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MASTER'S THESIS

INTERNET BANKING

A comparative study from Sweden and China

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ABSTRACT

The Internet is the driving engine of the new economy and it has given birth to Internet banking. It allows the banks to delegate tasks to the customers. Thus, Internet banks are providing all traditional services through the Internet. The purpose of this study is to gain a deeper understanding on the role of websites in Internet banking. In order to find out the research questions, Swedish and Chinese customers were selected as samples for case studies. The findings and conclusions of this study indicated that there are several factors that influence consumers on Internet banking websites and various variables which enhances customers' service in Internet banking.

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1 INTRODUCTION

In first chapter of the thesis, first some background information of the Internet banking and web sites of banks are provided, followed by the problem discussion. Finally, the purpose and the research questions are presented, followed by the disposition of the thesis.

1.1 BACKGROUND

The Internet is the driving engine of the new economy and it has given birth to Internet banking (Daniel, 1999). Internet banking is predicted to transform and revolutionize this traditional industry - banking. The Internet offers banks the opportunity to better meet customer needs through enhanced interaction, data mining and customization (Mols, 1999).

Online banking was first introduced in the early 1980s (Kalakota, 1997). Online banking provided the customer with an application software program that operated customers with an application software program that operates on the customer's PC (Liao, 1999). The customer then dialed into the bank via a modem, downloads, and operated the programs that are resident on his or her PC (ibid). IT was primarily employed to automate the back-office of banks in the 1960s (Liao, 1999). This situation had been changed by a move of IT into the front office and thus the beginning of management information systems (ibid). Technology was deployed to extend the back-office (core process and support process) to the front office and beyond the branch (Llwellyn, 1995). This extension made the banking industry enter a new era, where an explosion of IT applications has been seen throughout banking services, and the division between front and back-office has become less relevant as integrated systems increasingly blur the line (Liao & Shao, 1999).

Internet Banking is defined as the conducting of banking transactions through the Internet (Liao, 1999). The difference between Internet banking and online banking is that no proprietary software has to be installed for accessing the banking service over the Internet. Banking services can be acquired through the public network of the Internet. Hence, a customer can have accessed to his/her bank account through the Internet (Liao, 1999). Banking activities are easily digitized and automated and, thus, from an operational perspective, lend themselves to the Internet (Elliot & Loebbecke, 2000; Daniel, 1998; Cervantes, 1997; Morgan Stanley & Dean Witter, 2000).

Marsh (1999) believes that major commercialization began in 1994 when shopping malls and banks arrived on the Internet bringing a "new way of life". However, The Security First Network Bank (www.sfnb.com) was the first Internet banking in the World that was built on October 18, 1995 (Kim Humphreys, Security First Network Bank, 1997 and Gandy, 1995).

Technology, in particular the Internet, is a key driver of internal changes (Jayawardhena & Foley 2000). The Internet is believed to change the way; firms interact with their customers and thus the way they initiate, develop and terminate relationships with them (Mols 2000). Traditionally, banking has had the attributes of the classic oligopoly: risk avoidance; product uniformity; buttoned-down managerial conformity; standard interest rates and pricing; limited cost control and market innovation; relatively undifferentiated customer service and surprisingly, considering the lack of competition- lackluster financial performance (Dial, 1995). The potential competitive advantage of the Internet for banks lies in the areas of cost reduction and satisfaction of consumer needs. Put together, the reduction of costs and increased customer satisfaction makes the logic of the Internet compelling (Kalakota 1997).

Jayawardhena & Foley (2000) argue that Internet banking allows banks to delegate tasks to the customer. Many of the traditional tasks performed by bank counter clerks can now be transferred to the customer. For instance, if a customer carries out a transfer of funds between their Internet bank accounts, or pays a bill, they are carrying out a task that would have been undertaken by a bank employee on the customer's instructions in a terrestrial bank. This saves time and money and the likelihood of committing errors that are the fault of the bank are minimized. Customers benefit through peace of mind from knowing that transaction details are exactly what they wanted (ibid).

Banking activities are easily digitized and automated and, thus, from an operational perspective, lend themselves to the Internet (Elliot & Loebbecke, 2000; Daniel, 1998; Cervantes, 1997; Morgan Stanley & Dean Witter, 2000). The potential competitive advantage of the Internet for banks lies in the areas of cost reduction and satisfaction of consumer needs. However, recent reports such as CSFI (2000) - a survey of bankers - show that e-banking is believed by some to be costly to deliver, unprofitable, open to fraud and potentially damaging to customer relationships.

Technological developments in online banking make it much easier and cheaper for customers to compare and contrast products and to establish multiple banking connections (Buhl & Will, 1998). Fojt (1996) contends that better communications technology will alter dynamics of purchase decisions. Several authors (e.g. Birch & Young, 1997; Mathe & Dagi, 1996; Gandy & Brierley, 1997) have carried out research on customer requirements. Time, privacy, control and economy are among the important aspects that customers are concerned with. People are becoming busier and hence are seeking to carry out transactions at a time of their convenience. Therefore, people prefer Internet banking instead of traditional banking. One important factor on the Internet banking is website of Bank. Websites should be able to convey all the information for both current customers and potential new customers via the Internet (Jayawardhena & Foley, 2000). If the content of the site fails to pass sufficient information on account capabilities, then the site is not fulfilling its objectives (ibid).

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 (Gronroos et al., 2000). The Web's interactive features multimedia content and capacities for inexpensive customization (Kling, 1994) have increasingly attracted the attention of commercial enterprises (Dholakia & Rego, 1998). Non-price competitive advantages have become ever more critical because instant price and technical comparisons on the Web are essentially cost-free and feasible for consumers (Hof et al., 1998). A sense of loyalty that comes from an online company offering better service than its competitors is the determining factor in customer loyalty (Reichheld & Schefter, 2000). Therefore, focusing on quality of service is the primary concern of Internet based e-commerce (Griffith & Krampf, 1998). The Internet, if properly utilized, can be a powerful tool to increase overall service offerings and create a higher standard in various industries (Griff & Palmer, 1999).

According to Chaffey (2001), the banks' website provides a better way for communication. When assessing the success of a web site, the role of the Internet in communicating with customers and other partners can best be considered from two perspectives. First, organization to customer direction: how does the Internet complement other channels in communication of proposition for the company's products and services to new and existing customers with a view to generating new leads and retaining existing customers? Second, customer to organization: How can the Internet complement other channels to deliver customer services to these customers?

Since the Internet is an open network, Internet banking customers appear to be much more concerned with the security of their banking transactions and the privacy of their personal information. Suganthi *et al.* (2001) view risk in the context of security concerns and risk in the context of trust in Internet banking. The Internet banking, compared to traditional banking, heavily involves non-human interactions between customers and online bank information systems. Traditional risks have thus been reshaped. In the physical environment, frauds traditionally were paper-based or people – based but now it happens in scientific way. Swaminathan (1999) argues that recent developments in Internet payment systems have caused an average customer to be less concerned about the security of electronic exchanges or privacy issues.

Competition in the financial services industry has been increasing dramatically in recent years, owing to the growth of Internet banking Wisner and Corney (2001). Consequently, keeping existing customers as well as attracting new ones is a critical concern. Collecting and monitoring customer feedback allows firms to assess and upgrade their service and product capabilities as needed to maintain and improve competitiveness (ibid). Financial services are an important product, which all economically active individuals are obliged to use (Davies, 1996). Financial ''know-how'' is a critical factor in the purchase of financial products (Harrison,

1997); where customers do not have and do not wish to develop this ''know-how'', they seek advice.

1.2 PROBLEM DISCUSSION

One research study conducted by Broderick and Vachisapoinpuk (2002) explored how customers perceive and interpret Internet banking website. Findings showed that, although traditional concepts such as reliability, responsiveness, assurance still have impacts on perceived service quality, elements having the most immediate impact in service evaluation were introduced: cues in the service setting, key events in the service encounters and level of customer participation. Problems such as slowness, poor navigational possibilities, poor interactivity within the service setting and critical incidents such as lack of help and empathy by service providers in service encounters all triggered considerable switching and negative word of mouth (ibid). Many respondents expressed lack of confidence regarding the roles and service scripts; and doubts due to the perceived complexity of the process and risks involved (Broderick and Vachisapoinpuk, 2002). Parasuraman (2000) proposed that flexibility, convenience, efficiency, and enjoyment are examples of major positive themes in the online environment. Negative themes included security concerns, risk of obsolescence, impersonalisation, and lack of control.

When customers evaluate the quality of the service they receive from a banking institution. Their satisfaction depends on website features (Doll & Torkzadeh, 1988), and hence it is important to analyze website features of banking services delivered over the Internet. Website features have been analyzed in terms of speed of download, content, design, interactivity, navigation and security features (Jayawardhena & Foley, 2000).

As the convenience and availability of the Internet medium increase, websites have become more important in disseminating and accumulating information for manufacturers, retailers, educational institutions, governments, and a variety of other organizations (Quelch & Klein, 1996). Websites facilitate communications between customers and suppliers, or information seekers and suppliers. Especially important are perceptions of quality that users develop when using a Web site. As more and more business is conducted over the Internet, it is extremely important for company Web sites to project a high quality image that truly facilitates communication between buyers and sellers, reflects positively on the firm's brand equity, and generates business (ibid). Nowhere is such impact more crucial than in the banking business. Communication is important in altering consumers' beliefs and attitudes and is essential in fostering satisfaction as a basis for future behavior. Satisfaction and behavioral intentions can be influenced by the communication techniques of a service provider (MacStravic, 1994).

The number of Internet banking users is increasing very rapidly. Competition within banks has been enhanced for increasing bank's customers. Warkentin (1997) viewed that the key danger to communication is a communication breakdown between user and medium. Such breakdowns occur when the user lacks contextual understanding of the website or user expectations regarding the website processes are not met (ibid). Web can make online companies more effective and appealing, and help them to achieve higher levels of customer satisfaction and retention (Gronroos *et al.*, 2000).

Jayawardhena & Foley (2000) viewed that to exploit the convenience of Internet banking fully customers must be able to make applications for core banking services and open new accounts (savings accounts, loans, etc). Relatively few banks offer the facility of making application and enabling new services. It is important that both existing and potential customers be encouraged to make applications and acquire new services. Increasingly customers are looking for opportunities for transacting a number of diverse products and services under one roof. Banks are increasingly offering non-core banking products and services. Therefore it is logical these products and services are made available through the Internet. Such facilities include insurance, credit cards, mortgages, etc. (ibid).

Moreover, to exploit the full potential of the Internet banking, marketers must continuously reassess and redesign their websites to meet changing customer needs and desires, respond to competitors and a dynamic marketing environment, and leverage new or improved technologies. Although efforts to study the drivers of customer service in the Internet banking space have been made, few attempts have been made to specifically tie these factors to the design and effectiveness of Web sites (Ghingold & Ahmed, 2003). Hence, this study will therefore focus on understanding of the role of websites on Internet banking.

1.3 PURPOSE

The purpose of this study is：
"To gain a deeper understanding on the role of websites in Internet banking"

1.4 RESEARCH QUESTIONS

To be able to reach the purpose above, the research questions of this study are specifically formulated as below:

1. How can website design in Internet banking be described?
2. How are such websites used for enhancing customer service?

1.5 DEMARCATIONS

The time available for this study was limited, and aspects of the topic were many, an attempt to narrow down was made. The study would focus only customers' perspective in Internet banking rather than bank's perspective. As the aim was to gain a deeper understanding of the role of website in the Internet banking, from a consumer's perspective, very little attention would be given to the perspective of the bank.

1.6 DISPOSTION OF THE THESIS

This thesis consists of seven chapters, as shown in figure 1.1. In this chapter, an introduction to the research area is given, and the research purposes together with the research questions are stated. The next chapter presents the literature review followed by the Conceptual framework of reference in the third chapter. In the fourth chapter, the methodology used for this thesis will be discussed. The fifth chapter will handle the empirical findings, which consists of a company background followed by the gathered data from the interviewees and personal observations. In chapter six, the empirical findings will be analyzed against frame of reference. Finally, in chapter seven the presentation of this study's contribution is brought up under conclusions. This chapter also discusses implications for management, theory and future research.

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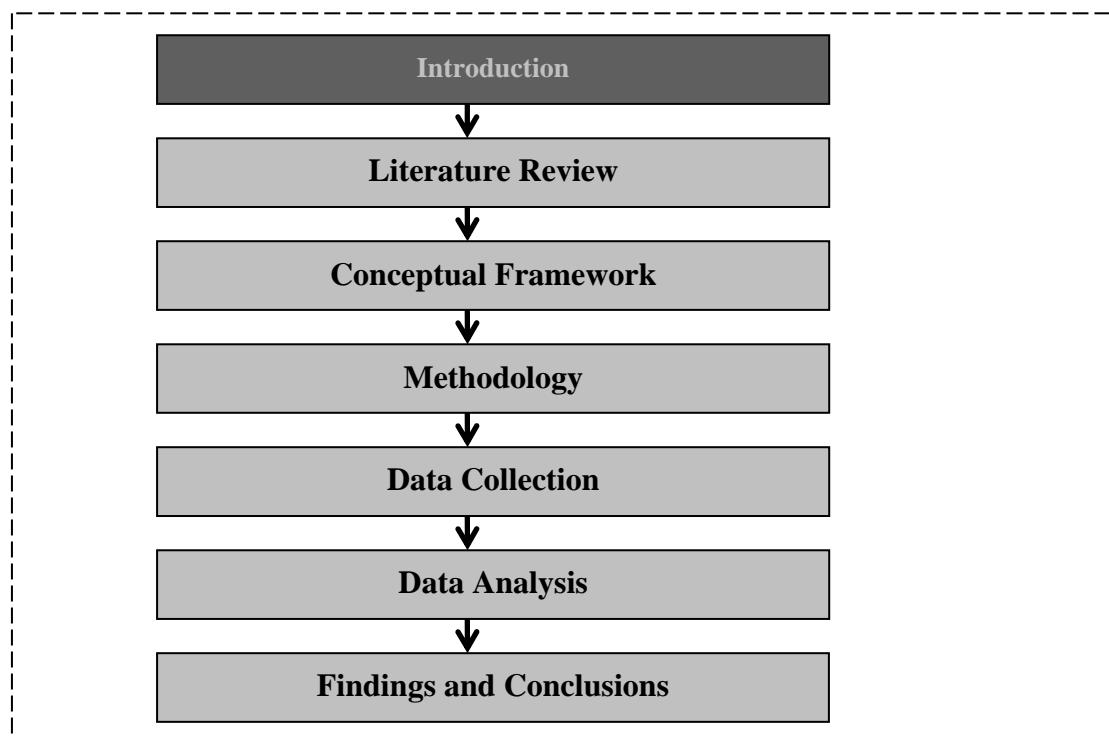
Figure 1: Thesis Structure

2 LITERATURE REVIEW

This chapter brings up relevant literatures required to find answers and connect to our research questions. First, present vital literature about web design along with key concepts of different terms and models so that it becomes easier to understand the research area. Then, we present literature about Internet shopping and Internet banking in respect of customer's perspective for better understanding of customer service. Finally, we discuss various models that play important roles in customer service.

2.1 WEBSITE DESIGN

For many e-businesses, too much attention is paid to the aesthetic design of the Website, which ends up looking amazing but actually causes frustration because customers have difficulty in finding what they are looking for. According to Ody (2000), the main reasons why customers go onto the Internet are to find information or buy a product or service with an emphasis on convenience and speed. Ziff-Davies (2000) points out that the concept of the Internet has raised customers' sensitivity to fast customer service. Any e-business that sticks to this basic principle when designing its Website should be relatively successful.

When looking at what makes a good quality Website, it is important to take into account the main objective of the design. A Website should reflect the value proposition and address whether it is trying to satisfy the customer needs to ensure repeat visits from the customer in the hope of gaining customer loyalty. The result should be common ground between the site's goals and the customer's goals; this reveals the ideal customer experience (Good, 2000).

According to Donlan (1999) although delivery is also highly important in fulfilling customer needs, perceptions and expectations also need to be managed and the website plays a main role in this. Once the basis of the Website function is clear, the type of customer it is hoped will be attracted can then be assessed and judgment made on what graphics, effects and other matter can be added to increase the value proposed.

As well as stating what the website offers, the information should be clearly and logically organized (Foremski, 2000; Vassilopoulou & Keeling, 2000): if customers have to take time to find the information they are looking for, they are unlikely to stay on the website. In some cases, user instructions are needed before the customer can navigate the website. An example of this is exchange platform websites where customers can exchange goods with other customers or offer prices and requests to businesses through the website. This type of business model has rarely been

accessible offline and is a new experience for many people. Therefore clear instructions are needed directly from the home page to avoid confusion and frustration.

2.1.1 Models of Website Design

The role of Web designer has been occupied by professionals and amateurs. Books on the subject mean that anyone, whether creating a website as a hobby at home or starting up a new business, can do it. But usability is the key to a successful website. *PR Newswire* (2000), report an IDC study, which concluded that 'Web performance and design are currently the largest obstacles to online purchases'.

The website should reflect the image that the company is trying to project and which the customer will remember and return to. An example of a Website that achieves the image concept is EasyJet.com. The colors on the Website are orange and white, the same as the airline's corporate colors and its simplicity reflects the cheap, no frills concept. By matching the physical with the virtual, Easy Jet has successfully encouraged customers to use its Website to such an extent that it has indicated that all future bookings will be made in this way.

The various factors examined that can contribute to delivering good service quality through a website have been grouped into four categories by Cox and Dale, (2001):

- (1) Ease of use;
- (2) Customer confidence;
- (3) On-line resources;
- (4) Relationship services.

Each category relates to a different part of the Website experience and serves to enhance customer satisfaction to the extent that the customers will return.

Ease of use is given to all the factors relating to the design of the Website. The key factors in this category reflect the usability of the Website during customer navigation and aim to reduce customer frustration. The virtual nature of a Website means that communication with the customer has to be enabled through the use of text, graphics and animation. Guidance through the Website is done by means of links and searches. All of these factors relate to the design of the Website and its usability factor. If the design is of poor quality, customers will not be able to navigate pages to find what they are looking for, and are unlikely to make transactions.

Customer confidence refers to how customers feel when visiting a Website in terms of accessibility, speed, reliability and customer service. The key factors identified should help to create a good experience for the customer by making them feel safe and confident in not only using the site to find information but actually make transactions. Trust is a crucial factor in e-business and is one of the main barriers to

customers making purchases on-line due to security issues with credit cards and privacy issues concerning what happens to their personal details. Trust can also be linked to customer service. Customers need to know that they can contact a company if problems occur and preferably interact with a company employee either via e-mail, telephone or by instant messaging on-line. The use of FAQ should satisfy customers and deter them from using customer service, but the ability to contact a person heightens the feeling of confidence in the Website.

On-line resources refer to the products and services offered on the Website, with a focus on the Website's ability to provide sufficient information for customers to make the correct choice and be able to make a purchase on-line. If customers are making purchases on-line, products need to be shown and described sufficiently well for customers to make choices. Once selected and ordered, confirmation details and delivery expectations should be communicated clearly and quickly to the customer and where possible, they should have the means to keep track of their order on-line. Others refer to the feedback mechanism during the transaction process and afterwards, which allows the customer to be kept informed of their order.

Relationship services contain key factors that add value to the customer experience by building a relationship with them or by offering extra services and information. It contains the quality factors that enable the Website to establish a relationship with the customer through customization, frequent buyer incentives and through offering services that add value.

A Web site is unique in its hypermedia attributes (Jayawardhena & Foley, 2000). Hypermedia integrates multimedia content with hypertext connection (ibid). Multimedia content refers to information, while hypertext connection pertains to navigation (Bornman & Solms, 1993). User satisfaction depends on Web site features (Doll & Torkzadeh, 1988), and hence it is important to analyse Web features of banking services delivered over the Internet. Jayawardhena & Foley (2000) suggested that the features of Internet banking Web sites, such as:

- Speed;
- Content;
- Design;
- Interactivity;
- Navigation; and
- Security,

Speed

Perhaps the most critical factor for any Website is speed. Holt (2000) stresses the importance of a fast downloading homepage. Zona Research (Gann, 1999) have calculated the probability of customers using a site if the page response was too slow,

reporting that, if the page downloaded under seven seconds, fewer than 10 per cent of customers would leave the site and that if the page takes eight seconds, 30 per cent of customers will leave, and if it exceeds 12 seconds, 70 per cent will leave. Bearing in mind that customers use the Internet for convenience and speed, they will not tolerate slow access. The zone of tolerance for customer expectations leaves no margin for error and e-businesses must address speed and anticipated capacity needs as a matter of prime importance.

Studies have revealed that there is a significant correlation between Web site download speed and Web user satisfaction (Muylle et al., 1998; Hoffman & Novak, 1996). While speed is often a factor beyond the control of a site owner, the use of extensive high-resolution graphics and an inefficient host server has a significant negative impact. On the positive side, many commentators have observed that in general, speed of downloading has increased in recent times. Equally, it is important to recognize that speed is also dependent on the user's computing hardware and method of connection. Animation is a contributor to slow page loading. Haine (1998) recommends that if a designer thinks it is necessary to have animation, it should be made to stop cycling after ten seconds to allow the user to scroll it off the screen. Nunley (1998) suggests that information content should account for 80% of the site. Audio clips and other multimedia gizmos that require users to download plug-in programs, install them, reboot and return to the Website drive away users.

Content and design

Content and design have been found to influence user satisfaction. Muylle et al. (1998), in their research of Web user satisfaction, found that these attributes encompass:

(1) Product information content;
(2) Amount of product information;
(3) Product information format;
(4) Language; and
(5) Layout features.

These characteristics were found to influence the perception of information relevance, accuracy, comprehensibility, and comprehensiveness, as well as perceived language customization (Doll et al., 1995).

Product/service information. Vassilopoulou & Keeling (2000) argue that for any product advertised on the Internet, a clear picture with all the necessary information on brand, size, colour, capabilities and price should be provided so that the customer is not misled. Good (2000) reported on a Website in which the information relating to the picture of the products was at the side so customers had to spend time matching the information to each product. It is often such simple mistakes as this that can cause intense frustration. As well as stating a product description, the conditions of

purchasing a product should also be made available to the customer. Clicksure (1999) states that information on warranties and guarantees should be made available to the customer either during the selection process or when purchasing an item.

One of the most irritating factors for customers shopping on-line is to find that the item they have requested is not available. If they are informed of this whilst choosing the product (i.e. the information on stock availability is real time) they may well continue to browse the Website and find something else of interest. The worst-case scenario is for the customer to place the order and to be sent e-mail a few days later informing them that the product is out of stock (Consulting, 1999).

Good (2000) gave an example of a Website, where the customers could place items in their shopping basket but then only found out during the purchasing process whether the goods were in stock. It also showed a shipping price even though the goods could not be shipped. In the Andersen Consulting study (1999), it was found that many companies carried on taking orders to be delivered for Christmas even though the products were either not in stock or would not make a pre-Christmas delivery. This indicates the importance of providing real-time information for customer convenience.

Pages, text and click The pages on a Website should ideally be short; however, in some cases scrolling pages are sufficient if the information is suitably laid out and not excessively long. Holt (2000) argues that the use of headings and paragraphs is as important as in a book, magazine or newspaper and there should be a button at the bottom of the page or each section asking if the user wants to return to the top of the page. For transaction purposes, it is crucial that customers are able to make purchases quickly with minimum pages in the check out process (Foremski, 2000; *PR Newswire*, 2000). Amazon.com have been praised for their ``one click'' order process and one or two pages should be the limit in all Websites enabling ordering on-line. It also goes without saying that the process of opening an account should also require just one page for ease of use by the customer. Foremski (2000) discusses further issues for shopping on-line and points out that some Websites make simple mistakes that cause frustration for the customer. One such mistake is not to provide a check out button so that the customer can proceed straight to the order process from any page. There should also be a shopping basket button for the user to press at any time to see what they have placed in their virtual shopping basket, allowing them to remove items if so wished.

Navigation

Navigation refers to the hypertext connection of the multimedia content. Connection includes elements such as homepage hyperlinks, amount of Web pages, amount of hyperlinks, hyperlink encoding and personal contact possibilities; these in turn have been found to influence user satisfaction (Gatian, 1994; Doll et al., 1995). A search

facility along with a site map is useful. It was earlier emphasized that the content and the design of bank Web pages must reflect the nature of the Internet, for instance a page that scrolls down for about six to seven pages long is inappropriate. Site navigation plays a large part in this context. The hallmark of a good site is that the site index should always be in display, thereby making it very easy and fast for someone to arrive at the desired location.

Links. The navigation of a Website cannot be carried out without valid links (Constantine & Lockwood, 1999; Spool *et al*., 1999). Links should change color once used so that the user knows they have used the link before and should correctly describe the information to which they lead (see Creative Good, 2000; Vassilopoulou & Keeling, 2000). This is also relevant for graphics, which can be used as links. Well-thought-out Websites feature graphics that change to text when the mouse cursor passes over them, revealing the category of products relating to the graphic.

Constantine and Lockwood (1999) also discuss the problem of page bouncing and deep drilling. Page bouncing occurs when the user follows links that serve a series of pages and then has to return to the original page before finding a link to more pages. This results when the information is finely subdivided. The answer is to use probability to decide whether a user interested in one topic will be interested in another and to create a direct link between the two. The other problem of deep drilling is similar to page bouncing but refers to Websites where the user has to follow multiple links which are sometimes confusing and force the user to go back and forth between pages to find information which should logically follow on from information found on the earlier pages.

Links are the main way for the users to navigate their way around a site and should be clear and to the point. Spool *et al*. (1999) argue that links should not be embedded in pages of text which requires the user to scroll down to find them and also that the link should not be so long as to fall on to two lines. This as well as misleading the user into thinking that there are two links instead of one is also a waste of space.

Consistency and site maps. Although an increasing number of people around the world are starting to use the Internet, one should never assume that once a user has navigated one Website, they can easily navigate them all (Constantine & Lockwood, 1999). Each Website represents a different business or value proposition and therefore the layout will differ according to what the website is offering. Furthermore, the pages within the website need to be consistent in appearance and design (Spool *et al*., 1999). Vassilopoulou &Keeling (2000) argue that it is also important that the same procedures occur for similar or related things wherever the user may be within the site.

In order to achieve this level of consistency many Websites feature a menu which appears in the same place, with all the main links on every page. Spool *et al*. (1999)

discovered that menus or navigation bars at the top and bottom of a page allowed more users to navigate the site successfully than menus at the side. Good (2000) point out that there should be a ``home'' button on every page to help the user get back to the home page if necessary without having to click on the back button in the browser menu, which could be a lengthy and frustrating process depending on where the user is in the site. Spool *et al.* (1999) also found that users navigating sites with a site map were twice as successful in finding what they wanted, compared to those sites without, and that informing the customer of where they were was important. Good (2000), on the other hand, argue that a Website with a clear menu and relevant information should be satisfactory and that users are not actually interested in where they are within a site as long as the links are clear.

Search. The use of a search mechanism to navigate a website is one of the first strategies used by customers to a Website. Spool *et al.* (1999) found that a third of the users tried this facility first before resorting to links and the menu. One of the outcomes was that users assumed that the search would cover the entire site and got confused when the search only covered a particular area; this needs to be made clear next to the search button. The use of drop down lists can clear up this confusion because it informs the user of what information is available without the user having to guess what to type into the search box (Good, 2000; Foremski, 2000).

Once the search facility has been used, the results should be listed in order, starting with the most relevant. Creative Good (2000) suggest that the results should ideally be on one page only and limited in number; however, if the site is a search engine, one would expect a few pages of results depending on the amount of sites it scans. According to Spool *et al.* (1999) one of the important aspects is that the results are relevant and information such as advertisements will deter users from using that particular search facility again. Good (2000) also mention the use of language in the search criteria, they found that many search facilities did not recognize singular and plurals for searching the same word.

Interactivity

The interactivity of the site relates to the optimisation of hypermedia attributes (Muylle et al., 1999) by providing custom-made solutions, allowing users to customize preferences, and enabling the bank to provide bespoke solutions on-line for users who have provided personal information. It is technically feasible to provide interactive loan calculators, exchange rate converters, mortgage calculators, etc. on World Wide Web sites. The provision of these facilities should work to the benefit of the banks in several ways. First, the customers could judge for themselves their commitments for something like a loan, which might otherwise require the assistance of bank staff. Second, these facilities can draw non-customers into the bank. Third, as noted earlier, an Internet banking site has the opportunity to position itself as the focal point of electronic commerce. Interactive functions could be a focal point to attract shoppers.

Security

Lack of security whilst making transactions online is reported to be the main barrier to customers shopping on-line. It is crucial that any Website has a security policy accessible on every page or offers a secure payment method on-line (Verdict, 2000; Vassilopoulou & Keeling, 2000; Vernon, 2000; Clicksure, 1999). The risk of fraud on-line is proposed to be the same as paying by credit card in a restaurant; however, customers are far more reluctant to give out card details on-line and new ways of paying for goods over the Internet are being rapidly developed. Some e-businesses have their security managed by a third party, as described by Vernon (2000).

Perhaps the most important issue of all is how safe it is to use a Web site and to conduct financial transactions over the Internet. Sites employ a multitude of security features. Encryption technology is the most common feature at all bank sites. This is supplemented by a combination of different unique identifiers, e.g. for a password, mother's maiden name, a memorable date, a favorite destination, etc. Some sites require information to be input in a random order, the order changing with each log in. Additionally, most sites employ a method whereby five minutes of inactivity automatically logs users off the account.

All Internet banking facilities are still at an early stage of development and hence the appearance, features and functions are continually evolving. (ibid).

2.1.2 Website Design Strategy

Web design has evolved from static hypertext publishing in the early days to dynamic multimedia, Web database application servers. More importantly, new business models that bring savings, revenues, and customer relationships are being incorporated into commercial Web site design. There are two generic Web site design strategies:

  1 informational/communicational strategy; and
  2 on-line/transactional strategy

Informational/communicational strategy

In the informational/communicational strategy, the Web is used to support but not to replace a company's main business activities. Companies do not limit themselves to just marketing on the Web. As attar of fact, they look at other traditional media of advertising and marketing study in order to meet their business goals and marketing objectives. Looking at Web marketing as another tool in the company's marketing arsenal (Clark, 1997), the informational/communicational design is the most common

use of Web marketing today. Liu et al. (1997) reported that 93 per cent of Fortune 500 companies have publicly accessible sites, but fewer than 26 per cent of those sites support transactions. On the other hand, there is no doubt that informational/communicational design on the Web can also produce significant sales in other areas of business. For example, Insight Direct, a discount computer cataloger selling mostly to business, generates only 10 per cent of its sales from its on-line catalog, but more than 75 per cent of its new customers come from the site.

On-line/transactional strategy

The on-line/transactional strategy invariably provides an electronic catalog of products for sale. Visitors can browse through the catalog and order products online. Although the informational/ communicational design often provides an electronic catalog as well as ordering information (e.g. by phone, fax, or e-mail), it does not support on-line transaction. Without on-line ordering Web database capability, it hardly exploits the potential of the Web as an interactive medium. The on-line/transactional strategy is what most proponents of marketing on the Web expect. Griffith & Krampf (1998) indicated that the ability to enhance a company's overall sales was a significant decision factor to establish a Web site. Although there are still some hidden obstacles (e.g. transaction security), it seems that most companies are likely to benefit directly from marketing on the Web, especially for small and medium sized enterprises. In fact, there have been a lot of successful on-line/transactional designs, such as Amazon.com and Virtual Vineyards. The number of successful enterprises is growing. There are reasons to believe that the Web will become a significant moneymaking vehicle for electronic commerce.

2.2 Customer Service

To prosper in today's competitive business environment, companies must understand that the customer holds the key to success (Goetsch & Davis 2004). The customer must be at the very heart of the company's decision making. The customers want many things from the companies they work with. In the language of customer service, these wants are often referred to as needs. Most customers need quality products, quality service and friendly interaction with knowledgeable people who care about them. (ibid).

2.2.1   IT and Customer Service

Information technology can and is being used to improve customer service, though the use of IT is dependent on the understanding of customer service, marketing and the information orientation of the firm in question (Oasis, 1989). Customer service is being influenced and revitalized by information technology. Regardless of how one

visualizes customer service, either from a logistics or marketing perspective, information technology now assumes an important role in customer service. Information technology is a powerful tool or enabler in the arena of customer service. Information technology is essentially in the process of migration, from the support function to the front-line functions where the customer is served, as indeed is customer service itself. In advancing the capabilities that IT offers the customer service function, Quinn et al. (1990) argue that, with new technologies, executives can manage the strategic elements to achieve competitive advantage with minimum transaction costs. Other authors concur:

Information technology promises to help companies provide more consistent levels of service and cement relationships with customers (O'Leary, 1990, p. 44).
Improvements in customer service are being made possible by an underlying network of information technology (Austin, 1992, p. 26).
Smart companies will gain a competitive advantage by improving the delivery of customer service through information technology (Burgetz, 1992, p. 10).

Information technology is now viewed as a business tool, with the ability to award competitive advantages if correctly harnessed. However, the strategic uses of information technology are only one of three ways in which information technology can be deployed as a business weapon. Information technology can also be used in (1) routine data processing and (2) internal operational efficiency (Earl, 1989).

Combining the two concepts – customer service and information technology – one finds that the adoption process is not specifically considered anywhere in the literature. However, it is evident from documented material that there are two possible ways of examining the development of the use of information technology in customer service. First, there is the accepted information technology development path. This is normally defined as:

(1) Paperwork/routine activities;
(2) Middle management operations/internal processes; and
(3) Strategic purposes.

From this perspective, most firms are using information technology in customer service to deal with routine paperwork activities, e.g. accurate billing. Such use either increases the efficiency of activities and/or reduces costs. Information technology is also being utilized in internal management operations, e.g. products, which again leads to increased internal efficiency and/or reduced costs. Finally, in relation to the third stage of information technology development, many companies are aware of the strategic benefits of information technology in customer service, but are having difficulty in actually identifying and managing such applications (Earl, 1989; Fletcher, 1990).

2.2.2   Customer Service on the Internet

Technology, in particular the Internet, is a key driver of internal changes (Jayawardhena & Foley 2000). The Internet is believed to change the way; firms interact with their customers and thus the way they initiate, develop and terminate relationships with them (Mols 2000). Many researchers have pointed out that service quality is one of the key determinants of online retailers' success based primarily on the following two reasons (Jarvenpaa and Todd, 1997; Griffith and Krampf, 1998; Zeithaml *et al.*, 2000). First, online retailers' service quality greatly influences customers" satisfaction and intention to shop online in the future. For example, one recent report by Boston Consulting Group (2002) revealed that 41 percent of consumers who experienced an online purchasing failure stopped shopping at the sites in question. This report further noted that the dis-satisfied customers, on average, spent much less money on online purchasing than the satisfied ones. Next, online retailers' service quality is critical in attracting potential customers. For example, Yang and Jun (2002) argued that online retailers' service quality, particularly in terms of online transaction security, personalized services, and accessibility of the Web sites, significantly affects Internet non-purchasers' perceived overall service quality and in turn, influences their willingness to shop online.

Financial services Web sites can perform a variety of functions ranging from basic information provision to full transactional capability. Knight *et al.* (1999) identify four separate levels of information provision:

- At the most basic level, an Internet presence merely provides information about the financial institution, with no interaction between the institution and customer other than a possible e-mail link.
- The next level allows the institution to receive information, such as an electronic loan application.
- The third level offers the customer the opportunity to share information, such as account balances or transaction details.
- The highest level identified allows the customer to process information.

Cox and Dale (2001) have noted that traditional service quality dimensions, such as competence, courtesy, cleanliness, comfort, and friendliness, are not relevant in the context of online retailing, whereas other factors, such as accessibility, communication, credibility, and appearance, are critical to the success of online businesses. Similarly Madu (2002) propose the following 15 dimensions of online service quality based on the relevant literature review: performance, features, structure, aesthetics, reliability, storage capacity, serviceability, security and system integrity, trust, responsiveness, product/service differentiation and customization, Web store policies, reputation, assurance, and empathy. In the same vein, Wolfinbarger and Gilly (2002), through focus group interviews, a content analysis,

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and an online survey, have uncovered four factors of online retailing experience: Web site design, reliability, privacy/security, and customer service (this factor is primarily related to the customer-to-employee interactions).

2.2.3 Models of Customer Service

The studies have shown that high levels of customer service quality can exert a positive influence on customer satisfaction (Parasuraman et al., 1988; Cronin and Taylor, 1992). Unlike the manufacturing product quality that can be readily assessed, service quality is an elusive and abstract construct that poses definition and measurement obstacles. The literature has suggested that service quality is determined by the differences between customers' expectations of service provider's performance and their evaluation of the services they received (Parasurman et al., 1985, 1988). Parasuraman et al. (1985, 1988) have conducted well-known studies to uncover key service quality attributes that significantly influence the customers' perceptions of overall service quality. Parasuraman et al. (1988) later distilled these ten dimensions into five by using a factor analysis. These five dimensions are:

- Tangibles;
- Reliability;
- Responsiveness;
- Assurance; and
- Empathy.

A number of research-based investigations have been made in an effort to identify, from the customer's point of view, the determinants of service quality. For example Parasuraman et al. (1988) identified five dimensions of service quality: reliability, assurance, responsiveness, tangibles, and empathy, which can be applied to service expectations in the financial services industry (Wisner and Corney 2001). Examples of questions in each of the categories are: ``do we have the services and financial products that you want?'' (tangible dimension), ``Was the bank employee available within a reasonable amount of time?'' (responsiveness dimension), ``Were you treated courteously?'' (assurance dimension), ``Did the bank employee make you feel like a valued customer?'' (empathy dimension), and finally, ``Have we provided you good service over your last three visits?'' (reliability dimension). The research of Parasuraman et al. (1988) also showed that customers consider reliability the most important service dimension.

In the case of the banking industry, Johnston (1995) examined, by using the critical incident technique, banking customers' perceptions about the service quality they received and found 18 service quality attributes. They are:

- access;
- aesthetics;
- helpfulness;
- availability;
- care;
- cleanliness/tidiness;
- comfort;
- commitment;
- communication;

- competence;
- courtesy;
- flexibility;
- friendliness;
- functionality;
- integrity;
- reliability;
- responsiveness; and
- security

Further, Johnston (1995, 1997) examined the effects of service quality dimensions on the customers' satisfaction or dissatisfaction, and then classified the dimensions into satisfying only, dissatisfying only, and dual factors (factors capable of either satisfying or dissatisfying customers depending on the quality level of the factors). Regarding the three classifications of service quality attributes, Johnston (1997) argued that the causes of dissatisfaction are not necessarily the obverse of the causes of satisfaction: A bank which opens and closes erratically will lead to dissatisfied customers; However, a bank which opens and shuts precisely on time does not automatically lead to delighted customers.

Lohse and Spiller (1999) noted that online business Web sites' characteristics such as a feedback section and product lists are crucial in generating sales. Liu and Arnett (2000) considered the following four factors as major ingredients for the success of a Web site as:

- system use;
- system design quality;
- information quality; and
- playfulness,

As for Internet banking, Sathye (1999), with respect to the adoption of Internet banking by Australian consumers, found that two factors such as ``difficulty in use'' and ``security concern'' are important reasons that customers do not want to use the service.

Bahia and Nantel (2000) also proposed an alternative measure of perceived service quality in retail banking that comprises 31 items with six underlying key dimensions. These dimensions are:

- effectiveness and assurance;
- access;
- price;
- tangibles;
- service portfolio; and

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- reliability.

On the other hand, Oppewal and Vriens (2000) suggested the use of conjoint experiments to measure service quality. They developed an application for measuring retail banking service quality, which consists of 28 attributes including four service quality dimensions such as:

- accessibility;
- competence;
- accuracy and friendliness; and
- tangibles.

Of the four dimensions, the accuracy and friendliness dimension turned out to be the most important factor in determining banking preference, followed by competence, tangibles, and accessibility. As for Internet banking, relatively little empirical research has addressed the issue of the key underlying dimensions of Internet banking service quality.

Cai & Jun (2003) investigated on what online buyers and information searchers perceive as key dimensions of service quality in online retailing. They derived four factors for studying was labeled as:

- web site design/content
- trustworthiness
- prompt/reliable service;
- communication.

Trustworthiness

Security. The breach of security may pose tremendous threats to the success of the e-banking. Aladwani (2001) identified Internet security as the leading future challenge of online banking. Customers are concerned with their privacy when using IT-based services. For example, some customers may have the impression that the Internet is not a secure environment for transactions and they may fear that ``someone will have unlimited access to personal financial information'' (Peterson, 1997). The most common procedure for Internet payment is through cash card / credit card. However, concerns for customers are security while sending over the Internet, credit card information including name, card number and expiration date. According to Novak (2000), security was identified as one of the least important factors to distinguish a compelling online environment. Customers believe that the Internet payment channels are not secure and can actually be intercepted. This reduces the customers` level of trust, discouraging them from engaging in online information search and making online banking transactions.

Trust. Customers traditionally build trust based on the image and reputation of service providers (Grönross, 1984). The more a customer trusts a service provider, Shemwell et al. (1994), argue, the more likely they are to continue the relationship and decrease the perceived inherent risk. These issues are particularly important in Internet banking services, partially because it is relatively new and untried and also due to the intangible land uncertain processes which customers face (Broderick & Vachirapornpuk 2002). Andreason and Lindestad (1997) further argue that a service organization's image will function as a filter in the perception of quality and satisfaction, as a simplification of the decision process and as an extrinsic information cue for customers.

The customer's perception of service trust arises from an evaluation of the total service experience – a judgement as to whether the promise of the service has been realized in its delivery (Kolesar & Galbraith, 2000). Zemke and Connellan (2001) say that trust first and foremost means keeping promises or doing what you say you will do. Trust is the backbone of business. When things do not happen as we predict or as we tell the customer they will happen, it leaves them with high anxiety and a desire to put things back in balance. (Zemke & connellan, 2001).

Privacy. Suganthi et al. (2001) view users of Internet are concerned with privacy. Since the Internet is an open network, the Internet banking customers appear too much more concern with security and privacy of the banking transactions and the privacy of their personal information. Privacy concerns are coming to the fore with increased Internet penetration. (Feinberg & Kadam 2002).

Communication

Communication tools. According to Feinberg & Kadam (2002) these are the different ways to contact the company. For instance: e-mail, fax, toll-free numbers, postal address, callback button, voice over IP and bulletin board. Traditionally, only toll-free numbers and postal addresses could be used by customers to reach the company. However, over the past few years, e-mail has emerged as an important tool for company-customer communication. Further, unlike telephone communication, which is synchronous, e-mail communication is asynchronous. This reduces costs, since customer service queries will now be handled in countries with lower labour costs, by taking advantage of the time-difference. Also, e-mail transmission happens on the Internet, which is essentially a public service and thus the company does not incur significant transmission costs. Cox & Dale (2002) stated that many Web sites would inform the user of a mistake by writing the information in red next to the relevant box or area. This communicates clearly to the user that they have made a mistake and need to redo something in order to proceed. The communication of a Web site is carried out via text, graphics and moving animation, with text being minimal and to the point and clearly set out.

Frequently asked questions. Frequent asked questions and their answers are available for reading. This feature acts as self-help for customers, looking for answers to their queries. (Feinberg & Kadam 2002). It is sensible to create a list of FAQ, which can be diagnosed from the amount and type of queries being asked by customers. Constantine and Lockwood (1999) state that a well-designed FAQ page should be arranged in three sections:

(1)   Table of contents or topic list;
(2)   List of questions organized by topic; and
(3)   Index.

The most frequently asked questions should be immediately available to the customer and then if they need to, they can choose the appropriate topic from the list. Furthermore, there should be direct links within the answers to take the customer back to the relevant page(s).

Joseph et al. (1999) investigated the influence of technology, such as the ATM, telephone, and Internet, on the delivery of banking service. Their study identified six underlying dimensions of electronic banking service quality:

- convenience/accuracy;
- feedback/complaint management;
- efficiency;
- queue management;
- accessibility; and
- customization.

Convenience/accuracy

Accurate. Accurately performing services and providing information could help improve service reliability (Parasuraman et al., 1988, 1991) and service outcomes (McDougall and Levesque, 1994). The literature also suggests that IT can help improve service quality by reducing error rates (Furey, 1991; Licata et al., 1998). If customers perceive that Internet based services provide improved service and information, they may place a higher value on such services.

Easy to use. As for Internet banking, Sathye (1999), with respect to the adoption of Internet banking by Australian consumers, found that two factors such as `difficulty in use` and `security concerns` are important reasons that customers do not want to use services. If customers view an IT-based self-service system to be difficult to use, they may not value such a service delivery channel (Dabholkar, 1996; Galbreath, 1998). Once customers have accessed the service delivery point, they do not like to wait to receive the service. Excessive waiting in a queue for service delivery could negatively affect customers' perceptions of service quality (Houston et al., 1997). Some customers

would prefer technology-based self-services if such options could reduce service delivery time (Lovelock and Young, 1979). IT-based service options may help improve customer service quality by providing customers with more prompt and efficient service.

Convenience. Convenience is a primary benefit sought by customers (Reed, 1998; Milligan, 1997). McDougall and Levesque (1994) and Milligan (1997) suggested that banks with an extensive branch office system and ATM network would have the opportunity to attract customers who are in this convenience segment. Lerew (1997) suggested that customer satisfaction would increase when customers enjoy the convenience of accessing their accounts at any time through interactive voice response systems.

Feedback/complaint Management

Feedback service. As argued by Cox & Dale (2002), customer service plays an important part in delivering service quality to the customer. With the Internet, the face-to-face interaction is non-existent so companies offer a telephone number for customers to call. Some sites offer a call-u-back service where the customer gives them their telephone number and they will call back within a certain time limit to help with the query. Unfortunately, this is only offered during office hours. Other sites offer an e-mail address to send the query and will e-mail back either a standard response or a personal one. Such contact details should be on every page of the Web site and not just on the home page and during the transaction process (see Holt, 2000). Ideally these should be placed at the top of the page in clear view, although some Web sites tend to hide their contact details at the bottom of scrolling pages. Vassilopoulou and Keeling (2000) and Creative Good (2000) also place importance on encouraging the customer to give feedback to the company by providing a special option or form to complete regarding the services provided, similar to a survey.

Complaint management. According to Kolesar and Galbraith (2000) responsiveness refers to the customer's perceptions of both the willingness and ability of the service provider to respond to the customer's own needs and desires. It means that the service provider's actions happen fast enough for the customer not to feel neglected, but not in a panicky way. It is more that the pace of a service; it is also the perception of that pace. E-mail based service elements can be effective in achieving the desired consumer perception of complaint management. Virtual immediacy can be achieved through automated e-mail responses that inform the customer that a personalized response will be forthcoming within a given period (Kolesar & Galbraith, 2000). Moreover, Zemke and Connellan (2001) say that 24 hour turnaround on e-mail queries is the Internet industry standard, but that the company should respond to it faster than that.

Efficiency

Menu options. This feature allows the company to highlight products or services that may be relevant in a particular context (Feinberg & Kadam 2002). The context could be a particular festival or a season, among others. Moreover, this feature is helpful for those site visitors who are looking for a specific piece of information.

Demo and currency conversion rate. The (customized) product can be viewed before purchasing. The product can be viewed in a motion picture or a demo. Vassilopoulou and Keeling (2000) suggest that a currency conversion rate mechanism should be provided on those Web sites, which enable transactions to be made; this is a valid point considering the global reach of Web sites.

Accessibility

Connectivity. Perhaps the most critical factor for any Web site is accessibility. This refers to the ability for customers to access the Web site of a particular e-business and navigate its site. Vassilopoulou and Keeling (2000) rate accessibility as the speed with which the home page and following pages download. Holt (2000) also stresses the importance of a fast downloading home page. Gann (2000) also emphasizes the fact that Web sites must be accessible 24 hours a day, seven days a week, 365 days of the year.

Language options. Customers prefer businesses that provide a variety of supplemental services to augment the core service (Gerson, 1998). McDougall and Levesque (1994) indicated that a comprehensive service offering is attractive to customers. Consequently, multifunctional of an IT-based system may be an important feature in satisfying customer needs. So, multiple languages options are vital factor for the satisfaction of customers in Internet banking.

Customization

Personalized service. Ghosh (1998) and Mols (2000) stated that the Internet banks could offer personalized services to their customers in order to build customer loyalty, since they can automatically track, through the Internet, individual customers' financial service usage and gather the information in their integrated database. For many Web sites, the key to success is the number of customers that use the site and keep returning to make purchases Cox & Dale (2002). By asking customers to fill in a user ID and password, e-businesses can tailor the Web sites to a particular customer. In the case of transactions, this means that all the customer information such as the billing and shipping addresses do not have to be filled in again, or it could be the retention of size details for buying clothes. Creative Good (2000) suggest that it is much simpler for customers if they are asked to use their e-mail address as an ID rather than creating a new one, although many companies will ask for both. They also suggest that having a ``my account'' option showing previous transactions also helps to build a sense of

community for the customer returning to the site. Taking this one step further, Web sites can suggest new products on the basis of historical transactions when the customer logs back onto the site. Some sites have a mechanism by which they will suggest books and music based on the customer's historical preference. In some cases, the customer can customize the Web site by choosing options so that on their next visit, they enter directly into the pages most relevant to them (Creative Good, 2000).

Web sites must form relationships with their customers Cox & Dale (2002). By asking customers to fill in a user ID and password, e-businesses can tailor the Web sites to a particular customer. A commonly used strategy for keeping customers using a service or repeatedly buying products is to provide some kind of incentive to attract them back. Wiegran and Koth (1999) argue this is even more true for the Internet where the competition is only one click away and e-Businesses are fighting to gain market share. Such incentives can be discounts, free delivery or benefits of promotions; these types of incentives are a powerful marketing tool and lock customers into using a particular Web site.

3 CONCEPTUAL FRAMEWORK

This section formulates the frame of reference for this study. The development of the frame of reference is based on the research questions and their related literature described in chapter two.

3.1 RQ One: How can website design in Internet banking be described?

Two models were discussed in Chapter two for website design: one model from Cox & Dale (2001), they examined various factors influencing in e-business website design and they finally derived into four major categories; the other model used by Jayawardhena and Foley (2000), which suggested there were six main features of Internet banking Web sites. Both models explained numbers of variables which were important for designing a good website. After comparing these two models, we found that there were quite many items overlapped. In order to find out how web site designs in Internet banking, we think that model of Jayawardhena & Foley (2000) was more suitable for our study since this is one of few models that focus on Internet banking industry.

We would at look the discussion of Hoffman & Novak (1996), Muylle et al., (1998), Constantine & Lockwood (1999), Spool et al. (1999), and Good (2000) in analysis section also.

Speed to download
Simple graphics
Animation and/or multimedia plug-in

Content and Design
Product information content
Amount of product information
Product information format
Language alternatives
Layout features

Interactivity
Technical banking facilities: loan calculators, exchange rate converters, mortgage calculator etc

Navigation
Homepage hyperlinks
Links.

Consistent navigation.
Search engine in the site.
Site maps/guides.

Security,
Encryption,
Purchase /operation confirmation
Automatically log off

3.2 RQ Two: How are such websites used for enhancing customer service?

Cai & Jun (2003) discussed service quality in online retailing. They derived four factors for studying was labeled as web site design/content; trustworthiness; prompt/reliable service; and communication. Joseph, McClure & Joseph (1999) investigated the influence of technology such as ATM, telephone and Internet, on the delivery of banking services. Their study identified six dimensions of electronic banking customer service. They were: convenience/accuracy; feedback/complaint management; efficiency; queue management; accessibility; and customization.

Internet banking is an early stage of development. Few studies were conducted on service quality in Internet and online shopping. But there was no specific study conducted for customer service in Internet banking. In order to find out how websites could be used for enhancing customer service in Internet banking, we think that model of Cai & Jun (2003) and model of Joseph, McClure & Joseph (1999) would be appropriated for this study. Further, both research studies were very relevant to our research problem and especially Cai & Joseph (2003) conducted their research study very recently. Apart from this, we will also discuss in analysis chapter with the findings of other researchers.

Trustworthiness
- Security (Andreason & Lindestad 1997, Zemke & Connellan 2001)
- Trust/risk   (Birch & Young 1997, Mathe & Dagi 1996, and Yang & Jun 2002)
- Privacy (Andreason & Lindestad 1997, Zemke & Connellan 2001)

Communication
- Communication tools (Feinberg & Kadam 2002, Ulfelder 2000 and Cai & Jan 2003)
- Frequently asked questions (Wisner & Corney 2001, Constantine & Lockwood 1999, Cox & Dale 2002)
- Information updated (Ellsworth and Ellsworth 1997).
- Information understandable Broderick & Vachirapornpuk (2002)

Convenience/accuracy
- Convenient (Reed 1998 & Milligan 1997, Kalakota 1997)
- Accurate (Licata 1998)
- Easy to use (Broderick & Vachirapornpuk 2002, Sathye 1999)

Feedback/complaint management
- Feedback service (Vassilopoulou & Keeling 2000 and Good 2000)
- Friendly environment (Jayawardhena & Foley 2000)
- Complaint management (Kolesar & Galbraith, 2000, Zemke & Connellan (2001)

Efficiency
- Menu options (Feinberg & Kadam 2002)
- Demo (Vassilopoulou & Keeling 2000)
- Exchange rate conversion (Vassilopoulou & Keeling 2000, Broderick & Vachirapornpuk 2002)
- Calculators (Vassilopoulou & Keeling 2000, Broderick & Vachirapornpuk 2002)

Accessibility
- Connectivity (Gann 2000)
- Special service for disables (Joseph 1999, Cai & Jun 2003)
- Language options (Gerson 1998, McDougall &Levesque 1994)

Customization
- Personalized service (Ghosh 1998, Good 2000, Mols 2000)

We did not use "queue management" dimension of Joseph et al. (1999) is not applicable to Internet banking (they used for telephone banking). Also, did not select "prompt/reliable service" factor of Cai & Jun (2003) as it covered under "convenience/accuracy". And 'website design content' discussed in detail in Research question one.

4 METHODOLOGY

4.1 INTRODUCITON

This chapter will cover the research methods used in this study. We will describe the chosen methods, concerning research purpose, research approach, research strategy, data collection method and analysis approach. Additionally, methodology problems that have come up during the process will be presented. Motivations and justifications for all adopted strategies have been given in each section. These steps are showed in figure 4.1.
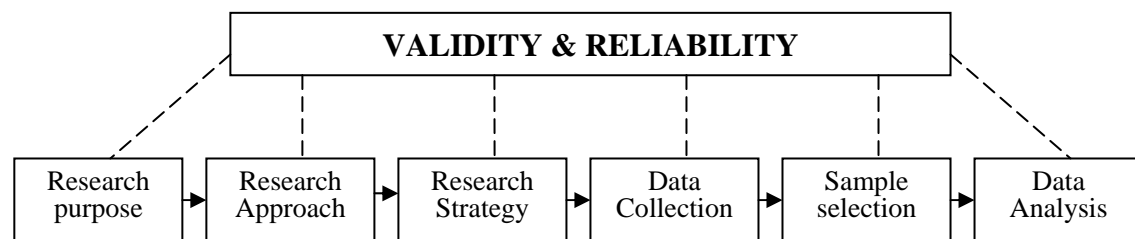

Figure 2: Schematic Presentation of the Methodology
Source: Adapted from Foster (1998), P 81

4.2 RESEARCH PRUPOSE

A research strategy can be formulated in certain ways depending on what the author want to achieve. The reader shall, by analyzing the research purpose, understand what direction the study will take. In other words, which way the study goes, depends on how the research purpose is structured (Eriksson & Wiedersheim-Paul, 1999). There are according to Bengtsson (1995) three different ways to approach an investigation. These three are *exploratory*, *descriptive* and *explanatory* investigation purposes (ibid).

Exploratory studies aim for basic knowledge within the research purpose. The purpose with this type of study is, according to Bengtsson and Bengtsson (1995), to decide and demonstrate the character of a problem by collecting information through exploration. Furthermore, exploratory studies are conducted in order to create a basic understanding of conditions, events, courses of events and actions. An explorative investigation is appropriate when a research problem is unstructured and difficult to delimit. (Eriksson & Wiedersheim-Paul, 1997)

As presented by Miles and Huberman (1994, p. 90) with reference to Bernard (1988) to describe is to make "complicated things understandable by reducing them to their component parts". According to Reynolds (1971) the goal with the descriptive study is to develop careful descriptions of different patterns that were expected during the

exploratory stage. The purpose could be to develop empirical generalizations and to explain these. This leads to a development of theory.

Explanatory research is useful when studies involve relations between causes and symptoms (Eriksson and Wiedersheim-Paul, 1997). The researcher investigates however; a certain stimuli or factor affects one another. It is this identification of factors, which together cause a certain phenomena (ibid). According to Yin (1994) an explanatory research approach could also be used when the study aim to explain certain phenomena from different perspectives or situations with given set of events.

The research purpose and research questions of this thesis indicate that this study is initially descriptive, when aiming to find out and describe specific factors and problems as data is collected and analyzed. Then the study becomes somewhat exploratory so that it provides us, the researchers, with both a course for the task at issue as well as an insight into existing theories within the subject. Finally, the study becomes slightly explanatory, as the research questions of this study will be answered in the final chapter.

4.3 RESEARCH APPROACH

When conducting a research there are different ways to address the matter. There are two main research approaches to choose from when conducting research in social science: *qualitative* or *quantitative* method (Yin, 1993; Holme & Solvang, 1991). There is one significant difference between these two approaches. In the quantitative approach, results are based on numbers and statistics that are presented in figures. Whereas in the qualitative approach where focus lies on describing an event with the use of words. Which approach to choose depends on the problem definition together with what kind of information that is needed? The two approaches can in cases where it is suitable also be combined. (Holme & Solvang, 1991)

The purpose for both the qualitative and quantitative approach is to create a better understanding of the society and to comprehend how individuals, groups and institutions act and have an influence on each other (Holme and Solvang, 1997). To reach each purpose different paths are however taken. The quantitative approach uses generalizations, based on the processed results of the investigation. For the qualitative approach the research problem is described out of the situation as a whole, without basing it on generalizations. According to Yin (1994) both methods have strengths and weaknesses. The approach best suited depends therefore on the specific study's research problem and accompanying research questions.

Quantitative research approach transform the information to numbers and amounts that later gets analyzed statistically. Quantitative studies tend to be more structured and formalized. (Holme and Solvang, 1997) The quantitative approach is also characterized

by being study few variables on a large number of entities. To find answers to its research problem this is normally done in a broad sense by using surveys with already set answering alternatives. Furthermore, this approach is considered especially useful when conducting a wide investigation that contains many units. (Holme and Solvang, 1991)

Qualitative research approach aims at reaching a better understanding of the phenomenon being studied, they also tend to be relative flexible (ibid). Using this approach the researcher tries to separate the specific or odd and strives to create a complete understanding of the situation (ibid). Characteristics of qualitative studies are that they are based largely on the researcher's own description, emotions and reactions (Yin, 1994). The qualitative approach also includes a great closeness to the respondents or to the source that the data is being collected from (Holme & Solvang, 1991). The qualitative approach is characterized by gather abundant information and to investigate several variables from a few numbers of entities. To take use of the possibility to gather high quality data the most common way to do this is with the use of case studies and interviews where no set answering alternatives are being offered. (Holme and Solvang, 1991)

The qualitative approach was found to be most suitable for the purpose of this thesis, as the purpose is to gain a deeper understanding of the role of website in the Internet banking. Hence, the aim is not to make any generalizations, but instead establish a closer contact with the studied objects, which intend to provide us, the researchers with a deeper understanding of the participants' attitudes, and perceptions. Finally, as the intention with this thesis is to describe and explore, and find as complete and detailed information as possible, the qualitative approach is the most suitable method. Now we have described that the research is focused on a qualitative research approach, and then the research strategy will be presented in the next section.

4.4 RESEARCH STRATEGY

There are a number of approaches for a researcher to make when conducting an empirical data collection. Depending on the character of research questions, to which extent the researcher has control over behavioural events and to what degree the focus ison contemporary events, the researcher can choose between an experiment, a survey, history, an analysis of archival records and a case study. (Yin, 1994) These are shown in Table 1.

Strategy	Form of research question	Requires control over behavioral events	Focuses on contemporary events
Experiment	How, why	YES	YES
Survey	Who, what, where, how many, how much,	NO	YES
Archival Analysis	Who, what, where, how many, how much,	NO	YES/ NO
History	How, why	NO	NO
Case Study	How, why	NO	YES

Table 1: Relevant Situations for Different Research Strategies
Source: Yin, 1994, p.6

A case study is mainly used at studying one or a small amount of units. Hence, the investigator studies many variables on few units. (Lundahl & Skärvad, 1992) A case study is preferable when using qualitative data because that kind of data needs to be explained and discussed in a more understandable way according to Eriksson and Wiedersheim-Paul (1997). The situations that give case studies a distinct advantage occur, according to Yin (1994), when a "how" or "why" question is being asked about a contemporary set of events over which the investigator has little or no control. Yin (1994) continue by explaining that case studies are characterized by investigations of contemporary phenomenon within its real-life context, and that case studies should be used especially when boundaries between the phenomenon and the context are not clearly evident.

Miles and Huberman (1994) continue by explaining how the multiple-cases make it possible to specify how, where, and sometimes also, why a certain phenomena has a specific behavior. They conclude that multiple-case sampling also adds to the validity, precision and the stability of the findings. In order to address the research questions of this study, two case studies will be conducted. By conducting case studies the results can be compared and the study seen as more compelling. This enables us to compare the results from each case in a cross-case analysis. Using a multiple-case study it can also make our findings more robust and possible make it easier to detect possible similarities and/or differences. How the case study is preceded is presented in the next section.

4.5 DATA COLLECTION

In the qualitative field of research, Yin (ibid.) has listed six forms of, what he refers to as, sources of evidence for collecting data. These are documentation, archival records, interviews, direct observations, participant observation and physical artifacts.

Within the scope of the research, we will use as many sources of data as possible. We will use documentation as a mean to augment evidence from other sources. For example, such data are available mainly in form of the bank information material (annual reports, articles, brochures, online information presentation, etc.), and this documentation will provide us with an overall view of the present situation of the banks.

According to Yin (1994), direct observation can involve observations of meetings, sidewalk activities, factory work, classrooms, and the like. To increase the reliability of observational evidence, a common procedure is to have more than a single observer making an observation, whether of the formal or the casual variety. Therefore, we would like to use observation together with interviewees on targeted websites related to our thesis.

Yin (1994) stated that one of the most significant sources of case study information is the interview. He further clarifies that positive aspects with the interview are that it is "targeted" because it concentrates directly on the case study topic. It is also "insightful" because it gives perceived causal conclusions. These positive aspects discussed by Yin (ibid.) are the reasons for why we have chosen the interview as a method of collecting data.

Interviews can be defined as the collection of information from respondents. Yin (ibid.) describes three types of interviews, open-ended, focused and structured. In the open-ended interview the key respondents are asked for facts as well as for their opinions. The focused interview is performed in a conversational manner but follows a set of questions derived from the case study protocol. This type of interview takes only a short time. The structured interview is best suited for surveys and this type of interview follows a structured questionnaire. Considering the nature of the research question two, we choose to use open-end interview to collect data about customer's perception of customer service in Internet banking. Thorough personal interviews with Internet banking users, we will try to find out their ideas about their wants or desires for Internet banking.

4.6 SAMPLE SELECTION

According to Miles & Huberman (1994), looking at contrasting cases can help understand a single-case finding, by specifying "how" and "where" carries on as it does. The authors continues by stating that if a finding holds in one setting and given its profile, also holds in a comparable setting the finding is more robust. Miles & Huberman (1994) further say that although contrasting cases are used, a sampling frame is needed, guided by the research questions and the conceptual framework.

The first case study was conducted through personal interviews of two Swedish persons who were using Internet banking more than three years. The first interview was conducted in the Computer Lab, at LTU and second interview was conducted at interviewee's residence. The interviewees were informed about the purpose of the study before start the interview and how the interview would be conducted. Demographically, the participants were two eMBA students of LTU. One was varying between 20 to 29 years and the other participant age was varying between 30 and 39 years. Interviews with these Swedish participants were individually taken in computer room of A-Huset, LTU, on April 8th, 2004.

The second case study was conducted through email and chatting with two Chinese persons over Internet. The interviewees were informed about aim of study through email first. After obtaining their consents, questionnaires were sent to them. Further, separate chat over Internet was arranged with them for clarification of their answers. Demographically, the participants were working in business organizations and holding MBA degree. One participant's age is varying between 20 to 29 years old and the other is between 30 to 39 years. Both of them have been graduated from CUFE (shorted for Central University of Finance and Economy, China) for 2 years and also have been using Internet banking at least 2 years. Interviews with them were separately taken on April 10th and 11th, 2004, through MSN Messenger, a multi-functional online communication software. Here we also want to mention that we could not select Chinese sample from Chinese students who were studying/working in Lulea, reason of which is that almost all Chinese came to Lulea a few years ago, they were not using Chinese Internet banking regularly and most of key services in Internet banking in China were launched in last few years. Therefore they were not good sample for our study. Resultantly, authors decided to choose samples directly from China who were using Internet banking regularly.

All of participants used the Internet banking quite often. They paid bill, transferring amount between the accounts, seek information etc. They were using Internet banking since more than three years. As these interviewees were familiar with many of the concepts regarding the Internet and were dealing with their own banking online frequently, they were regarded as suitable samples for the study.

4.7 DATA ANALYSIS

According to Yin (1994) data analysis involves examining, categorizing, tabulating or otherwise recombining the collected data. Every investigation should have a general analytical strategy in order to determine what to analyze and why. Two general strategies are suggested. The researcher can either follow the theoretical propositions that led to the case study or develop a descriptive framework to organize the case study. Within these strategies, there are four different techniques for analyzing the collected data. The first is pattern matching, which means to compare an empirical based pattern

with a predictable one. The following technique is explanation building, which refers to a kind of pattern matching where the goal is to analyze the case study data by building an explanation about the case. Furthermore, the third is time-series analysis that refers to repeated measures of the dependent variable/variables in order to look at changes over time. The last technique is to use program logic models, which is a combination of pattern-matching and time-series analysis where the analysis stipulates a complex chain of patterns over time.

Data analysis can, according to Miles & Huberman (1994), be defined "as consisting of three concurrent flows of activity: data reduction, data display and conclusion drawing/verification" (p.10). The data reduction stage of the analysis helps the researcher to make the data sharp, sorted, focused, discarded, and organized in order to be able to draw and verify conclusions. The data display is a way to organize and compress the reduced data so that it will make it easier to draw conclusions. This phase is useful when the researcher studies more than one case, a so-called multiple case. In the conclusion drawing and verification the researcher notes regularities, patterns, explanations, possible configurations, casual flows and propositions.

As we analyzed the research data, we stuck to the points lifted out by Miles & Huberman (1994). We believe that aforementioned strategy and flows of data analysis will guide us through the empirical study for this research. In following the frame of reference and research method, we will collect our data from two case studies. After presenting and reducing the data, we will display data in the next chapter. Consequently, our conclusion can be drawn on basis of data analysis.

4.8 VALIDITY AND RELIABILITY

Validity and reliability are two useful measures when defining the quality of a research. Validity is defined as the instrument's ability to measure exactly what concepts it is supposed to measure. (Eriksson & Wiedersheim-Paul, 1997). According to Yin (1994) there are three forms of validity: construct validity, internal validity, and external validity. For construct validity it is important to establish correct operational measures for the concepts that are being studied and that objective judgment is used to collect the data. Internal validity means to establish a casual relationship, which is showing that specific conditions lead to other conditions. The internal validity should though, according to Yin (ibid), not be used in a descriptive or exploratory study and therefore it will not be used in this study. External validity refers to establishing the field to which the findings can be generalized. The findings of a case study should be generalized analytically and not statistically.

To gain reliability of the study, the interviewees should be already familiar with Internet banking, at least have experience of doing banking online, and the authors spent enough time to conduct interviews. The authors attempted to avoid leading and

subjective questions, which would be facilitated by the use of the more structured interview guide. In addition, first interview guide was tested, thereafter; the final interview guide was made for all interview sessions. Especially for collecting data from Chinese interviewees, we translated interview guide into Chinese version (see Appendix Four) and sent them in advance in order to let them had a better understanding on the subjects and then gave out responding answers. However, when interpreting the answers, the reliability might be affected negatively by some personal biases. In order to develop a case study database, the audiotape, chatting data and notes from the sessions will be saved. However, it is difficult to establish reliability to any larger extent, as the case studies deal with the perceptions of people on an intangible and varying subject. The reliability may be further influenced by the fact that peoples' perceptions vary over time, which makes it difficult for another researcher to achieve the same results even if the same sample were to be used.

To increase the validity in this study the author selected using multiple sources of evidence namely documentation, personal observations and personal interviews. In order to further increase the validity of this study the author used well-established literature to construct the frame of reference. The choice to conduct multiple case studies also increased the validity of this study, since it provided us with more information about the research problem.

Finally, according to Gummesson (1999, pp58)"…the more advanced knowledge that one has of the area under study, the greater the potential value of a study visit or an interview". Thus, the authors should learn related knowledge about banks before hand. Fortunately, one of authors has 12 years of working experience in the bank.

5 DATA COLLECTION

In this chapter, we present the empirical data collected from the two case studies. Each case study presents one by one. The presentation is divided into sections, where we start each one with introduction of the Bank, after that present the collected data. It does the same order as our stated research questions are posed, conceptualized and the literature is reviewed.

5.1 CASE ONE SWEDEN

5.1.1 Swedish Bank – Nordea.Se

The Nordea Group is the largest financial services group with a comprehensive distribution network in the Nordic region and the Baltic Sea region including bank branch offices, telephone banking and Internet services. Worldwide the Nordea Group extends across 22 countries with a total of 1,240 bank branches and 37,000 employees. The Group's business organization includes three business areas: Retail Banking, Corporate and Institutional Banking, and Asset Management & Life. The Nordea Group has more than 10 million customers, and more than 3.3 million Internet banking customers. The Nordea share is listed in Stockholm, Helsinki and Copenhagen. (Annual report 2002).

Internet based service was launched on a pilot basis by Nordbanken in 1996. The Nordea Group is a world leader in Internet banking, with 3.3 million e-customers. 306,000 customers had signed up for equity trading on line. The number of customer logons was 104 million, which represented an increase of 23 million, or 28% compared to last financial year and the number of payments was 121 million during the year, an increase of 24 million or 25% compared to last year. (Annual report, 2002).

Nordea aim is to deliver all products and services through all distribution channels, thus ensuring that the customer is experiencing one bank and chooses the appropriate channel, whether it be the local branch office, the telephone or the Internet. The bank is providing various types of facility to their customers via internet like get current account balance at any time, transfer money between accounts, pay bills, investments, loans, pension and advisory services etc. It saves time and money for users. Internet banking provides customers with the freedom to decide when, where and how they conduct their banking transaction. (Annual report 2002).

5.1.2   Web site -Nordea.Se

The Bank Web site did not have too many moving elements such as *graphics* or pictures that were twinkling, moving or shifting in shape. There was no *animation and/or multimedia* used to increase its appealing. (Observation).

Product information content was available and visitor could easily search the desired information of all banking products and services. About *amount of product,* the visitor mostly did not need to scroll pages to see all information. On some pages there was a next page link. Regarding *product information format,* the information about products and service was available in text and downloaded format (PDF). The annual reports and some other important report could be downloaded from the web. But there was *language* options were available for visitors, all information was available in Swedish. As far as *layout features* are concerned, *colors* of Nordea's Web site, the background was white with a light gray and dark blue pattern. Some important heading and links was dark blue color. In pictures and icons a great deal of colors are used. Furthermore, dark blue was used around the menu. Most *text* on the site was black. Nordea did have mostly used one font on its Web pages. The font that they used was Times New Roman but very few places verdana font. There were in addition a few different sizes of the text depending on if it was a hypertext link, heading, or a paragraph of information. Regarding the *speed* of the Web site, visitors were able to move further in the structure of a Web page in a few seconds. The system requirements mentioned by Nordea is PC platform (Windows 95, 98, ME, NT4, W2000), Netscape Navigator 4.x (but not Netscape 6+), and Microsoft Internet Explore 4.x, Mac OS9/OSX, Microsoft Internet Explore 5. This site works best with a resolution of 800x600 pixels and a color depth of a least 65 thousand colors (16 bits).

Regarding *interactivity* opportunities, the Bank e-mail and manual addresses were available under heading "kontahk", which was also made on almost all pages. Website provided bespoke solution in shape demo facility. The person who was operating Internet banking first time could demonstrate his transaction in demo and learn how to operate transaction in Internet banking. Moreover, the website furnished facility of *exchange rate converter*. (Observation).

About *navigation*, a visitor could easily reach from homepage to any important information through *homepage hyperlinks*. When visitors opened its home page of the bank, they saw a horizontal links on the top including bank name with dark blue background. The homepage was providing important information regarding personal customers, corporate customers, and information about Nordea, jobs; log in solo, language options etc. There were no dead and end pages on the site. The *links* were well prominent and so visitor did not feel any problem to reaching the wanted page. In all of its web pages, nordea.se managed *consistent navigation* with the same style: same color, same background, same logo, same layout, etc. Further, the pages were adjusted to the size of the screen. There were few areas; bottom of the pages was empty spaces

in some pages. *Search engine and site map* was not provided on the website. (Observation).

About *security* issues, the banks had so far avoided the big security scares that had afflicted online-finance providers elsewhere. Besides using advanced *encryption* technology, they had also adapted a basic but effective system--known as "challenge response logic". In its simplest form, this involved a list of code numbers sent to every online client and used in sequence, in combination with their password or personal identification number (PIN). This gave each transaction a unique code, and had so far proved safe. It also provided *operation confirmation* and had detailed records of all banking transactions listed on private page. After logging in, if visitor was inactive on the web page for a short time, Nordea.se would *automatically log off* to user from his account. (Observation).

5.1.3   Swedish Customer - Nordea.Se

The first topic that was discussed with interviewees was *trustworthiness*. When interview were asked when they purchased products through Internet at that time they felt *security* problems providing sensitive information like debit card/credit card number. He replied that he felt insecure especially when purchasing from abroad – not in Sweden. Always do research before purchasing online for example the Company is a member of SSL (secure socket layer). About *risk*, he did not think there was a risk with money transferring between the accounts. When dealing with unknown sellers over the Internet and making payment, he perceived a certain risk. They said that first they tried to buy a product for a small amount of money and saw that if it worked. Thereafter, they would go for big amount of buying. They read from newspapers and some times heard from different friends, few people could trace identity like password, card number and name. But their bank gave surety so they did not feel any insecurity conducting transaction over the Internet.   As far as *privacy* was concerned, they had full confidence on the bank. One participant added that other companies were selling email addresses not our bank. Moreover, the Bank had given guarantee their information would not provide to any other person or company.

The participants gave comments on *communication* that their bank had a news/information link at a home page, further; the bank informed them if there was anything important to know. About *communication tools*, addresses and telephone numbers of all relevant departments was available. For the convenience, the search engine was available only to find out the required addresses. There was no search engine for product information. They preferred to contact the bank through email as compared to telephone because it was lower cost channel for communication. About FAQ's, there was no link from home page of nordea.se. But, there was single link for FAQ's on solo home page thereafter there was no link specially when entered in personal service web page. If customer wanted to search information from FAQs for that he must sign out from personal service page. Thereafter, he could see required

information from FAQ's. Moreover, list of questions was available but all FAQs were related to technical information like security, browser, terminal etc. There was no general question regarding credit, customer service, payment, interest rates etc. When asked them about *information updated* regularly, they said that it seemed that nordea.se updated information regularly. Different web pages were showing different dates on the end of the pages. Regarding information understandable, they did not feel any problem to find out the information about the products (car loan, house loan, credit card etc), was also clear and understandable. All necessary information was explained in detail.

About *convenient,* one participant said that he visited his bank in down town only two times within last three years. Due to that he had saved his time, money and avoided waiting in queue for his turn in the bank. About *ease to use*, they didn't observe any problem when they used Internet banking first time. When asked them to explain how they log in Internet banking. They told first enter their person number, second pass word and third solo code. In opinion of one interviewee, if there were many bills at the same time to pay, there were many codes to handle, that bother him, and then he felt little inconvenience.   If more than one transaction would be happened in one step it would be better. When asked them regarding *accuracy* of the transaction, they observed 100% accuracy in transactions and re-check the transaction before making final payment. They could also check history of all transaction in their accounts, further separate accounts like payment, purchasing, etc. About applying online credit from the bank, one participant told he had applied for credit card few days before and card had not been received as yet. Other participant had no experience in the matter. Overall, they felt that Internet banking was very easy to use.

When topic *feedback/complaint management* was brought up, the participants viewed that they were satisfied with the feedback. The interviewee said, when he performed transactions for paying bills if they did make any mistake filling the information such as date, left column blank etc. The website informed that please go to back page and fill the requisite information again. Other participant gave example, when he paid his telephone bill to Telia through Internet banking, when transaction completed after that confirmation of the transaction came on the computer screen automatically. Further, what dates, to what account, how much amount had left in his account after the transaction, and how much amount transferred? On asking a question, did their bank seek feedback about customer services through email or survey? They replied that they had no experience of it so far. As far as Internet banking was customer *friendly environment* concerned, participants viewed were different to each other. In opinion of participant, the bank's website was friendly environment. But other participant said when required information was received easily then he observed friendly. Otherwise, he did not feel Internet banking friendly environment as like traditional banking. Regarding *complaint management*, one boy told his experiences, he received bills twice wrong about online purchasing; he did not buy those products. On his complaints, the bank revised the entries and sent corrected bill's statements to him.

About *efficiency,* the respondents argued that the Internet banking had saved their time. They could pay their bills at any time from their homes, no needs to visit bank, no need of observing bank's timing and avoid waiting in queue for their turn. He said that Internet saved many travels down town – visiting the bank, visited the bank twice in three years. Moreover, it was more cheaply way as compare to traditional banking and more control over their financial situation. Asking about the *menu option,* they said that there were limited options to reaching information. Regarding *demo*, the respondents viewed that it was very important and good feature introduced for new customers by the Bank. Newcomer could practice of performing transaction in demo. Further nearly all transactions could be conducted in the demo. In addition, one participant added that the bank explained him when he took Internet banking; how to operate internet banking in detailed and gave booklet about how conduct transactions on the Internet. Regarding *exchange rate conversion and calculators*, they informed there was only facility of exchange rate conversion.

About the *accessibility*, the interviewees were too much satisfied. They could connect to their bank's account from their homes' computers or school's computers or anywhere just need of solo code. Moreover, every page of the web was downloaded within few seconds. There was no problem of *connectivity*. In addition, the participant quoted that he visited UK and USA few weeks back, he did transactions from UK and USA without any difficult. When respondents were asked about the Nordea web site was giving any *special service for disables people* (hearing/sight). They replied that the bank was not providing any service on their web for disables people. As far as *multiple languages options* are concerned, there was only single language option i.e. Swedish.

The views of the both were different on *customization.* One interviewee said that it did not matter for him when he login whether he was welcome by his name/*personalize service* or not on web page. He was interested in the services, which matters for him more as compared to it. In addition, he said that he liked this type of services, if he had made payment in one account, so next time he had no need to register this account again before payment. The other participant said that he liked when he login to his account, his web page must be opened his name. First benefit of this page is that he known that he reached his page and second it's provided friendly environment.

5.2 CASE TWO CHINA

5.2.1   Chinese Bank – BOC.com

Established in 1912, Bank of China is the oldest bank in China. It has been ranked one of the world's top banks in terms of core capital by The Banker. For 90 years, Bank of China has played an important role in promoting China's economic and social progress through its active involvement in the country's international trade and financial activities. Since 1992 the bank has been awarded "The Best Bank in China" for nine

times by Euromoney magazine, the latest being in 2002. Moreover, Bank of China has been included in the Fortune Global 500 for 13 consecutive years. (Documentation from www.bank-of-china.com)

Bank of China is the first and the only Chinese bank that has presence in all major continents. At the present the bank offers financial services through its global network of over 560 overseas offices in 25 countries and regions. In Hong Kong and Macao, Bank of China is one of the local note-issuing banks. In 2002, Bank of China continued to generate the biggest profit among all Chinese banks, realizing a pre-provisioning profit of RMB52.7 billion, an increase of 27.1% over the previous year. The real operating profit stood at RMB47.2 billion if the investment income derived from the listing of Bank of China (Hong Kong) Limited is excluded. By the end of 2002, Bank of China's total assets had exceeded RMB3 trillion. (ibid)

Traditional commercial banking constitutes the majority of Bank of China's business, which is composed of corporate banking, retail banking and banking with financial institutions. Corporate banking is built upon the backbone of the bank's core credit products, to meet the needs of its corporate clients and provide them with individual and innovative financial services. Retail banking serves the financial needs of the bank's individual customers, focusing on providing them with integrated products based around the bank's Great Wall Card. Financial institutions banking serves banks, securities firms and insurance companies worldwide with such services as funds transfer, clearing, inter-bank lending and custody. (ibid)

To consolidate its competitive edge in the market, Bank of China has, from early 2000, taken a series of reform initiatives around the concept of building good corporate governance. In 2001, Bank of China successfully restructured its operations in Hong Kong by merging 10 of its member banks into Bank of China (Hong Kong) Limited, a locally registered bank. (ibid)

In the year 2002, Bank of China celebrated its 90th anniversary. The traditions of the bank continue to be to build the reputation of Bank of China as both creditworthy and trusted, as well as to strive for success through innovation. With its proud 90-year history, Bank of China will continue to build on what has already been achieved to date, and leap forward with renewed energy to create an even greater organization in the future. (ibid)

5.2.2   Web Site - BOC.com

Regarding its *speed to download*, which is revealed as one significant correlation for web users' satisfaction is speed. There is no *animation and/or multimedia* used to increase its appealing but properly slow down the loading speed. BOC.Com has colorful graphics on its website. (Observation)

Especially on the *content and design* BOC.Com devoted a lot of work on its web pages. When visitors open its home page, they would see a horizontal *links* on the top just under the brand name. These links were the headlines of the main content of BOC.Com, covering all of its products and services both online and offline, such as visa card, private banking, corporate banking, investment banking, E-banking, etc. In the middle part of *homepage*, there were corresponding detailed categories for all the links on the top. Single click on any *link* of the category then we will browse detailed and relevant *information* of banking product or service in a new window. All of the *information of banking products and service* is provided on web pages and no other format to download. Only BOC's annual reports in PDF file can be downloaded freely and optionally. Although Bank of China has launched its offices in 25 countries and regions of the world, its website only provide two *language versions* for Internet visitors: Chinese Simplified and English. A flashing link for browsing the English version can be found in the right top corner of homepage. The main *color* used in BOC.Com is dark red, which is being used commonly in website of most Chinese banks; Grey and white are colors of web background; and black is only for text. *Links* of all content within website can be found on homepage in color of white, black and a few in golden, besides one floating banner for promoting series financing products. (Observation)

About the *Interactivity,* first of all, BOC.com offer any bespoke solution to its customers. There are five kinds of *facilities*: deposit calculator, house-loan calculator, mortgage calculator, overdraft calculator and exchange rate converter. (Observation)

Regarding website's *navigation*, BOC.Com's had absolutely no link as 'Homepage' in any of its subpages, but clicking its logo of bank, which was positioned on the top of every web, would allow users to return to its *homepage* acting as homepage hyperlink. And the *links* had been well-labeled and lead customer to the wanted page although the amount of links looks so many. In all of its web pages, BOC.Com *managed consistent navigation* very well and kept the same style: same color, same background, same logo, same layout, etc. A simple *search engine* could be found on the left top, just under the logo of bank and it's settled in the same position in all of web pages, which can also be regarded as one method of keeping navigation consistent. The *search engine* didn't always work very well. Sometimes it works normally but sometimes no matter what title is entered, there's no reply coming out, either doesn't it tell users whether the title is beyond search limitation or whether there is relevant information. *Sitemap* can be found among the top horizontal links of every page easily. (Observation)

About the security issues, we could see that all *encryption technology*, operation confirmation and automatic log-off had been used by BOC.Com. For private customer's log-in, definitely account number (always 6 to 10 characters) and password (always 8 to 10 characters) were needed. *Operation confirmation* was shown after very transaction and a list of all records would be monthly sent to register's appointed email box. (Observation)

5.2.3   Chinese Customer - BOC.com

When we started to interview Chinese participants on customer service on Internet banking, *trustworthiness* was the first topic and according to them, it's also the most haunting issue when they thought about Internet banking in China. The participant did not feel secure over Internet banking. Although banks and social mediums publicized a lot on the security of banking online, participants felt that it's still risky to deal with banking through Internet for few people have 100 percent confidence on that there's absolute security in Internet banking, especially nowadays in China. And another reason was that according to rumors, sometimes there happened money transferring errors after shopping online; although it's not clear whether e-store or banks should take the responsibility of the mistake, it just made them feel uncomfortable. When asked them about their opinion transferring of money between accounts, they both mentioned they seldom performed with lack of confidence due; even when they had to do it occasionally, the mount of money transferred was quite small in order not to take risks. They also added that there should be a little risk of transferring money but not too much to imagine; currently it's only an issue of confidence and in the coming future they might transfer more and often. About privacy, since everyday having many junk mails from many sources, they became not care about who revealed their privacy. But they totally believed banks' professional regulations and not giving away their personal information.

Regarding to *communication*, the participants viewed it's important for Internet banking especially there's no face-to-face contact when they deal with banking matters. When asked whether the bank's web site was updated regularly, they said they had no idea. But other said website was not frequently updated. Usually they visited the website every ten days or longer so that they didn't pay attention on it. In spite of ignoring whether it's updated, they all thought the content of banking products and services is easy to understand and follow, which contains construction of all business of the bank. When asked whether website was showing the addresses and telephone numbers of all relevant departments on web site, Their reply was yes, in addition, they said that as individual customer they really need it very much, for the reason that in China some banking business has to be handled in branch office and impossible through Internet. About FAQ the interviewees made some complaint on its uneasiness to find out. There's no direct link of FAQ put on the homepage so that either by using search engine or to open the sitemap is the inconvenient way to find it. One interviewee added that at first he didn't know how to find where FAQs was, although it did exist somewhere and several times when he's confused about how to choose a better method to make a deposit and gain long-term benefit, it really took him too much time to find relevant information and analyze. However, after finding it, they admitted that FAQ could serve mostly answer of their queries or at least provide relevant links.

When asked about the *convenience*, first of all, participants agreed that it's once been the most important factor attracting them to do banking online. They all met problem

performing the first time internet banking; at last one interviewee solved his problem with help from bank employee, and the other should thank his friend who had experience of internet banking already. Although there's corresponding demo facility within website, the participants insisted that as first-time user they prefer face-to-face personal help and once easily became familiar with performing banking they would like to do anything through demo or tutor facility independently. About financial transaction, participants feel that it's easier to transfer money between different two accounts of the same bank, but if transaction involved another bank, no matter Chinese bank or foreign bank, it's always troublesome and hardly performable. Moreover, BOC.Com provides accurate record of all transactions for its customers, which made it possible to check account anytime and anywhere so that the participants felt satisfied and comfortable. And so far applying credit card was performable, but neither opening of account nor applying any kind of loan was possible without visiting the bank.

Regarding to the topic of *feedback/complaint management*, participants appeared a negative attitude on BOC.com. One of them once had experience of sending an email to ask for some certain information about his credit card, but had automatic reply only; after 2 weeks he sent another email to complaint about that and again had no relevant reply, all of which according to him made him feel very upset. The other participant didn't have same treatment because he didn't believe his complaint could be solved through emails and therefore he never did it. Rather than waiting for email reply, they all would like to make a call or go to local branch office straightly for complaints. However, considering the undeveloped situation of Chinese Internet banking, they said it's understandable about complaint management of BOC.Com. Comparing with the inefficiency of traditional banking, they were agreed that the Internet banking provided a customer friendly environment.

About the *efficiency*, Chinese interviewees believed it's one of two most attractive factors of Internet banking, besides convenience. They could perform basic banking transaction anytime and anywhere if there's accessibility between computer and Internet. Comparing to traditional banking, Internet banking saved time and decreased boring waiting in queue if they go to any bank branch. Online tutor or demo and brochure were also considered as necessary facilities for customers. Interviewee thought that these facilities made Internet visitors understand and follow the right way to deal with their banking transactions. Even offline transactions not available through Internet operating are also conducted, which could provide Internet visitors detailed information on each step of procedure before they take actions in physical world.

About the *accessibility*, BOC was not providing special service for disabled. Chinese interviewees had no idea of whether BOC.Com provided special service for disabled persons, but they thought it's technically possible and necessary and disabled persons should also benefit from Internet banking same as normal people. Then they mentioned they could open BOC.Com's homepage and log in their personal account from any Internet-connected computer, therefore which made it convenient to deal with banking

at any needed time. Sometimes there might have speed difference due to the reason of net jamming, but they mentioned it's acceptable and most time it didn't make too much influence.

When asked about the opinion of *customization*, interviewees insisted that when logging in on the bank's web site, they did notice whether they were welcome by name on web page for the very reason that they like the feeling of being paid recognition. And then one interviewee added that it would make him sure that account information browsed on webpage was private-only and therefore made him feel predominant. Moreover, the other one indicated that periodically he might receive promotion email or recognize his private page was updated with information or links relevant to some banking transactions that he always handled through Internet. He still felt satisfied although not all of information was needed.

6   DATA ANALYSIS

In the preceding chapter, authors presented the data collected from two banks, namely Nordea Bank Group and Bank of China. As mentioned in the methodology chapter, the data are qualitative and were collected by means of direct observation and focused personal interviews. In this chapter, the collected data will be analyzed on the basis of the frame of reference of this study. Moreover, the collected data will be analyzed by a within-case analysis and a cross-case analysis.

6.1   WEBSITE DESIGN IN INTERNET BANKING

6.1.1   Within-Case Analysis of Nordea.Se

There is a significant correlation between Web site download speed and Web user satisfaction revealed by the studies of Muylle (1998) and Hoffman & Novak (1996) referenced by Jayawardhena & Foley (2000). In order to make every customer get suitable service, Nordea.Se avoided using any moving elements such as objects that are twinkling, moving or shifting in shape in order not to detract customers' attention when dealing their banking transactions. Nordea also mentioned the system requirements and computer screen settings for having better browsing to its visitors. To avoid slowing down the loading speed, Nordea.Se never used animation and/or multimedia to increase its appealing because that is not necessary.

For its content and design, Nordea.Se didn't put a lot on their business description on homepage but provided important information regarding personal customers, corporate customers, information about Nordea jobs, and logging in solo by brief words. Its homepage, though, did not contain much information about the bank and not much about its products, but it provided links to all of the important information of banking products and service, including funds transfers, payments, e-invoice, e-payment, mutual funds, personal service, account statement and loans etc. Although there's no other format to download of these kinds of information, we think it's more than enough for customers to find what they need to know. Regarding the layout features of Nordea's website, the background is white with a light grey and dark blue pattern. Most text on the site is black but some important headings and links are dark blue color. In pictures and icons a great deal of colors are used. Furthermore, dark blue is used around the menu. Above all of these made the website look neat and simple. As Jayawardhena and Foley (2000) stated that pages on a website should ideally be short. In the case of Nordea.Se, information of banking products and service mostly organized in corresponding web page and visitors mostly do not need to scroll pages to see all information; moreover, for further information they can click the link of next page or sub page, all of which according to interviewees it made visitors feel convenient. Layout of the web site seems good due to color matching and font size. Colors of the

background make the site somewhat organized. The size of the text in the menu and icons are quite good. Furthermore, there are little empty spaces on the web pages but does not look awkward. There are also some pictures of these products. At last, there's no more alternative language edition provided by Nordea.Se, which maybe cause some troubles to these foreign clients that know little about Swedish.

As far as its interactivity is concerned, Nordea.Se had the bank e-mail and manual addresses available under a Swedish heading "kontakt" on almost all pages. It also provided bespoke solution service and in shape demo facility made beginners learn how to proceed with it. Facility of exchange rate converter was also available on its website, therefore according to Muylle et al, (1999) customers could judge for themselves their commitments for foreign currency exchange, which might otherwise require the assistance of bank staff; and on the other hand it work to the benefit of the banks somewhat.

Regarding its navigation efficiency, Nordea.Se had a structured navigational system in order to make its visitor easily to reach a specific page from any other page by the help of menu or link. To make browsing continuous, it carefully labeled links on their website and make sure each of them can target relevant subpage. Customers can easily follow the instruction on the website to go through web content and finish their banking transaction. According to Constantine and Lockwood (1999), the navigation of a website cannot be carried out without valid links. When visitors open its home page of the bank, they see horizontal links on the top, which lead visitors to move on every important subpage; at same time, it's possible to get to the homepage from any page in the site by clicking homepage hyperlink. In addition, No dead end pages existed on the site. With the same color, same background, same logo, same layout, etc, authors think nordea.se managed consistent navigation very well and kept all pages the same style, which meet the conclusion of Spool et al. (1999) that the pages within website need to be consistent in appearance and design. However, there's no search engine or site map, which seems support the argument of Creative Good (2000) that a website with a clear menu and relevant information should be satisfactory and that users are not actually interested in where they are within a site as long as the links are clear.

In order to strengthen its security of banking operation, Nordea.Se upgraded its encryption technology, which is regarded the most common feature at all bank sites by Jayawardhena and Foley (2000), for its private customer, who had to have Swedish personal number (including 10 numbers), private code (including 4 numbers) and one-time-used code from as a unique code (including 4 numbers) altogether to log in and one more one-time-used code to finish one banking operation. It also provided operation confirmation and had detailed records of all banking transactions listed on private page. After his logging in if visitor has inactivity on the webpage for a short time, Nordea.se will automatically logs users off his account in order to make sure privacy secure.

6.1.2   Within-Case Analysis of BOC.Com

According to Jayawardhena and Foley (2000), speed is often a factor beyond the control of a site owner and it is important to recognize that speed is also dependent on the user's computing hardware and method of connection. Regarding its speed to download, BOC.Com used some small pieces of colorful graphics on its homepage; on the contrary, there's only simple and meaningful graphics except one piece of twinkling banner on the top of its sub pages. Moreover, BOC.Com used a little bit animation and/or multimedia such as flashing popup and floating ad to do promotion of some kind of new or hot banking product/service on its homepage. However, the using of graphics, animation and/or multimedia in BOC.Com seems not influence the speed of opening its webpage, probably due to the reason of user's better computing hardware, method of connection, or increased internet system speed which have been observed by many commentators

For its content and design, BOC.Com's home page provided all links of all important information of its banking products and services, including visa card, private banking, corporate banking, investment banking, E-banking, foreign exchange, settlement service etc. Besides that, there were also some pieces of latest bank news located in the central middle part of its homepage, which made it look more like one method of bank internal medium and according to interviewees they were totally had no interest to read these banks news when they did banking transaction. Except BOC's annual reports, no format of banking product or service information is provided on web pages. The main color used in BOC.Com is dark red, which in China means good luck and fortune therefore it is being used commonly in most Chinese banks' website; Grey and white are colors of web background in order to make the text in black easy to read and recognize. By using numbers of twinkling banners and popup, the website may give visitors a colorful impressing as a whole at first; actually its subpages were as simple and neat as Nordea.se. Besides the version of Chinese Simplified, BOC.Com also provided English version to its foreign clients. With the similar consistent navigation as Chinese version, it mainly worked as bank information provider, there was no Internet banking service available in English web.

About the interactivity, there are five kinds of facilities provided by BOC.Com both in Chinese and English version: deposit calculator, house-loan calculator, mortgage calculator, overdraft calculator and exchange rate converter. Supported by Muylle et al. (1999), the provision of these facilities should work to the benefit of the banks in several ways

Creative Good (2000) pointed out that there should be a ``home'' button on every page to help the user get back to the home page if necessary without having to click on the back button. BOC.Com did recognize to settle homepage hyperlink on all of its web pages, which is the logo of bank positioned on the left top of every web, which

according to Gatian (1994) and Doll et al. (1995) might make positive influence on user satisfaction. When visitors open its home page, they will see a horizontal links on the top just under the brand name. These links are the headlines of the main content of BOC.Com, covering all of its products and services both online and offline. Jayawardhena and Foley (2000) mention that links are the main way for the users to navigate their way around a site and should be clear and to the point; we can see it's proved someway by BOC.COm that the links has been well labeled and lead customer to the wanted page although the amount of links looks so many and some links of non-banking content exist on the homepage. Due to keep the consistent navigation within site, BOC.Com also kept the same color, same background, same logo, and same layout etc so that kept all pages the same style. In the two language versions of BOC.Com, sitemap can be found among the top horizontal links of every page. Spool et al. (1999) found that users navigating sites with a site map were twice as successful in finding what they wanted, compared to those sites without, and that informing the customer of where they were was important. In the two language versions of BOC.Com, sitemap can be found among the top horizontal links of every page, which also make it easy for customers to find where they are. Although with some technical problem, the search engine didn't work perfectly all the time; but at least when it worked well, the results mostly was listed on one page only and limited in number, same as Creative Good (2000) suggested.

In order to strengthen its security of banking operation, BOC.Com also used encryption technology, operation confirmation and automatic log-off in order to make it more secure for its customers to deal with Internet banking. Although some sites require information to be input in a random order, the order changing with each log in, BOC.Com only permanently requires account number and private code for logging so far.

6.1.3 Cross-Case Analysis

Table 2: Factors of speed in the cases

Speed	Nordea.Se	BOC.Com
Simple graphics	Simple and meaningful	Colorful and meaningful
Animation and/or multimedia	Not used	Used only for banner and popup

From the 6.1 we can see that Nordea.Se concerns speed of page download very much therefore it uses simple graphics without any animation and/or multimedia. Although from this point BOC.Com acts a contrary performance compared to Nordea.se with colorful graphics and using animation for banner and popup, we think all of these are

technically limited and therefore make no obvious influence on the speed of downloading pages and cause no issue that makes visitors impatient. We think that to use animation and multimedia technology or not depend on if the bank wants to have its website with a better appearance and increase website appealing and if the animation and/or multimedia give evident effect in loading speed. And since speed is often a factor beyond the control of a site owner, there's not absolute forbiddance of using animation and/or multimedia only for better speed.

Table 3: Factors of Content and Design in the cases

Content and Design	Nordea.Se	BOC.Com
Product information content	Detailed information of all banking products and services	Detailed information of all banking products and services
Amount of product information	High	High
Product information format	Annual reports, quarterly reports and statistics	Only annual reports
Language alternatives	Swedish	Chinese simplified and English
Layout features	Well organized, neat and simple with short pages	Well organized and simple with featured colors

From the table 6.2 it's easy to recognize that both of two banks devote a lot on presenting their product and service in order to make customers have a better understanding on banking business. The factors related with product and service information are similar on two websites: plenty, detailed and no format to download except BOC's annual reports. As far as layout features are concerned, neat and simple web pages make it easy and convenient for customers to handle banking transaction in Nordea.Se; on the other hand, twinkling and colorful designs of homepage make BOC.Com more like a promoting channel, primary target of which seems to attract visitor's eyeball and then give visitors as much information as possible. Beside Chinese version, BOC.Com also prepares an English version for its foreign clients, which makes it more internationally accepted, compared with the fact that Nordea.Se provides no other language alternatives except Swedish.

Table 4: Factors of Interactivity in the cases

Interactivity	Nordea.Se	BOC.Com
Technical banking facilities	Exchange rate converter	Investment calculator, house-loan calculator, car loan calculator, mortgage calculator and exchange rate converter

From the table 6.3, we may say that the different attitude of two banks to bespoke solution probably is due to the reason of banking style and history. But they all concerned the importance of technical banking facilities that influence customer satisfaction. We may say more facilities would bring more customer satisfaction than no or less facilities.

Table 5: Factors of navigation in the cases

Navigation	Nordea.Se	BOC.Com
Homepage hyperlink	Provided as text ('home')	Provided as logo
Links	Accurate	Accurate
Consistent navigation	Consistent	Consistent
Search engine	Not provided	Provided but not stable
Site maps/guides	Not using	Using

According to Jayawardhena and Foley (2000), the hallmark of a good banking site is that the site index should always be in display, thereby making it very easy and fast for someone to arrive at the desired location. From the table of 6.4 we can see that both Nordea.se and BOC.Com did good same job on homepage hyperlink setting, links organizing and consistent navigation, which make visitors easily and smoothly traveled between sub pages and homepage. Although BOC.Com is providing search engine and sitemap on all of its webpage, there still seem some technical issues existing that should have been solved. There are no search engine and sitemap in Nordea.Se; probably Nordea.Se has confidence on its well-organized content and links, but we thinks the ignoring of important and common facilities would make its customer upset in the future.

Table 6: Factors of security in the cases

Security	Nordea.Se	BOC.Com
Encryption	Used	Used
Purchase /operation confirmation	Provided	Provided
Automatically log off	Used	Used

From the table of 6.5, we see that these two banks emphasize all factors relevant to security. For all of its private customers, Nordea.Se uses a very good encryption operation system to insure the security of logging and operating. BOC.Com needs to improve its sample-looking logging procedure somewhat although its encryption so far is still safe enough. Purchase /operation confirmation and automatically log off are the other two important secure factors which are adopted without doubts.

6.2   CUSTOMER SERVICE IN INTERNET BANKING

6.2.1   Within-Case Analysis of Nordea.Se

The interviewee felt insecure especially when purchasing from abroad – not so much in Sweden. This is an accordance of opinion of Andreason & Lindestad (1997) and Zemke & Connellan (2001) that customers traditionally build trust based on the image and reputation.

The participants perceived a certain risk performing payment when dealing with unknown sellers over the Internet. This is supported the findings of Birch &Young (1997), Mathe & Dagi (1996) and Yang & Jun (2002) that online buyers are more concerned about online payments.

The respondents claimed that they had full belief on the bank. The Bank has given guarantee their information would not provide to any other person or company. Other companies were selling email addresses not our bank. Hence, interviewees had built trust based on the image and reputation. This is somewhat applicable with what was stated by Zemke and Connellan (2001) and Andreason & Lindestad (1997).

The interviewees stated that bank furnished all-important email addresses and telephone number on the website. They preferred to contact through email to the bank instead of telephone because it was more economical way. These comments support the

views of Feinberg & Kadam (2002), Ulfelder (2000) and Cai & Jan (2003) that the customers prefer to use email as it is lower cost way of communication.

Nordea updates the site regularly and the content was always fresh, so this complies with the theory of issues that should be considered in order to develop a successful Web site, by Ellsworth and Ellsworth (1997).

According to Wisner & Corney (2001) and Cox & Dale (2002) stated that frequently asked questions to be described on home page. This reply of participants were not supported this statement. Nordea did not give any link to FAQs on home page but made like FAQs on solo home page, which covers only technical questions such as browser, terminal, security etc not general questions about customer services. These results are also not consistent with the recommendation of Constantine & Lockwood (1999). Constantine & Lockwood (1999) stated that a well designed FAQs pages should be arranged in three sections, but nordea made only one section out of three sections advised, that is list of questions, so, the customers were not satisfied.

When they preformed transactions for paying bills if they did mistake filling the information, website informed them to go back and to fill these information again. This is in accordance of Cox & Dale (2002) stated about web sites informs users of a mistake by writing the information to redo something in order to proceed.

Information provided on the website of Nordea was understandable and clear. Customers did not feel any problem in the matter. This does not support the findings of Broderick & Vachirapornpuk (2002) that customers often need help of banking staff in Internet banking for understanding the information.

The remarks of interviewees, they did not feel any problem performing Internet banking first time. It does not comply with the findings of Broderick & Vachirapornpuk (2002) and Sathye (1999) that Internet banking is difficult for customers.

The comments of the respondents, Internet banking is more convenient as compared to traditional banking. Convenience is a primary benefit sought by customers, which supported the comments of Reed (1998) & Milligan (1997) and Ravi Kalakota (1997).

They observed 100% accuracy in transactions and handled transactions independently according to their will. Accuracy in banking transactions is happened due to IT. The satisfaction about accuracy in transactions, which was motivated the participants for using Internet banking. These views are according to finding of Licata (1998) that IT reduces error and enhance service quality

They respondents can check statements of all transaction that had been done. This is supported the recommendation of Joseph, McClure, Joseph (1999) that bank should provide statements of transactions have been conducted in electronically.

The statement of Vassilopoulou & Keeling (2000) and Good (2000) was reviewed in regard to the organizations obtain feedback of the customers through special option or form which creates on their websites. The respondent informed that website of the bank did not ask such information. Vassilopoulou & Keeling (2000) and Good (2000) views are not in accordance with what any of the respondents stated.

The participant viewed that he visited his bank in down town only two times within last three years. Due to that he had saved his time, money and avoid waiting in queue for his turn in the bank. This is supported Houston (1997) and Ravi Kalakota (1997) statement that customers avoid to wait in a queue.

The interviewees liked demo and felt that demo helped a lot to conduct transaction in Internet banking. This is consistent with view of Vassilopoulou and Keeling (2000) that demo helps customers in online shopping.

The respondent told that he did not purchase some items through Internet but he received bill for payment. He pointed out to the bank; the bank sent him new bill after correction, so he was satisfied with complaint management of the bank and there was no risk in Internet banking. This is accordance the opinion of Kolesar & Galbraith, 2000 and Zemke and Connellan (2001) that such services would be enhanced the level of satisfaction over Internet banking.

Difference of opinion about the Internet banking is friendly environment, one said friendly environment and second was against it. This is similar finding of Jayawardhena & Foley (2000) studies that most of people associate a bank transaction with human interaction. For many people the prospect of typing on a keyboard to carry out a bank transaction seems very detached method of banking.

Nordea provided currency conversion rate mechanism on their website which liked the respondent. This is accordance with the views of Muylle et al, (1999), Jayawardhena & Foley (2000) and Vassilopoulou & Keeling (2000) about currency conversion rate mechanism.

Nordea web pages were downloaded within few seconds. Respondents were very happy with downloading speed. This is supported the comments of Vassilopoulou & Keeling (2000) that downloading of web pages are very important for customers satisfaction.

Gann (2000) emphasizes the fact that Web sites must be accessible 24 hours a day, seven days a week, 365 days of the year. The respondent quoted that he did his payment from UK and USA, supported the statement of Gann (2000).

The interviewee said that he liked if he had made payment in one account, so next time he had no need to register this account again before payment. These comments support

the finding of Cox & Dale (2002) and Creative Good (2000) that the customers enter directly into the pages most relevant to them.

6.2.2   Within-Case Analysis of BOC.Com

According to Grönross (1984), Andreason & Lindestad (1997), Zemke and Connellan (2001) that customers traditionally build trust based on the image and reputation. The views of participants supported views of researchers that trust builds based on the image and reputation. The participants felt insecure over Internet banking because they heard and read news that Internet was not secured medium for transactions. While, they had never happened any misshape with them or close friend so far.

The respondents perceived a certain risk performing payment between the accounts. This is supported the findings of Birch &Young (1997), Mathe & Dagi (1996) and Yang & Jun (2002) that online buyers are more concerned about online payments.

The interviewees claimed that they had full belief on the bank. The Bank cannot leak their privacy due to banking regulations. This is somewhat applicable which was stated by Zemke and Connellan (2001), Grönross (1984) and Andreason & Lindestad (1997) about privacy that customers have confidence about some organization.

Web site of Bank of China was not regularly updated, so this complies with the theory of issues that should be considered in order to develop a successful Web site, by Ellsworth and Ellsworth (1997).

The interviewees pointed out that there was no direct link of FAQs put on the homepage. This is not accordance with the findings of Wisner & Corney (2001), Cox & Dale (2002) and Constantine & Lockwood (1999) that organization provide link to FAQs on their homepage.

The interviewees felt problems performing Internet banking first time. It is comply with the findings of Broderick & Vachirapornpuk (2002) and Sathye (1999) that Internet banking is difficult for customers.

According to findings of Furey (1991) & Licata (1998), that IT reduces error and enhance service quality. The findings supported the respondents' reply that Internet banking provided 100% accuracy in transactions and handled transactions independently according to their will.

The interviewees liked demo and felt that demo helped a lot to conduct transaction in Internet banking. This is consistent with view of Vassilopoulou and Keeling (2000) that demo helps customers in online shopping.

The participant informed about negative attitude of BOC.com. He sent an email to ask for some certain information about his credit card, but he did not receive reply. After two weeks, he sent reminder but he did get any reply again. So, he became too much angry about the services of the bank. According to Feinberg & Kadam (2002), Ulfelder (2000) and Cai & Jan (2003) that the customers prefer to use email. The views of participant does not support to it.

The respondents claimed that Internet banking is more convenient as compared to traditional banking. Convenience is a primary benefit sought by customers, which supported the comments of Reed (1998) & Milligan (1997) and Ravi Kalakota (1997).

BOC.com provided facility to their customers to check statements of all transaction that had been done. This is supported the recommendation of Joseph, McClure, Joseph (1999) that bank should provide statements of transactions have been conducted in electronically. Further, Dabholkar (1994) stipulates that there should be flexibility in the design of the technology to allow customers to make changes during the transaction.

The respondents informed that information shown on the website was understandable and clear. Even about offline information was also very clear. So, this does not support the findings of Broderick & Vachirapornpuk (2002) that customers often need help of banking staff in Internet banking for understanding the information.

The participants viewed that their time was saved and avoid waiting in queue for his turn in the bank. This is supported Houston (1997) and Ravi Kalakota (1997) statement that customers avoid to wait in a queue.

The respondents felt that Internet banking is friendly environment. This is not similar finding of Jayawardhena & Foley (2000) that many people feel typing on a keyboard to carry out a bank transaction seem very detached method of banking.

BOC.com provided currency conversion rate mechanism on their website which liked the respondent. This is complying the views of Muylle et al, (1999) Vassilopoulou and Keeling (2000) about currency conversion rate mechanism.

The interviewees could open BOC.Com's homepage and log in their personal account from any Internet-connected computer, therefore which made it convenient to deal with banking at any needed time. This is supported the statement of Gann (2000).

6.2.3   Cross-Case Analysis

An important issue in cross-cultural research is that sample can be comparable across cultural (Knight & Calantone 2000). So, we choose highly educated young persons from both countries for this study.

Table 7: Characteristics of trustworthiness in cases

Trustworthiness	Swedish customers	Chinese customers
Security	Feels secure	Feels insecure
Trust/risk	No risk performing transaction within banks	Transferring error/lack of confidence
Privacy	Not worried	Not worried

Perhaps the most important issue in Internet banking is trustworthiness for customers, how much it is safe to use a web site and to conduct financial transaction over the Internet. From finding of the study, we can say that Swedish customers feel more secure performing transaction in Internet banking as compared to Chinese customers. May be one reason is that Internet banking was started in Sweden in 1996 and in China started very recently year. Second, Sweden is number one in adoption modern information technology since last two years (IDC Research). Further, Grönross (1984), Andreason & Lindestad (1997), Zemke and Connellan (2001) stated that customers traditionally build trust based on the image and reputation. Resultantly, Swedish customers felt secured doing business over Internet in Sweden but when did transaction with aboard that time little insecure. Whereas, Chinese customers still felt insecure performing transactions within banks in China due to reason they read/heard news about errors happened in between banks over Internet banking transactions. Subsequently, they built image that Internet is not secure so far.

About privacy, both Swedish and Chinese customers have a similar opinion. They have truth their banks due to banking regulations and assurance given from their banks. They thought that others companies are selling information their customers. Their perception seems to be right in our opinion also.

Table 8: Characteristics of communication in cases

Communication	Swedish customers	Chinese customers
Communication tools	Used	Used
Frequently asked questions	Uneasy to find out	Uneasy to find out
Information updated	Frequently	Infrequently
Information understandable	Clear and understandable	Clear and understandable

Web site has taken place of banking staff, client directly communicates with the web site in the cyber space in place of receptionist/officer of the bank. Importance of communication tools like email, telephone number, swift number, and addresses are realized everywhere. So, there is no difference between those countries. Surprisingly, Swedish and Chinese bank are not providing link for 'frequently asked questions" at their home pages. According to number of researchers recommended such as Wisner & Corney (2001), Cox & Dale (2002) that each organization must make FAQs link on the home page and participants also demanded for it. It is un-understandable that why banks are not giving links to FAQs on their home pages.

Information furnishing on the Internet is updating regularly by Swedish bank as compare to Chinese bank. It is very important for enhancing customer confidence on Internet banking that information is updated regularly on the web. Hence Swedish banks` data shows that Swedish customers of Internet banking are increasing very rapidly. Apart of this, information about products, services are clear and understandable for both Swedish and Chinese customers from their banks sites.

Table 9: Characteristics of convenience/accuracy in cases

Convenience/ Accuracy	Swedish customers	Chinese customers
Convenient hours of operation	Yes	Yes
Accuracy in transactions	100% accuracy	100% accuracy
Easy to use (first time Internet banking)	Easy	Not easy

The rapid growth of Internet banking depends on different factors, one of the important factor, which is attracting to the customer, is convenience. Convenience is acting vital role on the behavior of both customers in irrespective of their countries. Customers prefer to save their time, money and avoid waiting in queue for their turn in the bank. All factors are showing same results in the above table except different opinions about using first time Internet banking. Chinese customers` opinion is that they felt problem performing first time Internet banking. Further, demo cannot help too much; they thought that face-to-face interaction was more important for understanding of banking transaction over Internet. So, they preferred to learn from some bank employees or some friend. Whereas, Swedish customers did not feel problem, performing Internet banking on first time.

Table 10: Characteristics of feedback/complaint in cases

Feedback/ Complaint management	Swedish customers	Chinese customers
Feedback service	Satisfied	Not satisfied
Complaint management	Satisfied	Not satisfied
Friendly environment	Yes	Yes

Quick responses to customers' inquiries, especially e-mail are played pivotal role in Internet banking for customer loyalty with the bank Kolesar & Galbraith, (2000) and Zemke & Connellan (2001). Our findings of the study are showing very surprised results that Chinese customers were unsatisfied with feedback service and complaint management of the Bank. On other hand, Swedish customers were completely satisfied with the services of the bank. In the competitive market, customer is a king. No organization can run business without support of their customers. According to Vassilopoulou and Keeling (2000) and Creative Good (2000) recommended that companies must make special option or form on their web site regarding the services provided, for customers' feedback. Neither Swedish nor Chinese bank is providing such services to the customers for feedback.

In opinion of Chinese and Swedish customers, Internet banking is friendly environment. That is a healthy sign for Internet banking in Sweden and China.

Table 11: Characteristics of efficiency in cases

Efficiency	Swedish customers	Chinese customers
Menu options	Limited links	Limited links
Demo	Provided	Provided
Exchange rate calculator	Provided	Provided
Calculators (loan, mortgage)	Not provided	Provided

The menu options or links allow the company to highlight products or services that may be relevant in a particular context (Feinberg & Kadam 2002). Interestingly the Chinese and Swedish customers have no too much option in home pages of their banks to easily search information. On other hand, the Banks are losing good opportunity to make good relationship with their customers.   None of the bank is following the characteristics of web page of bank described by Wisner and Corney (2001).

For helping their customers in conducting transactions over Internet, Nordea.se was providing demo and exchange rate converter to their customers. Whereas, BOC.com provided demo, exchange rate converter and calculator (loans, mortgage).

Table 12: Characteristics of accessibility in cases

Accessibility	Swedish customers	Chinese customers
Connectivity	Good	Good
Special services for disabled person	No	No
Multiple language options	No (Swedish)	Yes (Chinese, English)

One of finding of our study is that Swedish bank is offering single language option i.e. Swedish to the customers. Whereas, Chinese bank is providing multiple language option i.e. Chinese and English.

Both participants had similar view in regard to connectivity. They were not feeling any problem in the matter just they need computer and Internet connection for performing Internet banking. For disabled persons, no bank was furnishing special services for them.

Table 13: Characteristics of customization in cases

Customization	Swedish customers	Chinese customers
Personalized service	Yes	Yes

Internet banking is using technology to improve its personalized services, with the ultimate goal of helping customers gain greater control over managing their money transactions. However, customers irrespective of their country of origin either from Sweden or China demanded personalized services from their banks. This is typical philosophy of the customer. Banks understand the requirement of their customers so they are trying to provide personalized services. This is one main reason that none of interviewees said that they wanted to change bank. No doubt they had mentioned few complaints about their banks that were general nature, which was ignorable. Further, findings of the study supported these comments. There is no difference in results of Swedish or Chinese customers.

7 FINDINGS AND CONCLUSIONS

In the last chapter of this thesis we try to answer our research questions and conclusions drawn based on the theory and the analyzed data. Thereafter, implications for management, theory and future research are given.

7.1 How can website design in Internet banking be described?

From the analyzed data presented in the previous chapter, we have noted that Internet banks are making efforts in developing attractive websites for their customers. But some extent they have little differences according to their customers' expectations under cultural and traditional liking or disliking. With little difference, both Internet banks are presenting their websites with simple and appealing graphics. Resultantly, websites give good page-loading speed.

To keep customers frequently visiting the website, product information must be furnished in simple text and font. The amount of product must be in short and clear, so the customer at the time of reading does not become fed up. Further, Internet banking websites should provide options of exchange rate conversions, loan calculators (car, house, and mortgage). Thus, customer can do calculation if he needed, making the sites more dynamics.

The Internet banks should provide homepage hyperlinks for assessing the information. It may be better to maintain a consistent navigation style in the entire website. But it will be better if Internet bank make site map and search engine on the website for convenience of their customers. Generally, search engine depends on the content of volume. But we think that Internet banks have a lot of information on the web, so they must use search engine. In regard to security, the banks must use latest technology on their websites.

We have reached on the following specific conclusions after above discussion:

- ❑ The design of the Web site can play a vital role in Internet Banking if information about the products and services are concise and clear.
- ❑ The facility of search engine on home page can establish a longer relationship with customers in Internet banking.
- ❑ Simple and meaningful graphics can play a more effective role in Internet banking as compared to animation/multimedia. The customers can lose their concentration in performing transactions due to animation/multimedia graphics.

7.2 How are such websites used for enhancing customer service?

Regarding the factors influencing customer service on the Internet banking in Sweden and China, this study shows that Swedish and Chinese Internet banks put their all efforts for attracting new customers and retaining existing customers through their services. Banks tried to develop their websites based on their customers' expectations. But we can say that to some extent they achieved their objectives. Internet banks are trying to provide all traditional services through the Internet. Thus, banks are saving their expenditure and offering more convenient services to their customers.

Security is big issue for Internet customers. So, the Banks should make an ideal security system for more confidence building in their customers. Moreover, the information about the products (deposit schemes, rate of interest, loans etc) and services (advisory service, mutual funds investment, cards etc) must be communicated to their customers very clear and understandable way. The customers can perceive a true message which the bank wants to inform or communicate to them. Further, the information provided on the website must be regularly updated.

The customer' query and complaint should be handled as a top priority by the banks. Otherwise, the bank can lose the confidence and trust of the customer if they do not give a reply immediately. For new customers, the bank should provide demos and furnish detailed instructions for performing transactions on the Internet. Accuracy and convenient is one of main attraction for the Internet customers. Further, banks may consider offering multiple language options on their websites for attracting multicultural customers.

Keeping in view of above discussion, we specifically conclude:

- ❑ Clear and concise information about the loans (car, house, computer, furniture) can attract more customers for Internet banking.
- ❑ The languages options can play effective role in some services of Internet banking such as account opening abroad and international payments service.
- ❑ Good complaint management can increase customers' loyalty with Internet banks.
- ❑ FAQs (frequently asked questions) link on the Internet bank home page can enhance customer service quality.
- ❑ The more functions available on websites of Internet banks, i.e. demo, exchange rate conversion and calculators (loan & mortgage) the more dynamic the website becomes and therefore is more attractive and interesting for the customers.

7.3 Implications for Practitioners

The expectation of customer has increased rather than decreased with Internet banking.

Thus, it is recommended on the basis of the findings of the study that:

- ❑ The Internet banks/web designers should develop secure and well-designed websites that provide concise and clear information about the products and services to the online visitors.

- ❑ Internet banks should regularly monitor customers' complaint and query for enhancing customer service.

- ❑ Internet banks must offer all traditional services on the Internet for attracting more customers.

7.4 Implications for Theory

As we have already mentioned in this thesis that very few studies were conducted on how to design a good website for Internet banks and how to measure customer's service quality on the Internet. However, there was no specific study which was conducted on how Internet banks' websites can be used for enhancing customer service. The research purpose and research questions of this thesis indicated that this study was descriptive. In order to find out our research questions, two samples consisted on Chinese and Swedish customers were selected as a case study. These samples were tested on basis of frame of reference. Then the provided the results/issues as well as an insight into existing theories within the subject. The conclusions of this study contributes to the theory are based on the empirical data collected from two different banks' websites and data collected from customers regarding to our research questions. Thus we hope that method and conclusions in this study could give a referenced thinking to the studies of same or familiar topic in the future.

Internet banking customers are increasing rapidly due to various reasons such as convenience, time and cost saving. There are many interesting issues for academic studies; therefore, it is suggested to derive a specific model for studying of customers' service in Internet banking.

7.5 Implications for Further Research

Internet banking is a new business. There are plenty of issues which need to be explored from varies perspectives. This study has taken as a customer perspective. It is necessary to recognize the limitation of the current study. The sample size is very small, thus, a

large sample size is desirable to accurately evaluate the perception of customers' services in the Internet banking. Another area of future research is the replication of the study in other countries. Further, it would be desired to conduct this study from the bank's perspective.

REFERENCE LIST

Bengtsson, B-A. & Bengtsson, H.(1995). *Forskningsboken: om konsten att arbeta på ett undersökande och kunskapande sätt*. Uppsala: Almqvist & Wiksell Förlag AB. ISBN 91-21-14469-9

Boston Consulting Group (2000), "Winning the online consumer: insights into online consumer behavior", available at: www.bcg.com/new_ideas/new_ideas_sub4_order.asp (accessed 3 May 2001).

Boston Consulting Group (2002), "Profitability within reach for online retailers that master all elements of customer satisfaction", available at: www.bcg.com/media_center/media_press_release_subpage40.asp (accessed 16 July, 2002).

Broderick, A.J and Vachirapornpuk, S (2002), Service quality in Internet banking: the importance of customer role, *Marketing Intelligence & Planning*, Vol. 6, No. 20, pp 327-335.

Cai, S & Jun, M (2003), *Managing Service Quality*, volume 13, No. 6, pp. 504-519, MCB UP limited.

Clark, B. (1997), Welcome to my parlor . . ., *Marketing Management*, Chicago, Vol. 5 No. 4, pp. 10-25.

Clicksure (1999), *Clicksure Quality Standard for Electronic Commerce*, Washington, DC.

Constantine, L.L. and Lockwood, L.A.O. (1999), *Software for Use,* Item Press, New York, NY.

Cox, J & Dale, B.G. (2001), Key quality factors in Web site design and use: an examination, *International Journal of Quality & Reliability Management,* Vol. 19 No. 7, 2002, pp. 862-888.

Creative Good (2000), *Dot.Com Survival Guide*, Creative Good Inc, 12 June, available at: www.creativegood.com (accessed 15/6/2000).

Daniel, E. (1999), Provision of electronic banking in the UK and the Republic of Ireland, *International Journal of Bank Marketing,* Vol. 17 No. 2, pp. 72-82.

Dabholkar, P.A. (1996), 'Consumer evaluations of new technology-based self-service operations: an investigation of alternative models', *International Journal of Research in Marketing*, Vol. 13, No. 1, pp. 29-51.

Eriksson, L. P. & Wiedersheim-Paul, F. (1997). *Att utreda forska och rapportera.* Malmö: Liber Ekonomi. ISBN 91-44-43372-7

Griff, D.A. and Palmer, J. (1999), 'Leveraging the Web for corporate successes, *Business Horizons*, January-February, pp. 3-10.

Griffith, D.A. and Krampf, R.F. (1998), an examination of the Web-based strategies of the top 100 US retailers, *Journal of Marketing: Theory and Practice,* summer, pp. 12-22.

Grönroos, C., Helnomen, F., Isoniemi, K. and Lindholm, M. (2000), 'The NetOffer model: a case example from the virtual marketspace', *Management Decision*, Vol. 38 No. 4, pp. 243-52.

Foremski, T.(2000), *Web site design*, The Financial Times.

Foster, T. (1998), *Industrial Marketing Communication*, Luleå University of Technology Publications.

Holt, M. (2000), *Strategy: ten steps toward a better Web site design*, Bangkok Post, B975542.

Hoffman, D.L. and Novak, T. P. (1996), 'Donna and Thomas, marketing in hypermedia computer mediated environments: conceptual foundations', Journal of Marketing, Vol. 60, July, pp. 50-68.

Joseph, M., McClure, C. and Joseph, B. (1999), 'Service quality in the banking sector: the impact of technology on service delivery', *International Journal of Bank Marketing*, Vol. 17 No. 4, pp. 182-91.

Jayawardhena, C. and Foley, P. (2000), Changes in the banking sector: the case of Internet banking in the UK, *Internet Research: Electronic Networking Applications and Policy,* Vol. 10 No. 1, pp. 19-30.

Jayawardhena, C. and Foley, P. (1998), 'Overcoming constraints on electronic commerce – Internet payment systems', Journal of General Management, Vol. 24 No. 2, pp. 66-82.

Jun, Minjoon & Cai, Shaohan, The key determinants of Internet banking service quality: a content analysis, *International Journal of Bank Marketing*, 19/7 [2001] 276-291

Knight, G.A & Calantone, R.J (1999) "A flexible model of consumer country of orgin percepations" International Marketing Review, Vol. 17, No. 2. 2000, PP 127-145

Liu, C., Arnett, K., Capella, L. and Beatty, R. (1997), Web sites of the Fortune 500 companies: facing customers through home pages, *Information & Management,* Vol. 31, pp. 335-45.

Lohse, G.L. and Spiller, P. (1999), "Internet retailer store design: how the user interface influence traffic and sales", *Journal of Computer-Mediated Communication*, Vol. 5 No. 2,
Lockett, A. and Littler, D. (1997), 'The adoption of direct banking services', Journal of Marketing Management, Vol. 13, pp. 791-811.

Mandeville, T. (1998), 'An information economics perspective on innovation', International Journal of Social Economics, Vol. 25 Nos 2-4, pp. 357-64.

Madu, C.N. and Madu, A.A. (2002), "Dimensions of e-quality", *International Journal of Quality & Reliability Management*, Vol. 19 No. 3, pp. 246-58.

Miles, M.B., and Huberman, A.M. (1994), 'Qualitative Data Analysis', (2nd ed.). Thousand Oaks, California: Sage Publicaitons, Inc.

Mols, N.P. (2000), The Internet and services marketing ± the case of Danish retail banking, *Internet Research: Electronic Networking Applications and Policy,* Vol. 10 No. 1, pp. 7-18.

Parasuraman, A. (2000), 'Technology readiness index (TRI) ± a multiple-item scale to measure readiness to embrace new technologies', *Journal of ServiceResearch*, Vol. 2 No. 4, May, pp. 307-20.

Parasuraman A. and Grewal D. (2000), 'The impact of technology on the quality-value-loyalty chain: a research agenda', *Journal of the Academy of Marketing Science*, Vol. 28 No. 1, pp. 168-74.

Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1985), "A conceptual model of service quality and its implications for future research", *Journal of Marketing*, Vol. 49 No. 4, pp. 41-50.

Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1988), "SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality", *Journal of Retailing*, Vol. 64 No. 1, pp. 12-40.

Ratchford, B., Talukdar, D. and Lee, M.S. (2001), 'A model of consumer choice of the Internet as an information source', *International Journal of Electronic Commerce*, Vol. 5 No. 3, Spring, pp. 7-21.

PR Newswire (2000), *US e-commerce market phcs plenty of room to grow*, IDC Reveals, May.

Rajan, R.G. (1998), 'The past and future of commercial banking ± viewed through an incomplete contract lens', Journal of Money, Credit, and Banking, Vol. 30 No. 3, pp. 524-50.

Sathye, M. (1999), 'Adoption of Internet banking by Australian consumers: an empirical investigation', *International Journal of Bank Marketing*, Vol. 17 No. 7, pp. 324-34.

Spool, J., Scanlan, T., Schroeder, W., Snyder, C. and De Angels, T. (1999), Web Site Usability: A Designers Guide, Morgan Kaufmann Publishers, NewYork, NY.

Swaminathan, V., Lepkowska-White, E. and Rao, B.P. (1999), "Browsers or buyers in cyberspace? An investigation of factors in uencing electronic exchange", *Journal of Computer-mediated Communication*, Vol. 5 No. 2,

Vassilopoulou, K. and Keeling, K. (2000), *Usability measurement tool survey: differences between Australia and UK*, Manchester School of Management, UMIST, Manchester, 29 March.

Vernon, M. (2000), Translating Brand equality on line is a big challenge: reliability and security of brands, *The Financial Times*, February.

Yang, Z. and Jun, M. (2002), "Consumer perception of e-service quality: from Internet purchaser and non-purchaser perspectives", *Journal of Business Strategies*, Vol. 19 No. 1, pp. 19-41.

Yin, R.K. (1994). *Case study Research: Design and Methods. (2ⁿᵈ edition).*Thousand Oaks: Sage Publications, Inc.

Zeithaml, V.A., Parasuraman, A. and Malhotra, A. (2000), "A conceptual framework for understanding e-service quality: implications for future research and managerial practice", Working Paper, Report No. 00-115, Marketing Science Institute, Cambridge, MA.

Zhang, P. and Von Dran, G.M. (2001), "User expectations and rankings of quality factors in different Web site domains", *International Journal of ElectronicCommerce*, Vol. 6 No. 2, pp. 9-35.brands, *The Financial Times*, February.

APPENDICES

Appendix One: Observation Checklist

- Simple graphics

- Animation and/or multimedia plug-in

- Product information content

- Amount of product information

- Product information format

- Language alternatives

- Layout features: Consistency; Menu; Screens; Forms; Text; Colors

- Technical banking facilities: loan calculators, exchange rate converters, mortgage calculator etc

- Homepage hyperlinks

- Links.

- Consistent navigation.

- Search engine in the site.

- Site maps/guides.

- Encryption

- Purchase /operation confirmation

- Automatically log off

Appendix Two: Questionnaire

Questionnaire

Age: 19-29 years…………   30-39 year--------------
Nationality: ……………………
Male   ………………………..   Female   ………………

Note: If you are Swedish, skip question 3 only and if you are Chinese, skip question 2 only.

1. Do you currently use/have you ever used Internet banking?
    Yes
    No
    If no, please indicate your reason for non-usage
………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………

2. At which of the following bank(s) do you hold an account?

        a)   Nordea   ………..   c) Forenings Sparbanken ………..
        b)   SEB   ……….   D) Other ………………………….

3. At which of the following bank(s) do you hold an account?

        a)   China Merchants Bank (CMB)   ………..
        b)   Bank of China (BOC) ………..
        c)   Industrial and Commercial Bank of China (ICBC) ……….
        d)   Other ………………………….

4. How long are you using Internet banking?

        0-1 years …………
        2-4 years ………….
        5 years + …………

5.   For which of the following transactions do you use Internet account and how frequently.

	Money Transfer	Bills Payment	Other (Pl.specify)
Once a week	_____	_____	_____
Once a fortnight	_____	_____	_____
Once a month	_____	_____	_____

6.   Have you ever considered switching your account to another bank?

Yes   ……………..
No   …………….

If yes, please state the reason
why …………………………………………………………………………………………
…………………………………………………………………………………………

7.   How satisfied are you with the service you receive from your main bank?

Very satisfied   ……………..
Satisfied   …………….
Very dissatisfied   …………….
Dissatisfied   ……………..

If you are in any way dissatisfied with your bank service, please state the reason/s
…………………………………………………………………………………………
…………………………………………………………………………………………
8.   Do you feel that bank's web site provides every type of information which do you need from the bank?

Yes   ………….
No   ………….
If no, please mention
…………………………………………………………………………………………
…………………………………………………………………………………………

Thank you very much for your co-operation.

Appendix Three: Interview Guide 一 English Version

Interview Guide

Trustworthiness

❑ When you purchase something through Internet, have you felt insecure providing sensitive information (e.g. Debit card number/cash card number)?

❑ Do you think any risk associated with inter bank money transferring? If yes, please give explain, if not, how you are secure.

❑ Have you received junk emails and felt that your email address has been provided to the sender by your bank. Resultantly, you are not feeling privacy in Internet banking transaction?

❑ Is there any thing you would like to add on this topic?

Communication

❑ Your bank updates their information about new currency rates, interest rates, and commission charges on their banking products regularly? Have you ever noticed any instance to please mention?

❑ The information about the products (credit card, car loan, insurances etc) and services (pay bill or transfer money through online, commission charged for foreign exchange etc) are clear and understandable?

❑ Does the Web site show important addressees of various departments and branches? If not, please mention.

❑ Does the "Frequently asked questions" serve mostly answer of your queries? If not, kindly tell us which question must be explained.

❑ Is there any thing you would like to add on this topic?

Convenience/accuracy

❑ Did you feel any problem during performing the first time Internet banking (paying bill, transferring of money between the accounts)? And did you take help from demo/tutor facility?

- You still feel difficulty to perform new financial transaction or applying for opening of account or credit through Internet etc.

- What steps you took for log in your bank's account for example, personal number, pass word/personal code etc. Please tell us. Also, do you feel it is convenient?

- Do you think that Internet banking provides accurate record of all transactions? Kindly give explanation of your answer.

- Have you ever applied for loan (car, house, credit card) through online? How was your experience?

- Do you feel Internet banking is easy to use? If yes, please explain.

- Is there any thing you would like to add on this topic?

Feedback/complaint management

- Did you send any complaint or query to the bank and got reply immediately? Further, you are satisfied with this service?

- When you pay bill or transferring money between accounts or applying for loan, etc. Do you receive confirmation of these transactions?

- When you use Internet banking at that time do you feel it is customer friendly environment?   If not, why

- Is there any thing you would like to add on this topic?

Efficiency

- Would you like to explain how Internet banking is convenient hours of operation and save time in your opinion?

- Do you think online tutor or demo and brochures educate you to use new services? Please give example.

- Is there any thing you would like to add on this topic?

Accessibility

- ❑ Does the bank's Web site provide special services for disabled persons (sight/hearing)?

- ❑ Can you log in to your account from any computer and any where?

- ❑ Does the bank's web site provide different language options other than Swedish/Chinese/English?

- ❑ Is there any thing you would like to add on this topic?

Customization

- ❑ When you log in on the bank's web site whether bank welcome by name to you? If yes, how do you feel?

- ❑ The bank is providing all required products and services which you want? If not, please explain which services you want more through online.

- ❑ Is there any thing you would like to add on this topic?

Appendix Four: Interview Guide 一 Chinese Version

会谈索引

1. 信赖性：

■ 在网上交易的时候注明自己的敏感信息（例如借贷卡号或现金卡号）您是否感觉安全？

■ 网上银行现金转帐的时候您是否感觉有风险？如果是，请解释您的原因。

■ 当您收到垃圾邮件的时候是否联想到自己的隐私信息是由网络银行泄漏，进而您在处理银行业务时不再感到安全？

■ 关于这个话题您是否有其他需要补充说明的？

2. 沟通性

■ 您是否感觉网络银行经常更新其版面，例如货币政策，利率，金融产品等信息？如果有，请您列举几项。

■ 对于网页上的关于银行产品和服务的介绍您是否觉得准确清晰？

■ 您是否需要在网站上显示该银行重要部门和分行的地址？如果否，请解释原因。

■ 网站所提供的'FAQ'是否能回答您一般性的疑问？如果否，请您告诉我们你所期望必须解答的疑问。

■ 关于这个话题您是否有其他需要补充说明的？

3. 便利性

■ 您第一次处理网上银行业务时时候遇到麻烦？是否当时能从在线帮助上得到解决？

■ 户头间现金转帐，申请开户或者信用卡是否感觉方便？

■ 登陆您网络银行的户头需要那些步骤？您是否感觉方便？

■ 您是否认为网络银行提供了每次交易的准确记录？请详细解释您的原因.

■ 您是否曾经在线申请购车贷款，购房贷款或信用卡等其他一般性银行业务？您的经历如何？

■ 您是否感觉网络银行便于操作？

■ 关于这个话题您是否有其他需要补充说明的？

4. 反馈及投诉管理

■ 您感觉网络银行能否及时的处理您的投诉或问询？是否满意？

■ 当您进行户头间转帐或者申请贷款后，是否收到关于改操作的确认？

■ 网络银行是否提供给您一个友好的环境？如果否，请给出原因。

■ 关于这个话题您是否有其他需要补充说明的？

5. 效率性

- 您是否认为网络银行便于操作并且节省时间？
- 您是否认为网络银行所提供的在线助理或演示可以帮助您更好的了解使用在线服务？
- 关于这个话题您是否有其他需要补充说明的？

6. 可连接性

- 该网络银行是否为残障人士提供专门的服务？
- 是否能从任意终端电脑登陆该银行网页和您的帐户？
- 该网络银行是否提供除瑞典语/简体中文/英文以外的其他语言版本？
- 关于这个话题您是否有其他需要补充说明的？

7. 客户个性化

- 当您登陆该银行网页后是否以您的名字表示欢迎？如果有，你感觉如何？
- 您是否认为该网络银行注意您经常涉及的银行服务并定期提供相应的信息？
- 关于这个话题您是否有其他需要补充说明的？

Appendix Five: Homepages of Banks' Websites
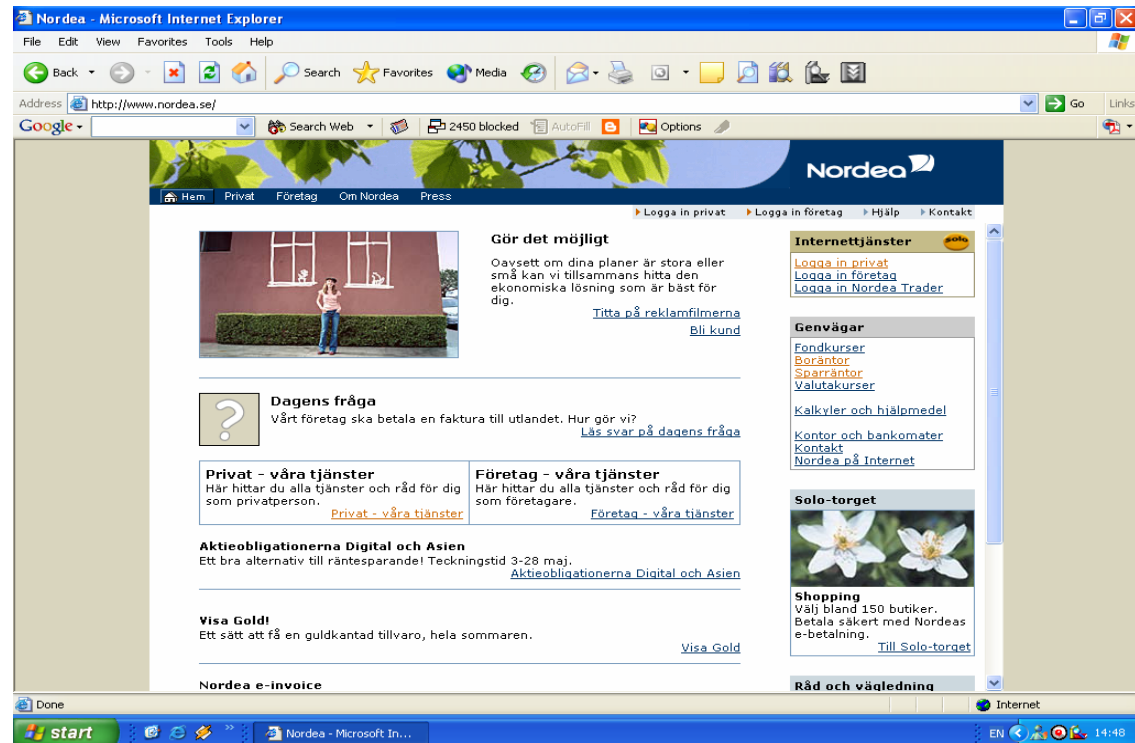
Source: www.nordea.se

Source: www.bank-of-china.com

Source: www.bank-of-china.com(eng)