The Impact of Internet on Service Quality in the Banking Sector

Chun Wang
Zheng Wang

Luleå University of Technology
Master Thesis, Continuation Courses
Electronic Commerce
Department of Business Administration and Social Sciences
Division of Industrial marketing and e-commerce
ABSTRACT

With the continuous growth of competition in the market place, understanding customers has become more and more important method of marketing. Research has shown that high service quality contributes significantly to profitability. In search of competitive advantage, both practitioners and academics are keen on accurately measuring service quality in order to better understanding its essential antecedents and consequences, and ultimately establish methods for improving service quality. Nowadays, the incredible growth of the Internet is changing the way corporations conduct business with consumers who are increasingly expecting higher services, becoming time saved and wanting more convenience. However, due to the services’ intangibility, inseparability, heterogeneity and perishability of production and consumption, service quality becomes hard to evaluate. Therefore, based on the literature review, the five most frequently mentioned dimensions used in evaluating services were chosen in present study as: reliability, responsiveness, security, communication and access. An attempt has been made in present paper is to gain a better understanding of how Internet affects service quality in the banking sector. A qualitative research was adapted and case studies were conducted from both customer and banking perspectives in this study. Additionally, personal interview was selected as the source for data collection. The result of the present study shows that the Internet is a convenience tool available whenever and wherever customers need it. It is also found that the Internet has improved the factors in service quality like responsiveness, communication and access. It is concluded that the Internet has an important and positive effect on customer perceived banking services and the service quality has been improved since the Internet has been used in banking sector. Furthermore, the study offers suggestions to banking managers to allocate their resources on the dimensions i.e., reliability, responsiveness, security, communication and access to improve service quality according to its relative importance since the Internet has been used.
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Luleå, December 2005

Chun Wang and Zheng Wang
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1 INTRODUCTION

With the continuous growth of competition in the marketplace, understanding customers has become more and more important issue of marketing. According to the Chartered Institute of Marketing, marketing is defined as the process of management to identify, anticipate and satisfy customer requirements profitably. It shows that today’s companies have moved their focuses from products and sales to customer oriented marketing (Lin, 2003).

According to Hanson (2000), customer service is an organization’s ability to supply their customers’ wants and needs. He further explains improving customer service involves both learning what customers’ needs and wants are, and developing action plans and process to give customers what they really want and need. Nowadays, customer service has been emerging as a competitive weapon for business firms to obtain competitive advantage. In addition, customer service has gained specific importance for the survival of companies. With this increased importance of customer service, it is obviously that service quality also come increased concern (Eppinette and Inman, 1997). However, due to services’ four distinctive characters: intangibility, inseparability, heterogeneity and perishability, service quality becomes difficult to measure and evaluate. Therefore, customers’ perceptions of service quality are drew major concern by both business managers and researchers (Hoffman and Bateson, 2002).

At the end of 2003, nearly 676 million people had access to the Internet. This represents an increase of 49.5 million people or 7.8 per cent compared with the figures at the end of 2002. With the continuous spread of the Internet and its related applications, the adoption of information technologies (IT) by enterprises and firms is also growing. According to the United States Census Bureau, business-to-consumer (B2C) e-commerce sales in the first quarter of 2004 amounted to 1.9 per cent of total retail sales, a proportion that is nearly twice as large as that of 2001. The annual rate of growth of retail e-commerce in the United States in the year to the end of the first quarter of 2004 was 28.1 per cent, while the rate of growth of total retail in the same period was only 8.8 per cent (the UNCTAD secretariat, (ed.), 2004).

The incredible growth of the Internet is changing the way corporations conduct business. The advantages of the Internet, offer a wide range of opportunities for companies to find new ways of conducting their business in order to cope with increased competition more efficiently and effectively. As a result, business practices through Internet are increasingly becoming the subject of studies evaluating the impact of Internet on economic growth and business performance (Venkatraman, 2000).
Most online service providers, however, have encountered substantial problems and challenges in conducting online service quality. The primary reasons for these difficulties are due to service providers’ lack of experience in operations of this recent challenge and their limited understanding of online customers’ usage behaviors (Mols, 2000).

As a critical measure of organizational performance, service quality remains at the forefront of both the marketing literature generally and the services marketing literature specifically (Johnston, 1997). Practitioners and academics alike are keen on accurately measuring service quality in order to better understand its essential antecedents and consequences, and, ultimately, establish methods for improving quality to achieve competitive advantage and build customer satisfaction (Palmer and Cole, 1995). Since customer expectation and perception of internet service will change over time, quality will become an increasingly important issue. Therefore, understanding service quality within the delivery channel of Internet becomes more and more important (Mols, 2000). The banking industry is no exception. The introduction and customer acceptance of Internet-based home banking may bring a dramatic change in the way retail banks build and maintain close relationship with their customers (Jun and Cai, 2001).

1.1 Background

In this section, the development of e-commerce and Internet, service characters, service quality and service quality in banking is described to present a whole picture of this study. Subsequently, the research problem will be presented to provide overall problem of this study.

1.1.1 E-commerce and Internet

With the increasing development of new technology, the studies in the field of electronic commerce (e-commerce) become more and more attractive (Wigand, 1997). It is indicated that the winners in “clicks and order” retailing, like their predecessors in “bricks and mortar” retailing, will be those who know how to take care of the customer better than competitors and provide better solutions than were available to consumers in the past (Blackwell et al., 2001). However, the term of electronic commerce is poorly understood (Wigand, 1997).

There are many varied definitions of e-commerce: Zwass (1996) defies e-commerce as the information sharing, relationships maintaining, and transactions conducting through means of Internet-based technology. According to Savoie and Raisinghani (1999), e-commerce provides a customer with instant access to all the products/services he/she could need or want at any given time at the touch of a button. In addition, Jelassi and Enders (2004) describe that e-commerce deal with the transactions and selling products and services online. According to Turban et al. (2004,
e-commerce is described as the process of buying, selling, transferring or exchanging products, services and information via computer networks, including Internet. They further state that e-commerce can be defined from different perspectives, such as communication, commercial, service and business process perspective. From service perspective, they describe as: e-commerce is a tool that addresses the desire of governments, firms, consumers and management to cut service costs while improving the quality of customer service and increasing the speed of service delivery (ibid).

From the varied definitions and descriptions listed above, it can be easily seen that e-commerce has been used as both in a broad and narrow term. It covers the use of the Internet for electronic communications and information exchange about the products and services from the broad term. However, it also includes business transactions that involve ordering and payment on the internet (Lin, 2003).

As the main e-commerce channel, the increasing use of Internet has brought many advantages to both suppliers and customers in using e-commerce in a Web-based environment. Research suggests that the following major benefits for suppliers are involved: 1) 24-hour, 365 –day opening; 2) lower cost; 3) efficiency gains; 4) extended market reach; 5) quick adjustments to market conditions; 6) influence customer purchases and 7) improved customer service (Kotler, 2003). At the same time, e-commerce also provides a number of benefits to customers: convenience; information; fewer hassles; low procurement costs; streamlined process; private shopping and transaction can be instant (ibid). Turban et al. (2004) also list the benefits of e-commerce to organization and customer. To organization perspective, it leads to cost reduction, supply chain improvement, extend hours, customization, new business models, rapid time- to –market, lower communication costs, efficient procurement, improved customer relations, up- to – date company material, no city business permits and fees. Benefits to customer are listed as: ubiquity, more products and services, cheaper products and services, instant delivery, information availability, participation in auctions and no sales tax (ibid).

1.1.2 Service Characteristics

The characteristics of services are often described as four unique characters: intangibility, inseparability, heterogeneity, and perishability, which make services different from physical products and hard to evaluate (Parasuraman, 1985). Services said to be intangible because they can’t be seen, tasted, felt, heard, or smelled before they are purchased. They are performance rather than objects (Hoffman and Bateson, 2002). It means that services are more like a process than a thing, more a performance than a physical object, and are experienced rather than consumed (Wallström, 2002, p21). Inseparability of services refers to that services are produced and consumed simultaneously. Unlike services, physical products are first produced, then sold and then consumed. Heterogeneity refers to the service performance are highly variable
from one service transaction to another and one time to another since services depend on who provide them, when and where they are provided. Finally, perishability means services can’t be stored or saved. It can be understood as services will not exist if they are not consumed at their appointed time. It also reflects that service marketers have less control for handling supply and demand fluctuations (Hoffman and Bateson, 2002).

With highly growth of new technology, the increased use of Internet has big impact on these four services characteristics (Hoffman and Bateson, 2002). Firstly, to the character of intangibility, the main problem associated is that marketers have nothing to show their customers. However, with the development of Internet, more opportunities are provided to make service more tangible than intangible. The Internet makes it possible for service providers to show more additional evidence of services like frequently updated information, well designed web page, accurate information providing, highly speed of response, ease of navigation and pre-sample of services. According to the second one (inseparability), the Internet makes services more easily customized since customers become more active participated in the process to point what themselves really want by providing more individual information. Thirdly (heterogeneity), since e-services are electronically based, there will be less variation provided in service quality from one customer to another. In addition, customer conversation like typical problems identified and solved, appropriate responses to customer complain may assist further customer services. Finally (perishability), since e-services can be available 24 hours a day, 7days a week, it provides customers more freedom for purchase and much greater ease for service marketers to handle supply and demand. Compared with traditional services, e-services have three special properties: quantization (breaking down of services into component parts), the ability to search (the ability and ease in which information can be sought), and the ability to automate (replacing tasks that required human labor with machines) (ibid).

1.1.3 Service Quality

Service quality is commonly noted as a critical prerequisite and determinant of competitiveness for establishing and sustaining satisfying relationships with customers. Previous studying suggests that service quality is an important indicator of customer satisfaction (Spreng and Machoy, 1996). Attention to service quality can lead an organization different from other organizations and gain a lasting competitive advantage (Morre, 1987).

Various researches have developed alternative concepts for service quality, like the European perspective (based primarily on Gronroos 1982, 1984; Lethinen and Lethinen, 1982) and the American perspective (Parsuraman et al., 1985, 1988). The European perspective states that service quality should include three dimensions, like technical quality, functional quality and corporate image. The American perspective proposes that service quality may be evaluated on the functional quality dimension,
described by five components: tangibles, reliability, responsibility, assurance, and empathy (Kang and James, 2004).

According to Parasuraman et al. (1985, p.42), service quality can be defined as the consumer’s comparison between service expectation and service performance. They proposed service quality to be a function of pre-purchase customer expectations, perceived process quality, and perceived output quality. Based on their statement in 1985, they then suggest that service quality is determined by the differences between customers’ expectations of the service and their perceptions of the service experience (Parasuraman et al, 1988). According to Woodside et al. (1989), service quality is represented by answers to such questions as: is the service delivered to customer what they expected or different from what they expected? Was the service they received approximately what they expected or better or worse than expected? A majority studies have sought to find the criteria that contribute to evaluate service quality in the traditional service environment (e.g., Grönroos, 1982, 1984; Lehtinen and Lehtinen, 1982; Parasuraman et al., 1985, 1988; Johnston, 1995, 1997).

As the increasing growth of e-service quality on the Web, it makes online companies more effective and appealing and helps them to achieve higher levels of customer satisfaction and retention (Grönroos et al., 2000). In addition, because the dimensions of measuring service quality differ between e-commerce and physical marketplace, more attention has been paid by researchers on service quality via Internet (Parasuraman and Grewal, 2000). According to Zeithaml et al. (2000, p.11), e-service quality can be defined as the extent to which a Web site facilitates efficient and effective shopping, purchasing, and delivery of products and services. According to this definition, the meaning of service is comprehensive and includes both pre- and post- Web site service aspects (Ibid.). A number of criteria have been identified for evaluation of service quality delivery through Web sites by previous research (i.e., Zeithaml et al. 2000; Yang et al. 2001; Madu, 2002; Wolfinbarger and Gilly, 2002; Dina, 2004; Jun et al. 2004; Yang et al. 2004; Yang and Fang, 2004; Lee and Lin, 2005).

1.1.4 Service Quality in Banking

The term bank is generally understood as an institution that holds a banking license granted by financial supervision authorities. Under the authorities, the bank conduct the most fundamental banking services like accepting deposits and making loans, and other financial services (Wikipedia).

According to Cowling and Newman (1995), service quality has been wildly used to evaluate the performance of banking services. Nowadays, the incredible development of the Internet has changed the way that bank conduct business with their customers. As a result, many banks have used Internet as a new channel to provide their customers 24 hours services a day. With the advent of the Internet, customers can
access more financial information and wider range of services. Previous research have found that the competitive advantage of the banks through Internet reside on the services provided to customers but not the attraction of Internet (Furst et al., 2002).

Internet banking is described as the use of the Internet as a delivery channel for banking services, which include traditional ones, such as opening a deposit account or transferring funds among different accounts, and new banking services, such as electronic bill presentation and payment (Jun and Cai, 2001). As suggested by Furst et al. (2002), there are two main ways that banks offer Internet banking. The first one is the existing physical bank, like traditional brick-and-mortar banks, provide services through the established web site and offer Internet banking to its customers as an addition to its traditional delivery channels. The second one is the Internet-only bank or virtual bank. These banks usually have no branch offices since the heart of services relies only on computer server and information technology (ibid).

1.2 Problem Discussion

In a competitive market place understanding customer’s needs become an important factor. As a result, companies have moved from a product-centric to a customer centric position (Hanson, 2000). Nowadays, many companies realize it’s more difficult to make their physical products differ from their competitors than before. Therefore, most of them turn to seek differentiation in services. In this way, companies seek more competitive advantages in building good reputation for superior performance like on-time delivery, accurate information, better trained personnel and quicker resolution of complaints. It can be easily seen that services has gained more attention by both researchers and managers with the increasing competition in market. Therefore, delivery superior service has become one of the most important ways to gain superior profitability (Kolter, 2003).

Good customer service quality is the major issue for the businesses that are operating in e-commerce, which will determine whether the businesses will survive or fail in the future. Maintaining effective customer service helps to build and maintain customers’ relationship that is the key success in e-commerce (Kotler, 2003). In order to satisfy customer’s needs, many companies need to set up web sites that provide quality information and services to customers. Better service quality typically can help to get higher profitability (Lin, 2003). In addition, considering the high costs of acquiring new customers and the apparently high customer turnover of many online services, it is very important for service provider to study the determinants of service quality (Mols, 2000).

With the development of information technology, customers increasingly expect higher services in this information age. At the same time, most of them are becoming more and more time saved and wanting more convenience (Kolter and Keller, 2006). It is desirable for online service providers to find out what attributes that consumers
used in their assessment of overall service quality and which attributes are more important. Therefore, understanding the factors affecting e-service quality has gained special attention both to business and academic researchers (Yang & Fang 2004).

Recently, many banks have used the Internet as a new market channel to offer their customers a variety of services 24 hours a day. This Internet banking, compared to traditional banking, heavily involves non-human interactions between customers and online bank information systems (Furst et al., 2002). Previous study find that bank service quality plays a very important role in customer’s perception of overall banking service quality (Jun and Cai, 2001).

Based on the discussion above, the aim of the present work seeks to gain insight in the service quality in banking sector and impact of Internet on it from both customer and provider side. Therefore, the research problem is formulated as follow:

To gain a better understanding of how Internet affects service quality in the banking sector.
2 LITERATURE REVIEW

Based on the research problem presented in chapter one, theories about service quality will be presented in this chapter, which starts by presenting theories of service quality, and then followed by e-service quality and service quality in banking.

2.1 Service Quality

This part will provide better understanding of service quality covering both definitions of service quality and service quality dimensions.

2.1.1 Definitions of Service Quality

Nowadays, with the continuous competition increase, service quality has become a popular area of academic investigation, and has recognized as a key factor in keeping competitive advantage and sustaining satisfying relationships with customers (Zeithmal et al., 2000). Grönroos (1982) described the total service quality as customer’s perception of difference between the expected service and the perceived service. He then defined the concept of perceived service quality as the outcome an evaluation process, where the consumer compares his expectations with the service he perceives or has received (ibid.).

Similarly, Parasuraman et al. (1985) also defined service quality as the comparison between customer expectations and perceptions of service. In addition, they suggested three underlying themes after examination of the previous writing and literature on services:

1. service quality is more difficult for the consumer to evaluate than goods quality,
2. service quality perceptions result from a comparison of consumer expectations with actual service performance, and
3. quality evaluations are not made solely on the outcome of service; they also involve evaluations of the process of service delivery (ibid).

Further more, Parasuraman et al. (1985) suggested the “Service Quality Model” in order to serve as a framework for further research. Figure 1(p.9) schematically illustrated this model.

Five gaps are listed below:

- Gap 1, consumer expectation – management perception gap:
  Management may have inaccurate perceptions of what consumers actually expect. It requires the appropriate management processes, market analysis tools and attitude.

- Gap 2, service quality specification gap:
  There may be an inability on the part of the management to translate customer
expectations into service quality specifications. This gap relates to aspects of service design.

- Gap 3, service delivery gap:
Guidelines for service delivery do not guarantee high-quality service delivery or performance. Reasons for this include lack of sufficient support for the frontline staff, process problems, or frontline/contact staff performance variability.

- Gap 4, external communication gap:
Consumer expectations are fashioned by the external communications of an organization.

- Gap 5, expected service – perceived service gap:
Perceived quality of service depends on the size and direction of Gap 5, which in turn depends on the nature of the gaps associated with marketing, design and delivery of services (ibid).

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This model is a diagnostic tool and externally focused. If used properly and correctly, it has the potential to assist the management to identify the relative service quality factors from customer perspective (Yang et al., 2004)

In 1988, Parasurman et al. further explained that service quality is the overall
evaluation of a firm’s service by comparing the firm’s performance with the customer’s general expectations of how firms should perform. They then stated the perceived service quality as global judgment, or attitude, relating to the superiority of the service (ibid).

More recently, Page and Spreng (2002) argued that a performance-only measure is superior since it’s more reliable and defensible. They further argued that performance is a much stronger indicator of service quality than expectation. Although the conceptual discussion about service quality continues, it can be seen that service quality is a multi-level and multi-dimensional concept that might mean different things to different researchers in the literature (Cronin et al., 2000).

2.1.2 Service Quality Dimensions

Numerous studies have sought to uncover the global attributes of services that contribute most significantly to relevant quality assessments in the traditional service environment (e.g., Grönroos, 1982, 1984; Parasuraman et al., 1985, 1988).

Grönroos (1982) argue that service quality should include three dimensions:

1) The technical quality of outcome. That is to say, the actual outcome of the service encounter. The service outcome can often measured by the consumer in an objective manner.

2) The functional quality of the service encounter. This element of quality is concerned with the interaction between the provider and recipient of a service and is often perceived in a subject manner.

3) The corporate image. This is concerned with consumers’ perceptions of the service organization. The image depends on: technical and functional quality; price; external communications; physical location; appearance of the site and the competence and behavior of service firms’ employees (ibid).

Similarly, Lehtinen and Lehtinen (1982) also state that service quality has three dimensions, however the differences can be seen below:

1) Physical quality. This includes items such as the condition of buildings and enabling equipment.

2) Corporate quality. This refers to the organization’s image and profile.

3) Interactive quality. This derives from the interaction between service organizations’ personnel and the customer as well as the interaction between customers.

In addition, they argue that in examining the determinants of quality it is necessary to differentiate between the quality associated with the process of service delivery and the quality associated with the outcome of the service (ibid).

Comparing the work between Grönroos (1982) and Lehtinen (1982), Swartz and
Brown (1989) drew some distinctions concerning the dimensions of service quality. They stated that what the service delivers is evaluated after performance. This dimension is called technical quality by Grönroos (1983), physical quality by Lehtinen and Lehtinen (1982). They also stated that how the service is delivered is evaluated during delivery. This dimension is called functional quality by Grönroos (1983), interactive quality by Lehtinen and Lehtinen (1982).

According to Parasuraman et al.’s (1985), ten detailed dimensions of service quality through focus group studies are listed as: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, competence, understanding the customer and tangibles. Among these ten service quality determinants, reliability is identified as the most important. Detailed explanation will be described below in Table 1.

![Table 1: Determinants of Service Quality](source: Parasuraman et al., 1985, p. 47)

<table>
<thead>
<tr>
<th>Service Quality Dimensions</th>
<th>Measurement Criteria</th>
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<tbody>
<tr>
<td>Reliability</td>
<td>It means that the firm performs the service right the first time and the firm honors its promises.</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>It concerns the willingness or readiness of employees to provide service.</td>
</tr>
<tr>
<td>Competence</td>
<td>It means that possession of the required skills and knowledge to perform the service.</td>
</tr>
<tr>
<td>Access</td>
<td>It involves approachability and ease of contact.</td>
</tr>
<tr>
<td>Courtesy</td>
<td>It involves politeness, respect, consideration, and friendliness of contact personnel.</td>
</tr>
<tr>
<td>Communication</td>
<td>It means keeping customers informed in language they can understand and listening to them.</td>
</tr>
<tr>
<td>Credibility</td>
<td>It involves trustworthiness, believability, honesty.</td>
</tr>
<tr>
<td>Security</td>
<td>It is the freedom from danger, risk or doubt.</td>
</tr>
<tr>
<td>Understanding</td>
<td>Knowing the customer involves making effort to understand the customer’s needs.</td>
</tr>
<tr>
<td>Tangibles</td>
<td>It includes the physical evidence of the services.</td>
</tr>
</tbody>
</table>

Based on the determinants of service quality listed, Parasuraman et al. (1985) developed a model of Determinants of Perceived Service Quality. It indicated that perceived service quality is the result of the consumer’s comparison of expected service with perceived service.

In their subsequent research (Parasuraman et al., 1988), they then purified and distilled the ten dimensions to five: tangibles, reliability, responsiveness, assurance, and empathy, which constitute the base of a global measurement for service quality. Based on these five dimensions listed above, the researchers developed 22-item
Service Quality scale (shown in Table 2, p.12). Moreover, they state that there’s a range of tolerance where customer perception on a service dimension, anchored by the minimum level consumers would be willing to accept and the level that customers believe can and should be delivered. According to their study, reliability was the most critical dimension, followed by responsiveness, assurance and empathy. The tangibles were of least concern to customers (ibid).

Table 2: 22-Item Service Quality

<table>
<thead>
<tr>
<th>Service Quality Dimensions</th>
<th>22-Item Scale</th>
</tr>
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<tbody>
<tr>
<td><strong>Reliability</strong></td>
<td>Providing service as promised</td>
</tr>
<tr>
<td></td>
<td>Dependability in handling customers’ service problems.</td>
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<tr>
<td></td>
<td>Performing services right first time</td>
</tr>
<tr>
<td></td>
<td>Providing services at the promised time</td>
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<tr>
<td></td>
<td>Maintaining error-free records</td>
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<tr>
<td><strong>Responsiveness</strong></td>
<td>Keeping customer informed as to when services will be performed</td>
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<tr>
<td></td>
<td>Prompt service to customers</td>
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<td></td>
<td>Willingness to help customers</td>
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<td></td>
<td>Readiness to respond to customers’ requests</td>
</tr>
<tr>
<td><strong>Assurance</strong></td>
<td>Employees who instill confidence in customers</td>
</tr>
<tr>
<td></td>
<td>Making customers feel safe in their transactions</td>
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<tr>
<td></td>
<td>Employees who are consistently courteous</td>
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<td></td>
<td>Employees who have the knowledge to answer customers questions</td>
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<tr>
<td><strong>Empathy</strong></td>
<td>Giving customers individual attention</td>
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<tr>
<td></td>
<td>Employees who deal with customers in a caring fashion</td>
</tr>
<tr>
<td></td>
<td>Having the customer’s best interests at heart</td>
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<td></td>
<td>Employees who understand the needs of their customers</td>
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<tr>
<td></td>
<td>Convenience business hours</td>
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<tr>
<td><strong>Tangibles</strong></td>
<td>Modern equipment</td>
</tr>
<tr>
<td></td>
<td>Visually appealing facilities</td>
</tr>
<tr>
<td></td>
<td>Employees who have a neat, professional appearance</td>
</tr>
<tr>
<td></td>
<td>Visually appealing materials associated with the service</td>
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</tbody>
</table>

*Source: Parasuraman et al., (Referred to in Kolter and Keller, 2006, p.414)*

Another useful study is conducted by Johnston (1995), in which he provides 18 service dimensions and their definitions: access, aesthetics, attentiveness, availability, care, cleanliness/tidiness, comfort, commitment, communication, competence, courtesy, flexibility, friendliness, functionality, integrity, reliability, responsiveness, and security. In their study, reliability is considered as the most important (ibid). Yang et al. (2004) concluded that both studies of Parasuraman et al. (1988) and Johnston (1995) offer particularly robust service quality dimensions for measuring traditional services and could serve as a good starting point for further research (Yang et al.,
2.2 E-Service Quality

In this part, understanding of e-service quality will be gained both from definitions of e-service quality and e-service quality dimensions.

2.2.1 Definitions of E-Service Quality

According to Zeithaml, et al. (2000), e-service quality is comprehended both from pre-and post-Web site service perspectives. It can be understood as the evaluation of the efficiency and effectiveness of online shopping, purchasing, and delivery products and services. Similarly, Santos (2003) defined e-SQ as overall customer evaluations and judgments of excellence e-service delivery in the virtual marketplace.

2.2.2 E-service quality dimensions

A majority of studies view the dimensioned of e-service quality as antecedents of e-satisfaction. (Dina et al. 2004). High standard e-service quality is the means by which the potential benefits of the Internet can be realized (Yang et al., 2001). Drawing upon the traditional service quality scale, Zeithaml et al. (2000) have developed e-service quality dimensions for measuring e-service quality. In a series of focus group interviews, they have identified eleven dimensions of online service quality: access, ease of navigation, efficiency, flexibility, reliability, personalization, security/privacy, responsiveness, trust/assurance, site aesthetics, and price knowledge. In their research, they found the core dimensions of regular service quality like efficiency, fulfillment, reliability and privacy were the same as online. At the same time, they stated that responsiveness, compensation and real time access to help as core dimensions of service recovery for online services. In addition, they noted that empathy was less important online unless there were service problems happened (ibid.).

Wolfinbarger and Gilly (2002), through focus group interviews and an online survey, reduced the scale of online service quality into four key dimensions: Web site design, reliability, privacy/security, and customer service. In their research they suggested that the most basic building of outstanding online service quality is reliability and web site design including good functionality in time savings, easy transactions, good selection, in-depth information and the right level of personalization (ibid).

Yang et al. (2004) have uncovered six key online service quality dimensions—reliability, access, ease of use, attentiveness, security, and credibility—employed by Internet purchasers to evaluate e-tailers’ service quality. Further more, they suggested that if online retailers want to achieve high level of customers’ perceived service
quality, four dimensions should be more focused on: reliability, attentiveness, ease of use and access. Table 3 (p.14) shows different description of each dimension (ibid).

Table 3: e-Service Quality dimensions and Descriptions

<table>
<thead>
<tr>
<th>e-Service Quality Dimensions</th>
<th>Descriptions</th>
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<tbody>
<tr>
<td>Reliability</td>
<td>It is included correctness of order fulfillment, prompt delivery, and billing accuracy.</td>
</tr>
<tr>
<td>Attentiveness</td>
<td>It is included individualized attention, personal thank-you notes from online retailers and availability of a message area for customer questions or comments.</td>
</tr>
<tr>
<td>Easy of use</td>
<td>It is related to easy-to-remember URL address, well-organized, well structured, and easy-to-follow catalogues, site navigability, and concise and understandable contents, terms and conditions.</td>
</tr>
<tr>
<td>Access</td>
<td>It is included the list of the company’s street and e-mail address, phone and fax number, accessibility of service representatives, availability of chat room, bulletin board and other communication channels.</td>
</tr>
<tr>
<td>Security</td>
<td>It is included security of personal information and minimal online purchase risks.</td>
</tr>
<tr>
<td>Credibility</td>
<td>It refers to the business history of online retailers, special rewards or discounts, and referral banners on other Web site.</td>
</tr>
</tbody>
</table>

Source: Adapted from Yang et al., 2004

Yang and Fang (2004) have noted that traditional service quality dimensions, such as competence, courtesy, cleanliness, comfort and friendliness, are not relevant to online retailing; whereas other factors, such as reliability, responsiveness, assurance, and access, are critical to both traditional service quality and e-service quality (ibid). Similarly, Jun et al. (2004) compared traditional with online service quality dimensions and found that four of five traditional service quality dimensions stated by Parasuraman et al. (1988) were also considered important online. They are listed as: reliability, responsiveness, assurance and empathy (ibid). Moreover, Yang et al. (2000) identified six key dimensions e.g., reliability, responsiveness, competence, eases of use, security and product portfolio.

Madu (2002) proposed the following 15 dimensions of online service quality: performance, features, structure, aesthetics, reliability, storage capacity, serviceability, security and system integrity, trust, responsiveness, service, differentiation and customization, Web store policies, reputation, assurance and empathy. According to Dina et al. (2004), five dimensions are commonly used: ease of use, web site design, customization, responsiveness and assurance. In order to clarify the detailed determinants of e-service quality, Lee and Lin (2005) proposed website design,
reliability, responsiveness, trust and personalization as e-service quality dimensions. According to their research, trust is the most significant determinant to overall service quality and customer satisfaction, then reliability and responsiveness. The less one is website design. To their surprise, personalization is the least significant (ibid).

Based on the focus interviews and the insights of previous research, Santos (2003) develop a conceptual model of e-service quality. This model proposed that e-service quality consists of incubative and active dimensions, and each dimension composed by five or six determinants, as illustrated in Figure 2 (ibid).

![Figure 2, Conceptual Model of e-Service Quality](source.png)

Sources: Santos, 2003, p.239

Santos (2003) further explains that e-service quality consists of incubative and active dimensions, and each dimension composed by five or six determinants, as illustrated in Figure 2. Before the launching of a Web site, the incubative dimension needs to be considered and to ensure that:

- the Web site is easy to use, search and navigate;
- it has an appealing appearance to its target customers;
- links are set up and maintained, and the broken links are avoided;
- the site has a well-organized structure and layout; and
- there is an attractive presentation of factual contents.

When a Web site has been established, the active dimension needs to be maintained throughout the entire period of active e-commerce on the Web site. The determinants of active dimensions are:

- reliability;
- efficiency;
- support;
- communications;
- security; and
- incentive.

All determinants listed above are presented in descending order of importance – from high importance to low importance (ibid).

According to Santos (2003), the Conceptual Model of e-Service Quality can be of assistance to all companies that engage e-commerce, or plan to do so. The model can assist companies to understand e-service quality and to gain customer satisfaction, therefore, profitability (ibid)).

### 2.3 Service Quality in Banking

The service quality has been wildly used to assess the service performance of various service organizations including banks (Cowling and Newman, 1995). Johnston (1995) states 18 service quality attributes in banking. They are: access, aesthetics, attentiveness, availability, care, tidiness, comfort, commitment, communication, competence, courtesy, flexibility, friendliness, functionality, integrity, reliability, responsiveness and security. According to Johnston (1997), security and reliability were considered most important by customers; responsiveness communication and competence were important. He also stated that the areas, such as comfort, cleanliness and aesthetic were not worth much attention. Additionally, Nantel (2000) propose six underlying key dimensions in retail banking. These dimensions are: effectiveness and assurance, access, price, tangibles, service portfolio and reliability (ibid).

As for Internet banking, Joseph et al. (1999) investigate the influence of Internet on the delivery of banking service. Their study identifies six underlying dimensions of electronic banking service quality. They are convenience and accuracy, feedback and complaint management, efficiency, queue management, accessibility and customization. Jun and Cai (2001) identified to seventeen service quality dimensions of Internet banking service quality. These are reliability, responsiveness, competence, courtesy, credibility, access, communication, understanding the customer, collaboration and continuous improvement, content, accuracy, ease of use, timeliness, aesthetics, security and divers features. It is also suggested that both Internet-only banks and traditional banks offering Internet banking services should focus more on the following important dimensions e.g., responsiveness, reliability and access (ibid).
3 RESEARCH QUESTIONS AND FRAME OF REFERENCE

Based on the research problem in chapter one and literature review in chapter two, this chapter will develop the research questions i.e., how does Internet impact reliability in the banking sector; how does Internet impact responsiveness in the banking sector; how does Internet impact security in the banking sector; how does Internet impact communication in the banking sector; and how does Internet impact access in the banking sector in this study. Subsequently, the selected theories and models in this study will be presented to build a theoretical framework.

3.1 Research Questions

As stated in chapter one, services have four distinctive characters: intangibility, inseparability, heterogeneity and perishability, which make services different from physical products and hard to evaluate. The first one is that services are more intangible than tangible since services producers have nothing to show their customers (Hoffman and Bateson, 2002). Services are said to be intangible because they are performances rather than objective. Because of intangibility, it’s difficult for the firm to understand how customers perceived their services and evaluate service quality (Parasuraman, 1985). Secondly, services said to be inseparable since production and consumption are simultaneous (Hoffman and Bateson, 2002). Due to inseparability, the firm find they have less managerial control over quality in services (Parasuraman, 1985). The third one, heterogeneity, reflects service performances are highly various because services performance often various from producers to producer, from customer to customer and from day to day (ibid). The last one, perishability, means services can’t be stored or saved (Hoffman and Bateson, 2002).

Due to highly growth of Internet, it presents more opportunities for services providers to provide more customized services, more matched supply and demand than traditional services. More over, based on 24 hours a day and 7 days a week online choices, customers allow purchasing e-services anytime and anywhere they want (Hoffman and Bateson, 2002). Increased e-services on the Web make online companies more effective and appealing. Service quality is one of the key factors in determining the success of e-commerce (Yang, 2004). Recently, several authors like Page and Spreng (2002) state that performance-only measure is higher predictive and better indicator of service quality than expectations. The common theme in their research shows that a perception measure is sufficient (ibid). In other word, it means that service quality is an overall evaluation of excellence and superiority of service performance (Santos, 2003).

With the high competition in Internet banking industry, it is apparent that banks need to provide customers with high quality services. Due to services’ distinctive characters, bankers are first required to understand the attributes customers use to judge service
quality. There have been numerous studies identifying the key service quality dimensions in the traditional banking environment, relatively little literature has investigated service quality attributes in the Internet banking industry (Jun and Cai, 2001). The main purpose of this study, as stated in Chapter one, is “to gain a better understanding of how Internet affects service quality in the banking sector”.

Based on the service quality dimensions reviewed in Chapter two, five dimensions i.e., reliability (e.g. Parasuraman, et al., 1985, 1988; Johnston, 1995, 1997; Nantel, 2000; Zeithaml et al., 2000; Madu, 2002; Wolfinbarger and Gilly, 2002; Santos, 2003; Jun, et al. 2004; Yang and Fang, 2004; Yang et al. 2004; Lee and Lin, 2005), responsiveness (e.g., Parasuraman, et al., 1985, 1988; Johnston, 1995, 1997; Zeithaml et al., 2000; Jun and Cai, 2001; Madu, 2002; Jun, et al. 2004; Yang and Fang, 2004; Yang et al. 2004; Dina et al. 2004; Lee and Lin, 2005), security (e.g., Parasuraman, et al., 1985; Johnston, 1995, 1997; Joseph et al., 1999; Nantel, 2000; Zeithaml et al., 2000; Madu, 2002; Wolfinbarger and Gilly, 2002; Santos, 2003; Jun, et al. 2004; Yang and Fang, 2004; Yang et al. 2004; Dina et al. 2004), communication (e.g., Parasuraman, et al., 1985; Jun and Cai, 2001; Madu, 2002; Wolfinbarger and Gilly, 2002; Santos, 2003; Yang et al., 2004) and access (e.g., Parasuraman, et al., 1985; Johnston, 1995, 1997; Nantel, 2000; Zeithaml et al., 2000; Jun and Cai, 2001; Yang et al., 2004; Dina et al. 2004; Lee and Lin, 2005) are found as the most frequently mentioned and regard as very important factors in service quality. It is also mentioned that consumers commonly use dimensions like reliability, responsiveness, security and access to evaluate both traditional services and online services (Zeithaml et al., 2000; Yang and Fang, 2004). The reviewed service quality literature both online and offline are summarized in Table 4 (see p.19).
Table 4: Selected Service Quality Literature both Online and Offline

<table>
<thead>
<tr>
<th>Authors</th>
<th>Reliability</th>
<th>Responsiveness</th>
<th>Security</th>
<th>Communication</th>
<th>Access</th>
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<tr>
<td>Parasuraman et al.</td>
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<td>(1988)</td>
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<td>Johnston (1995)</td>
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<td>Johnston (1997)</td>
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<td>Joseph et al. (1999)</td>
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<td>Nantel (2000)</td>
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<td>Jun and Cai (2001)</td>
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<td>Madu (2002)</td>
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<td>Wolfinbarger &amp; Gilly (2002)</td>
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<td>Santos (2003)</td>
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<td>Jun et al. (2004)</td>
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<td>Yang et al. (2004)</td>
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<td>Dina et al. (2004)</td>
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<td>Lee &amp; Lin (2005)</td>
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Reliability

Parasuraman et al. (1985, p.47) define reliability as the firm performs the services right the first time and the firm honors its promises. It involves in accuracy in billing; keeping records correctly; performing the service at the designated time. In their further research, they also find the reliability consists of providing services as promised; dependability in handling customers’ service problems; performing services right the first time; provide services at the promised time and maintaining error-free record. Furthermore, they stated reliability as the most important factor in conventional service (Parasuraman et. al., 1988). Zeithaml (2000) state reliability that concerns with the technical functioning of the site and the information that is provided is accurate from online perspective. As stated by Yang et al. (2004), the meaning of reliability is consisted of accurate order fulfillment; accurate record; accurate quote accurate in billing; accurate calculation of commissions; keep service promise. He
also mentioned reliability is the most important factor in online service. Santos (2003) define reliability as the ability to perform the promised service accurately and consistently, including frequency of updating the Web site, prompt reply to customer enquiries, and accuracy of on-line purchasing and billing. Additionally, Wofinbarger and Gilly (2002) state reliability as the product that came was represented accurately by the Web site; you get what you ordered from this web site; and the product is delivered by the time promised by the company for online services (ibid). Since reliability is the most important factor to customers, banks cannot afford to make mistakes in this area (Johnston, 1997). It is also stated the reliability means consistency of performance of service facilities, goods and staff. It includes punctual services delivery and ability to keep to agreements made with customers in banking services (ibid). According to Jun and Cai (2001), the reliability is involved of correct service, service promise, and accurate record and keeps promise as advertised in the banking area.

As reliability is identified as the most important (e.g. Parasuraman et al., 1985, 1988; Johnston, 1997; Jun and Cai, 2001; Santos, 2003; Yang et al., 2004) and the most frequently mentioned detention by several authors (e.g., Parasuraman, et al., 1985, 1988; Johnston, 1995, 1997; Nantel, 2000; Zeithaml et al., 2000; Madu, 2002; Wofinbarger and Gilly, 2002; Santos, 2003; Jun, et al. 2004; Yang and Fang, 2004; Yang et al. 2004; Lee and Lin, 2005), the first research question in this study is:

**RQ1. How does Internet impact reliability in the banking sector?**

**Responsiveness**

Parasuraman et al. (1985, p.47) give the definition of responsiveness as it concerns the willingness or readiness of employees to provide service. It involves timeliness of services. They then list keeping customer informed as to when services will be performed; prompt service to customers; willing to help customers and readiness to respond to customers’ request as the content to evaluate this dimension. Similarly, Johnston (1997) also defines responsiveness as timeliness of service delivery. As stated in his research, it consists of prompt respond to customers’ requests and short waiting and queuing time. Zeithaml et al. (2000) find that the responsiveness is very important when the online customers have questions or run into problems. They stated that the responsiveness means the ability of e-tailers to provide appropriate information to customers when a problem occurs, have mechanisms for handling returns and provide online guarantees. Additionally, Yang et al. (2004), through investigation of online services, refer responsiveness as prompt response to customer requests; the speed in solving customer problems; and prompt service. According to Jun and Cai (2001), responsiveness means prompt service; quickly solve problems and convenient service in Internet banking service quality.

Since responsiveness has been shown to be an highly mentioned factor and supported
by different authors from previous work (e.g., Parasuraman, et al., 1985, 1988; Johnston, 1995, 1997; Zeithaml et al., 2000; Jun and Cai, 2001; Madu, 2002; Jun, et al. 2004; Yang and Fang, 2004; Yang et al. 2004; Dina et al. 2004; Lee and Lin, 2005), the second research question in this study is:

**RQ2. How does Internet impact responsiveness in the banking sector?**

**Security**

Parasuraman et al. (1985, p. 47) defines security as the freedom from danger, risk, or doubt. It involves physical safety; financial security; and confidentiality. It consists of employees who instill confidence in customers; making customers feel safe in their transactions; employees who are consistently courteous; and employees who have the knowledge to answer customer question. Moreover, Johnston (1997) investigates service quality in retail banking and finds security is an important factor. Regarding to his research, security is defined as personal and possessions safety of the customer. It includes confidentiality maintained by service providers. Based on the research of online services, security means low risk associated with online transactions, safeguarding personal information and safety in completing online transactions (Yang et al., 2004). Santos (2003) defines security as the freedom from danger, risk, or doubt during the services process. Zeithaml et al. (2000) state security as technical functioning of the site information that is provided is accurate. Jun and Cai (2001) state that security is concerned with online transaction safety and customer privacy.

However, many customers complained that the online service is not secure, especially in banking sector. In addition, they are worried about whether their personal information will be misused (Jun and Cai, 2001). It’s also documented that some customers doubt security on online concerning secure credit card transactions and the protection of private sensitive information (Santos, 2003). Moreover, Wolfinbarger and Gilly (2002) displayed security as: I feel that my privacy is protected at this site; I feel safe in my transactions with this site and this site has adequate security transactions.

Since security has been the most frequently mentioned by several authors (e.g., Parasuraman, et al., 1985; Johnston, 1995, 1997; Joseph et al., 1999; Nantel, 2000; Zeithaml et al., 2000; Madu, 2002; Wolfinbarger and Gilly, 2002; Santos, 2003; Jun, et al. 2004; Yang and Fang, 2004; Yang et al. 2004; Dina et al. 2004), the third research question in this study is:

**RQ3. How does Internet impact security in the banking sector?**
Communication

Communication means keeping customers informed in a language they can understand and listening to them. It also means that the company has to adjust its language for different consumers. It involves explaining the service itself; how much the service cost; the trade-offs between service and cost; assuring the consumer that a problem will be handled (Parasuraman et al., 1985). Supported by Johnston (1997), communication is also defined as the way of communication can be understand by customers. However, in his opinion, it consists of accuracy of both verbal and written information and the ability to listen to and understand customers. Similarly, Santos (2003) defines communication as keeping customers properly informed and communicating with them in language they can understand. He also states that communication consists of various contact methods both online communication like e-mails and chat rooms and traditional method like telephone, fax and postal mail in e-services; easy to shop on-line; and choices of languages. According to Jun and Cai (2001), communication is concerned about clear answer, informing customer of important information and availability of status of transactions.

It’s well documented by previous research (e.g., Parasuraman, et al., 1985; Jun and Cai, 2001; Madu, 2002; Wolfinbarger and Gilly, 2002; Santos, 2003; Yang et al. 2004) that communication is an important factor, the fourth research question in this study is:

**RQ4. How does Internet impact communication in the banking sector?**

Access

Access refers to making effort to approachability and ease of contact. It means the services is easily accessible by telephone; waiting time to receive services is not extensive; convenient hours of operation; and convenient location of service facility (Parasuraman et al., 1985, 1988). According to Yang et al. (2004), access include the list of the company’s street and e-mail address, phone and fax numbers, accessibility of service representatives, availability of chat room, bulletin boards, and other communication channels. From the perspective of Internet banking service quality, Jun and Cai (2001) state that access consists of availability for help; ATM access; phone access; e-mail access; and account access when aboard.

Since access is frequently mentioned by several authors (e.g., Parasuraman, et al., 1985; Johnston, 1995, 1997; Nantel, 2000; Zeithaml et al., 2000; Jun and Cai, 2001; Yang et al., 2004; Dina et al. 2004; Lee and Lin, 2005), the fifth research question in this study is:

**RQ5. How does Internet impact access in the banking sector?**
3.1.1 Delimitations

With the high development of Internet, companies have found it harder and harder to make their physical products different. They turn to service differentiation to obtain their competitive advantage (Kolter and Keller, 2006). It is said that the winners of in “click and order” retailing are those who know how to customers better than their competitors and provide better services to their customers (Blackwell et al., 2001). Therefore, service area is chosen in this study.

Due to services’ four distinctive characteristics of intangibility, inseparability, heterogeneity and perishability, it is said to be hard evaluated (Hoffman and Bateson, 2002). As stated by previous research (e.g., Morre, 1987; Spreng and Machoy, 1996; Zeithmal et al. 2000), service quality is notes as an important determinant to lead services different and gain a lasting competitive advantage. According to Page and Spreng (2002), performance-only is a better indicator of service quality. In other word, service quality is an overall evaluation of customers’ perceived services. Therefore, the performance-only measure in accepted in present study.

As stated in chapter one, the research problem is this study is to gain a better understanding of how Internet affects service quality in the banking sector. Service quality dimensions e.g., reliability, responsiveness, security, communication and access were identified as five attributes of services that contribute to service quality assessments. Many researchers within the field of service quality have studied from the customer perspective (Johnston, 1997; Joseph et al., 1999; Santos, 2003; Jun, et al., 2004; Yang and Fang, 2004). Moreover, several researchers (e.g., Parasuraman, 1985; Zeithaml et al., 2000, Jun and Cai, 2001) conducted their research from the organization’s perspective. Based on the literature review in chapter 2, the present study attempts to gain a better understanding of how Internet affects service quality in the banking sector from both customer and banking perspectives.

As we stated in Chapter one, there are two main ways that banks offer Internet banking: traditional brick-and-mortar bank providing Internet as an addition and the Internet-only bank. In this study, we put our effort on the traditional brick-and-mortar bank offering Internet banking services.

3.2 Frame of Reference for This Study

As discussed at the beginning in this chapter, the two objectives of this chapter are focused on: 1) developing and formulating research questions, and 2) developing and building theoretical frame work for this study. In order to gain better understanding of how Internet affects service quality in banking sector, five research questions have developed and formulated and each research question focuses on one theoretical concept, i.e., the reliability, responsiveness, security, communication and access.
Based on this, the five mostly mentioned service quality factors discussed in the research questions are chosen as the variables in our frame of reference. The relationship between how Internet impact the service quality variables and thereby the overall service quality in banking sector is illustrated in Figure 3 (see p.24).

**Figure 3: Frame of Reference**

The first part (i.e., RQ1) of the frame of reference is focused on the impact of Internet on **reliability**. As stated previously, the reliability means that the firm performs the service right the first time and the firm honors its promise. This includes punctual service delivery and ability to keep to agreements made with the customer (Parasuraman et al. 1985). It concerns the ability to keep service promise accurately and consistently. It includes correct service and accurate record and prompt reply to customer (Jun and Cai, 2001; Wolfinbarger and Gilly, 2002; Santos, 2003; Yang et al. 2004). Moreover, previous research (e.g. Parasuraman et al., 1985, 1988; Johnston, 1997; Santos, 2003; Yang et al., 2004) mention it as the most important dimension in all services. Based on the literature reviewed in this study, reliability is identified as the most frequently mentioned dimension in service quality by previous research (e.g., Parasuraman, et al., 1985, 1988; Johnston, 1995, 1997; Nantel, 2000; Zeithaml et al., 2000; Madu, 2002; Wolfinbarger and Gilly, 2002; Santos, 2003; Jun, et al. 2004; Yang and Fang, 2004; Yang et al. 2004; Lee and Lin, 2005).

The second part (i.e., RQ2) is concerning with the impact of Internet on **responsiveness**. As mentioned before, researchers (e.g. Parasuraman et al., 1885; Johnston, 1997) state the responsiveness refers to speed and timeliness of service delivery. It also includes willingness and readiness of employees to provide service. It concerns ability to provide appropriate information to customers when a problem
occurs. It includes prompt response, prompt services and quick problem from online perspective (Zeithaml et al., 2000; Jun and Cai, 2001; Yang et al., 2004). Responsiveness has been mentioned and supported as an important factor for measuring service quality (Parasuraman et al., 1885, 1988; Johnston, 1995; Zeithaml et al., 2000).

The third part (RQ3) concerns with the impact of Internet on security. It is described as the freedom from danger, risk or doubt. It concerns physical safety, financial security of the customers (Parasuraman et al., 1885, 1988; Johnston, 1997). Similarly, security refers to the freedom from danger, risk or doubt from online perspective. It includes online transaction safety, personal information safety and technical functioning of the site information is accurate (Zeithaml et al., 2000; Jun and Cai, 2001; Santos, 2003; Yang et al., 2004). Since security has been most frequently mentioned by different researchers when they discuss service quality (), the factor of security needed focus on in this study.

The fourth part (RQ4) is dealing with the impact of Internet on communication. It is defined by previous research (e.g., Parasuraman et al. 1885; Johnston, 1997; Jun & Cai, 2001; Santos, 2003) that communication is keeping customers informed and communicating with them in language they can understand. It includes clarity, completeness of both verbal and written information to the customer, listen and understand customer. As stated previously, communication is well documented by several researchers (e.g., Parasuraman, et al., 1985; Jun and Cai, 2001; Madu, 2002; Wolfinbarger and Gilly, 2002; Santos, 2003; Yang et al. 2004).

The fifth part (RQ5) is focused on the impact of Internet on access. As stated previously, access involves approachability and ease of contact. It means the service is easily accessible by telephone or email and other communication channels (Parasuraman et al. 1885; Jun & Cai, 2001; Yang et al. 2004). It’s found that access is frequently mentioned by several authors (e.g., Parasuraman, et al., 1985; Johnston, 1995, 1997; Nantel, 2000; Zeithaml et al., 2000; Jun and Cai, 2001; Yang et al., 2004; Dina et al. 2004; Lee and Lin, 2005)

The aim of this frame of reference is to gain better understanding on how Internet affect service quality in the banking sector from both customer perspective and banking perspective. Based on investigating how Internet affects the five determinants like reliability, responsiveness, security, communication and access of service quality, the understanding of the relationship between Internet and service quality can be gained.

Summarily, the different variables depicted in the models and their sources of conceptualization by different authors can be described in table 5 (see p. 26).
<table>
<thead>
<tr>
<th>Service Quality dimensions</th>
<th>Measurement criteria</th>
<th>Supportive articles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reliability</strong></td>
<td>offline</td>
<td>Parasuraman et al., 1985</td>
</tr>
<tr>
<td></td>
<td>online</td>
<td>Jun and Cai, 2001; Santos, 2003</td>
</tr>
<tr>
<td><strong>Responsiveness</strong></td>
<td>offline</td>
<td>Parasuraman et al., 1985</td>
</tr>
<tr>
<td></td>
<td>online</td>
<td>Jun and Cai, 2001</td>
</tr>
<tr>
<td><strong>Security</strong></td>
<td>offline</td>
<td>Parasuraman et al., 1985</td>
</tr>
<tr>
<td></td>
<td>online</td>
<td>Yang et al., 2004</td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>offline</td>
<td>Parasuraman et al. 1985, Johnston, 1997</td>
</tr>
<tr>
<td></td>
<td>online</td>
<td>Santos, 2003</td>
</tr>
<tr>
<td><strong>Access</strong></td>
<td>offline</td>
<td>Parasuraman et al. 1985</td>
</tr>
<tr>
<td></td>
<td>online</td>
<td>Jun and Cai, 2001</td>
</tr>
</tbody>
</table>

Table 5: Description of selected criteria in the frame of reference
4 METHODOLOGY

In this chapter the research process will be described. The methods we have used and why they were selected will be discussed. The structure of this chapter is presented as follow: Research Purpose; Research Approach; Research Strategy; Research Methods; Data Presentation and Analysis; Validity and Reliability.

4.1 Research Purpose

According to Yin (1994), the purpose of academic research can be exploratory, descriptive or explanatory. Saunders, et al. (2000) state that exploratory studies are a valuable means of finding out what is happening, to seek new insight, to ask questions and to assess phenomena in a new light. There are three ways of conducting exploratory research: a search of literature, talking to expert in the subject, conducting focus group interviews. The object of descriptive research is to portray an accurate profile of persons, events of situation. It is necessary to have a clear picture of the phenomena on which the researcher wishes to collect data prior to the collection of data (ibid). Yin (1994) stated that explanatory research explains causal relationships between cause and effect. It aims at explaining causal relationships between variables (Sauders, et al., 2000). It can be easily seen the differences among these three purposes of research from the table below (see Table 6).

<table>
<thead>
<tr>
<th>Type of Research Purpose</th>
<th>Description</th>
<th>General Research Questions</th>
</tr>
</thead>
</table>
| Exploratory              | To investigate little-understood phenomena  
                          To identify or discover important categories of meaning  
                          To generate hypotheses for further research | What is happening in this social program?  
                          What are the salient themes, patterns or categories of meaning for participation?  
                          How are these patterns linked with one another? |
| Explanatory              | To explain the patterns related to the phenomenon in question  
                          To identify plausible relationships sharing the phenomenon | What events, beliefs, attitudes, or policies shape this phenomenon?  
                          How do these forces interact to result in the phenomenon? |
| Descriptive              | To document and describe the phenomenon of interest | What are the salient actions, events, beliefs, attitudes, social structures and processes occurring in this phenomenon? |

*Sources: Marshall & Rossman, 1999, p.33*
Since the purpose of this study is to gain better understanding on how Internet affect service quality in banking sector, the research can be considered partly exploratory. In this way, we may seek out new sight on service quality in banking sector and the impact of Internet on it from both customer and banking sides. At the same time, it can be seen as descriptive since we may get more information as possible and describe more on the phenomenon within this specific area.

### 4.2 Research Approach

There are two main research approaches to choose from when conduct a scientific research: qualitative or quantitative method (Yin 1994). The approach for which to use is decided by characteristics of the gathered information. Moreover, the most important difference between the two approaches is how numbers and statistics are used (Ibid). The quantitative approach relies on numbers and statistical data that are presented and crunched into figures. On the other hand, the qualitative approach uses a method of deep description of a fact or event using words and scientific language (Marshall and Roseman, 1999). The best suitable approach to use depends on the specific study’s research problem and accompanying research questions (Yin, 1994).

Since qualitative approach can provide better understanding of the phenomenon under investigation and the problem can be understood within the context (Marshall and Roseman, 1999), qualitative approach suit to our research. Further more, based on the research problem and research questions, the qualitative research approach is the most appropriate to help us gain better understanding on how Internet affect service quality under investigation. In addition, abundant information can be accessed from a qualitative approach.

### 4.3 Research Strategy

According to Yin (2003), the most important condition for differentiating among the various research strategies is to identify the type of research question being asked. There are five main research strategies to use when collecting and analyzing empirical evidence in the field of social science: experiment, survey, archival analysis, history, and case studies. Each alternative way of research strategy follows three distinct conditions:

- The type of research question posed.
- The extent of control and investigator has over actual behavioral events.
- The degree of focus on contemporary, as opposed to historical events.

The relation between each condition and the five different research strategies can be seen in Table 7.
Table 7: Relevant Situation for Different Research Strategies

<table>
<thead>
<tr>
<th>Research Strategy</th>
<th>Form of Research Question</th>
<th>Requires Control Over Behavioral System</th>
<th>Focus on Contemporary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment</td>
<td>How, why</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Survey</td>
<td>Who, what, where, how many, how much</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Archival Analysis</td>
<td>Who, what, where, how many, how much</td>
<td>No</td>
<td>Yes/no</td>
</tr>
<tr>
<td>History</td>
<td>How, why</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Case Study</td>
<td>How, why</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Source: Adapted from Yin, 2003, p.5.

Which strategy can be used depends on the characteristics of the stated research questions. The common type of research questions are formulated as who, what, where, how and why questions. When how- or why- questions are used, the researcher can benefit by using case studies, experiment, or historical studies. Moreover, he stated that the basic rationale for case study approach is to assemble information as comprehensively and systematically as possible about the selected case organization (Yin, 1994). In addition, the strengths of case study are its ability to provide rich descriptive detail, conveying a feeling of what it is like to experience an organization, event or problem from the inside. In addition, it allows to discovery of grounded theory, and the comparison of existing literature and theory with what actually happens in reality (Yin, 2003)

As research questions in this study are based on how questions, the investigators have no control over the actual behavioral events, and the focus of the study is on the contemporary event, the case study approach was employed to provide rich descriptive detail to gain a better understanding of how Internet affects service quality in the banking sector. Moreover, considering our research approach is qualitative, the strategy chosen for this study was case study.

4.3.1 Multiple – Case Study

According to Yin (1994), a case study is an inquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident. Additionally, he explains that a case may be an individual, or some event or entity that is less well defined than a single individual. It means that a study may contain more than one single case, and it is defined as a multiple - case design (ibid).
A single – case study is considered appropriate for testing a well – formulated theory (critical case), in clinical psychology (extreme or unique case), or observing inaccessible phenomenon (revelatory case), it involves some potential problem like misrepresentation. Compared with single - case design, the results of multiple - case study are more robust since it involves more time and resources, and then the evidence is more compelling (Yin, 1994). Therefore, multiple – case study is considered as the most appropriate approach relative to the purpose of this study.

4.3.2 Sample Selection

Traditional sampling method can be divided into two categories: probability and non-probability sampling (Samouel et al., 2003). Probability sampling is most commonly associated with survey-based research where researcher needs to make inferences from the sample about a population to answer the research questions or to meet research objectives. Non-probability sampling provides a range of alternative techniques based on researcher subjective judgment. The researcher uses the subjective methods such as personal experience, convenience expert judgment to select the element in the sample. There are three commonly used non-probability sampling methods: convenience sampling, judgment sampling and quota sampling. Judgment sampling involves the choice of subjects who are in the best position to provide the information required (ibid).

In order to focus effectively and fulfill the purpose of better understanding the effect of Internet on service quality in our study, non-probability sampling was selected in this study. Two samples from customer perspective were those who have long experience and they have used Internet banking services for more than five years. The samples were chosen according to different background, different age group and different banks. One is 55 years old Swedish instructor at Luleå Technological University and another one is 32 years old Chinese PhD student at Luleå Technological University. The two samples are qualified for our study and represent different cultural background, age group and banking services. To gain better understanding from banking perspective, one sample was selected from FöreningsSparbanken (FSB) in Luleå, Sweden. The respondent is working as an advanced customer adviser and has more than 20 years’ experience in services department in FSB. The reason that we chose FSB was because it’s a traditional brick-and-mortar bank and providing Internet banking services at the same time. Nowadays, FSB has 10, 2 million individual customers and 519 000 corporate customers. Among them, the total internet banking customers are 3, 4 million.

4.4 Research Methods

Yin (1994) states, “a major strength of case study data collection is the opportunity to use many different sources of evidence” (p. 91). Six different sources of evidence are available for collecting qualitative empirical data: documentation, archival records,
interviews, direct observations, participant observations and physical artifacts. If the founding is based on several different sources of information, it is likely to be more accurate (Ibid). Similarly, Marshall and Rossman (1999) presented four sources for collecting qualitative empirical data like participation in the setting; direct observation; in-depth interviewing; and analyzing documents and material culture.

As recommended by Yin (1994), one of the most important sources of case study is the interview, which was chose as the most important method in this study for data collection. Moreover, it’s better to use as many sources as possible for increasing the validity and the reliability of the findings, the documentation can be used as a complementary source for data collection (Yin, 2003). Therefore, the two common sources selected in this study were interview and documentation.

The face to face interview was conducted in this study by using open ended and close ended questions. Additionally, tape record was used to record the proceeding. The major instrument used to conduct interview was the interview guide which was designed on the basis of the frame of reference, research questions and research problem in this study (see Appendix A and B). The interview guide was pre-tested by two banking service customers to gain more recommendations and feedback. At the same time, the interview guide on banking perspective was tested by researchers at the division of Industrial Marketing and e-Commerce at Luleå University of Technology, Sweden. Based on their comments and suggestions, necessary modification and clarification were made. And then, the interviews were conducted from both customer perspective (two customers) and banking perspective (a customer advisor of bank) to gain better understanding from different issues.

Referring to customer perspective, we interviewed two customers who have experienced Internet banking services for more than five years. The whole process of interview was one hour for each and conducted separately in interviewee’s office in Luleå University of Technology. Additionally, each one started with a brief introduction of the purpose and reason for this study in order to present the whole picture on present research.

Regarding to banking perspective, the interview was conducted with an advance customer adviser who has worked for FSB in Luleå, Sweden for more than 20 years. The interview began with a brief introduction of the purpose and reason for this study in order to present the whole picture on present research. The total time for the interview was one and half hour. The interview was conducted in the meeting room in FSB, Luleå, Sweden. Simultaneously, tape record was used in all three interviews to record all the process. In addition, writing notes were used to pinpoint some important issues.

In addition to interviews in study, Yin (1994) also states that documentary information is likely to be relevant to each case study. This information can be taken from written materials and other forms of communication. Therefore, both written materials and
online information searched to gain more understanding on the background of FöreningsSparbanken, Sweden.

4.5 Data Presentation and Analysis

Marshall and Rossman (1999) explain that qualitative data analysis focuses on data in the form of words. They stated that qualitative data analysis is concerning of three flows of activity: data reduction, data display and conclusion drawing/verification. Data reduction activity involves the process of selecting, focusing, simplifying, abstracting and transforming the data. Data display involves the consideration of the reduced data and displaying it in an organized, compressed way so that conclusions can be more easily to drawn. The last activity is to decide what things mean, check the regularities, patterns, explanations, possible configurations, casual flows and positions. Further more, they suggested the use of with-in case analysis and cross-case analysis for qualitative data while conducting case studies (ibid).

In this study, based on the research problem and research questions, empirical data from each case has been presented separately in Chapter 5. The presentation of the data followed the structure in the frame of reference (see Chapter 3). In this way, the empirical data has been presented and organized based on each subunit of analysis:

1. The impact of Internet on reliability.
2. The impact of Internet on responsiveness.
3. The impact of Internet on security.
4. The impact of Internet on communication.
5. The impact of Internet on access.
6. The impact of Internet on service quality.

The *within case analysis* was also conducted in the process for each subunit analysis, and then the empirical data from each case was compared with the previous theories selected in the frame of reference in Chapter 6. It involves:

1. Customer perspective analysis (Customer A).
2. Customer perspective analysis (Customer B).
3. Banking perspective analysis (Customer Adviser from FSB).

The within case analysis then followed by *cross case analysis* on all levels. It includes:

2. Customer (A & B) ---- Customer Adviser.

Based on similarities and contrasts of within case and cross case analysis, the findings and conclusions are discussed and presented in Chapter 7 following the same structure in frame of reference in present study.

4.6 Validity and Reliability

Yin (2003) states that the research design is a logical process that connects the
research questions posed, empirical data collected and conclusions drawn. Therefore, the researchers in case study need to maximize the aspects of quality design, which includes basic criteria i.e. validity and reliability (ibid).

Validity refers to what extent of data and the ways to receive this data are accurate and real. It’s regarded as the most important requirement of a measuring tool. It shows accuracy of the empirical data (Yin, 2003). In order to improve the validity in this study, the interview guide from both customer perspective and banking perspective were designed based on the frame of reference in this study. At the same time, a range of question types were used, including open, probing and closed questions. In order to make sure the questions can be easy understood, the interview guide was pre-tested by both researchers and customers from outside academia. Moreover, in order to explore the research questions and the research problem further, face-to-face interview was conducted. The respondents were carefully selected to ensure they are qualified to answer the questions and have better understanding of how internet affects service quality in banking sector. At the beginning of each interview, the purpose of present study was presented to help interviewee to gain better understanding. Additionally, during the process of interview, both tape record and writing notes were used to ensure the data was real and accurate.

Reliability is concerned with whether alternative researchers would reveal similar information conducting a similar study. It means if the research will be repeated with the same measuring methods, the conclusions will be the same (Saunder, et al. 2000). Yin (2003) also states reliability demonstrates that the operation of a study such as the data collection procedures can be repeated with the same result. To increase the reliability in this study, the existing theories were reviewed from different authors and researchers, and then presented and compared. Furthermore, based on the literature review, concepts were carefully defined and then the frame of reference was developed. Additionally, multiple cases and multiple respondents were selected in this study. At the same time, both within – case analysis and cross – case analysis were conducted. The collected data has been based on and compared to the frame of reference and theories in the existing research area. Therefore, the findings from present study can provide better understanding of how Internet affects service quality in banking sector. Moreover, continuous quality checks have been conducted by researchers and supervisors to ensure each stage of present research is continued in a right way.
5 DATA PRESENTATION

In this chapter, empirical data from both customer and banking perspective will be presented. This chapter begins with Case One (customer A) and Case Two (customer B). It is then followed by Case Three (customer advisor of ForeningsSparbanken). Each case starts with a brief introduction of the respondent. Based on the structure of frame of reference in this study, the data presentation for each case will be in this accordance: Reliability----Responsiveness----Security----Communication--- Access---- Relative Importance.

5.1 Case Study One: Customer A

The first case study was conducted through face-to-face interview with the respondent, denoted as customer A, who is a 55 years old Swedish instructor at Luleå University of Technology (LTU). Customer A has long experience in banking services, especially in Internet banking services since he has been using Internet banking services for paying bills and transferring money since 1999.

5.1.1 Reliability

According to customer A, Internet brings more concern on the reliability in Internet banking services. Compared with traditional banking services, more focus was put on the function of web site in Internet banking rather than employees’ performance. He explained that he relies on the bank’s website because it is functioning properly. The respondent mentioned “It was worse at the beginning, nowadays there’s no problem. The accessibility is good and become better and better.” He also mentioned that he has confidence in Nordea since it’s an established bank and have good reputation for long time. In his opinion, he would never choose any Internet bank without an established bank behind. He is satisfied with services provided by Nordea Bank both online and offline. He trusts the bank very much, so he is not worried to use its services over Internet. He explained if the loss happened for customers in Nordea Bank, they have ability to cover the loss and make compensate. When he was asked if the bank provides accurate records that all the transactions have taken place, he stated “Every time, when I make payment, I can print the page of transfer. They confirm the order of transfer.”

5.1.2 Responsiveness

Regarding the responsiveness criteria, customer A mentioned that Internet has improved the responsiveness in banking services. He is satisfied with this improvement. He explained “compared with the mail bill in the old days, I can pay very quickly. In the old days, I need write mail to pay bill and send it out. It is
inconvenience and takes a long time. Now, there’s direct transfer between different accounts over Internet. It happens directly and promptly”. When he was asked if the employees were willing to help when a problem occurred, he mentioned only one experience long time ago. He met a software problem and called Nordea. The bank responded quickly and posted him a new one to solve the problem few days later. He was very happy with services he received from the employees and online system. He further explained that Nordea pays more attention on improving the support functions all the time. From Windows 2000 to Windows XP, the company develops software to make Internet banking simple, easy to adopt and easy to use. In this way, the Internet banking services can be accessed easily by customers. At the same time, the technical problems are avoided. Further more, he thinks the bank takes care of problems very quickly and he believes if there is any problem they will compensate for this.

5.1.3 Security

Regarding the security issue, he mentioned “when I choose internet banking, it means that the security is relative since internet is open. You have to choose security by without using it. Although it’s difficult to change, the only way is to experience. Generally, it is safe enough. At the same time, it would be possible to crack. However, what company does is to make the program more complex to make it safe”. He further added an example how Nordea makes a big interest in improving Internet services safer as “the process for certification is complex. For logon, I have personal number, password and code. If someone gets my personal number since it’s easy to get, it’s no use. I have password in my head and one time code. If some one steals my code card and get my personal number, it’s no use too, since he also need my password”. Nordea pay attention to security and each new code card can be used only after activated by the last number in the last card. He believes that the bank will make it safer continuously. Compared with the services in the past, the respondent added “the risk of paying through internet banking is much lower than payment through ATM or pay in restaurant. The internet banking is quite safety. I am confident with that.” At the time, he stated that the bank has the ability and they are ready to handle any problem met by customers. The answer was “no” when he was asked if he cared how the bank collect his person information. He has trust in the bank. So he is not much concerned about the privacy matters. He believes the bank will not misuse his personal information.

5.1.4 Communication

Regarding the communication issue, he said he didn’t pay much attention to it after he started to use the internet banking services since he seldom looks through the information on the web site. However, he thinks Internet has improved communication since more information provided to customers.
5.1.5 Access

Customer A believes the Internet has changed his habit of using services of the bank and brings more convenience to him. “Before using Internet Banking, I have to drive to bank in downtown. Now days, I can do it at home and wherever with Internet connection. It’s convenience and time saving.” Compared with the traditional way, Internet banking can be accessed anywhere with Internet connection and at any time. He further explained that “the bill can be paid at the time I want. I can make it even in evening or at night”. When we asked what the effect of Internet on the factor of access, he told that “nowadays, I am very seldom to bank. Two last cases I was invited to chat since the bank want personal contact. Last year, I didn’t conduct any payment in bank since everything was done online.” He further explained that Nordea pays more attention on improving the support functions all the time. From Windows 2000 to Windows XP, the company develop software to make Internet banking simple, easy to adopt and easy to use. In this way, the Internet banking services can be accessed easily by customers.

5.1.6 Relative Importance of the Variables

Concerning how Internet affect on service quality, Customer A concluded three advantages of Internet banking services as: convenience, less time consuming, and freedom of control any time and everywhere. Convenience is the basic reason for him to choose internet banking services and he will switch if only the server can provide services with more speed and convenience, simple to use. In his opinion, Internet has improved service quality in banking services, especially for the factors of service quality like responsiveness, security and access.

Regarding to the important service quality dimension, the respondent explained that accessibility and reliability are very important, followed by responsiveness and security. The communication factor is less important.

5.2 Case Study Two: Customer B

The second case, identified as Customer B, was conducted through face-to-face interview with the respondent who has used Internet banking for more than five years. He is 32 years old PhD student in Luleå University of Technology, Sweden. He came from China in 1999. Since then, he has been a user of FöreningsSparbanken.

5.2.1 Reliability

Regarding to the reliability on the banking services both online and offline, he explained that he was satisfied with the services. The employees in the bank were professional and performed services right the first time. They also provided error-free records. According to the online services, he added that he never met any website problem when he paid or transferred money. However, he added “it’s real a trouble if
the problem happened. But I am sure the bank will be concerned it and cover my loss”. At the end, he concluded that the guarantee of all transactions have taken place was the most important for online banking services. It was better to give the customer a specific record in details of online transaction and payment information for each account.

5.2.2 Responsiveness

Regarding to the responsiveness, the participant said that he preferred to meet with an employee in the physical bank when he faced a problem. He added an example like “Once I met a problem and phoned the bank, the receiver helped me to find the right person and solve my problem quicker than I expected. Further more, the employee gave me additional advice. Now, I have a good relationship with the personnel in the bank.”

When talking about the services of Internet banking, he said that he never tried to solve the problem online and had no idea about it. He explained that he was used to meet personnel face-to-face or by phone since it’s easy and quick.

5.2.3 Security

According to the issue of security, the participant mentioned that he felt secure when he used services in both the physical bank and the Internet bank. Although the test online might be more complicated, he thought it was necessary and made him feel secure when he provided his personal information. He also mentioned that he was not afraid of them misusing his information. But if it happened, he would never use the service in the bank again.

5.2.4 Communication

Regarding to the criteria of communication, the participant said that he felt that the bank paid attention to him and made him felt he was important. The employees in the bank were patient and dealt with customers in a caring fashion. He added, “They always informed me important information and gave me personal attention”.

When talking about the communication online, he thinks that Internet has improved communication and provides customers much more methods for communication. However, he showed his dissatisfaction since most information online was in Swedish and it was hard to understand. Further more, he suggested that the bank should add more language alternatives, such as English or Chinese. In this way, it would be easy for foreigners who are working or living in Sweden. In addition, he showed his personal idea; that is if the bank can conduct face-to-face communication online, the situation of communication would be different.
5.2.5 Access

Regarding to the issue of access, the participant explained that the Internet changed his habit of using the services of the bank and brought more convenience to him. He described the different experience between using the service in the physical bank and Internet bank like:

“In physical bank, I have to drive to the bank in downtown and then fill in form. Then I have to wait in queue and talk with employee in bank to draw my money out. It’s too complex to imagine. Nowadays, what I need to do is just sitting at home and clicking my keyboard then everything is ok. The Internet is changing the habit of my life and I am enjoying this change and feeling comfortable”.

When talking about online banking services, he mentioned that the interface of the website worked well and efficiently. He never got lost when he browsed over the bank’s web site. At the same time, it’s easy for him to move around and find important information. However, he added that the navigation part was not useful to him since he didn’t know Swedish.

5.2.6 Relative Importance of Variables

Regards to the impact of Internet on service quality, Customer B mentioned that Internet has improved the speed of services and can be accessed easily. It brings much more convenience than the physical bank does. The respondent also mentioned that the factors of service quality like responsiveness, reliability, communication and access has been improved since he started to use his Internet banking services.

Concerning the importance of service quality dimensions, the respondent explained that access and communication were very important since Internet has the biggest impact on them. He also explained “I do not understand the content and information posted in the Web site of bank, since I can not understand Swedish. But it is very important for me that the entire function bar on the web site should keep constant always.” Further more, he mentioned that multi-language needed for special attention. The most interesting issue he raised is that “if personal communication online can be achieved, it might lead more convenience for me to solve problems on line”. The responsiveness and security were important for him. He’s heavily related to the personal contact when something wrong. The reliability was relatively less important.

5.3 Case Study Three: Customer Adviser from FSB

The data for this study was collected through face to face interview with an advance customer adviser in ForeningsSparbanken (FSB) in Luleå, Sweden, who has worked for the bank for more than 20 years in the service department.
FSB is one of the largest banking groups in Nordic area. The business concept of FSB “is to provide a range of customized easy-to-use financial services”. At the end of September 2005, the total assets of FSB was 1 159 625 million and operating profit was 11 977 million. The total employees in 2005 in Sweden is 8 900. Today, FSB has 102 million individual customers and 519 000 corporate customers. The total internet banking customers are 34 million. The strength of the company lies in the unique presence resulting from its comprehensive design of branches network and well developed opportunities for customers to have access through Internet and telephone banking. The total number of branches of FSB is 1043. It includes 478 Swedbank, 53 jointly owned banks, 229 savings banks and 283 Hansabank.

5.3.1 Reliability

Referring to the reliability, the customer adviser said it was important that customers feel reliable towards the banking services. He believed that well trained employees were an important factor to achieve this. He also added “our employees are very important because they are very close in contact with our customers. What the employees do in our bank may have a big influence on customers’ judgment on banking services provided. Training is necessary in FSB and we do so in fact.” Moreover, he stated that the employees all in the front line have a training path. In this way, they look professional and skill equipped to do their job.

For the online banking services, he explained that the customers nowadays can solve their problems and search information by using Internet. It’s very important to use Internet since it makes the work more efficient. In addition, he said the online system was well designed and developed by the IT department of centric FSB in Stockholm. It’s very easy for customers to find accurate and useful information on line.

5.3.2 Responsiveness

Regarding to the responsiveness, the respondent said few problem happened in their banking services. He explained that the loss would be covered if the problem happened. He also added the bank paid more attention on improving service efficiency. For example, in order to reduce time for waiting, the bank added more front line employees for services. He also explained that “our employees are well trained and willingly help customers. As you can see in the hall on first floor, each employee is ready for providing services to our customers.”

When asked if the responsiveness was important after providing Internet services, the respondent said the answer was obviously yes. He further explained that “the responses for Internet were more efficient than employees working in bank. However, not every one has Internet and some one can’t manage it. Moreover, if the problem happens, customers prefer employees’ help than Internet.”
5.3.3 Security

Regarding to the security in banking services, the respondent stated that “our customers don’t think there’s a problem in security when they do business in our bank. We have good reputation on it for many years.” additionally, he explained the employees are well trained and have equipped skills and knowledge to answer customers’ questions clearly and make them feel confident.

When talking about the security for online services, the respondent said that most customers feel safe when they use Internet. He further explained, “However, some customers are afraid of IT since they don’t understand the security behind what they can see. It is a matter of education to show them to overcome afraid. The way for improving it relies on education.” He also added the bank provided opportunities for customers to improve their skills of using computer and Internet to help them along how to conduct services online. Finally, he said “if customers can get enough information of security system of bank, they will feel safe in online services”.

5.3.4 Communication

Concerning about the communication factor in service quality, customer adviser said that “before using Internet, most of our working hours were focused on meeting customers, replying letters and receiving phone calls and fax.” Compared with online services, there were more customers, more letters, more phone calls and fax before using Internet services.

Nowadays, the situation has changed since different kinds of communication channels are selected. The respondent A explained: “As importance increasing, the sequence for communication is Internet, Telephone and Meeting. It means Internet can help our customers to find necessary information, thus help them solve their problems by themselves. For further advice and special recommendation, the telephone can be chosen. It’s easy for our customers to reach right advisor for communication in the bank since each company has a register number. For big issues, like investment, customers would like to make an appointment by phone or e-mail for face to face meeting in our bank.”

In his opinion, the Internet provides basic information and more convenience to customers. However, face to face meeting are still very important. “In fact, if we don’t meet our customers often, they may change bank easily”. Summarily, the respondent A concluded, “Internet makes communication easier. At the same time, it leads our work more efficient. Now, we have more time focusing on important issues or problems than before”.

40
5.3.5 Access

When asked about the factor of access, customer adviser said that “access is an important factor for banking services. FSB has paid more attention to it. In order to make our bank easier to reach, the branches network is well designed. In addition, more opportunities are designed for Internet and telephone banking services.” he also added, “after providing Internet services, customers can reach the bank the whole day. They can do business anywhere instead of going to bank so often. Moreover, they use the business in the evening or at night and don’t need to be worried about the security.”

5.3.6 Relative Importance of Variables

Concerning the impact of Internet on service quality, the respondent stated that “Internet helps to manage company in a good way. It leads time saving and makes our work more efficient. In this way, we can focus more on important issues and improving our services”. In his opinion, the factors like responsiveness, communication and access has been improved since Internet used in banking services. In regards to relative importance of the five factors selected in this study since Internet is used, the respondent regarded communication and access as very important ones which made his work more efficient and brought more convenience to customers. The next important factors were reliability and security. However, responsiveness was sated as relatively less important. He added that Internet itself represents quick responsive speed.
6  DATA ANALYSIS

In the previous chapter, data collected through interviews have been presented according to the service quality dimensions identified in the frame of reference.

In this chapter, data will be analyzed according to the theories mentioned in the frame of references, as illustrated in Figure 4. Firstly, within case analysis will be presented, in which each of the three cases will be compared with theories. Secondly, the cross case analysis will be executed to compare and analyze.

6.1  Within Case Analysis

The within-case analysis of each case is presented in the sequence: Reliability, Responsiveness, Security, Communication and Access. Similarities and dissimilarities compared with empirical data and the frame of reference will be discussed. Each within case analysis will end in a form for summary.
6.1.1 Case One: Customer A

As stated in Chapter 5, respondent A is a Swedish instructor at Luleå University of Technology (LTU) and he is 55 years old. He has experienced Internet banking services for more than five years.

6.1.1.1 Reliability

Parasuraman et al. (1985) and Jun and Cai (2001) describe reliability as prompt service and keep promise. Differently, customer A states reliability as trust and confidence in the bank both online and offline. He further explained he has a lot of trust in Nordea bank and has confidence in bank that the loss would be covered if problems occurred. Customer A also added when online services were finished, an accurate record would be presented to confirm all the transactions have taken place. It shows similarity to the previous researchers (Parasuraman et al. 1985, Jun and Cai, 2001). For online perspective, reliability was stated by customer A as functioning properly, least technological problem, whereas there’s no comparable statement in Jun and Cai’s (2001).

Another difference between the theory and empirical data occurs in the relative importance of the reliability. As mentioned by previous research (e.g., Parasuraman et al., 1985; Johnston, 1997; Jun and Cai, 2001; Santos, 2003; Yang et al., 2004), reliability is regarded as the important dimension in service quality, while customer A think it very important. Concerning how Internet impact on reliability, customer A explained he has confidence in online services in Nordea since it’s an established bank and has had a good reputation for a long time. He would never choose any Internet banking without an established bank behind it. There’s no similarity in Jun and Cai’s (2001) research.

6.1.1.2 Responsiveness

Regarding to responsiveness, Parasuraman et al’s (1985) states responsiveness as speed and timeliness of service delivery. It includes willingness and readiness of employees to provide for services, prompt respond to customer. This statement is similar to that of customer A’s in which he stated “the employees were willing to help me and solved my problem quickly”. In his opinion, responsiveness in online banking services means easy use, quick speed and technical problem avoiding which is also supported by Jun and Cai’s (2001). According to their statement, responsiveness involves quick problem solving, prompt service and convenience service in Internet banking.

It is stated by Parasuraman et al. (1985) and Jun and Cai (2001), responsiveness is an important attribute in service quality. Similar to their statement, customer A state responsiveness is important for customer perceived service quality. Concerning how
Internet affect responsive, customer A state that Internet has improved responsiveness since Internet has been used in banking service. He further explained that the transfer and payment can be conducted directly and quickly. This supports Jun and Jai’s (2001) study. According to their statement, responsiveness has improved by Internet and customers enjoy this improvement.

6.1.1.3 Security

Parasuraman et al. (1985) state security means the freedom from danger, risk or doubt. It also involves financial safety and confidentiality. Similar finding can be identified in the empirical data from customer A, in which he state he has confidence in his banking service. Jun and Cai (2001) explains security in online banking involves online transaction safety and customer privacy. The results from customer A support this statement. Customer A further explained that Internet banking was safe for operation since the bank was consistently making online services safer by making online programs more complex. It included making the process for online certification complex. He’s confident that his personal information would not be misused.

It is similar to the previous research (Parasuraman et al. 1985, Zeithaml et al. 2000, Jun and Cai 2001), customer A state that security is an important factor in service quality. When talking about how Internet impact security in banking service, customer A state that he feel much more concerned with the security in the online banking service compared with the traditional one, since the Internet was open to everyone. It supports the findings in Jun and Cai’s (2001), in which they state Internet banking customers appear to be much more concerned with the security of their banking transactions. Moreover, customer A mentioned the Internet has improved security in banking services compared with ATM services or credit card payment in restaurant. However, there’s no comparable statement in Jun and Cai’s (2001).

6.1.1.4 Communication

Johnston (1997) state communication as keeping customer properly informed and communicating with them in language they can understand. This finding can not be found in empirical data from customer A.

As stated by previous research (e.g. Parasuraman et al., 1985; Johnston, 1997; Santos, 2003), communication is considered as an important dimension in service quality. Differently, customer A states that communication is not important to him. Concerning how Internet impact communication in banking service, customer A explains that Internet has improved communication and bring more information to customer. It shows similarity with Santo’s (2003). However, he prefers the written to the information online.
6.1.1.5 Access

It’s described by Parasuraman et al., (1985) access means short waiting time, convenience hours for operation. It’s supported by the empirical data from customer A. Access means time saving and continence time for reaching.

As stated by previous research (e.g., Parasurman et al. 1988, Johnston 1997, Jun and Cai 2001), access is a less important dimension in service quality. Differently, the respondent regards access as the most important factor in banking service. When discussed how Internet impact access in banking service, customer A explains Internet has improved access in banking service and changed his habit of using banking service. He further explains that Internet has brought more convenience and time saving to him. The findings can be found in Jun and Cai’s (2001) in which they sate that Internet has improved access in online banking service and lead more customer satisfaction.

6.1.1.6 Summary

Based on within-case analysis in Case One, the similarities and differences with prior conceptualizations of five distinct dimensions used to measure service quality selected in this study i.e., reliability, responsiveness, security, communication and access, their meaning, and relative importance since the Internet was used in banking services are concluded in Table 8 (see p.46). The findings in empirical data from customer A identifies that service quality can be evaluated by the dimensions e.g. reliability, responsiveness, security, communication and access in banking service. It also shows that Internet has improved the dimensions like responsiveness, security, communication and access in banking service.
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<thead>
<tr>
<th>Dimensions</th>
<th>Previous theories</th>
<th>Empirical data</th>
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<tbody>
<tr>
<td><strong>Reliability</strong></td>
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<tr>
<td>Honors its promise</td>
<td>Keep promise.</td>
<td></td>
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<tr>
<td>Accurate record</td>
<td>Accurate record.</td>
<td>Accurate record.</td>
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<td>Punctual service</td>
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<td><strong>Responsiveness</strong></td>
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<td>Speed of service delivery</td>
<td>Prompt service.</td>
<td>Quick speed.</td>
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<td>Willingness of employees</td>
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<tr>
<td>Prompt respond.</td>
<td>Quick problem solving.</td>
<td>Quick problem solving</td>
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<td>Internet has improved responsiveness</td>
<td>Easy to use.</td>
<td>Internet has improved it.</td>
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<td>Important.</td>
<td>Important.</td>
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<td><strong>Security</strong></td>
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<td>Physical safety</td>
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<td>Financial security</td>
<td>Safe information transaction</td>
<td>Safe transaction.</td>
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<td>Confidentiality</td>
<td>Confidence.</td>
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<tr>
<td>More concern on security</td>
<td>Internet has improved it</td>
<td>Internet has improved it</td>
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<td>Important</td>
<td>Important.</td>
<td>Important.</td>
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<td><strong>Communication</strong></td>
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<td>Language informed can understand</td>
<td>language informed can be understood</td>
<td>Prefer written information.</td>
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<td>Various contact methods</td>
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<td>Choices of languages</td>
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<tr>
<td>Internet has improved communication</td>
<td>Internet has improved it</td>
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<tr>
<td>Important</td>
<td>Important.</td>
<td>Not important.</td>
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<tr>
<td><strong>Access</strong></td>
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<td>Easily accessible by phone</td>
<td>Phone access.</td>
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<td>Short waiting time</td>
<td>Time saving.</td>
<td></td>
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<tr>
<td>Convenience hours and location</td>
<td>Reach anytime.</td>
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<tr>
<td>Account access when abroad</td>
<td>Internet has improved access</td>
<td>Internet has improved it.</td>
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<tr>
<td>Less important.</td>
<td>Important.</td>
<td>The most important.</td>
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</table>
6.1.2 Case Two: Customer B
As stated in Chapter 5, the respondent B is a PhD student in Luleå University of Technology who came from China in 1999. He has been a customer in FSB and experienced in Internet banking services since 1999.

6.1.2.1 Reliability
Parasuraman et al. 1985 describe reliability as the firm performs the service right the first time. This includes punctual service delivery, ability to keep to agreements made with the customer and keeping records correctly. Similar to the empirical data from customer B, reliability means includes employees’ performance and prompt service. However, reliability also means trust and confidence to customer B. As stated by Jun and Cai (2001), reliability involves accurate record. It’s suggested by customer B that Internet banking should provide accurate record to their customers.

Concerning the relative importance of reliability, previous research (e.g., Parasuraman et al., 1985; Johnston, 1997; Santos, 2003; Yang et al. 2004) state it as the most important factor in service quality. While customer B concerns it as less important. When talking about how Internet impact reliability in banking service, customer B described that Internet brings customers much more concern on it.

6.1.2.2 Responsiveness
Parasuraman et al. (1985) describe responsiveness as speed and timeliness of service delivery. It includes willingness and readiness of employees to provide for services, prompt respond to customer. It supports in the empirical data from customer B. As stated by customer responsiveness means efficient performance of employees. It is also similar to previous research (Jun and Cai, 2001) from online perspective in which reliability is described as prompt service, quickly solving problems and convenience service.

Regarding relative importance of responsiveness in service quality, both Parasuraman et al. (1985) and Jun and Cai (2001) sate it as an important attribute in service quality. It’s supported by the impractical data from customer B. concerning how Internet affect responsiveness in banking service, customer B describe that responsiveness has been improved since Internet has been used. Similarly, Jun and Cai (2001) state that Internet has improved responsiveness and lead much more customer satisfaction in online banking.

6.1.2.3 Security
Regarding to security in banking services, customer B was confident in FSB. In other words, he felt safe when he conducted business both online and offline. It’s similar to previous research in physical safety, financial safety and confidentiality (Parasuraman,
et al. 1985). The respondent has confidence in that the bank would not misuse his personal information. It is stated by Jun and Cai (2001) as online transaction safety and customer privacy.

Concerning the relative importance of security in service quality, customer B supports the prior research (Parasuraman et al. 1985, Zeithaml et al. 2000, Jun and Cai 2001) that security was an important factor in service quality. Another similarity is found that both Jun and Cai (2001) and customer B describe that the banking customers appear to be much more concern with their banking transaction and personal information safety when they provide their personal information online.

6.1.2.4 Communication

The respondent stated that the employees in the bank were patient and informed him of important information. It shows similarity with that of Parasuraman et al.’s (1985) in which they stated communication as keeping customer properly informed and communicating with them in language they can understand.

Differently, the respondent regards communication as a very important factor in banking services while previous research (Parasuraman et al. 1985, Santos, 2003) state it as a important dimension in service quality. Concerning the impact of Internet on communication, Santos (2003) states that Internet has improved communication. Similarly, customer B states that Internet bring more information and communication methods. Additionally, customer B suggests multi-language choices should be viable online. He added he prefers to traditional communicating methods although Internet has provided much more communicating methods.

6.1.2.5 Access

The empirical data from customer B supports that access means convenient operating hours and short waiting time for services stated by previous researchers Parasuraman et al. (1985). In addition, Jun and Cai (2001) state access includes customer account can be reached when the customer abroad. Similarly, customer B state access from online perspective as it can be reached anywhere.

Differently, Parasuraman et al. (1985) and Jun and Cai (2001) mention access as a less important factor in service quality, while customer B regard access as the most important. Jun and Cai (2001) state that Internet has improved access. The conclusion in the empirical data from customer B also supports this statement.

6.1.2.6 Summary

Based on within-case analysis in Case Two, the similarities and differences with prior conceptualizations of five distinct dimensions selected in this study i.e., reliability, responsiveness, security, communication and access, their meaning, and relative
importance since the Internet has used in banking services are concluded in Table 9. The findings from the empirical data from customer B shows that service quality can be measured by the five dimensions selected in this study. It’s also identified that Internet has improved service quality dimensions like responsiveness, communication and access.

Table 9: Summarized Analysis of Case Two

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<tr>
<th>Dimensions</th>
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<th>Empirical data</th>
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<td></td>
<td>Parasuraman et al., 1985</td>
<td>Jun and Cai, 2001</td>
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<tr>
<td>Reliability</td>
<td>Honors its promise.</td>
<td>Keep promise.</td>
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<td></td>
<td>Punctual service.</td>
<td>Perform service promptly</td>
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<td>Responsiveness</td>
<td>Speed of service delivery.</td>
<td>Prompt service.</td>
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<td></td>
<td>Willingness of employees.</td>
<td>Perform service promptly</td>
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<td>Prompt respond.</td>
<td>Quick problem solving.</td>
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<td>Convenience service</td>
<td>Internet has improved responsiveness.</td>
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<td>Security</td>
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<td>Financial security.</td>
<td>Safe information transaction</td>
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<td>Santos, 2003</td>
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<td>Important</td>
<td>Internet has improved communication.</td>
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<td>Access</td>
<td>Parasuraman et al. 1885</td>
<td>Jun and Cai, 2001</td>
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<td>Easily accessible by phone.</td>
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<td>Time saving.</td>
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<td></td>
<td>Convenience hours and location.</td>
<td>Access anytime.</td>
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<td>Account access when abroad</td>
<td>Access anywhere.</td>
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<td></td>
<td>Internet has improved access</td>
<td>Internet has improved it.</td>
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<td></td>
<td>Less important.</td>
<td>Important.</td>
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</table>
6.1.3 Case Three: Customer Adviser

It’s stated in Chapter 5 case three is concerning an advance customer adviser in FSB Luleå, Sweden, who has worked in the service department for more than twenty years. He has experienced both offline and online services. It also mentioned in Chapter 5, FSB is one of the largest banking groups in Sweden.

6.1.3.1 Reliability

According to the customer adviser, reliability was described as “well trained employees” in offline banking services. In his opinion, employees were very important since they were very close in contact with customers. Well trained employees may instill confidence in customers. This statement supports that of Parasuraman et al’s (1985). As stated by them, reliability means prompt performance of the firm and firm honors its promise. This includes punctual service delivery and ability to keep to agreements made with the customer. However, in his opinion, instilled confidence in customers by employees plays an important role in reliability. As stated by Zeithaml (200), reliability is also concerns with the technical functioning of the site and the information that is provided is accurate from online perspective. It is mentioned by customer adviser as the bank focus on web system design and accurate information in online banking services.

As mentioned by prior researchers e.g., Parasuraman et al. (1985), Johnston (1997) and Jun and Cai (2001), reliability is the most important dimension in service quality. Differently, customer adviser mentions it as an important factor in service quality. In addition, customer adviser state that the reliability of online banking service is based on traditional banking service and reputation.

6.1.3.2 Responsiveness

Customer adviser states that the employees in FSB were trained to be ready and willing to help customers. This claim is similar to prior research (Parasuraman et al 1985) in which they described responsiveness as speed and timeliness of service delivery. It also concerns willingness and readiness of employees to provide for services.

It’s similar to previous research (Parasuraman et al. 1985, Johnston, 1997; Jun and Cai, 2001) in which responsiveness is regarded as an important factor in service quality. Jun and Cai (2001) that the Internet has improved the efficiency in banking services. It supports in the empirical data from customer A.
6.1.3.3 Security

Customer adviser describes that the bank has confidence in security of banking services since they have had a good reputation in it for many years. This description is similar to physical safety, financial safety and confidentiality mentioned by Parasuraman (1985).

The respondent supports previous research (Parasuraman et al. 1985, Zeithaml et al. 2000, Jun and Cai 2003) that security is regarded as one of important factors in service quality dimensions. Jun and Cai (2001) states that customers appear to be more concern on security in online banking service. The same result is also found in the empirical data from customer adviser. The respondent added that FSB has provided much more opportunities to help customers to improve their skills of operation computer and Internet to conduct services online. In this way, customers’ confidence in online banking can be improved.

6.1.3.4 Communication

According to customer adviser in Case Three, communication is stated as meeting with customers, replying to letters, receiving phone calls and faxes before using Internet. It’s similar to Parasuraman et al’s (1985), in which communication involves keep customer informed. Santos (2003) states that communication consists various contact methods both online communication like e-mail and traditional communication like telephone and mail post in e-service. The empirical data from customer advisor supports the finding in Santos’s (2003).

However, the respondent state communication as very important since the Internet has been used in banking services whereas previous research mentioned it as important in service quality (Parasuraman et al. 1985; Johnston, 1997; Santos 2003). Concerning the impact of Internet on communication, customer advisor describe that the Internet has improved communication in banking services. Similarly, Santos (2003) state that communication has been improved since Internet has been used. Moreover, customer advisor added that the Internet makes communication easier and work more efficient. He also suggested that personal contact and face to face meeting are also important and necessary in online banking services

6.1.3.5 Access

Parasuraman et al (1985) state access means short time for waiting and convenience hour of operation. Similar to that of Parasuraman et al. (1985), customer advisor in said bank has paid attention to provide more opportunities to make banking services easier to reach. For online banking perspective, Jun and Cai (2003) state that access consists of availability for help and account access when abroad. The empirical data from customer advisor supports this finding.
However, it’s different to prior research (Parasuraman et al. 1985, Johnston 1995, 1997, Jun and Cai, 2001) in which access is regarded as important in service quality, the respondent mentioned access as the most important factor in service quality since Internet has been used in banking service. He also added “after providing Internet services, customers can reach the bank the whole day. They do business anywhere instead of going to the bank so often. It even makes banking services safer at night”.

6.1.3.6 Summary

Based on within-case analysis in Case Three, the similarities and differences with prior conceptualizations of five distinct dimensions selected in this study i.e., reliability, responsiveness, security, communication and access, their meaning, and relative importance are concluded in Table 10 (see p.53). The findings in empirical data from customer advisor shows that service quality can be evaluated by the five dimensions selected in this study e.g. reliability, responsiveness, security, communication and access. Additionally, it is said that responsiveness, communication and access has been improved since Internet has been used.
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<tr>
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<tr>
<td></td>
<td>Parasuraman et al., 1985</td>
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<td>Reliability</td>
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<td>Keep promise.</td>
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<td>Accurate record.</td>
<td>Accurate record.</td>
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<td>Punctual service.</td>
<td>Performance of employees</td>
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<td>Trust and Confidence</td>
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<td>Speed of service delivery.</td>
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<td>Internet has improved communication.</td>
<td>Internet has improved it.</td>
</tr>
<tr>
<td></td>
<td>Important</td>
<td>Very important.</td>
</tr>
<tr>
<td>Access</td>
<td>Parasuraman et al. 1885</td>
<td>Jun and Cai, 2001</td>
</tr>
<tr>
<td></td>
<td>Easily accessible by phone.</td>
<td>Phone access.</td>
</tr>
<tr>
<td></td>
<td>Short waiting time.</td>
<td>Time saving.</td>
</tr>
<tr>
<td></td>
<td>Convenience hours and location.</td>
<td>Convenience.</td>
</tr>
<tr>
<td></td>
<td>Account access when abroad</td>
<td>Access anywhere.</td>
</tr>
<tr>
<td></td>
<td>Internet has improved access</td>
<td>Internet has improved it.</td>
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<tr>
<td></td>
<td>Less important.</td>
<td>The most important.</td>
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</table>
6.2 Cross Case Analysis

Followed the within case analysis, a cross-case analysis is executed to compare and analyze between banking perspective and customer perspective in this section. Based on the within and cross case analysis, findings and conclusions for present study will be drawn and presented in the next chapter.

6.2.1 Case I: Customer Perspective

In this part, the cross case analysis from customer perspective between Case One (Customer A) and Case Two (Customer B) is conducted to draw similarities and differences of five distinctive demotions, their meaning and relative importance. As we stated in the chapter before, the Customer A is a 55 years old Swedish instructor and the Customer B is a 32 years old Chinese PhD in Luleå University of Technology in Sweden.

6.2.1.1 Reliability

A cross-analysis of reliability leads to identify many some similarities and dissimilarities. Both customer A and B mention they were confident that the loss would be covered when a problem occurred. In their opinion, accurate record from the bank online is necessary and important. The similarity relies on both FSB and Nordea Bank are well established physical banks and have had good reputation for many years. Differently, the reliability means trust and confidence to customer A. While it concerns employees perform services promptly and provide accurate record to customer to customer B. However, the statement of both participants’ shows similar to that of previous research to some extent in which reliability is stated as the firm performs the service right the first time and the firm honors its promise. This includes punctual service delivery and ability to keep to agreements made with the customer (Parasuraman et al. 1985). From online perspective, reliability concerns with the technical functioning of the site and information that is provided is accurate (Zeithaml 2000). The empirical data in customer A supports this description, but it’s not mentioned by customer B. It’s also found that both customer A and B describe reliability as trust and confidence. However it’s not found comparable theory in Parasuraman et al’s (1985) and Jun and Cai’s (2003).

Concerning relative importance of reliability in service quality, either customer A or B consider it as the most important while previous research (e.g., Parasuraman et al, 1985; Johnston, 1997; Jun and Cai, 2001; Yang et al., 2004) state reliability is the most important. It’s also mentioned by customer A and B that the reputation of traditional bank plays an important role in online banking reliability.
6.2.1.2 Responsiveness

The empirical data analyzed between customer A and B responsiveness identifies many similarities and a few differences. Both participants describe responsiveness as efficient performances of employees, especially concerning when the problem occurred. It’s similar to that of Parasuraman et al (1985) in which responsiveness is defined as speed and timeliness of service delivery. It also concerns willingness and readiness of employees to provide for services (ibid). The statement from customer perspective is also supported by previous research that state online responsiveness as the ability of e-retailers to provide appropriate information to customers when a problem occurs, willingness to help customers and provide prompt service from online perspective (Jun and Cai (2001). Similarly, customer A mentioned online responsiveness as ease of use, quick speed of services and functioning problem avoiding.

From customer perspective, responsiveness is identified as an important dimension in service quality. This statement has been presented by several researchers in their previous research e.g. Parasuraman et al. 1985; Johnston, 1997; Zeithaml 2000, Jun and Cai, 2002; Yang et al. 2004). When discussing the impact of Internet on responsiveness, both customer A and B state that Internet has improved responsiveness. It supports the findings in Jun and Cai’s (2003).

6.2.1.3 Security

A cross analysis of security leads to identification many similarities and a few differences. Both participants describe security as confidence in services provided by the banks and personal information is safe. It is supported by previous research to some extend in which security is defined as the freedom from danger, risk or doubt. It also involves physical safety, financial safety, and confidentiality (Parasuraman et al. 1985). From online perspective, Jun and Cai state security that consists of customer privacy and safe transaction online.

Another similarity is found that security is regarded as an important factor in service quality from customer perspective. This statement is similar to previous research (Paraguayan et al. 1985, Zeithaml et al. 2000, Jun and Cai 2003). Concerning how Internet impact security in banking service, both respondents describe that Internet brings customers much more concern on security in online banking service. It’s similar to that of Jun and Cai’s (2003).

6.2.1.4 Communication

When analyzing the empirical data relating to communication, a few similarities and many differences can be identified. Comparison of empirical data from customer A and B shows that communication means different things to them. As stated by customer A, communication was less important to him since he seldom searched for
information online. Instead, he preferred to written information. In his opinion, bank’s online service is so good that he didn’t need to meet employees often in physical bank. However, customer B regarded it as very important. The reason lies in that he’s a foreigner and has little background of banking services in Sweden. Therefore, he wants to get more information to make sure what kind of service chose would be better. However, the statement from both customer A and B shows similarity to previous research to some extend in which communication is defined as keeping customers informed in a language that they can understand. It also means the company can adjust its language for different customers (Parasuraman et al. 1985). It’s also said that communication consists both online communication methods and traditional methods and choices of language (Santos, 2003).

However, concerning the impact of Internet on communication, both customer A and B said that Internet has improved it since it has been used. It’s supported by Santos (2003).

6.2.1.5 Access

A cross case analysis of access in banking service is identified many similarities in this study. In both participants’ opinion, access is described as time saving, convenience and reachable anytime and anywhere. It keeps similar to previous research (e.g., Parasuraman et al. 1985; Jun and Cai 2001) to some extend. Further more, customer A added that the bank is trying to improving technical function consequently to make online service easier to use.

Contrasting to previous research (Parasuraman, 1985; Jun and Cai 2003), the access is regarded as the most import factor in service quality from customer perspective since the Internet has been used in banking services. When talking about the impact of Internet on access, both previous research i.e., Jun and Cai (2003) and the empirical data from customer perspective support that access has been improved.

6.2.1.6 Summary

A cross case analysis from the customer perspective identifies some similarities and differences between two cases. Both the similarities and differences identified in this study are shown in Table 11(see p.57) to gain a better understanding of how Internet affects service quality from customer perspective. The findings show that service quality can be evaluated by the dimensions selected in this study e.g., reliability, responsiveness, security, communication and access. It’s also found, from customer perspective, Internet has improved the dimensions like responsiveness, communication and access in banking service.
<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Previous theories</th>
<th>Empirical data from customer perspective</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Parasuraman et al., 1985</td>
<td>Jun and Cai, 2001</td>
</tr>
<tr>
<td>Reliability</td>
<td>Honors its promise.</td>
<td>Keep promise.</td>
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<td></td>
<td>Punctual service.</td>
<td>Correct service.</td>
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<td></td>
<td></td>
<td>The most important.</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>Speed of service delivery.</td>
<td>Prompt service.</td>
</tr>
<tr>
<td></td>
<td>Willingness of employees.</td>
<td>Willingness of employees.</td>
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<tr>
<td></td>
<td>Prompt respond.</td>
<td>Quick problem solving.</td>
</tr>
<tr>
<td></td>
<td>Convenience service</td>
<td>Easy to use.</td>
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<td></td>
<td></td>
<td>Important</td>
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<tr>
<td></td>
<td>Financial security.</td>
<td>Safe transaction.</td>
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<td></td>
<td></td>
<td>Important</td>
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<td></td>
<td></td>
<td>Important</td>
</tr>
<tr>
<td>Communication</td>
<td>Johnston, 1997</td>
<td>Language informed can understand.</td>
</tr>
<tr>
<td></td>
<td>Santos, 2003</td>
<td>Verbal/ written information</td>
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<tr>
<td></td>
<td></td>
<td>Various methods.</td>
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<td></td>
<td></td>
<td>Choices of languages.</td>
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<td></td>
<td></td>
<td>Internet has improved it.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Important</td>
</tr>
<tr>
<td>Access</td>
<td>Parasuraman et al. 1885</td>
<td>Jun and Cai, 2001</td>
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<tr>
<td></td>
<td>Easily accessible by phone.</td>
<td>Phone access.</td>
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<td></td>
<td>Short waiting time.</td>
<td>Time saving.</td>
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<tr>
<td></td>
<td>Convenience hours.</td>
<td>Reach anytime.</td>
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<td></td>
<td>Internet has improved it.</td>
<td>Internet has improved it.</td>
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<tr>
<td></td>
<td>Less important.</td>
<td>Important</td>
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</table>
6.2.2 Case II: Customer and Banking Perspective

Based on similarities and differences discussed in the cross case analysis above, the second cross case analysis between customer perspective and banking perspective is conducted in this part followed by the sequence of reliability, responsiveness, security, communication and access. Finally, identifications between customer and banking perspective will be summarized and presented in the end.

6.2.2.1 Reliability

Both customers and customer adviser mentioned the performance of employees may instill customers’ confidence in banking services. Customers have reliability in their banking services that the loss would be covered when a problem occurred. It’s similar to that of previous research stated by Parasuraman et al. (1985) that reliability is defined as the form performs the service right the first time and honors its promise. Similarly, Jun and Cai (2001) also state reliability as the firm keeps service promise and keeps record correctly. As stated by Zeithaml (200), reliability is also concerns with the technical functioning of the site and the information that is provided is accurate from online perspective. It is mentioned by customer adviser as the bank focus on web system design and accurate information in online banking services.

Concerning about the relative importance of reliability since the Internet was used, different respondents have different ideas while previous research state it as the most important (Parasuraman et al 1985, Johnston, 1997; Jun and Cai 2001; Yang et al. 2004). Most importantly, both customers and customer adviser said that the Internet has impact on reliability since there’s lack of personal contact in online banking services. In addition, they mentioned the reputation of physical bank plays important role in online banking services.

6.2.2.2 Responsiveness

Responsiveness means prompt services from both banking and customer perspective. This statement shows similarity with previous research (Parasuraman et al. 1985; Jun and Cai, 2001). Responsiveness has been shown to be an important factor, supported by previous research i.e., Parasuraman et al. 1985, Zeithmal 2000, Jun and Cai, 2001 in which responsiveness is described as speed and timeliness of service delivery. It also concerns willingness and readiness of employees to provide for services (Parasuraman et al., 1985). It supports by customer A and customer adviser to some extent.

As mentioned by previous research (Parasuraman et al. 1985; Johnston, 1997; Jun and Cai, 2001) responsiveness is regarded as an important dimension in service quality. It’s supported from both customer and banking perspectives. In both customer and
customer adviser’s opinion, Internet has improved ability of responsiveness in banking service. It means more speed and convenience in the banking service.

6.2.2.3 Security

Security means employees’ performance instills confidence in customers from banking perspective. Similarly, customers think security means they have confidentiality that services provided are safe. In addition, they also have confidence in the bank that their personal information can not be misused. In other words, confidence in bank leads customers to feel safe during the process of services. It is also defined by Parasuraman et al. (1985) that security involves performance of employees who can instill confidence in customers.

Security is regarded as an important factor in service quality in prior research supported by Parasuraman et al., 1985; Johnston, 1997; Jun and Cai, 2001. It is similar to that of customers and banking service provider. They all mention security as important. Concerning the impact of Internet on security, the respondents all state customers feel much more concern on it. Similarly, it’s also mentioned by Jun and Cai (2003).

6.2.2.4 Communication

As stated by Santos (2003), the respondent from banking perspective described communication as different communication methods involved to improve banking services. Customers can search information online, receive personal contact by telephone and even meet employees face to face in bank. Additionally, communication also consists of choices of language (Santos, 2003) and keeping customers informed in a language they can understand (Parasuraman et al. 1985). Similarly, it is also stated by respondent from customer perspective. In his opinion, the bank should provide more language alternatives for online information. In this way, the information provided by bank can be understood. Regarding to relative importance of security in banking service quality, customer A described it as less important, while customer B and customer adviser stated it as the most important. The differences rely on different customers have different need during service process. For foreign customers, they would like to search more information to gain better understanding of services provided. Differently, native customers need less since they know more and don’t want to spend more time on information when they conduct banking services on line.

6.2.2.5 Access

Access is described by both customers and banking service provider as easier to reach more convenience to customers, time saving and reach whole day even at night. This statement is similar to that of Parasuraman et al. (1985) to some extent like convenient hours for operation, short time for waiting. It also keeps similar to that of
Parasuraman, 1985; Jun and Cai, 2001; Yang et al. 2004) in which access is described as approachability and ease of contact. It involves easily accessible by telephone or e-mail; short waiting time for services; convenient hour’s operation; and convenient location for reach.

Concerning about the impact of the Internet on access, both customers and customer adviser said that Internet makes online banking services to be accessed easily by customers. Referring to relative importance of access in service quality, it is described as the most important from both customer and banking perspectives. Differently, previous research stated access as a less important factor in service quality supported by previous research (e.g., Parasuraman, 1985; Jun and Cai 2003).

6.2.2.6 Summary

Based on the second cross case analysis above, many similarities and some differences are identified in this part. The identified similarities and differences in the empirical data of the five service quality dimensions selected in this study are summarized in the table 12 below to gain a better understanding of how Internet affects service quality from both customer and banking perspective. The findings show that service quality in banking service can be evaluated by the five dimensions selected in this study e.g., reliability, responsiveness, security, communication and access. Most importantly, it’s found that Internet has improved the dimensions like responsiveness, communication and access.

Table 12: Summarized Analysis of Similarities and Differences from Both Customer and Banking Perspective

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Previous theories</th>
<th>Empirical data from customer perspective</th>
<th>Empirical data from banking perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability</td>
<td>Parasuraman et al., 1985</td>
<td>Jun and Cai, 2001</td>
<td>Customer A</td>
</tr>
<tr>
<td></td>
<td>Honors its promise</td>
<td>Keep promise.</td>
<td></td>
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<td></td>
<td>Punctual service.</td>
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<td></td>
<td>Correct service.</td>
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<td>The most important.</td>
<td>The most important.</td>
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<td></td>
<td>Trust and confidence.</td>
<td>Confidence.</td>
<td>Confidence.</td>
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<td></td>
<td>Function of web.</td>
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<td></td>
<td>Online based on offline</td>
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<td></td>
<td>Very important.</td>
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<td>Less important.</td>
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<tbody>
<tr>
<td>Prompt respond.</td>
<td>Quick problem solving</td>
<td>Quick problem solving</td>
<td>Quick problem solving</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convenience service</td>
<td>Easy to use.</td>
<td>Easy to use.</td>
<td>Easy to use.</td>
<td></td>
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<tr>
<td>Internet has improved it.</td>
<td>Internet has improved it.</td>
<td>Internet has improved it.</td>
<td>Internet has improved it.</td>
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<td>Important</td>
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<td>Important</td>
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<tr>
<td>Physical safety.</td>
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<td>More concern online.</td>
<td>More concern online.</td>
<td>More concern online.</td>
<td>More concern online.</td>
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<td>Important</td>
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<td>Important</td>
<td>Important</td>
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<tr>
<td>Security</td>
<td>Internet has improved it.</td>
<td>Internet has improved it.</td>
<td>Internet has improved it.</td>
<td></td>
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<tr>
<td>Language can be understood.</td>
<td>Language informed can be understood</td>
<td>Keep informed.</td>
<td>Keep informed</td>
<td></td>
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<tr>
<td>Verbal/ written information</td>
<td>Prefer written information.</td>
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<td>Various methods.</td>
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<td>Choices of languages.</td>
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<td>Internet has improved communication.</td>
<td>Internet has improved communication.</td>
<td>Internet has improved communication.</td>
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<tr>
<td>Important</td>
<td>Important</td>
<td>Not important.</td>
<td>Very important.</td>
<td></td>
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<tr>
<td>Communication</td>
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<tr>
<td>Parasuraman et al., 1885</td>
<td>Jun and Cai, 2001</td>
<td>Customer A</td>
<td>Customer B</td>
<td>Customer advisor</td>
<td></td>
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<tr>
<td>Ease phone access.</td>
<td>Phone access.</td>
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<tr>
<td>E-mail access.</td>
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<tr>
<td>Convenience hour</td>
<td>Reach anytime.</td>
<td>Reach anytime.</td>
<td>Convenience hour</td>
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<tr>
<td>Internet has improved it.</td>
<td>Internet has improved it.</td>
<td>Internet has improved it.</td>
<td>Internet has improved it.</td>
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<td>Less important.</td>
<td>Important.</td>
<td>The most important.</td>
<td>The most important.</td>
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61
7 FINDINGS, CONCLUSIONS AND CONTRIBUTIONS

Based on the results of the within-case analysis and the cross-case analysis in Chapter Six, the findings and conclusions of this study are first presented in this chapter. Then theoretical contributions and managerial implications are followed. Finally, suggestions for further research are presented.

7.1 Findings and Conclusions

As stated in Chapter One, the research problem of this study was to gain better understanding of how Internet affects service quality in banking sector. In order to fulfill the purpose, five research questions were identified based on literature review in Chapter Two. The research questions in this study were formulated in Chapter Three as:

Q1. How does Internet impact reliability in banking sector?
Q2. How does Internet impact responsiveness in banking sector?
Q3. How does Internet impact security in banking sector?
Q4. How does Internet impact communication in banking sector?
Q5. How does Internet impact access in banking sector?

Three cases study were conducted to answer theses questions from both customer perspective and banking perspective. This chapter provides a summary of findings and conclusions followed by the sequence of: Reliability, Responsiveness, Security, Communication, Access.

7.1.1 Reliability

Regarding to service quality dimension of reliability, the Internet has big affects on it since most of online customers are really concerned about the reliability of virtual service providers. In physical bank, performance of employees is always focused by customers, therefore the bank have paid more attention on it and provided more opportunities to develop their staff to instill customers’ confidence in banking services. For internet banking, the reliability is mostly based on existing physical bank. It is important for the bank to conduct business both online and offline. The reliability of both online and offline is relatively important. It’s also suggested that technical function and accurate record provided by Internet should be focused on by banking service provider in online services. It is because online services lack of personal contact. In other words, employees’ performance has been replaced by the performance of technical function and accurate record in online banking services to instill confidence in customers.

Based on the theoretical review in this study, it is found that reliability is one of the
most highly frequently mentioned dimensions to evaluate service quality by previous research (e.g., Parasuraman, et al., 1985, 1988; Johnston, 1995, 1997; Nantel, 2000; Zeithaml et al., 2000; Madu, 2002; Wolfinbarger and Gilly, 2002; Santos, 2003; Jun, et al. 2004; Yang and Fang, 2004; Yang et al. 2004; Lee and Lin, 2005). At the same time, reliability is constantly regarded as most important to customers supported by prior research (Parasuraman et al. 1985, Johnston, 1997, Zeithaml et al. 2002, Jun and Cai 2001; Yant et al., 2004). In this study, reliability is found as important from banking perspective; however it’s different from customer perspective. The different understanding of reliability between customer and provider indicates that reliability is still important to customers and it needs more concern by banking service providers. It’s also suggested that just putting information on web page is not sufficient, personal contact is also very important to customers when they evaluate reliability in banking services. Employees in front desks continuously play important and un-replaced roles behind Internet banking services.

7.1.2 Responsiveness

Compared with traditional banking service, Internet banking provides better accountings, quicker transfer speedy and efficiency. It can be said that traditional banking service means prompt service conducted through human contact; while online services means efficient services through click up on Internet. The differences between traditional and Internet banking services indicate that Internet has led more efficient services than traditional ones. At the same time, customers enjoy this time saving services. While the Internet acts as faster, easier transaction platform both for customers and service providers, it’s no doubt that Internet has improved customer services, especially for service responsiveness.

The responsiveness is found as an important service quality dimension in this study supporting by previous work (e.g., Parasuraman et al., 1985; Johnston, 1997; Zeithmal 2000; Jun and Cai, 2001; and Yang et al., 2004). Based on literature review in this study, it’s also found that responsiveness is frequently mentioned in previous research (e.g., Parasuraman, et al., 1985, 1988; Johnston, 1995, 1997; Zeithaml et al., 2000; Jun and Cai, 2001; Madu, 2002; Jun, et al. 2004; Yang and Fang, 2004; Yang et al. 2004; Dina et al. 2004; Lee and Lin, 2005).

7.1.3 Security

Internet brings more concern on security in Internet banking. Since the Internet is open to every one, the security is relative compared with physical banking services. However, it is more secure than ATM or credit card to some extent. In addition, the company is paying more attention to make online services safer. It’s concluded that, although security is still considered as an obstacle for online banking services, customer confidence and trust in online banking services can be increased by
performance and reputation in physical bank. It also can be increased by improving the complexity of encryption in online banking service. Mostly important, experience is mentioned by both customer and banking service provider when they described security in online banking service. It means customers can choose security by not using Internet; on the other side, they may choose changing their habit of conducting banking service by their online personal experience. Therefore, it is required companies to provide more education opportunities for customers to improve their skills to get along services provided online. In this way, good initial experience may result a big change in consumer habit from offline to online banking service. Moreover, it’s also suggested that in Internet banking services, visible evidence of service fulfillment like printable accurate record online should be provided for certification.

Regarding to the relative importance of security, it is found that security is concerned as an important factor in service quality in study. It is supported by previous researchers (e.g., Parasuraman, 1985; Johnston, 1997; Jun and Cai, 2001; Yang et al., 2004). Moreover, based on the literature review in this study, it is also found that security is another most frequently mentioned dimension by prior research (e.g., Parasuraman, et al., 1985; Johnston, 1995, 1997; Joseph et al., 1999; Nantel, 2000; Zeithaml et al., 2000; Madu, 2002; Wolfinbarger and Gilly, 2002; Santos, 2003; Jun, et al. 2004; Yang and Fang, 2004; Yang et al. 2004; Dina et al. 2004).

7.1.4 Communication

Internet makes it possible for customers to reach more information than before. However, too much information may lead no information in fact since customers are pooled and difficult to figure out the important ones. Compared with electronic and printed information, customers may prefer the last one. It indicates that communication consists of simple and clear information from online perspective. It also suggested that good quality Web site must offer many available contact methods. Although Internet provides various methods for online communication i.e. e-mail and chat room, traditional methods for communication like personal contact by telephone and regularly face to face meeting are also important and necessary. Otherwise, customers may think they aren’t cared and it’s easier for them to change services to other banks.

With the trend of globalization, companies especially for banks should be suggested to pay more attention on foreign customers’ need. Offering language choices other than Swedish and English is particularly important for banks, especially for banks which are involved in international business in Sweden.

It’s concluded that communication is a very important factor in service quality to foreign customers in Swedish banking sector especially for those whose mother language is not Swedish and English. It is also concluded in this study communication
is mentioned as an important factor of service quality.

7.1.5 Access

Referring to the dimension of access, the Internet has a positive impact on it. It is found that access is the most important factor in service quality in this study. The analyses in present study indicate that the Internet bring several differences between the physical bank and internet bank. Internet bank means more time saving, convenience and easier access from both customer perspective and banking perspective. Firstly, the Internet leads better accounting access and brings more convenience to customers since it can be reached anywhere and anytime when computer is available. It can be reached 24 hours a day, 30 days a month and 365 days a year. Moreover, it can be reached either at home, offices or on the way home/offices. It is even possible for customers to buy or use banking services from any place in the world. Secondly, it leads time and cost saving. Online customers don’t need waiting for banking services like physical banks do. Compared with post services, it leads more money saving at the same time. Thirdly, compared with offline services in bank, internet banking services provide more control and freedom. Additionally, safety and access are well combined. It means that customers may conduct business in the evening or even at night and don’t worry about the safety.

7.1.6 The Impact of Internet on Service Quality in the Banking Sector

Due to service characteristics of intangibility, inseparability, heterogeneity and perishability, services are always described as hard to evaluate (Hoffman and Bateson, 2002). It is also stated that attention to service quality can lead a company different their services from others and gain a lasting competitive advantage (Morre, 1987). The results in this study show that service quality could be measured by the five important factors of reliability, responsiveness, security, communication and access. Concerning with how Internet affects service qualities in banking sector, the respondents strongly hold the same attitude that Internet is a convenience tool available, whenever and wherever you need it. It’s also found that the factors like responsiveness, communication and access has been improved since Internet has been used in banking services. It is therefore concluded that Internet has an important and positive effect on customer perceived service quality in banking.

Regarding to the very important service quality criteria, both customers and banking service provider regard access as very important one since Internet has been used. In addition, the factors of responsiveness and security are commonly regarded as important factor from both customer and banking perspectives. However, there are some differences identified in this study too. Concerning with relative importance of reliability and communication, participants show their different opinions. The differences could be based on different backgrounds of culture, age groups and personal experience.
7.2 Contributions

In this section, both theoretical contributions and managerial implications are discussed.

7.2.1 Theoretical Contributions

The purpose of our study is to gain a better understanding of how internet affects service quality in banking sector. In order to fill this purpose, we explored a lot of research papers. During this process, five highly mentioned and frequently stated as important factors in service quality are identified in this study. They are reliability, responsiveness, security, communication and access.

This study has clearly identified access as the most important dimension in service quality. It is identified in this study that Internet leads banking service more convenience, time saving and easier to reach. In addition, it’s identified that performance of employees in traditional bank still plays an important role in the dimension of reliability from online perspective.

7.2.2 Managerial Implications

The most important for managers to take for consideration in service quality is from specific dimensions since service quality is intangible and hard to evaluate. Managers can use the five dimensions, explored in this study as five most important ones in service quality dimensions, to evaluate service quality delivered to customers. In this way, bank managers may assess their strength/weakness relative to competitors.

One more, the dimensions of service quality like reliability, responsiveness, security, communication, and access are not stay alone. It is important to see that the dimensions may closely associate with each other. Managers in the banking sector are suggested to focus their resources on the dimensions selected in this study according to their relative importance to improve the overall perceived service quality in the banking sector.

Additionally, some online customers are really worried about the reliability of virtual service providers. The suggestion to banking managers is to provide physical brick mortar bank behind online banking services. In this way, Internet can be regarded as an expansion of offline services. For the area of communication, bank managers should make the information more simple and clear for customers to navigate. Additionally, multiple language choices provided online need more focus on. Furthermore, regular face to face meeting should be suggested. It’s also suggested that personal contact reach online can bring more convenience to customers like pc to pc
call provided by bank.

### 7.3 Implications for Further Research

Due to the exploratory and descriptive nature of this study, and limited literature review in this area, there are limitations to the present study, and some more opportunities and suggestions for further research are presenting.

Firstly, due to the limitation of qualitative research in numbers and statistical data presented, quantitative research is suggested for further research in this area. In other words, large scale quantitative study should be conducted to generate statements of service quality dimensions like reliability, responsiveness, security, communication and access. Moreover, based on large scale quantitative study, statistical data analysis can be used to finalize their relative importance of service quality dimensions.

Secondly, the access is presented in study is ranked as the most important factor in service quality since the Internet has been used in banking sector in Sweden. It would be suggested to assess this statement statistically.

Finally, during the process in present research, some other interesting areas are identified for further research:
- Barriers for Internet banking to conduct excellent services.
- Service quality and the importance of customer role in banking sector.
- Service quality and customer satisfaction in internet banking.
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Appendix A

INTERVIEW GUIDE ONE
(From Banking Perspective)

General Information

1. Could you please describe your position, working experience and years for present position?
2. Could you please give us some general information about your bank like company’s slogan, core products and services, employees, customers and revenue?
3. When did your bank provide online banking services? What is the aim of using Internet or why providing online service?
4. What kind of services does your bank provide online?
5. How many constant customers are using Internet services in your bank at present?

Service Quality

1. How do you describe excellent services before you providing Internet services?
2. How do you describe excellent services after you providing Internet services?
3. Could you please tell us changes of the service you offer after providing Internet service?
4. What is your general opinion toward Internet services provided in your bank?
5. What are the most frequently asked questions or complains you received from customers using Internet service you offer?

Components of Service Quality

1. **Reliability:** *it means that firm performs the service right the first time and firm honors its promise.*

1.1 How do you describe reliability in your banking services?
1.2 Do you think that reliability was important for customer perceived service quality before you providing Internet services?
   • If not, please give your reason.
   • If so, in what way did the bank do to ensure perform services right the first time and the bank honors its promise?
1.3 How do you describe reliability in your online banking services?
1.4 Do you think that reliability is important for customer perceived service quality after you providing Internet services?
   • If not, why?
• If so, in what way the bank do to ensure perform services right the first time and the bank honors its promise on line?
1.5 Would you like to describe how reliability has been affected/changed since you introduced internet services?

2. **Responsiveness**: *it concerns the willingness or readiness of employees to provide service.*

2.1 How do you describe responsiveness in your banking services?
2.2 Do you think that responsiveness was important for customer perceived service quality before you providing Internet services?
   • If not, why?
   • If so, in what way the bank did to ensure the employees were willing and ready to provide service?
2.3 How do you describe responsiveness in your online banking services?
2.4 Do you think that responsiveness is important for customer perceived service quality after providing Internet services? If so, in what way the bank do to ensure the employees are willing and ready to provide service?
2.5 Would you like to describe how responsiveness has been affected/changed since you introduced internet services?

3. **Security**: *it means that the freedom from danger, risk or doubt.*

3.1 How do you describe security in your banking services?
3.2 Do you think that security was important for customer perceived service quality before providing Internet services? If so, in what way the bank did to ensure customers were away from danger, risk or doubt?
3.3 How do you describe security in your online banking services?
3.4 Do you think that security is important for customer perceived service quality after providing Internet services? If so, in what way the bank does to ensure that customers are away from danger, risk and doubt online?
3.5 Would you like to describe how security has been affected/changed since you introduced internet services?

4. **Communication**: *it means that keeping customers informed in a language they can understand.*

4.1 How do you describe communication in your banking services?
4.2 Do you think that communication was important for customer perceived service quality before providing Internet services? If so, in what way the bank did to ensure customers informed in a language they can understand?
4.3 How do you describe communication in your online banking services?
4.4 Do you think that communication is important for customer perceived service quality after providing Internet services? If so, in what way the bank does to ensure that customers informed in a language they can understand online?
4.5 Would you like to describe how communication has been affected/changed since you introduced internet services?

5. **Access:** *it means approachability and ease of contact.*

5.1 How do you describe access in your banking services?
5.2 Do you think that access was important for customer perceived service quality before providing Internet services? If no, why? If so, in what way the bank did to ensure that the bank was easy to approach and contact?
5.3 How do you describe access in your online banking services?
5.4 Do you think that access is important for customer perceived service quality after providing Internet services? If no, why? If so, in what way the bank does to ensure that the bank is easy to approach and easy contact?
5.5 Would you like to describe how access has been affected/changed since you introduced internet services?

6. **Among these five factors, like reliability, responsiveness, security, communication and access,** which ones are the most important in offline services? And which ones are the most important in online services?

7. **How you perceive that the Internet services that you offer has had an impact on the customers overall perceived service quality of the bank?**

8. **Do you have some suggestions on how to improve the Internet service you offer?**
Appendix B

INTERVIEW GUIDE TWO

(From Customer Perspective)

General Information

1. Could you please give us some general information about yourself like age, position and name of banking services?
2. When did your begin to use online banking services? How long have you been using Internet banking services?
3. What kind of online banking services do you often use?
4. What do you think the services provided through Internet?

Service Quality

1. How do you describe excellent services before you using Internet services?
2. How do you describe excellent services after you using Internet services?
3. Could you please tell us changes of the service after using Internet service?
4. What is your general opinion toward Internet services provided by your bank?
5. What are the most frequently asked questions or complains after using Internet service?

Components of Service Quality

Reliability: it means that firm performs the service right the first time and firm honors its promise.

1. Do you think that reliability was important for customer perceived service quality before you using Internet services?
   a. If not, please give your reason.
   b. If so, in what way did the bank do to ensure perform services right the first time and the bank honors its promise?
2. Do you think that reliability is important for customer perceived service quality after you providing Internet services?
   a. If not, why?
   b. If so, in what way the bank do to ensure perform services right the first time and the bank honors its promise on line?
3. Would you like to describe how reliability has been affected/changed since you used internet services?

Responsiveness: it concerns the willingness or readiness of employees to provide service.

I
1. Do you think that responsiveness was important for customer perceived service quality before you using Internet services?
   a. If not, why?
   b. If so, in what way the bank did to ensure the employees were willing and ready to provide service?
2. Do you think that responsiveness is important for customer perceived service quality after providing Internet services? If so, in what way the bank do to ensure the employees are willing and ready to provide service?
3. Would you like to describe how responsiveness has been affected/changed since you used internet services?

Security: it means that the freedom from danger, risk or doubt.

1. Do you think that security was important for customer perceived service quality before using Internet services? If so, in what way the bank did to ensure customers were away from danger, risk or doubt?
2. Do you think that security is important for customer perceived service quality after using Internet services? If so, in what way the bank does to ensure that customers are away from danger, risk and doubt online?
3. Would you like to describe how security has been affected/changed since you used internet services?

Communication: it means that keeping customers informed in a language they can understand.

1. Do you think that communication was important for customer perceived service quality before using Internet services? If so, in what way the bank did to ensure customers informed in a language they can understand?
2. Do you think that communication is important for customer perceived service quality after providing Internet services? If so, in what way the bank does to ensure that customers informed in a language they can understand online?
3. Would you like to describe how communication has been affected/changed since you used internet services?

Access: it means approachability and ease of contact.

1. Do you think that access was important for customer perceived service quality before using Internet services? If no, why? If so, in what way the bank did to ensure that the bank was easy to approach and contact?
2. Do you think that access is important for customer perceived service quality after using Internet services? If no, why? If so, in what way the bank does to ensure that the bank is easy to approach and easy contact?
3. Would you like to describe how access has been affected/changed since you used internet services?

4. Among these five factors, like reliability, responsiveness, security, communication and access, which ones are the most important in offline services? And which ones are the most important in online services?

5. How you perceive that the Internet services that you offer has had an impact on the customers overall perceived service quality of the bank?

6. Do you have some suggestions on how to improve the Internet service?