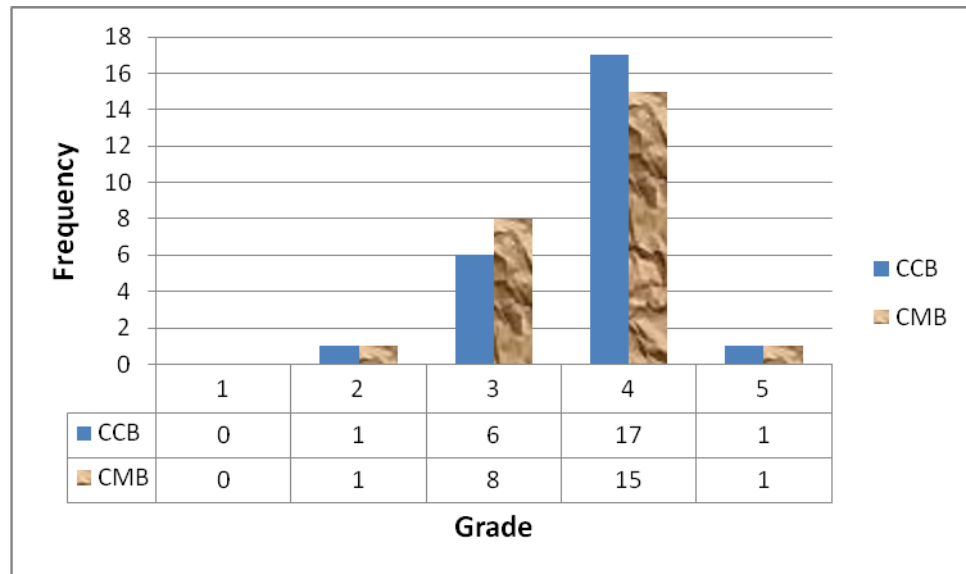


Figure 4 Navigation

Based on the survey question No.2, most respondents agreed that the bank's website is easy to use while some of them kept neutral about this question. As shown in figure 4 the responses either from CCB or from CMB are quite similar and coincident with the observation results.

Table 12 Variable of Security

Security	CCB	CMB
Encryption	Used	Used
Operation confirmation	Provided	Provided
Automatically log off	Available	Available

From the table, it is easy to conclude that the two banks pay much attention to all factors relevant to security. CCB uses a very good encryption operation system to ensure the security. CMB even develops its own Internet banking software according to different customers.

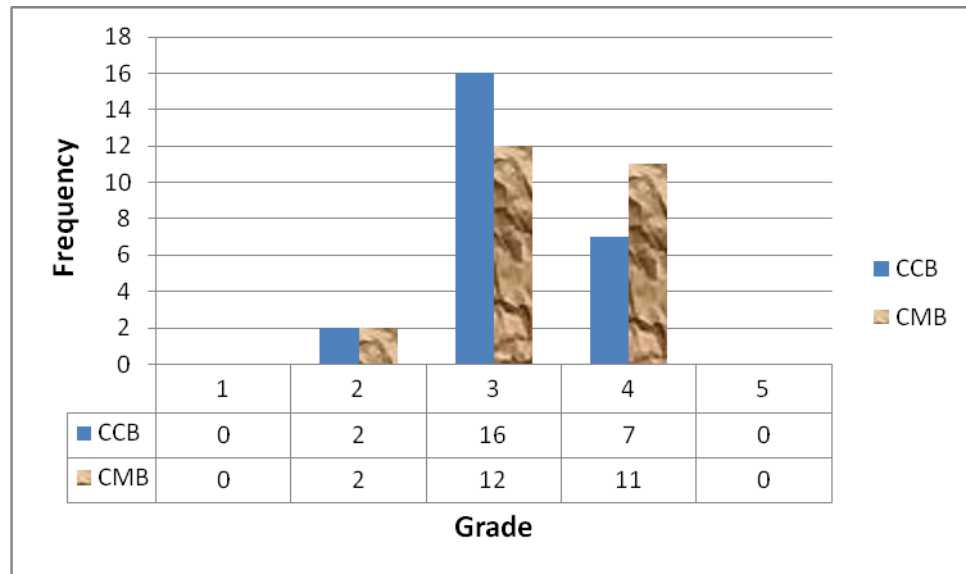


Figure 5 Security

Even though the two banks are making efforts to improve their website security, most respondents kept neutral attitudes towards the security issues. We can see from the graph that 16 out of 25 respondents from CCB gave 3 to this question, so did 12 out of 25 respondents from CMB.

## 5.2 Research question2: What aspects of CCB's and CMB's websites should be improved in order to provide high quality service online?

In this section, quantitative data will be analyzed according to the service quality dimension.

### 5.2.1 Service quality dimensions

#### **Website design**

Website design is the fundamental factor that user get the image that what your business is. As shown in Table 4, the first question refers to the speed of download or login is fast. With aspect to this question, respondents on average agreed with this question. The responses from CCB and CMB are quite the same, that is, 17 out of 25 respondents were in agreement with this question. The second question refers to whether it is easy to navigate the bank's website and the website is easy to use.

Average values show it is less than somewhat agree. 17 out of 25 respondents from CCB and 15 out of 25 respondents from CMB agreed with this question. The third question refers it is easy to find policy and notice statement on the bank website and most respondents gave only middling grade on this question. The fourth question refers to the fact that the website is running all the time. With respect of this question most of the respondents agreed with this question. We can see from Table 4 that 14 respondents from CCB and 16 respondents from CMB gave 5 to this question. The fifth question refers to the fact that the website aesthetics are very professional and have positive influence on customers. In that case most of the respondent's score was less than somewhat agreed with this question. The responses from both banks are quite similar.

### **Security**

People are always concerned about whether it is safe for them to use a website and to conduct financial transactions over the Internet. As shown in Table 5, the responses for the questions have remained around 3 to 3.7 on average, meaning most people thought it was not so bad about the security dimension. Question 6 refers to the fact that the information provided is accurate. For this question, respondents on average agreed. 13 respondents from CCB agreed with this question, so did 14 respondents from CMB. Question 7 refers to whether the website is secure for your credit card information and 21 out of 25 respondents from CCB and 17 out of 25 respondents from CMB kept neutral on this question. Question 8 refers to the fact that people can trust the website that the information given will not be misused. With respect of this question, most people somewhat agree but not all. Question 9 refers to whether customers feel comfortable about the security and privacy policies. For this question, most respondents gave 3 or 4 grade to this question.

### **Responsiveness**

As shown in table 6, question 10 refers to the fact that the bank provides appropriate information to customers when a problem occurs and most respondents thought it was just so-so on that. 12 out of 25 respondents either from CCB or from CMB gave 4 to this question. Question 11 refers to whether the bank is willing to help customers and provide prompt service. For this question, respondent on average somewhat agreed. Question 12 refers to whether the bank compensates for the

problem they create. However, 14 respondents from CCB and 13 respondents from CMB kept neutral attitudes towards this question. Question 13 refers to whether the bank takes care of problems immediately. 18 respondents from CCB and 15 respondents from CMB gave 4 to this question. Question 14 refers to whether people can talk to a live person by phone when problem occurs and respondent on average most agreed with the question. The responses for both banks are the same.

### **Customization**

There are three questions in this dimension. As we see from Table 7, average response inclined to slightly more than somewhat agree except question 15. Question 15 refers to whether the bank's website provides products or services required. In that case most of the respondents thought it was not so bad. Question 16 refers to whether the bank provides a confirmation of the service ordered. 8 respondents from CCB gave 4 to this question and 10 respondents gave 5, while 11 respondents from CMB gave 4 and only 6 respondents gave 5 to this question. Question 17 refers to whether the bank's site performs the service right the first time. 20 respondents from CCB and 17 respondents from CMB were in agreement about this question.

### **Accessibility**

As shown in Table 8, question 18 refers to whether the bank's site provides special services for disabled persons. With respect of the question, most of the respondents on average disagreed. Question 19 refers to whether people can log into their account from anywhere. For that question most of the respondent on average agreed with this question, 16 respondents from CCB and 14 respondents from CMB were in agreement about this question. Question 20 refers to whether the bank's website provides language options and most respondents from both banks gave 4 or 5 grade to this question, which means they agreed with this question.

## 6 CONCLUSION

In the previous chapter the qualitative and quantitative data were analyzed. In this final chapter two research questions will be answered and general conclusions will be drawn. The chapter will end with recommendations for future research.

### 6.1 Research question1: how can banks provide their customers with good online services?

There is no doubt that the website is fundamental for banks to provide good online service. From the analyzed data above, it is clear that both banks are trying to build a good website to meet the demand of their customers.

There are four factors found in this study. They are: appearance, general design, navigation, security. Since the technology is dynamic, banks also need to develop their Internet banking in this dynamic way based on the four factors. They have done this rather well already, but there are still some aspects that need to be improved.

From the qualitative data analysis, the appearance of both case banks is easy to read and the aesthetic elements have positive influence on potential customers. The websites of the two banks are running all the time and the language options are also provided by both banks. Both CCB's website and CMB's website perform well on homepage hyperlink setting and they are easy to navigate. However, there is no search engine in CMB's website. Even though both banks provide some solutions concerning the security issues, customers are still worried about it as shown in Figure 5.

The following are some conclusions emerging from the finds above:

- The contents of the banks' website should be concise and easy to understand.
- Simple graphics can play a vital role in attracting customers.
- The speed of login and logout can play a vital role in internet banking.
- Appropriate navigation should be provided and simple to use.



- The banks' website should keep customers informed in a language they can understand.
- The banks' website should provide explanations in order to make customers understand all the services available over the Internet.
- The website should be running all the time.

## 6.2 Research question2: What aspects of CCB's and CMB's websites should be improved in order to provide high quality service online?

Banks must, as mentioned earlier, focus on several aspects if they want to provide good service quality online. A total of five service quality dimensions in Internet banking are identified in this study. They are: website design, security, responsiveness, customization, and accessibility. All these five dimensions are significant criteria to judge services that are provided by Internet banks and measure customers' preference.

### **Website design**

Website design is already discussed in the first research question. From the quantitative data analysis, respondents on average are satisfied with the banks' site. However, because nowadays, the Internet technology is changing so fast, banks should continually develop their website so that their service online will not be out of date, thus leading to customers choosing other banks which provide better developed Internet banking services.

### **Security**

Security is the utmost concern for Internet banking customers because the insecure website would bring serious problems to customers. From the quantitative analysis, the average respondent score is less than 4 (somewhat agree), which indicates that most customers are not very satisfied with current security when using Internet banking. Therefore, banks need to make more efforts on protecting customer's personal information from being misused and keeping their credit card information secure.

**Responsiveness**

The customer's complaint should be handled as a first priority by the banks. The findings indicate that people agreed that the two banks provide personal contact to allow them to talk to a live person when problems occur or advice is needed. It is important for banks to put more efforts in creating other ways of communication due to the loss of the face to face interaction with the Internet customers, so that the service quality online will remain high.

**Customization**

It is important to meet different customers' different needs, to listen to customers' voices, and to create customer trust. According to the quantitative data analysis, average response for customization dimension inclined to slightly more than somewhat agree. Banks in China need to continually provide and develop personalized and customized services.

**Accessibility**

Banks should focus on how to provide their customers with access to the Internet banking while they are abroad and with an availability of 24 hours per day. From the quantitative data analysis, the website of the banks can offer different language versions in order to attract multicultural customers. The banks should still put efforts in developing a wider and deeper range of services over the Internet to satisfy their customers.

### 6.3 Recommendations for future research

This thesis is based on direct observation from two target bank's websites and a small survey. Because the study's main focus is on the website and customer service, there are still some areas which are not covered in this study that are interesting and need to be explored.

Future research can make several extensions of the current study. First, this study was conducted from the customers' viewpoint. The study could be conducted to explore and include the providers' viewpoint. Second, the study could be conducted

between Chinese banks and banks in other countries to study whether there are similarities or differences in the Internet banking services provided between the countries, thus giving a more reliable and different finding.

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## APPENDICES

**Survey Questionnaire**

Bank name

Gender

Age

Experience in using Internet banking

	No.	Question	1 Strongly disagree	2 Somewhat disagree	3 Neutral	4 Somewhat agree	5 Strongly agree
Website design	1	The speed to download page or login account is fast.					
	2	It is easy to navigate the bank's website and the website is easy to use.					
	3	It is easy to find policy and notice statement on the bank site.					
	4	The bank's website is running all the time.					
	5	The overall portal aesthetics (layout, colours and images) are very professional and have positive influence					

		on potential customers.					
Security	6	Information provided is accurate.					
	7	The bank's site is secure for your credit card information.					
	8	You can rely on the information that you give not being misused.					
	9	You feel comfortable about the portal's privacy and security policies.					
Responsiveness	10	The bank provides appropriate information to customers when a problem occurs.					
	11	The bank is willing to help customers and provide prompt service.					
	12	The bank compensate for the problem they create.					
	13	The bank takes care of problems immediately.					
	14	You are able to talk to a live person by					



		phone.					
Customization	15	The bank's website provides products and services you want.					
	16	The bank's site provides a confirmation of the service ordered.					
	17	The bank's site performs the service right the first time.					
Accessibility	18	The bank's website provides special services for disabled persons (sight/hearing)?					
	19	You can log into your account from any computer and anywhere.					
	20	The bank's website provides different language options.					