Relationship between Online Service Quality and Customer Satisfaction
A Study in Internet Banking

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Abstract

In the last few years we have witnessed a substantial growth of internet-based services, both from pure Internet businesses and from traditional companies that are developing online services. One of the key challenges of the Internet as a service delivery channel is how they manage service quality, which holds a significant importance to customer satisfaction. The purpose of this research was to gain a better understanding of the service quality dimensions that affect customer satisfaction in the Internet banking sector from a consumer perspective. Based on a detailed literature review, a frame of reference was developed. Five service quality dimensions were selected to be tested in the Internet banking sector in order to explore the relationship between service quality and customer satisfaction. A qualitative research approach was used to get a better understanding of this issue. However, a small quantitative survey was also conducted to support the results obtained from the qualitative study. The empirical data were gathered through in-depth interviews with four people by using a semi-structured questionnaire and a survey were conducted with 25 people. Data presentation and analysis were done in accordance with the research questions and the frame of reference. Finally, in the last chapter findings and conclusions were drawn by answering the research questions. Nine service quality dimensions in Internet banking were identified in this study (i.e., efficiency, reliability, responsiveness, fulfillment, privacy, communication, personalization, technology update, and logistic/technical support). The quality performance of all the nine dimensions was shown to have a strong impact on customer satisfaction. Efficiency, reliability, responsiveness, fulfillment, privacy was found to be the core service quality dimensions in Internet banking. Finally, technology update and logistical or technical support was two new dimensions found in this study.
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Parmita Saha Yanni Zhao
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Chapter 1

Introduction

The first chapter in this thesis introduces the background of the selected area. This will be followed by a problem area discussion that will help reader to understand the insight of the research area. The problem discussions end with a research problem and specific research question. In the end of the first chapter we will also present the disposition of the thesis.

1.1 Background

This section will provide the background of the research area. This section contains the general idea of e-commerce, role of e-commerce and activities including Internet banking as a one of the major sector in e-commerce activities. This section also describes importance of customer satisfaction in e-commerce, relationship between customer satisfaction and service quality and measurement of online service quality.

1.1.1 E-commerce

In business today electronic commerce is one of the common topics of discussion (Daniel, Wilson & Myers 2002). Kalakota and Whinston (1996) defined e-commerce as “The buying and selling of information, products and services via computer networks” (p. 3), the computer networks primarily being the Internet. It is streamlining business processes, restructuring whole industries and re-shaping of customer and supplier relationship (Daniel, Wilson & Myers 2002). In order to perform one or more of the business functions Internet based e-commerce systems use World Wide Web based application solutions. These business functions include information provision, communication, buying, selling, distribution, customer service, delivery and payment processing among producers, suppliers and their customers etc. Using e-commerce systems organizations can market their products and services online and provide a range of services that customers themselves can perform without direct human assistance. Its allows customers to conduct a wide range of activities such as changing address, securing a credit card or loan, learning from other customers, personalizing a service agreement and purchases without human assistance (Molla and Licker 2001). Electronic commerce is a new way of conducting, managing and executing business transactions using computer (Kalakota and Whinston 1996).

1.1.2 Role of E-commerce and Activities

The Internet population has been exploding because of the significant power of World Wide Web and global e-commerce. The World Wide Web users have been multiplying rapidly and have widely spread into all walks of life. It has opened up tremendous business opportunities for its users (Ho & Wu 1999). The most common and popularized use of e-commerce is to replace or enhance traditional market channels by opening web-based storefronts. In this type of e-commerce, also commonly referred to as “Business to consumer e-commerce”, organizations offer their product and services on the web and generate revenue from the actual sale of those products and services to their customers (Molla & Licker 2001). Awad (2000) identified four e-
commerce activities available to Internet users: (1) shopping, (2) banking, (3) investing, and (4) online electronic payment for Internet services.

In the last few years we have witnessed a substantial growth of internet-based services, both from pure Internet businesses and from traditional companies that are developing online services (Khalifa and Liu 2003). According to an Angus Reid group study (2004) of Internet users in 34 countries nearly 120 million of the estimated 300 million worldwide Internet users have already made a purchase or transaction online. Internet banking is one of the prominent examples in Applications of information technology in the service industry, and specifically in e-commerce. The incredible growth of the Internet is changing the way corporations conduct business with consumers (Slu & Mou 2003). The banking industry also provides transactional as well as other financial services to their customers over the Internet. In recent years, more and more number of traditional brick-and-mortar banks has been moving to the Internet, in order to sustain their competitiveness in the market place (Jun & Cai (2001). Gerlach (2000) reported that more than 500 conventional banks in US currently offer customers online access to their accounts. Major banks in US, such as Bank of America and Wells-Fargo, have offered a variety of services, such as CDs, Credit cards, Funds transfer and Loans.

For Internet users, banking online is both convenient and time-saving compared with traditional retail banking (Slu & Mou 2003). While Internet banks have focused their attention on improving their banking services quality, many of them still seem to be lagging behind their customer’s ever increasing demands and expectations (Jun & Cai 2001). So, satisfaction becomes an important issue while corporations introduce service online. A business depends on their customer. In fact customers are the very livelihood of business organizations. Customer satisfaction has always been assumed as a necessary condition for the success of organizations (Molla and Licker 2001).

1.1.3 Customer Satisfaction in E-commerce

Customer satisfaction is a critical issue in the success of any business system, traditional or online (Ho & Wu 1999). In a turbulent e-commerce environment, in order to sustain the growth and market share, Internet companies need to understand how to satisfy customers, since customer satisfaction is critical for establishing long-term client relationships (Patterson et al. 1997). It is evidenced by the fact that over the last five years, customer satisfaction surveys have become common in many financial institutions. Thus, a fundamental understanding of factors impacting Web-customer satisfaction is of great importance to e-commerce. Furthermore, the need for research in Web-customer satisfaction has been accentuated by the increasing demand for the long-term profitability of dotcom companies and traditional companies that are “Net-enhanced” (Pather, Erwin & Remenyi, 2002).

To understand satisfaction in the e-commerce context, we need to have a clear understanding of what is meant by customer satisfaction. Customer satisfaction is defined as a result of a cognitive and affective evaluation, where some comparison standard is compared to the actually perceived performance. If the perceived performance is less than expected, customers will be dissatisfied. On the other hand, if the perceived performance exceeds expectations, customer will be satisfied (Lin 2003).
1.1.4 Relationship between Satisfaction and Service Quality

Service quality is the key to measure user satisfaction (Pitt et. al., 1995). Few scholarly studies, to date, have been undertaken to identify quality dimensions and detailed aspects of online services and their relationships with customer satisfaction (Zeithaml et. al., 2002; Yang & Fang 2004). One of the more widely used instruments for assessing customer satisfaction is SERVQUAL developed by Zeithaml et. al., (1988). Researchers have paid much attention to the close relationship between service quality and customer satisfaction (Bitner et. al., 1990; Parasuraman et. al., 1985; Parasuraman et. al., 1988). SERVQUAL is widely recognized and used, and it is regarded as applicable to a number of industries, including the banking industry (Yavas, Bilgin & Shemuell, 1997).

1.1.5 Measuring Online Service Quality

The traditional service quality dimensions cannot directly apply to Internet banking, because it represents a different and unique service delivery process. Different dimensions have been adopted in previous studies measuring electronic service quality (Slu & Mou 2003). Zeithaml, Parasuraman and Malhotra (2000) provided the first formal definition of website service quality or e-SQ. They defined e-SQ as “the extent to which a web site facilitates efficient and effective shopping, purchasing, and delivery of product and services” (p.363). Liu and Arnett (2000) surveyed webmasters for Fortune 1000 companies to ascertain the factors critical to web site success with consumers. They identified e-service quality as second important factor, involves quick response, assurance, empathy, and follow-up.

Some authors have developed tools to measure e-service quality. Zeithaml, Parasuraman and Malhotra (2000, 2002) developed the e-SERVQUAL measure of electronic service quality to study how customers judge e-service quality. They identified four dimensions- efficiency, reliability, fulfillment and privacy to measure the customer’s perceptions of service quality delivered by online retailers. Lociacono, Watson and Goodhue (2000) established a scale called WEBQUAL with twelve dimensions. Wolfinbarger and Gilly (2002) developed a scale named .comQ with four factors: Web site design, reliability, privacy/security and customer service, based on concepts from both the service quality and retailing literature (cited by Slu & Mou 2003).

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. Satisfaction is also of great interest to practitioners because of its important effect on customer retention (Patterson et al., 1997; Sedon, 1997). Retention is a major challenge particularly in customer-based services, as customers can easily switch from one service provider to another at low cost (Khalifa and Liu 2003). Considering the high costs of acquiring new customers and the apparently high customer turnover of many online services, it is very important to study the determinants of customer satisfaction (Van Riel, Liljander & Jurriens 2001).

Consumer satisfaction is the major issue for the businesses that are operating in Electronic Commerce (EC) systems. Good customer service quality is the main factor that will determine, in the future, whether the businesses will survive or fail (Thompson, Green & Bokma 2000). Maintaining effective customer service helps to build and maintain customers relationships that
is the key success in e-commerce (Sing 2002). 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 market share and better returns (Slu & Mou 2003). It is desirable for online service providers to uncover what attributes consumers utilized in their assessment of overall service quality and satisfaction and which attributes are more important (Yang & Fang 2004).

Internet-based services are believed to be superior to those delivered through the regular channels because of their convenience, interactivity, relatively low cost and high degree of customization/personalization among other advantages. There is very little understanding, however, of the factors that affect customer satisfaction with Internet-based services. (Khalifa & Liu 2002).

The rapid development of information and communication technologies during the 1990s has enabled companies to introduce more and more high-tech services. We can think of Internet banking and other completely new services that add value to existing products by substituting or complementing personal interactions with service staff by means of technological solutions (Jun & Cai 2001). Taking in to account these developments, it is evident that service researchers need to pay more attention to consumer evaluations of technology-based services (Parasuraman and Grewal, 2000).

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 (Jun & Cai 2001). Promoting quick-response, just-in-time deliveries of services in electronic marketplaces improve information sharing between the bank and its customers. Instead of banks controlling the relationship with the customer, today customers have more control of their banking needs via Interaction with website (Awad 2000). Mols (2000) also argues that the introduction and customer acceptance of Internet-based home banking may bring a dramatic change in the way retail banks build and maintain close relationships with their customers, since customer expectations and perceptions of Internet services will change overtime. Due to rapid technological change and market competition service quality becomes an increasingly important issue. Therefore understanding service quality issues with in the new delivery channel becomes very important to satisfy the customer (Broderick & Vachirapornpuk 2002).

It is important that the banks provide customers with high quality services to survive in the highly competitive Internet banking industry (Mefford, 1993). For this, bankers first need to understand the attributes that customers use to judge service quality and monitor and enhance the service performance. There are numerous studies that identified the key service quality dimensions in the traditional banking environment, but relatively little literature has investigated service quality attributes in the internet banking industry and the relation with customer satisfaction (Jun & Cai 2001). More research is needed to determine the dimension of e-service quality and these studies also need to be conducted for different types of e-services (Zeithaml et al. 2000).
1.3 Research Problem and Research Questions

Based on problem area discussions our research problem is formulated as follows:

To gain a better understanding of the service quality dimensions that affect customer satisfaction in Internet banking sector.

Research Questions

Based on above stated research problem the following research questions have been developed:

Q1. What are the service quality dimensions in Internet banking and how do they affect customer satisfaction in Internet banking?

Q2. How can the relative importance of the service quality dimensions be described in Internet banking in relation with the satisfaction?

1.4 Demarcations

Since the aspects of the chosen research problem are many, the researcher has tried to narrow down the focus. The aim of the research is to gain a better understanding of the service quality dimensions that affect customer satisfaction in Internet banking sector from customer perspective. In the literature part we will introduce several theories related to service quality and satisfaction in order to give a clear idea about the specific area to the reader and to explain the proper context of the study.

1.5 Disposition of the Thesis

This thesis is divided into seven chapters. In the first chapter the background of the selected research area is presented followed by a problem area discussion that ends with a research problem and the research questions. In chapter two theories and previous studies related to the topic will be presented. In chapter three frame of reference will be developed based on the literature review. Chapter four contains the methodology used in this thesis. In chapter five the empirical data will be presented that is collected during the data collection process. Chapter six contains an analysis of the empirical data. Finally chapter seven will present the conclusion, limitation of the research and implication for further research.
Chapter 2

Literature Review

This chapter will give an overview of literature and models that are related to the research problem presented in the previous chapter. In this chapter we will introduce the concepts of customer satisfaction, formation of customer satisfaction, determinants of customer satisfaction, e-commerce activities, relation between service quality and satisfaction, service quality concepts, traditional service quality dimensions, online service quality dimensions, and service quality model of Internet banking in order to give a clear idea about the research area.

2.1 Customer Satisfaction

Early concepts of satisfaction research have typically defined satisfaction as a post choice evaluative judgment concerning a specific purchase decision (Churchill and Sauprenant 1992; Oliver 1980). Most researchers agree that satisfaction is an attitude or evaluation that is formed by the customer comparing their pre-purchase expectations of what they would receive from the product to their subjective perceptions of the performance they actually did receive (Oliver, 1980).

2.1.1 Definition of Customer Satisfaction

Several authors have defined satisfaction in a different way. Following table will present some definition of customer satisfaction that will give us clear idea about satisfaction concept.

<table>
<thead>
<tr>
<th>Definition</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Satisfaction is a person’s feelings of pleasure or disappointment resulting from comparing a product’s perceived performance (or outcome) in relation to his or her expectations”.</td>
<td>Kotler (2000, p.36)</td>
</tr>
<tr>
<td>Customer satisfaction is a collective outcome of perception, evaluation and psychological reactions to the consumption experience with a product/service.</td>
<td>Yi (1990)</td>
</tr>
<tr>
<td>Satisfaction is a function of consumer’s belief that he or she was treated fairly.</td>
<td>Hunt (1991, pp. 110)</td>
</tr>
</tbody>
</table>

2.2 Satisfaction Formation

In marketing literature (e.g. Churchill and Surprenant, 1982; Oliver 1980) as well as in recent information system studies (e.g. McKinney et al., 2002), the disconfirmation theory emerges as
the primary foundation for satisfaction models. According to this theory, satisfaction is determined by the discrepancy between perceived performance and cognitive standards such as expectation and desires. (Khalifa and Liu 2003).

Customer expectation can be defined as customer’s pretrial beliefs about a product (Mckinney, Yoon and Zahedi 2002). Expectations are viewed as predictions made by consumers about what is likely to happen during impending transaction or exchange (Zethaml and Berry 1988). Perceived performance is defined as customer’s perception of how product performance fulfills their needs, wants and desire (Cadotte et al.1987). Perceived quality is the consumer’s judgment about an entity’s overall excellence or superiority (Zeithaml 1988). Disconfirmation is defined as consumer subjective judgments resulting from comparing their expectations and their perceptions of performance received ((Mckinney et al. 2002, Spreng et al. 1996).

Oliver (1980) described the process by which satisfaction judgments are reached in the expectancy-disconfirmation framework. Figure-1 shows how satisfaction judgment is related to expectancy-disconfirmation approach. Buyers form expectations of the specific product or service before purchase and perceived quality level which is influenced by expectations.

![Figure 1: Satisfaction Formation](Source: Oliver referred to in Anderson & Sullivan, 1993 p.127)

The figure 1 explains the arrow drawn from expectations to perceived quality that indicate perceived quality may increase or decrease directly with expectations. Perceived quality may either confirm or disconfirm pre-purchase expectation. The determination of the extent to which perceived quality expectations are disconfirmed is depicted in figure 1 by arrow drawn from
expectation and perceived quality to disconfirmation. Satisfaction is positively affected by expectations and the perceived level of disconfirmation that is also shown by arrow in the figure 1. Disconfirmation and perceived quality have a stronger impact on satisfaction (Oliver 1980).

2.3 Determinant of Customer Satisfaction:
Several authors have developed a number of models showing customer satisfaction and its determinants in an e-commerce environment. A brief picture of the models is discussed below for understanding the context.

2.3.1 Antecedents and Customer Satisfaction of Cyber Shopping Store (CSS)
Ho and Wu (1999) identified five antecedents of customer satisfaction to be appropriate for online shopping on the Internet. These are logistical support, technical characteristics, information characteristics, home page presentation and product characteristics (see figure 2).

In this model they explained Logistical support means quick response to customer’s needs, providing communication channels (i.e., e-mail or fax), quickly delivering goods for customers, and providing after services. Technological factors indicate modern computer and network...
facilities and well-structured information systems. Information factors means reliable output information and secure transaction. Homepage presentation includes ease to use interface and detail information of goods. Product characteristics indicate variety of goods and lower prices for goods (Ho and Wu 1999).

2.3.2 Updated DeLone & McLean IS Success Model (2003) for End User Satisfaction

Based on research contributions on original paper of DeLone and McLean Information System success model and based on changes in the role and management and information system DeLone and McLean (2003) have updated their original success model and explained how the updated DeLone & McLean Information System Success model can be adapted to the measurement challenges of the new e-commerce world (see figure 3).

![Updated DeLone & McLean IS Success Model](source: Delone & McLean 2003, p.24)

Within the e-commerce context, the primary system users are customers or suppliers rather than internal users. Customers and suppliers use the system to make buying or selling decisions and execute business transactions. These electronic decisions and transactions will then impact individual users, organizations, industries and even national economies. This communication and commerce process fits nicely into updated DeLone & McLean IS Success model (2003) and its six success dimensions. This model describes system quality, information quality, service quality singularly and jointly affect both use and user satisfaction. Additionally the amount of use can affect the degree of user satisfaction positively or negatively.
The figure 3 explains, the six dimensions that are included in the model. The dimensions are described below:

**System Quality** in the internet environment measures the desire characteristics of an E-commerce system. System qualities that are valued by users of an E-commerce system are Usability, availability, reliability, adaptability and response time (e.g. download time). **Information Quality** in the Web content should be personalized, complete, relevant, easy to understand, and secure that will be easy for the customers to initiate transactions via the Internet and return to site on a regular basis. **Service Quality** means the overall support delivered by the service provider, applies regardless of whether this support is delivered by the Information system department, a new organizational unit, or outsourced to an internet service provider (ISP). Its importance is most likely greater than previously since the users are now customers and poor user support will translate into lost customers and lost sales. (DeLone and McLean 2003)

**Usage** means everything from a visit to a web site, to navigation within the site, to information retrieval, to execution of a transaction. **User satisfaction** remains an important means of measuring customers’ opinions of e-commerce system and should cover the entire customer experience cycle from information retrieval through purchase, payment, receipt and service. **Net benefits** are the most important success measure as they capture the balance of positive and negative impacts of the e-commerce on customers, suppliers, employees, organizations, markets, industries, economies and even societies. **Net benefits** success measures are most important, but that cannot be analyzed and understood without system Quality, Information Quality and service quality measurements. (ibid)

The following table demonstrates six dimensions of the updated DeLone & McLean (2003) Information System Success model that can be used as e-commerce success metrics.

<table>
<thead>
<tr>
<th>Dimensions of Extended IS success model</th>
<th>Measurement Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Quality</td>
<td>Adaptability, availability, reliability, response time, usability.</td>
</tr>
<tr>
<td>Information Quality</td>
<td>Completeness, ease of understanding, personalization, relevance, security.</td>
</tr>
<tr>
<td>Service Quality</td>
<td>Assurance, empathy, responsiveness.</td>
</tr>
<tr>
<td>Use</td>
<td>Nature of use, navigation patterns, number of site visits, number of transactions executed.</td>
</tr>
<tr>
<td>User satisfaction</td>
<td>Repeat purchases, repeat visits users surveys.</td>
</tr>
<tr>
<td>Net benefits</td>
<td>Cost savings expanded markets, incremental additional sales, reduced search costs, time savings.</td>
</tr>
</tbody>
</table>

**Source:** DeLone & MacLean 2003, p. 26
2.3.3 E-commerce Success Model for E-commerce Customer Satisfaction

Molla and Licker 2001 proposed an e-commerce success model based on the DeLone & McLean Information System Success Model (see figure 4).

![E-commerce Success Model](source:Molla and Licker 2001, p.136)

The main differences between the DeLone & McLean model and the extension proposed here are: The System and Information Quality components in the DeLone & McLean model are replaced by E-commerce System and Content Quality respectively. E-commerce systems and content require additional constructs that are not captured by the traditional system quality and information quality measurements. User Satisfaction is replaced with Customer E-commerce Satisfaction. Two additional factors – trust and service are needed to capture the transactional and customer support components of e-commerce systems and understand the relationship between use and customer e-commerce satisfaction. (Molla and Licker 2001)

2.3.4 The Model for Expectation-Disconfirmation Effects on Web-Customer Satisfaction (EDEWS)

Based on the nature of Web site development for online shopping and the proposed models by DeLone and McLean (1992) and Spreng et al. (1996), McKinney et al. 2002 posit that Web-customer satisfaction has two distinctive sources—satisfaction with the quality of a Web site’s information content and satisfaction with the Web site’s system performance in delivering information (see figure 5). Web-customers’ satisfaction with a Web site’s Information Quality (IQ) and System Quality (SQ) is in turn affected by their prior expectations, possible discrepancies (e.g., disconfirmation) between such expectations, and the perceived performance of the Web site. This concept is captured in the expectancy disconfirmation paradigm, which has been the popular approach for measuring customer satisfaction in marketing. They developed a
measurement instrument for web-customer satisfaction with the information search phase of online shopping. In their study they specified information and system quality as the determinants of satisfaction and measure expectation disconfirmation at each specific dimension of these determinants.

Based on this paradigm, customer satisfaction has three main antecedents: expectation, disconfirmation, and perceived performance. When applied to Web-customer satisfaction, Web-Information Quality satisfaction has three antecedents: Information Quality expectation, Information Quality disconfirmation, and Information Quality-perceived performance. Similarly, Web-System Quality satisfaction has three antecedents: System Quality expectation, System Quality disconfirmation, and System Quality-perceived performance. (McKinney et al. 2002)

McKinney et al. 2002 identified five information quality (IQ) dimensions: (1) relevance, (2) timeliness, (3) reliability, (4) scope, and (5) perceived usefulness. Relevance is concerned with the issues such as relevancy, clearness and goodness of the information and subscale for relevance are applicable, related and clear. Timeliness is concerned with the currency of the information and subscales for timeliness are current and continuously updated. Reliability is concerned with the degree of accuracy, dependability and consistency of the information and subscales for reliability are believable, accurate and consistent. Scope evaluates the context of information, range of information and level of detailed provided by the web site and subscales for scope are sufficient, complete, covers a wide range and detailed. Perceived usefulness is concerned with users assessment of the likelihood that the information will enhance their purchasing decision and subscale for perceived usefulness are informative, valuable and instrumental (McKinney et al. 2002).

McKinney et al. 2002 identified four System Quality (SQ) dimensions: (1) access, (2) usability,
(3) navigation, and (4) interactivity. Access refers to the speed of access and the availability of the web site at all times and subscales for access are responsive, loads quickly. Usability is concerned with the extent to which the website is visually appealing, consistent, fun and easy to use and subscales for usability are simple layout, easy to use, well organizes, visually attractive, fun and clear design. Navigation evaluates the link to needed information and subscales for navigation are adequate links, clear description for links, easy to locate, easy to go back and forth and a few clicks. Interactivity evaluates the search engine and the personal design, i.e. the shopping cart feature, of the web site. Subscales for interactivity are customized product, search engine, create list of items, change list of items, finding related items (McKinney et al. 2002).

McKinney et al. (2002) defined web information quality as the customer’s perception of the quality of information presented on a web site and web system quality as the customer’s perception of a web site’s performance in information retrieval and delivery.

### 2.4 E-commerce Activities:

Eastin (2002) presented the model (see figure 6) that demonstrate the adoption of four e-commerce activities currently available to Internet users: (1) online shopping, (2) online banking, (3) online investing, and (4) electronic payment for an Internet service (i.e., access to exclusive sites). Author also explained six attributes common to the model. These are - perceived convenience and financial benefits, risk, previous use of the telephone for a similar purpose, self-efficacy, and Internet use and all six attributes play a significant role in the adoption processes.

![Figure 6: A Model of Overall Adoption of Four E-commerce Activities](Source: Eastin 2002, p.256)

Figure 6 showed, overall adoption of a similar innovation, perceived risk, self-efficiency, Internet use and perceived convenience and financial benefits will predict the combined adoption of online shopping, banking, investing and Internet services.
2.5 Service Quality and Satisfaction:

Service quality has been the subject of considerable interest by both practitioners and researchers in recent years (Parasuraman et al. 1985). An important reason for the interest in service quality by practitioners results from the belief that this has a beneficial effect on bottom-line performance for the firm. However, practitioners often tend to use the terms service quality and customer satisfaction interchangeably. Among academics the satisfaction construct is recognized as being distinct and has developed along fairly independent lines from service quality (Oliver, 1980). Most experts agree that customer satisfaction is a short-term, transaction specific measure, whereas Service quality is an attitude formed by a long-term, overall evaluation of a performance (Hoffman & Bateson 1997).

As a process in time, service quality takes place before, and leads to overall customer satisfaction. Service quality has been found to be an important input to customer satisfaction (Caruana & Malta 2002). Cronin and Taylor (1992) originally hypothesized that satisfaction is an antecedent of service quality, their research with a multi industry sample showed, in a LISREL analysis, an opposite relationship. Service quality appears to be only one of the service factors contributing to customers’ satisfaction judgments (Cronin and Taylor, 1992; Ruyter et al., 1997; Spreng and Mackoy, 1996). A number of academics such as Parasuraman et al. (1985, 1988); Grönroos (1984); Johnston (1995) and others have tried to identify key determinants by which a customer assesses service quality and consequently results in satisfaction or not. Jayawardhana & Foley (2000) suggested that service quality feature in Internet banking web sites are critical to enhance customer satisfaction. In Internet banking unlimited access to variety of financial transaction and quality levels of bank products are becoming a key driving force in attracting new customers and enhancing customer satisfaction (Molss, 2000).

Lassar et al. (2000) examined the effects of service quality on customer satisfaction in private banking by using two well-known measures, the SERVQUAL and the technical/functional quality. They compared and contrasted empirically the SERVQUAL and the technical or functional quality model. They tried to compare the various dimensions of the two service quality models and their effects on satisfaction. In their study they mentioned customer satisfaction is a multidimensional construct, and that these dimensions will be differentially impacted by the various components of service quality. Result of this study suggested that functional quality is not only more important that once thought, but also more complex. In contrast to the other quality dimensions, the functional dimension influenced significantly each of the satisfaction measure even the technically oriented measure.

2.5.1 Models Showing the Link between Service Quality Measurement and Satisfaction:

Pather, Erwin, and Remenyi (2003) have proposed the following model (see figure 7) to measure the quality of the information systems product. The model incorporates both measurement of user satisfaction and measurement of service quality in trying assessing the effectiveness and quality of the Information System product. The relationship lies in that in delivering an online service, the customer is essentially being delivered an Information System product.
According to the authors, the model provides an appropriate basis to investigate a relevant scale to measure effectiveness in the e-Commerce environment by providing a basis for an evaluation of how relevant the dimensions of traditional service quality scales are e.g. the five dimensions used in the SERVQUAL scale (Parasuraman et al. 1988) are Tangibles, Reliability, Responsiveness, Assurance, and Empathy; and secondly, other independent variables identified in exploratory e-Commerce studies (Molla and Licker 2001) such as Trust, Content-quality etc.

2.6 Definition of Service Quality:
Following table presents the definition of the service quality that will give us clear concept of service quality.

<table>
<thead>
<tr>
<th>Definition</th>
<th>Author</th>
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<tbody>
<tr>
<td>Service quality can be defined as “the difference between customers’ expectations for service performance prior to the service encounter and their perceptions of the service received”</td>
<td>Asubonteng et al. (1996)</td>
</tr>
<tr>
<td>Service quality as the subjective comparison that customers make between the quality of the service that they want to receive and what they actually get.</td>
<td>Gefan (2002)</td>
</tr>
</tbody>
</table>
Service quality is determined by the differences between customer’s expectations of services provider’s performance and their evaluation of the services they received. Parasuraman et al.,(1985,1988)

2.7 Traditional Service Quality Dimensions:

Service quality has been the subject of considerable interest by both practitioners and researchers in recent years. Definitions of service quality hold that this is the result of the comparison that customers make between their expectations about a service and their perception of the way the service has been performed (Caruana & Malta 2002; Grönroos, 1984; Parasuraman et al.,1985, 1988, 1994).

Online customers still demand many services available through traditional channels even if they choose pure internet-based suppliers with basic customer services (Yang and Fang 2004). Several studies have been conducted to identify traditional service quality dimensions that contribute most significantly to relevant quality assessments in the traditional service environment (e.g Parasuraman et al., 1985, 1988; Johnston 1995; Pitt et al., 1999; Berry et al., 1985). Identification of the determinants of service quality is necessary in order to be able to specify measure, control and improve customer perceived service quality (Johnston 1995).

Parasuraman et al.’s (1985) identified ten detailed determinant of service quality through focus group studies: tangibles, reliability, responsiveness, communication, access, competence, courtesy, credibility, security, understanding / knowledge of customer. Later these ten dimensions were further purified and developed five dimensions- tangibles, reliability, responsiveness, assurance and empathy to measure service quality, SERVQUAL (Parasuraman et al. 1988).

**Tangibles** refer to physical facilities, equipment, and appearance of personnel. **Reliability** means ability to perform the promised service dependably and accurately. **Responsiveness** means willingness to help customers and provide prompt service. **Assurance** indicates knowledge and courtesy of employees and their ability to inspire trust confidence. **Empathy** refers to caring, individualized attention the firm provides its customers. (ibid)

Walker (1990) suggested that the key determinants are product reliability, a quality environment and delivery systems that work together with good personal service – staff attitude, knowledge and skills. Grönroos (1990) postulated six criteria of perceived good service quality: professionalism and skills; attitudes and behaviour; accessibility and flexibility; reliability and trustworthiness; recovery; reputation and credibility. Johnston (1995) provides 18 service quality dimensions - Attentiveness/helpfulness, Responsiveness, Care, Availability, Reliability, Integrity, Friendliness, Courtesy, Communication, Competence, Functionality, Commitment, Access, Flexibility, Aesthetics, Cleanliness/tidiness, Comfort and Security.

From the focus group interviews, Berry et al. (1985) identified ten determinant of service quality. Virtually all comments consumers made in these interviews about service expectations, priorities
and experiences fall into one of these ten categories. These are - reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding and tangibles.

**Reliability** involves consistency of performance and dependability. It means that the firm performs the service right the first time. It also means the firm honors its promises. Specially it involves: accuracy in billing, keeping records correctly, performing the service at the designated time. **Responsiveness** concerns the willingness or readiness of employees to provide service. It involves timeliness of services that means - mailing a transaction slip immediately, calling the customer back quickly and giving prompt service. **Competence** means possession of the required skills and knowledge to perform the services. It involves: knowledge and skill of the contact personnel, knowledge and skill of operational support personnel, research capability of the organization. **Access** involves approach, ability and ease of contact. It means: the service is easily accessible by telephone, waiting time to receive service is not extensive, hours of operation are convenient and location of service facility is convenient. **Courtesy** involves politeness, respect, consideration, and friendliness of contact personnel. It includes - consideration for the consumer’s property, clean and neat appearance of public contact personnel. (ibid)

**Communication** means keeping customers informed in language they can understand. It also means listening to customers. It may mean that the company has to adjust its language for different consumers- increasing the level of sophistication with a well-educated customer and speaking simply and plainly with a novice. It involves: explaining the service itself, explaining how much the service will cost, assuring the customer that a problem will be handled. **Credibility** involves trustworthiness, believability, honesty; it involves having the customer’s best interests at heart. Contributing to credibility are: company name, company reputation, personal characteristics of the contact personnel, the degree of hard sell involved in interaction with the customer. **Security** is the freedom from danger, risk or doubt. It involves: physical safety, financial security and confidentiality. **Understanding** the customer means making the effort to understand the customer’s need. It includes: learning the customer’s specific requirements, providing individualized attention, recognizing the regular custom. **Tangibles** includes the physical evidence of the service: physical facilities, appearance of personnel, tools or equipment used to provide the service, physical representations of the service, such as a plastic credit card or bank statement, other customers in the service facilities. (ibid)

Vriens (2000) developed an application for measuring retail banking service quality, which consists of 28 attributes including four service quality dimensions such as: accessibility; competence; accuracy and friendliness; and tangibles. The accuracy and friendliness dimension turned out to be the most important factor out of four determining banking preference, followed by competence, tangibles, and accessibility. Nantel (2000) proposed an alternative measure of perceived service quality in retail banking that comprises 31 items with six underlying key dimensions. These dimensions are: effectiveness and assurance, access, price, tangibles, service portfolio and reliability.

### 2.8 Online Service quality Dimensions:

The SERVQUAL scales (Parasuraman et al. 1991) can evidently not be applied as such to e-services, but dimensions that closely resemble them can be constructed. Nonetheless, additional dimensions may be needed to fully capture the construct of e-service quality (Zeithaml et al.
Zeithaml et al. (2000) have developed e-SERVQUAL for measuring e-service quality. Through the focus group interview they have identified seven dimensions of online service quality: efficiency, reliability, fulfillment, privacy, responsiveness, compensation and contact. They identified four dimensions-efficiency, reliability, fulfillment and privacy- form the core e-SERVQUAL scale that is used to measure the customer’s perceptions of service quality delivered by online retailers.

Efficiency refers to the ability of the customers to get to the website, find their desire product and information associated with it, and check out with minimal effort. Fulfillment incorporates accuracy of service promises, having product in stock, and delivering the product in the promised time. Reliability is associated with the technical functioning of the site, particularly the extent to which it is available and functioning properly. The privacy dimension includes assurance that shopping behavior data are not shared and that credit card information is secure. (Zethaml et al. 2002)

They also found that three dimensions become salient only when the online customers have questions or run into problem- responsiveness, compensation and contact. Responsiveness measures the ability of e-tailers to provide appropriate information to customers when a problem occurs, have mechanisms for handling returns, and provide online guarantees. Compensation is the dimension that involves receiving money back and returning shipping and handling costs. The contact dimensions of the recovery e-SERVQUAL scale point to the need of customers to be able to speak to a live customer agent online or through the phone. It means requiring seamless multiple channel capabilities on the part of e-tailers. (Zethaml et al. 2002)

In a first attempt to adapt the SERVQUAL dimensions to e-services, Kaynama and Black (2000) subjectively evaluated the online services of 23 travel agencies and seven dimensions derived from SERVQUAL: responsiveness, content and purpose (derived from reliability), accessibility, navigation, design and presentation (all derived from tangibles), background (assurance), and personalization and customization (derived from empathy).

Madu and Madu (2002) proposed 15 dimensions of online service quality dimensions based on literature review: performance, features, structure, aesthetics, reliability, storage capacity, serviceability, security and system integrity, trust, responsiveness, product/service differentiation and customization, web store policies, reputation, assurance and empathy. Wolfinbarger and Gilly (2002) have found four online retailing service quality dimensions through focus group interviews and an online survey. These are web site design, reliability, privacy/security and customer service. They found that reliability and fulfillment are the strongest predictor of customer satisfaction.

Yang & Fang (2004) identified online service quality dimension and then relationship with satisfaction. These service quality dimensions are Reliability, responsiveness, ease of use, competence. Yang and Jun (2002) have uncovered six prominent factors to evaluate e-tailer’s service quality - reliability, access, ease of use, personalization, security and credibility. Liu &
Arnett (2000) identified Measurement of web site success in the context of electronic commerce Quick responsiveness, assurance, reliability, empathy, and follow-up service. First, quality of information consists of relevant, accuracy, timely, customized and complete information presentation. Second important factor is the service includes quick response, assurance, empathy, and follow-up. Third, system use includes security, correct transaction, customer control on transaction, order-tracking facilities and privacy.

Yang & Fang (2004) identified five online service quality dimensions and Several items within these dimensions are critical for customers to evaluate service quality and satisfaction. The first important attribute is prompt order execution and confirmation which requires adequate system capacity as well as staff support. The second important aspect is accuracy of the online trading system, including accurate order fulfillment, accurate record keeping. The third important aspect is the accessibility of the web site. The fourth important aspect is e-mail response, besides traditional communication means such as phone call, online customers are particularly longing for prompt response to their inquiries and prompt confirmation through e-mail. Finally, transaction security and personal information privacy are major concerns for online customers (Yang & Fang 2004).

Griffith and Krampf referred by Zeithaml (2002) found that access and responsiveness of the website are the key indicators of service quality delivered through the web. In their study access was operationalized as the provision of a hot-link e-mail address and telephone number of customer service agents. Responsiveness was measured by the promptness of the e-tailer responded to e-mails.

Yang, peterson and Huang (2001) identified and measured six dimensions of consumer perceptions of service quality:
- Ease of use means user friendliness, loading/transaction speed, search capability, and easy navigation.
- Content contained on the website, particularly information that matches the needs of the consumer.
- Accuracy of content
- Timeliness of response
- Aesthetics, involving attractiveness of the site and catalog pictures
- Privacy

Riel et al. (2001) suggest that five service quality dimensions identified by Parasuraman et al. (1988) can be applied in e-commerce by replacing tangibility with the user interface, since it, to some extent, describes how the service is offered to customers. Responsiveness could refer to the speed of the company’s response to the customers, reliability could relate to timely delivery of ordered goods, accurate in formation and correct links. Assurance could be interpreted as the safety of online transactions and the policy for using personal information by the company, while empathy could refer to the degree of customization of communications based on customers’ personal needs.

Wang and Huarrison (2002) identified nine e-service quality through content analysis of online customer comments in their research that affect customer satisfaction. These are general
feedback on the web site design, competitive price of the product, merchandise availability, merchandise condition, on-time delivery, merchandise return policy, customer support, e-mail confirmation on customer order, promotion activities. Lociacono, Watson and Goodhue (2000) established a scale called WEBQUAL with twelve dimensions: informational fit to task, interaction, trust, response time, design, intuitiveness, visual appeal, innovativeness, flow, integrated communication, business processes and substitutability. Joseph et al. (1999) investigated the influence of technology, such as the ATM, telephone, and Internet, on the delivery of banking service. Their study identified six underlying dimensions of electronic banking service quality: convenience / accuracy, feedback / complaint management; efficiency; queue management; accessibility; and customization. Latimore et al. (2000) mentioned in their study 87 percent of Internet banking customers want to use variety of financial transaction including paying their bills electronically and automatically, viewing their monthly bank statements and purchasing stocks and insurance.

Previous studies found that in order to determining customer’s perceptions of the overall banking service quality, banking service product quality plays an important role (Jun & Cai 2001). They identified ten dimensions in Internet banking service quality. These dimensions are reliability, responsiveness, competence, courtesy, credibility, access, communication, understanding the customer, collaboration and continuous improvement. Two dimensions, collaboration and continuous improvement are found as new dimensions for Internet banking. The remaining eight dimensions were previously identified by Parasuraman et al. (1985). Reliability refers correct service, keep service promise, accurate records and keep promise as advertised. Responsiveness refers prompt service quickly solve problems, convenient service. Competence means ability to solve problems, knowledge to answer questions, courtesy includes address complains friendly, consistently courteous. Credibility means confidence in the bank’s service good reputation. Access includes availability for help, ATM access, phone access. E-mail access, account access when abroad. Communication means clear answer, informing customer of important information, availability of status of transactions. Understanding of customer means personal attention. Collaboration includes external collaboration and internal collaboration. Continuous improvement includes continuous improvement on online systems, continuous improvement on banking products, continuous improvement on customer services. Jun & Cai (2001)

Based on the above discussion the following table presents a summary of different authors that has measured service quality and online service quality dimensions in their previous research.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Online Service Quality</th>
<th>Service Quality</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability</td>
<td>x</td>
<td>x</td>
<td>Parasuraman et al., (1985); Zethaml et al., (1988); Zethaml et al., (2002); Yang &amp; Fang (2004); Liu &amp; Arnett (2000); Riel et al.(2001)</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>x</td>
<td>x</td>
<td>Parasuraman et al., (1985); Zethaml et al., (1988); Zethaml et al., (2002); Yang &amp; Fang (2004); Liu &amp; Arnett (2000); Riel et al.(2001)</td>
</tr>
<tr>
<td>Category</td>
<td>x</td>
<td>Zethaml et al., (2002); Kaynama and Black (2000); DeLone and McLean (2003); Yang &amp; Fang (2004); Liu &amp; Arnett (2000); Riel et al.(2001)</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------</td>
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<td>--------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Competence</td>
<td>x</td>
<td>Parasuraman et al., (1985);</td>
<td></td>
</tr>
<tr>
<td>Accessibility</td>
<td>x</td>
<td>Parasuraman et al., (1985); Kaynama and Black (2000); Joseph et al. (1999)</td>
<td></td>
</tr>
<tr>
<td>Courtesy</td>
<td>x</td>
<td>Parasuraman et al., (1985);</td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>x</td>
<td>Parasuraman et al., (1985);</td>
<td></td>
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<tr>
<td>Credibility</td>
<td>x</td>
<td>Parasuraman et al., (1985);</td>
<td></td>
</tr>
<tr>
<td>Security</td>
<td>x</td>
<td>Parasuraman et al., (1985);</td>
<td></td>
</tr>
<tr>
<td>Understanding the customer</td>
<td>x</td>
<td>Parasuraman et al., (1985);</td>
<td></td>
</tr>
<tr>
<td>Tangibles</td>
<td>x</td>
<td>Parasuraman et al., (1985); Zethaml et al., (1988);</td>
<td></td>
</tr>
<tr>
<td>Content</td>
<td>x</td>
<td>Doll et al. (1994); Kaynama and Black (2000)</td>
<td></td>
</tr>
<tr>
<td>Accuracy</td>
<td>x</td>
<td>Doll et al. (1994); Joseph et al. (1999)</td>
<td></td>
</tr>
<tr>
<td>Easy of use</td>
<td>x</td>
<td>Doll et al. (1994); Yang &amp; Fang (2004)</td>
<td></td>
</tr>
<tr>
<td>Timeliness</td>
<td>x</td>
<td>Doll et al. (1994)</td>
<td></td>
</tr>
<tr>
<td>Efficiency</td>
<td>x</td>
<td>Zethaml et al., (2002); Joseph et al. (1999)</td>
<td></td>
</tr>
<tr>
<td>Fulfillment</td>
<td>x</td>
<td>Zethaml et al., (2002);</td>
<td></td>
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<tr>
<td>Privacy</td>
<td>x</td>
<td>Zethaml et al., (2002);</td>
<td></td>
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<tr>
<td>Compensation and contact</td>
<td>x</td>
<td>Zethaml et al., (2002);</td>
<td></td>
</tr>
<tr>
<td>Navigation</td>
<td>x</td>
<td>Kaynama and Black (2000)</td>
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<tr>
<td>Page design and presentation</td>
<td>x</td>
<td>Kaynama and Black (2000)</td>
<td></td>
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<tr>
<td>Background</td>
<td>x</td>
<td>Kaynama and Black (2000)</td>
<td></td>
</tr>
<tr>
<td>Personalization and customization</td>
<td>x</td>
<td>Kaynama and Black (2000); Joseph et al. (1999)</td>
<td></td>
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<tr>
<td>Assurance</td>
<td>x</td>
<td>Zethaml et al., (1988); DeLone and McLean (2003); Liu &amp; Arnett (2000); Riel et al.(2001)</td>
<td></td>
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<tr>
<td>Empathy</td>
<td>x</td>
<td>Zethaml et al., (1988); DeLone and McLean (2003); Liu &amp; Arnett (2000); Riel et al.(2001)</td>
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</table>
Several businesses have developed their own methodologies to measure service quality provided by online retailers. BizRate.com’s scale is the most widely cited scale in popular literature. The BizRate scale has 10 dimensions: ease of ordering, product selection, product information, price, website performance, on-time delivery, product representation, customer support, privacy policies, and shipping and handling. (Zeithaml et al., 2002)

Gomez.com provides an alternative evaluation system and the categories measured by Gomez.com are: Ease of use, Efficient access to information, Customer confidence, Reliability, On-site resources, Relationship services, Overall cost. Ease of use means functionality of the web site, consistency of design and navigation, smoothness of interactions. Efficient access to information indicates signifying back-end integration of data. Customer confidence means promptness and accuracy of e-mail response, privacy policies, guarantees, breadth and depth of customer service options, including channels of interactions. Reliability means loading times and security. On-site resources mean availability of online response to requests, detailed information on each product line and availability of the products. Relationship services include online help, recommendations, personalization of information, customer information to facilitate future interactions, incentive programs. Overall cost means total cost of ownership of typical offering baskets, added fees for shipping and handling, minimum balances and interest rates- for financial services companies. (ibid)

To measure the quality of service provided by e-tailers on the web, CIO. Com’s Cyber Behavior center has also conducted a survey. These measures are problems experienced while placing an order, problem experienced after placing an order, ability to contact customer service representative online while placing an order, and ability to contact customer service after placing the order. (ibid)

### 2.8.1 Service Quality Model of Internet Banking:

One of the key challenges of the Internet as a service delivery channel is how service firm can manage service quality (Broderick & Vachirapornpuk 2002). They presented service quality model (see figure 8) of Internet banking based on insights gained from existing knowledge and understanding of the characteristics of the service formed. This model focusing on the quality perception process and it draws on many of the service quality elements that identified by the previous study.
The model showed that in the context of the Internet banking, five key elements are treated as central influences on perceived quality showed indicating by arrow. These are:

1. Customer expectations of the service
2. The image and reputation of the service organization
3. Aspects of the service setting
4. The actual service encounter and
5. Customer’s participation.

All these elements affect perceived service quality in Internet banking.
Chapter 3

Frame of reference:
This part will provide the conceptual framework based on literature review. This chapter will explain the key factors, variables and relationships among theories or models and provides a theoretical overview. The conceptualisation helps us to answer the study’s research questions. This conceptual framework will also guide the data collection of this study.

Main purpose of the study is to gain a better understanding of the relationship between service quality and customer satisfaction in Internet banking sector. Based on the objectives of the study the first research question focuses on what are the service quality dimensions in Internet Banking and how do they affect customer satisfaction in Internet banking. The second research question focuses on how the relative importance of the service quality dimensions can be described in Internet banking in relation with the satisfaction.

3.1 Service Quality Dimensions
Based on literature review we are taking the online service quality dimensions identified by different authors to test in Internet banking sector in order to find the relationship between service quality dimensions and customer satisfaction. Zeithaml et al., (2002) have identified seven dimensions of online service quality: efficiency, reliability, fulfillment, privacy, responsiveness, compensation and contact. They identified four dimensions-efficiency, reliability, fulfillment and privacy- form the core e-SERVQUAL scale that is used to measure the customer’s perceptions of service quality delivered by online retailers.

Efficiency refers to the ability of the customers to get to the website, find their desire product and information associated with it, and check out with minimal effort. Fulfillment incorporates accuracy of service promises, having product in stock, and delivering the product in the promised time. Reliability is associated with the technical functioning of the site, particularly the extent to which it is available and functioning properly. The privacy dimension includes assurance that shopping behavior data are not shared and that credit card information is secure. Responsiveness measures the ability of e-tailers to provide appropriate information to customers when a problem occurs, have mechanisms for handling returns, and provide online guarantees. Compensation dimension includes receiving money back and returning shipping and handling costs. Contact dimension includes customers to be able to speak to a live customer service agent online or through the phone. (Zethaml et al. 2002)

Jun & Cai (2001) identified ten service quality dimensions in Internet banking. These are reliability, responsiveness, competence, courtesy, credibility, access, communication, understanding the customer, collaboration and continuous improvement. Reliability refers correct service, keep service promise, accurate records and keep promise as advertised. Responsiveness refers prompt service quickly solve problems, convenient service. Competence means ability to solve problems, knowledge to answer questions, courtesy includes address complains friendly, consistently courteous. Credibility means confidence in the bank’s service
good reputation. Access includes availability for help, ATM access, phone access, E-mail access, and account access when abroad. Communication means clear answer, informing customer of important information and availability of status of transactions. Understanding of customer means personal attention. Collaboration includes external collaboration and internal collaboration. Continuous improvement includes continuous improvement on online systems, continuous improvement on banking products, continuous improvement on customer services. Jun & Cai (2001)

Berry et al. (1985) identified ten determinant of service quality. These are - reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding and tangibles.

Reliability involves consistency of performance and dependability. It means that the firm performs the service right the first time. It also means the firm honors its promises. Specially it involves: accuracy in billing, keeping records correctly, performing the service at the designated time. Responsiveness concerns the willingness or readiness of employees to provide service. It involves timeliness of services that means - mailing a transaction slip immediately, calling the customer back quickly and giving prompt service. Competence means possession of the required skills and knowledge to perform the services. It involves: knowledge and skill of the contact personnel, knowledge and skill of operational support personnel, research capability of the organization. Access involves approach, ability and ease of contact. It means: the service is easily accessible by telephone, waiting time to receive service is not extensive, hours of operation are convenient and location of service facility is convenient. Courtesy involves politeness, respect, consideration, and friendliness of contact personnel. It includes - consideration for the consumer’s property, clean and neat appearance of public contact personnel. (Berry et al. 1985)

Communication means keeping customers informed in language they can understand. It also means listening to customers. It may mean that the company has to adjust its language for different consumers- increasing the level of sophistication with a well- educated customer and speaking simply and plainly with a novice. It involves: explaining the service itself, explaining how much the service will cost and assuring the customer that a problem will be handled. Credibility involves trustworthiness, believability, honesty, it involves having the customer’s best interests at heart. Contributing to credibility are: company name, company reputation, personal characteristics of the contact personnel, the degree of hard sell involved in interaction with the customer. Security is the freedom from danger, risk or doubt. It involves: physical safety, financial security and confidentiality. Understanding the customer means making the effort to understand the customer’s need. It includes: learning the customer’s specific requirements, providing individualized attention and recognizing the regular custom. Tangibles includes the physical evidence of the service: physical facilities, appearance of personnel, tools or equipment used to provide the service, physical representations of the service, such as a plastic credit card or bank statement, other customers in the service facilities. (ibid)

3.2 Online Service Quality and Customer Satisfaction

Service quality has been found to be an important input to customer satisfaction (Caruana & Malta 2002). Cronin and Taylor (1992) originally hypothesized that satisfaction is an antecedent of service quality. Yang & Fang (2004) identified online service quality dimension and their
relationship with satisfaction. These service quality dimensions are Reliability, responsiveness, ease of use, competence. Jayawardhena and Foley (2000) mentioned some service quality of Internet banking website are important to increase customer satisfaction. These are download speed, content, design, interactivity, navigation, security. A number of academics such as Parasuraman et al. (1985, 1988); Grönroos (1990); Johnston (1995) and others have tried to identify key determinants by which a customer assesses service quality and consequently results in satisfaction or not.

Yang & Fang (2004) identified five online service quality dimensions include responsiveness, reliability, competence, access and security and their relationships with satisfaction. Several items within these dimensions are critical for customers to evaluate service quality and satisfaction. The first important attribute is prompt order execution and confirmation which requires adequate system capacity as well as staff support. The second important aspect is accuracy of the online trading system, including accurate order fulfillment, accurate record keeping. The third important aspect is the accessibility of the web site. The fourth important aspect is e-mail response, besides traditional communication means such as phone call, online customers are particularly longing for prompt response to their inquiries and prompt confirmation through e-mail. Finally, transaction security and personal information privacy are major concerns for online customers (Yang & Fang 2004).

Wolfinbarger and Gilly (2002) found that different dimensions of their measure of e-service quality have varying affects on the consequences. They found that reliability and fulfillment are the strongest predictor of customer satisfaction. Griffith and Krampf referred by Zeithaml (2002) found that access and responsiveness of the website are the key indicators of service quality delivered through the web. In their study access was operationalized as the provision of a hot-link e-mail address and telephone number of customer service agents. Responsiveness was measured by the promptness of the e-tailer responded to e-mails.

Liu and Arnett (2000) identified five key dimensions critical to web site success with customers. First, quality of information consists of relevant, accuracy, timely, customized and complete information presentation. Second important factor is the service includes quick response, assurance, empathy, and follow-up. Third, system use includes security, correct transaction, customer control on transaction, order-tracking facilities and privacy.

### 3.3 Conceptual Framework

Based on the narrowed down scope of literature review above, the relationship between service quality variables and customer satisfaction can be shown in figure 9 below. The five Service quality dimensions have been selected form the studied done by Zethaml et al. (2000; 2002). These dimensions are also mentioned by different authors (Jun & Cai (2001; Yang & Fang (2004); Yang and Jun (2002); Liu & Arnett (2000);) in their studies to determine online service quality dimensions. This is the main reasons behind select these five dimensions.
In this conceptual model, According to Yi (1990) customer satisfaction is defined as “Customer satisfaction is a collective outcome of perception, evaluation and psychological reactions to the consumption experience with a product/service”. According to Zeithaml et al., (2002) service quality is defined as “the extent to which a web site facilitates efficient and effective shopping, purchasing, and delivery of product and services” (p.363).

The following table describes the different dimensions depicted in the models and their sources of conceptualization by different authors.

**Table 5: Online Service Quality Dimensions Considered for This Study**

<table>
<thead>
<tr>
<th>Online Service Quality dimensions</th>
<th>Supporting articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency</td>
<td>Zeithaml et al., 2002;</td>
</tr>
<tr>
<td>Reliability</td>
<td>Zeithaml et al., 2002; Madu and Madu, 2002; Wolfinbarger and Gilly, 2002; Yang &amp; Fang (2004); Yang and Jun (2002); Liu &amp; Arnett (2000); Parasuraman et al. (1985); Johnston (1995); Berry et al., (1985)</td>
</tr>
</tbody>
</table>
The following table describes the measurement criteria used in this research for service quality dimensions and their sources of conceptualizations.

**Table 6: Online Service Quality Measurement Criteria**

<table>
<thead>
<tr>
<th>Online Service Quality dimensions</th>
<th>Measurement criteria</th>
<th>Supportive articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency</td>
<td>The ability of the customers to get to a website, find their desired product and information associated with it.</td>
<td>Zeithaml et al., 2002;</td>
</tr>
<tr>
<td>Reliability</td>
<td>The technical functioning of the site, Information that is provided is accurate.</td>
<td>Zeithaml et al., 2002; McKinney et.al., 2002</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>The ability of e-tailers to provide appropriate information to customers when a problem occurs, willingness to help customers and provide prompt service.</td>
<td>Zeithaml et al., 2002; Parasuraman et al., 1988; Berry et al., 1985</td>
</tr>
<tr>
<td>Fulfillment</td>
<td>Accuracy of service promises, delivering the product in the promised time</td>
<td>Zeithaml et al., 2002;</td>
</tr>
<tr>
<td>Privacy</td>
<td>Personal information are not shared, credit card information is secure.</td>
<td>Zeithaml et al., 2002; berry et al., 1985</td>
</tr>
</tbody>
</table>
Chapter 4

Methodology

This chapter will present detailed idea about how the research will be conducted. This includes the purpose of the research, research approach, research strategy, sample selection methods, data collection methods and data analysis methods. At the end of this chapter validity and reliability issues will be discussed to follow the quality standards of the research.

4.1 Research Purpose

Research can be classified in terms of their purpose. Accordingly, they are most often classified as exploratory, descriptive or explanatory (Saunders, Lewis & Thornhill 2003).

Exploratory research is useful when the research questions are vague or when there is little theory available to guide predictions. At times, researcher may find it impossible to formulate a basic statement of the research problem. Exploratory research is used to develop a better understanding (Hair, Babin, Money & Samouel 2003). 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. It is particularly useful if researcher wish to clarify the understanding of a problem. There are three principle ways of conducting exploratory research: a search of the literature, talking to experts in the subject, conducting focus group interviews (Saunders, Lewis & Thornhill 2003).

Descriptive research describes some situation. Generally things are described by providing measures of an event or activity. For example, which brands are most preferred? What advertisements are most effective? These are the questions that can be answered by descriptive research. Descriptive research designs are usually structured and specifically designed to measure the characteristics described in a research question. Hypotheses, derived from the theory, usually serve to guide the process and provide a list of what needs to be measured (Hair, Babin, Money & Samouel 2003). The object of descriptive research is to portray an accurate profile of persons, events of situations. It is necessary to have a clear picture of the phenomena on which researcher wish to collect data prior to the collection of the data (Saunders, Lewis & Thornhill 2003).

Studies that establish causal relationships between variables may be termed explanatory studies. The emphasis here is on studying a situation or a problem on order to explain the relationship between variables (Saunders, Lewis & Thornhill 2003). Explanatory studies are designed to test whether one event causes another (Hair, Babin, Money & Samouel 2003).

The purpose of the research is mainly descriptive and explanatory. It is descriptive because descriptive data has been collected through detailed interviews and it is also explanatory since we will explain the relationship between the service quality variables and customer satisfaction and how these dimensions affect customer satisfaction. It is somewhat exploratory nature since
we are exploring the relationship between service quality variable and satisfaction based on the previous theory to develop a better understanding about the research area.

4.2 **Research Approach**

The knowledge claims, the strategies and the method all contribute to a research approach that tends to be more quantitative, qualitative or mixed (Creswell 2003).

4.2.1 **Quantitative Approach**

Quantitative approach is one in which the investigator primarily uses post positivist claims for developing knowledge (i.e., cause and effect thinking, reduction to specific variables and hypotheses and questions, use of instrument and observation, and the test of theories), employs strategies of inquiry such as experiments and surveys and collects data on predetermined instruments that yield statistical data (Creswell 2003).

Quantitative research is frequently referred to as hypothesis-testing research. Characteristically, studies begin with statements of theory from which research hypotheses are derived. Then an experimental design is established in which the variables in question (the dependent variables) are measured while controlling for the effects of selected independent variables. Subject included in the study are selected at random is desirable to reduce error and to cancel bias. The sample of subjects is drawn to reflect the population (Newman & Benz 1998).

These procedures are deductive in nature, contributing to the scientific knowledge base by theory testing. This is the nature of quantitative methodology. Because true experimental designs require tightly controlled conditions, the richness and depth of meaning for participant may be sacrificed. As a validity concern, this may be a limitation of quantitative designs (Newman & Benz 1998).

4.2.2 **Qualitative Approach**

Qualitative research is multi method in focus, involving an interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them (Newman & Benz 1998).

Qualitative approach is one in which the inquirer often makes knowledge claims based primarily on constructivist perspectives (i.e., the multiple meaning of individual experiences, meaning socially and historically constructed, with an intent of developing a theory or pattern) or advocacy/participatory perspectives (i.e., political, issue-oriented, collaborative or change oriented) or both. It also uses strategies of inquiry such as narratives, phenomenology, ethnography, grounded theory studies or case studies. The researcher collects open-ended, emerging data with the primary intent of developing themes from the data (Creswell 2003).

Since the purpose is to gain a better understanding of the relationships between service quality and customer satisfaction, qualitative research is found to be more appropriate for this study. Generalization is not the purpose of the study but rather a qualitative research is conducted to gain a deeper and detail understanding of regarding issue. Additionally, to support the possible findings of the qualitative study, a small quantitative study has been conducted. This helps us in
two ways, first to ensure the validity of the qualitative data by seeing if we can reach similar conclusions from the quantitative approach; and secondly we can confirm the presence of the service quality variables in Internet banking.

4.3 Research Strategy

Research strategy will be a general plan of how researcher will go about answering the research questions that has been set by researcher. It will contain clear objectives, derived from research questions specify the sources from which researcher intend to collect data and consider the constraints that researcher will inevitably have such as access to data, time, location and money, ethical issues. (Thornhill et. al., 2003)

Based on three conditions 1) form of research question 2) requires control over behavioral events and 3) focus on contemporary events Yin (1994) identified five research strategies in social science. These are – experiments, surveys, archival analysis, histories and case studies (see table 7).

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Form of research question</th>
<th>Requires control over behavioral events?</th>
<th>Focuses on contemporary events?</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>Yes</td>
</tr>
</tbody>
</table>

Source: Yin (1994) P. 6

Most important condition for selecting research strategy is to identify the type of research question being asked. “Who”, “What”, “Where”, “how” and “Why” are the categorization scheme for the types of research questions. Two possibilities need to investigate by asking the “what” question. First, some types of what questions are justifiable for conducting an exploratory study and the goal is to develop pertinent hypotheses and propositions for further inquiry. Any of the five research strategies can be used in that situation- exploratory survey, exploratory experiment, or an exploratory case study. The second type of what question is actually form a “how many” or “how much” line of inquiry and the outcomes from a particular situation. The survey or archival analysis is more favorable than other strategies. If the researcher needs to know the “how” question, the better strategy will be doing history or a case study. (Yin 1994)
Since questions in this study are based on “how” question and “what” questions this what question is actually form a “how many” and the investigators have no control over the actual behavioral events, Case study is found to be a more appropriate approach in order to gain a better understanding of the research area. Case study is more appropriate for qualitative study; and also to support the result of the case study we have done a small survey as a way of further confirming our findings.

4.3.1 Case Study
Case study involves when researcher wish to gain a rich understanding of the context of the research. The data collection method in case study may include questionnaires, interviews, observation and documentary analysis (Saunders et. al., 2003). More specifically, Yin (2003) defined a case study as an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. This definition helps us to understand cases studies and distinguish them from the other research strategies (Yin, 2003).

When selecting single- or multiple-case studies, Yin (2003) explained that the single-case study makes an in-depth investigation regarding a single entity, such as an organization or individual. However, by conducting multiple-case studies with two or more entities, analytic conclusions arising from two or more cases will be more powerful than those coming from s single case (Yin, 2003). Therefore, multiple-case studies have been preferred in this study. Using multiple-case studies, the findings could be more robust and powerful by analyzing and comparing the results among different cases. Furthermore, this also gives us the opportunity to better understand the finding and detect similarities and differences among the cases.

4.3.2 Survey
The survey strategy is a popular and common strategy in business research that is usually associated with the deductive approach. Survey allows the collection of large amount of data from a sizeable population in a highly economical way. Questionnaire, structured observation and structures interviews are often falls into this strategy (Thornhill et. al., 2003). In order to support the result of the case small quantitative survey was done as a way of further confirming our findings.

4.4 Sample Selection
The basic idea of sampling is that by selecting some of the elements in a population, researcher may draw conclusions about the entire population. There are several compelling reasons for sampling, including: lower cost, greater accuracy of result, greater speed of data collection and availability of population selection (Cooper & Schindler 2003).

Selecting the Sampling Method
Selection of the sampling method to use in a study depends on a number of related theoretical and practical issues. These include considering the nature of the study, the objectives of the study and the time and budget available. Traditional sampling method can be divided into two broad 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 (Saunders et. al., 2003). In probability sampling, sampling elements are selected randomly and the probability of being selected is determined ahead of time by the researcher. If done properly, probability sampling ensures that the sample is representative (Hair et. al., 2003).

Non-probability sampling provides a range of alternative techniques based on researcher subjective judgment (Saunders et. al., 2003). In non-probability sampling the selection of elements for the sample is not necessarily made with the aim of being statistically representative of the population. Rather the researcher uses the subjective methods such as personal experience, convenience, expert judgment and so on to select the elements in the sample. As a result the probability of any element of the population being chosen is not known (Samouel et. al., 2003).

According to Samouel et. al., 2003 most common non-probability sampling methods are-

Convenience sampling
Convenience sample involves select sample members who can provide required information and who are more available to participate in the study. Convenience samples enable the researcher to complete a large number of interviews cost effectively and quickly but they suffer from selection bias because of difference of target population. (Hair et. al., 2003)

Judgment sampling
Researcher’s judgment is used to select sample element and it involves for a specific purpose. Group of people who have knowledge about particular problem they can be selected as sample element. Sometimes it referred as a purposive sample because it involves a specific purpose. Judgment sampling is more convenience and low cost involvement. (Hair et. al., 2003)

Quota sampling
Objective of quota sampling is to have proportional representation of the strata of the target population for the total sample and the certain characteristics describe the dimensions of the population (Cooper & Schindler 2003). In quota sampling the researcher defines the strata of the target population, determines the total sample size and set a quota for the sample elements from each stratum. The findings from the sampling cannot be generalized because of the choice of elements is not done using a probability sampling methods (Samouel et. al., 2003).

Purpose of this research is to gain a better understanding of service quality and customer satisfaction in Internet banking sector from the customer perspective. For the study sample has been selected from the Luleå University of Technology because it was convenient for the researcher and it took less time to conduct research. Sample was selected by using judgment because when we selected the sample we followed some criteria:

- Sample should be more familiar with using Internet.
- Selecting the sample for conducting survey, Sample should have experience of using Internet banking at least two years.
• Selecting sample for conducting interview, sample should have experience of using Internet banking at least five years.

To get diverse understanding of the topic two interviewees were selected as would provide an international perspective and two other interviewees were selected to provide a Swedish perspective. In addition we kept the names of our respondents anonymous so that they could give us more detailed information and talk freely about their Internet banking experience. For this reason we identified them as respondent A, respondent B, respondent C and respondent D.

4.5 Data Collection

There are two major approaches to gathering information about a situation, person, problem or phenomenon. Sometimes, information required is already available and need only be extracted. However there are times when the information must be collected. Based upon these broad approaches to information gathering data are categorized as: Secondary data and Primary data. Secondary data are collected from secondary sources such as govt. publications, personal records, census (Ranjit Kumar 1996) and primary data are collected through: observation, interviews and/or questionnaires (Hair et. al., 2003). According to Creswell (2003) data collection procedure in qualitative research involve four basic types: Observations, Interviews, Documents and audiovisual materials.

In interviews, the researcher conducts face-to-face interviews with participant, interviews participants by telephone, or engages in focus group interviews with six to eight interviewees in each group Creswell (2003). According to Saunders et. al., 2003 interview can be conducted based on structured interview, semi-structured interview and unstructured interview.

In this study in-depth face-to-face interviews and survey were used as data collection methods. The interviews were selected as the major primary data collection method, since the aim of the study is customer’s perceived service quality in Internet banking and how it is related to the customer satisfaction our main focus thus is the customer. Semi-structured interviewed was used to get a detail idea about the customer’s experiences in Internet banking. According to Saunders et. al., 2003 in semi-structure interview researcher have list of questions to cover the research area and it may vary from interview to interview. In addition the order of the questions also varied depend on flow of conversation and additional questions can be asked in the interview process.

For getting a better understanding of the situation, in-depth and face-to-face interviews have been taken with four experienced Internet banking users each of whom has more than five years Internet banking experience. We developed interview guide (see Appendix1) that covered all questions relating to our research area and research questions in order to ensure four interviews are conducted in the same manner.

The estimated time for each interview lasted approximately one hour to one and half hour. The fist in-depth face-to-face interview was conducted in a study room at the library at LTU Monday, February 7, 2005 at 10:00 AM. The second interview was conducted in a conference room in the library at LTU Tuesday, February 8, 2005 at 9:00 AM. The third interview was conducted in the conference room in Industrial Marketing division at LTU, Monday 8th February at 2:00 PM. The
fourth in-depth face-to-face interview was conducted in a conference room in division Industrial Organization at LTU, Wednesday, February 9, 2005 at 1:00 PM. Before starting the interview, the participants were informed about the purpose of the study and how the interview would be conducted.

During the interviews we basically asked the open questions, and we used both tape recording and notes taking by two interviewers, as the interviews lasting at least one hour mainly involved open questions which the participants need to explain a lot. By these two ways we could make sure not to forget anything. In order to avoid any misunderstanding, we discussed with the interviewees in English during the interviews. After interviews we still kept in touch with our participants by visiting or e-mail in order to make clear questions that arose afterwards.

Yin (2003) states, “no single source has a complete advantage over all others” (p. 85). The different sources are highly complementary, and a good case study should use as many sources as possible (Yin, 2003). The validity of scientific study increases by using various sources of evidence.

In order to supplement the results of interview, a small quantitative survey was conducted with 25 Internet banking customers those who have at least 2 years Internet banking experience. Survey was conducted by a structured quantitative questionnaire. A survey is a procedure used to collect primary data from individuals. The data sought can range from beliefs, opinions, attitudes and lifestyles to general background information on individuals such as gender, age, education and income as well as company characteristics like revenue and number of employees. Surveys are used when the research involves collecting information from a large sample of individuals (Samouel et. al., 2003).

The questionnaire was developed based on research questions and frame reference. The logical structure of questionnaire followed the order of service quality dimension in our frame of reference. A 5-point Likert-scale (1= strongly disagree, 5=strongly agree) was used, as suggested by Parasuaman et., al.(1991).

Once came up with the first draft of questionnaire, we handed out five questionnaires to the students at the library in LTU and asked them whether all questions made sense and easy to understand. After refining some questions, the well-improved questionnaire was developed.

4.6 Data Analysis

According to Miles & Huberman (1994) qualitative data analysis is consisting of three flows of activity:

Data reduction
To appear data in transcriptions form data reduction process involves the selecting, focusing, simplifying, abstracting and transforming the collected data. There are several ways can be used to reduced and transformed qualitative data – through selection, through summary or paraphrase, through being subsumed in a larger pattern and so on. Data reduction is a form of analysis that
Data display
Data display is the second major analysis activity that organized compressed assembly of information to drawing final conclusion. Designing a data display are analytic activities which includes deciding on the rows and columns of a matrix for qualitative data and deciding which data will be include in which form.

Conclusion drawing/verification
Conclusion drawing and verification is the third stream of analysis activity where researcher need to decide meaning of things by noting regularities, patterns, explanations, possible configurations, causal flows and propositions.

These three stages have been followed in this thesis. After finishing the data collection we organized and summarized the data for every case based on the variable set that has been selected from literature review and according to the research questions. Within-case analysis we compared the findings of each case based on research question and the selected variables. Subsequently we conducted a cross-case analysis to compare the different case in order to find the similarity and differences between the cases.

For quantitative data analysis, statistical tools of Microsoft Excel are used for data input and analysis. The statistics results were presented by graphical form with detail description and analyzed in combination with qualitative data. At the end a comparison had been conducted with the previous literatures for drawing conclusions.

4.7 Validity and Reliability
In order to reducing the possibility of getting the answer wrong, attention need to be paid t two particular on research design: reliability and validity (Saunders et. al., 2003).

4.7.1 Validity
Validity is concerned with whether the findings are really about what they appear to be about (Saunders et. al., 2003). Validity defined as the extent to which data collection method or methods accurately measure what they were intended to measure (Saunders et. al., 2003). Yin (2003) states, “no single source has a complete advantage over all others” (p. 85). The different sources are highly complementary, and a good case study should use as many sources as possible. The validity of scientific study increases by using various sources of evidence (Yin, 2003).

Numbers of different steps were taken to ensure the validity of the study:
- Data was collected by in-depth interviews with the open-ended questions and to support the result of the interview quantitative survey was conducted by structured questionnaire.
- Data was collected from the reliable sources, from respondents who are more experienced to using Internet banking.
- Check list presented by (Saunders et. al. 2003) was followed for designing semi-structured questionnaires.
• Interview and survey question were made based on literature review and frame of reference to ensure the validity of the result.
• Questionnaire has been pre-tested by the responded before starting the interview and survey. Questionnaire and interview guide were tested by at least five persons.
• Data has been collected through between two weeks, within this short period of time no major event has been changed with the related topic.
• English as the main language was used during the interviews in order to avoid any chance of misinterpretation and misunderstanding.

4.7.2 Reliability

According to Saunders et. al., 2003, reliability refers to the degree to which data collection method or methods will yield consistent findings, similar observations would be made or conclusions reached by other researchers or there is transparency in how sense was made from the raw data.

Reliability can be ased by the following three questions (Easterby-Smith et al., 2002: p.53):
1. Will the measures yield the same results on other occasions?
2. Will similar observation be reached by other observers?
3. Is there transparency in how sense was made from the raw data?

Numbers of different steps were taken to ensure the reliability of the study:
• Two interviewers were present during the whole interview process.
• For recording the whole conversation in the interview a recorder was used and notes were taken by two interviewers. After finishing the interview recorded conversation has been listened to by both of the interviewers and cross checked has been done with the written scripts to get the correct data.
• The same type of questions was used during all these sessions in order to increase the reliability.
• Since the generalization is not the purpose of the study, but multiple cases and respondent has been used to increase the degree to which the finding cab be same if this kind of replication has been made. It might be possible to get the same result on the findings to a larger number of similar cases
• The theories that have been selected for the study was clearly described and research question has been formulated based on the previous theory. Data has been collected based on the frame of reference that was drawn from the discussed theories. The objective is to make sure that if another investigator will follow the same procedures and used the same case study objects, the same conclusions would be made.
Chapter 5

Empirical Data Presentation

This chapter will present data that has been collected through in-depth interviews with four customers, who are experienced users of Internet banking. The chapter will also present results from a small quantitative survey comprising of 25 Internet banking users. At first qualitative data will be presented according to the research questions and the variables identified in the frame of reference along with detailed descriptions to help the reader get a detailed idea about every issues raised in the interview. At the end quantitative data gathered through the survey will be presented.

5.1 Case One: Respondent A

The first case study was conducted through a face-to-face in-depth interview with the respondent who is working as a researcher in the division of Ergonomics at Luleå University of Technology (LTU). Here respondent is identified as respondent A. He is 34 years old. Before starting the interview, the participant was informed about the purpose of the study and how the interview would be conducted.

He has been living in Sweden more than five years and he is from India. After coming here he started using Internet banking and he has been using it more than five years. Currently he has accounts with both FöreningssparBanken and Nordea Bank but he uses Nordea Bank most of the time. Initially respondent had an account only with FöreningssparBanken. Later he opened another account with Nordea Bank because Föreningssparbanken didn’t offer a visa debit card. Nordea Bank offered a visa debit card, which is more useful to him. The participant uses Internet banking for paying bills, and transferring money to other accounts.

5.1.1 Service Quality Dimensions and Their Relationship with Satisfaction

Data will be presented here according to the research questions and the variables identified in the frame of reference.

Efficiency

When we discussed the issue regarding the efficiency of bank’s website he mentioned the speed of login time as very fast. He uses Internet banking for paying bills and transfer money, for this limited purpose he can find information most of the time. For paying bills and transfer money he does need much information, these are routine transactions that he has to do every month. So he is familiar with the process. To serve this purpose he is happy with the navigation menu in the bank site. He can easily finish his work and he can find the policy and notice statement from the bank site. He is also very satisfied with the login and logout time because it takes very little time. But when he needs some investment information or funds information it is very difficult for him to understand the text, since the whole website is in Swedish. So for that purpose it is not easy for him to find all the relevant information.
He mentioned how the bank can improve efficiency for providing service over the Internet. According to him since Nordea is an international bank with fully functional websites in Norwegian, Swedish, Finish and Danish, so build a complete site with transaction facilities in English would improve the efficiency. It is important to him because he is not able to use all the services over the Internet now unless he goes to the bank’s physical office.

**Reliability**

Regarding the reliability issue, he thinks banking service over the Internet is quite reliable. He found the bank site was down only a couple of times and not for too long. He can rely on the appropriate functioning of the website. The bank site is up and running most of the time and downtime is very low. He also did not experience any site freezes when he put all the information in. Most of the time he has to pay several bills at the same time. So if bank site froze after putting in all the information it would have a very negative effect on him. All the links worked properly and he can download pages in a very short time. He mentioned all the information provided on the site is accurate for serving his purpose. Since the whole site is in Swedish he is not browsing for much additional information. But he is satisfied with the proper functioning of the bank’s site.

He thinks proper functioning of the bank’s site is very important to increase the reputation of the bank. From his point of view the website should not freeze or have any problem connecting to database once all the information has been put in. Putting in the same information twice creates a lot of annoyance and confusion.

**Responsiveness**

Regarding the issue of responsiveness of the bank, respondent didn’t face major problem while using service (bill payment and money transfer) over the Internet. Very few times he faced some minor problem, at that time he contacted the bank support team through e-mail but he had to wait for one or two days to get reply. He never phoned them. Once he talked to the bank’s employee in person about the stock investment but the employee was not much interested in providing him advice. He just have him some brochures instead of taking the effort to explain. That created a negative attitude in him as a customer. According to him “personal services is somewhat lacking and they are not willing to give advice to all the people”.

From his point of view regarding increasing responsiveness of the bank over the Internet, he suggested the bank should provide live support over the Internet instead of e-mails. The e-mail responses are not fast enough. So chatting with the personnel over the Internet may be easier to solve the problem.

**Fulfillment**

Regarding the issue of fulfillment of the services over the Internet, he mentioned the bank’s site provides quick confirmation because he always gets the receipt quickly when he finished his work. He never faced any problem with such an issue. He is quite satisfied with the services. He mentioned the bank fulfill promises according to his expectation. But better personal banking services, complete English website, facility for international bank transfers directly from the Internet will give him more satisfaction.
Privacy
Regarding the privacy issue, he mentioned bank’s site does use cookies to collect information over the Internet, however he is comfortable with it since he is familiar with the technology. He is not worried about misuse of his personal information and not afraid to use his credit card number. He thinks the bank’s site is properly secure for him and he can rely on the bank. From his point of view a section for assuring customers about privacy measures taken rather than just a privacy statement would be appreciated.

5.1.2 Relative Importance of the Service Quality Dimensions
Regarding the issue of service quality criteria for Internet banking, according to him understanding all the services that are provided, proper execution of the services, security of the transactions are the most important service quality criteria in Internet banking. He mentioned proper completion of the transaction from the beginning to end is the most important service quality for him. This is because if the bank’s site has any problem during a payment process, he has to start the whole process from the beginning which is inconvenient. It also creates a lot of tension whether the incomplete transaction has any effect on the account balance. So he has to check again if the account balance is ok or not. It wastes a lot of time.

He is satisfied more or less about the services that he is getting from the bank. But he is not much satisfied with the inter-bank transaction. According to him, “inter-bank transactions are not instantaneous, and I have to wait up to a day for transaction to complete, which is inconvenient”. He also mentioned personal banking services could be improved. There is no way to get a personal banking advice over the Internet. The bank’s site regarding transaction is completely in Swedish, so for him it is hard to make use or understand all the services that may be available through the Internet. For that reason he cannot use other services such as investment, buying stock over the Internet. He has limited knowledge about Swedish language and most of the time it is enough for him to pay bill or transfer money. But for investment purposes, without understanding everything he doesn’t want to take any risk, thus he does not use any such facility.

Regarding the issue which service quality criteria is important to increase his satisfaction, he mentioned understandability of the website is the first most important for him. He should be able to understand everything that is being offered; otherwise the service is useless for him. Reliability of the services that is offered by the bank over the Internet is the second important factor for him. He should be able to finish a transaction without having to enter his data twice safely and securely. He thinks responsiveness is third most important factor for him to increase his satisfaction. If a problem occurs, the bank should respond immediately, otherwise it will create dissatisfaction. Sometimes it is hard to find specific information due to the site design, so site design is also an important factor for him. Since he had a broadband connection so page-loading time, login time and logout time is not a problem for him. So efficiency is fourth important factor for him. He believes bank’s site is secure enough. According to him, “I believe the bank abides by a security standard by default, and there is not much need for me to worry about it”. Thus privacy and security are taken for granted by him, and thus should not be ranked with the others but independently as an essential item.
5.2 Case Two: Respondent B
The second case study was conducted through a face-to-face in-depth interview with an international Ph. D. student. Here respondent is identified by respondednt B. He is working at Department of Chemical Engineering and Geosciences, Luleå University of Technology (LTU). Demographically, the participant is a 31 years old male and he is from China. Before starting the interview, the participant was informed about the purpose of the interview and how the interview would be conducted.

The interviewee has been using Internet banking about 5 years and has more than 10 years Internet experience. SEB bank was the only Internet bank he used. The reason why he selected SEB was that it was free for students using Internet bank at the first year in SEB at that time. One year later, he was used to the web site of SEB bank and satisfied with the basic services provided by SEB. He decided to continue using SEB bank without changing to another Internet bank, although the cost of using other Internet banking could be cheaper. In his point of view, he can access his account at SEB web site anywhere if the computer is available. Internet banking is very convenient, time saving and lower cost. The participant uses different services over Internet, including paying bills, viewing monthly bank statements, and transferring money to other accounts. However he doesn’t purchase stocks or insurance online, the main reason is that at SEB website there is only the Swedish version available, without offering other language versions, such as English. For the interviewee, if the bank’s website offers English information or content, he can have unlimited access to financial information and enjoy a wider range of services over the Internet, meanwhile he will be more satisfied.

5.2.1 Service Quality Dimensions and Their Relationship with Satisfaction
Data will be presented here according to the research questions and the variables identified in the frame of reference.

Efficiency
Regarding the issue of efficiency of the website for SEB bank, the participant began by mentioning it works well. The speed both login in his account and logout of his account was fast, only took seconds. In his point of view, it was easy to find the function link that he needed from the bank’s site and it was simple to use if he knows the means. He emphasized that he was puzzled by the function link he never used when navigated at the web site of SEB. This was mainly because he did not know the Swedish.

Reliability
As for how to judge the reliability of the bank’s site, the participant brought up simple layout and clear function links. The bank’s site pages never freeze after putting in all his information and links are problem-free and accurate. The speed of downloading is fast and the information provided on the site is accurate. He can rely on the appropriate of the web pages. Regarding content of the site is easy to understand and interesting, the participant answered: “since I don’t understand Swedish well, I can not be informed more financial information and use any other functions freely and a wider rang of services, such as purchasing stocks over Internet.” To the interviewee, purchasing stock or insurance on line was high risk and more complicated than
paying bill. He did not want click without knowing the means of button. If the bank’s website provided English information or content, he could have unlimited access to financial information and enjoy a wider range of services over the Internet. At least, “I dare to click mouse if the clerk of the bank show or give me an instruction of how to buy stock on-line”. He suggested that the banks can attract more international customers, for example international students, exchange students, if the website of the bank provided English version.

Responsiveness
Regarding how responsive is the bank in delivering its services to customers, the participant felt that responsiveness was less significant for him. He never phones the bank or e-mail to them, instead, he go to branch of bank directly. He said: “I prefer solve problems face-to-face. Friendly clerk could remove my dissatisfaction”. He likes these personal contacts and talking to a live person who take care of problems promptly. In his point of view, personal contacts with a live person were important when meeting problems. The participant also brought up telephone support or using e-mail was convenient and both time and cost saving. However, he did not trust these two ways after one time unsuccessful experience of phone call.

Fulfillment
When discussing fulfillment of the bank’s site, the participant said performance of SEB bank met his expectations. The bank’s site provides a quick confirmation of the service order or after making some transactions. After approving the payment, the amount was transferred on the second day. The completed payment could also be print out as a physical evidence or proof. This was very important to the participant. He recollected that the bank’s site performs the service not correct at the first time. He could not pay bill on line even he was noticed that he had opened an e-count in SEB. In addition, the participant added the bank could correct their mistakes quickly in a satisfaction way if something wrong, which make him satisfied.

Privacy
Regarding privacy issues, the participant began by saying he trusted the SEB bank, so he wasn’t worried about these problems at all. The bank’s site didn’t use banner ads with cookies to collect personal information. And he relied on the information remaining in the register. Furthermore he added privacy/security was the most significant for him. He said: “I don’t want my personal information misused by other organization. Otherwise, I will not trust the bank anymore.” The bank’s site was also secure for credit card information. He emphasized that he felt safety using SEB to pay bills. Every time, he had to identify himself with his ID number and one-time password got from special security pin cell, which was obtained only after he showed up in person at the bank branch and presented an ID document. “Do you want to pay this bill?” If so, “I have to input another fresh one-time password again. It sounds complicated, but I like it. I don’t worry someone could take chance to get into my count anymore.”

5.2.2 Relative Importance of the Service Quality Dimensions
When discussing the quality criteria of Internet banking the participant mentioned security, convenience, fast and easy to use. Security is the utmost concern for him because the insecure Web site or transactions may pose serious problems against him. The interviewee said, “if the bank cannot protect my personal information from potential fraudulent activities or if I meet insecure problems, then I will leave and never trust this bank.”
When discussing the quality criteria of Internet banking and which one was the most important and why, the participant ranked all the criteria discussed above as security, efficiency, reliability, responsiveness and fulfillment. Security was the utmost concern for him because the insecure Web site or transactions may pose serious problems against him. The interviewee said, “If the bank cannot protect my personal information from potential fraudulent activities or if I meet insecure problems, then I will leave and never trust this bank.”

Additionally, the participant thought technology update was also very important. At the beginning of using SEB e-bank, user just need identify himself with his ID number and one-time password. No further confirmation was employed, which made the payment not so safety. Now, the second time confirmation was used to make the payment further reliable.

Finally the participant added that one thing is inconvenient for him by using Internet banking. “I have to take my special pin input cell every time when I need pay using Internet. Sometimes it is really inconvenience and I also need put the pin cell in special place”.

5.3 Case Three: Respondent C

Third case study was conducted through face-to-face in-depth interview with the respondent. Here the respondent is identified as respondent C. He is working as a Lecturer in Industrial Marketing and E-commerce Division at Luleå University of Technology (LTU) and he is 42 years old. Before starting the interview, the participant was informed about the purpose of the study and how the interview would be conducted.

Respondent has been using Internet banking for more than 5 years and he has an account in SEB Bank. He has been using Internet banking for paying bills, he has an account for stock. He also uses Internet banking heavily for transferring money between different accounts. He also has a small company and sometimes he transfers money from the company to his private account. He likes to have one bank, and does not like to use different banks. When he was working for the company, the chairman of the company was a part of the board of this bank. So he has a personal relationship with this bank. A main reason for selecting this bank is personal contact.

5.3.1 Service Quality Dimensions and Their Relationship with Satisfaction

Data will be presented here according to the research questions and the variables identified in the frame of reference.

Efficiency

Regarding the issue of efficiency of the bank’s website, the interviewee mentioned the bank’s website works perfectly. Login and logout time of his account is very fast. He can find all the information that he needs for his purpose and it is easy for him to use the site. When we asked him about the policy and notice statement on the bank site, he mentioned he is not concerned about the policy and notice statement on the site and he never searched for it because he trusts them. He is very much confident about such matters.

From his viewpoint to increase efficiency of the bank, it is great importance to have a personal contact complementary with the Internet banking, in terms of using other services like stock
investment, insurance for the car etc. if he wants to use these kind of services from the bank, he might need information from one of the persons who work in the bank. He thinks it would be difficult for the consumer to use only Internet banking if he needs to use insurance services and investment facilities. If the customer is not knowledgeable about these issue, it will be good for the person to contact an employee of the bank. Internet banking service cannot do everything without the physical bank and vice versa. According to him they complement each other. This is important for efficiency both for consumer and the bank.

**Reliability**

Regarding the reliability issue he mentioned he is getting services according to his expectations. He is very much satisfied with the services. He is not scared about any incident. He can rely on bank’s website because it is functioning properly. He believes if any mistakes happen when he makes transactions, the bank will take care of it very carefully. He has a very good image about this bank. He said, “if money is deducted from my account and money is not transferred properly, I am sure the bank will correct it or if some body used my account illegally and taking my money, I am sure the bank will cover it”. He has a lot of trust about the bank. So he is not worried to use their services over the Internet. He thinks trust is a very important factor. He can rely on their services because he trusts them. He has trust about the employee of the bank, and the services of the bank. According to him proper delivery of the services and keeping their promises is important to measure reliability.

Respondent mentioned bank’s site to be up and running most of the time except when they have any server problem. But it is not very common. The bank site never froze when he put all the information in. He also told he is very much afraid about this matter. When he did not have a broadband connection he faced this kind of problems but it is not related with the bank’s website problem. This was the problem with his Internet connection. Now he has a broadband connection, so he feels safe regarding this issue. He thinks all the links that is provided in the bank site are working properly. Since he doesn’t need to use all the links but the links that he use for his purpose these are problem free and accurate. He needs very little time to download the page and information that has been provided on the site is accurate for him. Content of the website is also easy to understand. He mentioned that the bank’s site being up and running all the time is very much important for him.

**Responsiveness**

Regarding the responsiveness criteria when a problem occurs the bank provides prompt services to customers and they are very helpful regarding any problem. When he faces problems he prefers to talk to a bank employee. He prefers to phone them and he always gets a quick response. They are very helpful and they solve his problem all the time. He never uses e-mail services to solve any kind of problems. He is very happy with services he receives from the employees. For paying bills and transferring money he prefers Internet banking because it is very convenient. But when he wants to invest money or need to do car insurance he prefers to talk to a person who is working at the bank. He already has a good relation with the personnel of the bank, so it is easy for him to talk to them by phone or face-to-face. He has no idea about the online customer service representative since he never tried it. He thinks the bank takes care of problems very quickly and he believes if there are any problems they will compensate for this.
**Fulfillment**

Regarding the fulfillment issue, he thinks the bank always meets his expectation. When he conducts some transaction, he gets the confirmation quickly. He always gets the receipt quickly and never faces any problem with this process. He has been getting the same level of services from the beginning. Small changes happened to make the things easy, but not any big changes.

**Privacy**

Regarding the privacy issue, he does not care how the bank collects his personal information. He has a trust about the bank image. So he is not much concerned about the privacy matters. He believes the bank will not misuse his personal information and he can rely on the information remaining in the register.

**5.3.2 Relative Importance of the Service Quality Dimensions**

Regarding the service quality criteria in Internet banking, according to the respondent “I use internet banking as a convenience tool, whenever I want I can use it”. He mentioned he has been very satisfied with the services of bank and also satisfied with the employees. The employees know him and if he phoned them they recognize his voice. He is getting personalized services from this bank. For him personalized service is most important. Mainly for this reasons he is using their services and he is very satisfied with the services that he is getting from the bank. He is very much appreciative of Internet banking and does not want to be without it.

Regarding the most important service quality criteria for satisfying customers, he thinks the bank can consider how to combine Internet banking with personal contact. Some of the segment they should look into is those who are interested in investing money. Just putting information in the web page is not sufficient, personal contact is very important to satisfy the customer. Trust issue is very important for him, he is a very loyal customer because he has a trust about the bank image, the bank is very much reliable to him and he does not care much about the technical aspects, though of course he needs to finish the transaction without having any problem. So technical issue is the secondary factor for him.

**5.4 Case Four: Respondent D**

The case study was conducted through a face-to-face in-depth interview with the person who is a Ph.D student in division Industrial Organization at Luleå University of Technology (LTU) and he is 29 years old. Here the respondent is identified as respondent D. Before starting the interview, the participant was informed about the purpose of the study and how the interview would be conducted. He has been using Internet banking for 8 years.

Currently Interviewee has an account in FöreningssparBanken, HandelsBanken and SEB but he does not use FöreningssparBanken anymore. This is because he was not satisfied with services of the bank. He was not happy with their personal services. He is very much interested in investing money in the stock market. This bank site is not updated with the information about the stock. When he needs to secure his stock from the loss he think in that personnel of SEB bank is more qualified than the FöreningssparBanken. Usually for stock investment he has an account with SEB. He is using HandelsBanken and SEB for paying bills and transferring money. Respondent is using Internet banking for transfer money from different account, paying bills and investment
for stock. He is using SEB for stock investment because he has a personal relationship with the people of SEB Bank.

5.4.1 Service Quality Dimensions and Their Relationship with Satisfaction

Data will be presented here according to the research questions and the variables identified in the frame of reference.

Efficiency

Regarding the issue of efficiency of the bank’s website, the respondent mentioned login time and logout time for both banks take little time, he is happy with that. But for Handelsbanken he mentioned there is some login problem. He can only login from a computer where he has installed some special software. So he cannot log in to this account from any place. So he thinks Handels bank has some drawback about the login matters. For SEB account he can login from any place. In that case he thinks SEB is better compared to Handelsbanken. It is easy to find all the information from both bank’s site. SEB always updates information about events regarding economy compared to Handelsbanken. He also mentioned navigation menu is easy for SEB bank compare to Handelsbanken. He said someone who is not familiar with the site of Handelsbanken, it would be little difficult for person to find out everything from the navigation menu. But it is not a big problem for him. He never feels lost when he browses over the bank’s website, because he is always looking for particular information. He never searched for finding policy and notice statement in the bank’s website. He thinks it must be somewhere in the site, however to him it is not important because every site has this kind of statement. So the bank’s site should have this statement. According to him, “the important thing is how much they follow their policy and notice statement”.

From his point of view updated information, reliable information, accessibility of the webpage at any time, finding the information easily will increase the efficiency of the bank’s website. According to him “if I find all the information I needed and I have an accessibility with the page from any place I will be happier with the services. As mentioned before, since he has to face some login problem with HandelsBanken, he cannot login from any places.

Reliability

Regarding the matter of reliability, he thinks both banks are reliable. He can rely on the appropriate functioning of the web page. The bank’s site is always up and running. When he pays bill or performs some other work the bank sites never creates any problem. He can finish his work with out having any problem. He also mentioned if it froze when he is trying to finish the work and put all the information, it could be very frustrated for him. Every link of the web page works properly. Information that is provided by the bank’s site is appropriate for him he can easily understand all the text. He is also happy with downloading time of the page.

Responsiveness

Regarding responsiveness of the bank’s site he is happy with the helpful behavior of the bank personnel, because sometimes he has to take some advice regarding stock investment. But he never faces any problem doing Internet banking. He thinks if any major problems happen he will prefer to call them instead of e-mail. When he needs to borrow some money or need to do insurance, he usually talks to an employee of the bank, since in that case he prefers direct contact
with the employee. For paying bills he does not need any personal contact, he can do it easily over the Internet. He never looked for an online customer service representative in the bank’s site.

**Fulfillment**

Regarding the *fulfillment* of the promises, the respondent mentioned the bank fulfills his expectations. After finishing the work he always gets quick response, nor did he face any problem with confirmation. But sometimes according to him transferring money takes several days. When he transfers money within the same bank between two accounts it takes a second but paying bills and transferring money into a different bank sometimes takes as much as a day. But he gets the confirmation receipt quickly. If it takes little time he will be happier with the services. He mentioned the bank always performs services the right way. He doesn’t need to do repeat work.

**Privacy**

Regarding the *privacy* of the bank he believes the bank will not misuse his personal information and credit card number. He does not care how the banks collect his personal information. He has been using both banks for a long time now, and he has a good image about the two banks in his mind. So he has a trust of the activity of the banks.

### 5.4.2 Relative Importance of the Service Quality Dimensions

Regarding the service quality criteria for Internet banking, the respondent mentioned privacy issue is more important, with using Internet banking personal attention is very much important for him and he is very much happy with the personal services with SEB Bank. He thinks the bank should provide updated information, the webpage should function properly, and complete the transaction without having any problem. He is using Internet banking because it is convenient for him to pay bills and transfer money over the Internet.

According to him “if privacy failed he will definitely leave the bank”. So privacy issue is most important issue for him and he is very much happy with that, because nothing wrong happened with him since he has been using Internet banking services for a long time. The second important factor to him is reliability and fulfillment of the promises. He thinks trust can be built in the customer’s mind based on how reliable the bank is. He is satisfied with the service of both banks because he never faced any problem in finishing his work over the Internet. He can rely on the appropriate functioning of bank’s site. The third important factor to him is responsiveness. According to him it can be ensured by personal contact with the bank’s employee through telephone or face-to-face contact, and it is not so much possible over the Internet. Efficiency is the least important factor for him. He has faced login problems with Handelsbanken but at the same time he is also very satisfied with the services provided by the bank.

### 5.5 Quantitative Data presentation:

Small quantitative survey has been conducted with 25 respondents at Luleå Technical University during the time 7th February to 10th February. Survey has been conducted based on structured questionnaire. The questionnaire had 31 questions (see appendix II). The questionnaire has been developed based on the variables that were identified in the frame of reference. In the frame of reference researcher mentioned measurement criteria for each variable. The measurement criteria
identified by literature review and frame of reference were broken down into multiple questions in the questionnaire to address different aspects related to the variables in Internet banking. The quantitative data are presented according to the frame of references.

**Efficiency:**
The following graph represents the average value of customer’s experience of the efficiency variable related questions (see appendix II) for all 25 respondents. The followings figure shows the distribution of average values for the answers received for questions 1 through 6 in the survey questionnaire (see appendix II & III). They represent the efficiency variable related issues in Internet banking. On the X axis the values represent the number of question that the graph corresponds to. And the Y axis shows the average respondent score for the questions. Here 1 refers strongly disagree, 2 refers somewhat disagree, 3 refers no opinion, 4 refers somewhat agree and 5 refers strongly agree. The line represents the average value for a particular efficiency related question for all 25 respondents.

![Efficiency Average](image)

Figure 10: Efficiency Average

First question refers to the speed of login your account is fast. With aspect to this question respondents on average agreed the most with question. Second question refers it is easy to find all the information from the bank’s site. All the respondents are not agree with this opinion. Average values shows it is less than somewhat agree. Third question refers the bank site is easy to navigate and simple to use. In that case most of the respondent somewhat agree with this opinion. Fourth question refers it is easy to find the policy and notice statement on the bank site and most respondents had no clear opinion on this question. Fifth question refers the bank site does not get you lost and most of the respondent are not agree with the statement. Sixth question refers the speed of logout of your account is fast. With respect of this question most of the respondent agreed with this question.

Average value of efficiency received 3.98 (See Appendix V) that indicates very closeness to “Agree” regarding efficiency on average from the respondents. When the independent question
was asked regarding the importance of set of variables related to efficiency, overall respondents agreed that all the variables are important for satisfaction.

**Reliability**

The following graph represents the average value of customer’s experience of reliability variable related questions (see appendix II) for all 25 respondents. The followings figure shows the distribution of average values for the answers received for questions 8 through 13 in the survey questionnaire (see appendix II). Taken together, these questions represent the customer’s experience of reliability issue in Internet banking. On the X axis the values represent the no of question that the graph corresponds to. And the Y axis shows the respondent score for the questions. Here 1 refers strongly disagree, 2 refers somewhat disagree, 3 refers no opinion, 4 refers somewhat agree and 5 refers strongly agree. The line represents the average value for a particular reliability related question for all 25 respondent’s experience.

![Reliability Average Graph](image)

*Figure 11: Reliability Average*

Question 8 refers, I can rely on the web pages functioning properly and most of the respondent agreed with this question. Question 9 refers, the bank’s site is up and running all the time. In that question respondent on average most agreed. Question 10 refers to the bank’s site pages do not freeze after you have put in all your information and respondent on average most agreed with the question. Question 11 refers, links are problem-free, accurate and the pages download quickly and most of the respondent agreed with that. Question 12 refers to the information that is provided is accurate. For that question most of the respondent agreed. Question 13 refers, text of the website is easy to understand. With the respect of this question most people agree but not all. Some of them are not agree with this question. From the graph, we can see that the average trend for all the questions are very high, or above 4 from all respondents, showing the respondents very strongly agreeing that the Internet banking sites are perceived to be reliable in all the different aspects of reliability that they were questioned on. The average value of reliability received 4.24 (See Appendix V) which is the highest score.
**Responsiveness:**

The following graph represents the average value of responsiveness variable related questions (see appendix II) for all 25 respondent’s experience. The followings figure shows the distribution of average values for the answers received for questions 15 through 20 in the survey questionnaire (see appendix II). They represent the responsiveness variable related issues in Internet banking. On the X axis the values represent the number of question that the graph corresponds to. And the Y axis shows the average respondent score for the questions. Here 1 refers strongly disagree, 2 refers somewhat disagree, 3 refers no opinion, 4 refers somewhat agree and 5 refers strongly agree. The line represents the average value for a particular responsiveness related question for all 25 respondents experience.

![Responsiveness Average](image)

*Figure 12: Responsiveness Average*

The graph shows a markedly different picture here from the other graphs we have seen so far. The responses for the questions have remained around 3 to 3.5 on average, meaning most people had no definite opinion about the responsiveness of the bank. Question 15 refers, the bank provides appropriate information to customers when a problem occurs and most of them have no opinion on that. Question 16 refers, the bank is willing to help customers and provide prompt service that most of the respondent on average have no opinion. Question 17 refers, the bank compensate for the problem they create and most of them on average have no opinion. The question number18 is the only one that shows a tendency toward agreement by most respondents. The question refers to you are able to talk to live person using a telephone number. Question 19 refers, the bank site has online customer representatives most of them on average have no opinion. Question 20 refers, the bank takes care of problems promptly and most of the respondents on average have no opinion. The average value of responsiveness received 3.34 (See Appendix V) which is the lowest score falling within the category of having no opinion.
**Fulfillment:**
The following graph represents the average value of fulfillment variable related questions (see appendix II) for all 25 respondents experience. The followings figure shows the distribution of average values for the answers received for questions 22 through 24 in the survey questionnaire. They represent the fulfillment variable related issues in Internet banking. On the X axis the values represent the number of question that the graph corresponds to. And the Y axis shows the respondent score for the questions. Here 1 refers strongly disagree, 2 refers somewhat disagree, 3 refers no opinion. 4 refers somewhat agree and 5 refers strongly agree. The line represents the average value for a particular fulfillment related question for all 25 respondents experience on that variable.

![Fulfillment Average Graph](image)

**Figure 13: Fulfillment Average**

There are three questions in this variable category, and average response, as we see from the graph, varies from a very strong inclination to agree to slightly more than somewhat agree. Regarding providing confirmation of services, the strongest agreement was generated on question no 22. This question refers, the bank’s site provides a confirmation of the service ordered. Response is similar for the question no 23 that refers, the bank’s site performs the service right the first time. Question 24 refers, the bank site’s provides quick confirmation and most of the respondent agree with this opinion. The average value of fulfillment received 4.21 (See Appendix V) which is the second highest score and falls within agreement.

**Privacy:**
The following graph represents the average value of privacy variable related questions (see appendix II) for all 25 respondents experience. The followings figure shows the distribution of average values for the answers received for questions 26 through 30 in the survey questionnaire (see appendix). Theses question represent the privacy variable related issues in Internet banking. On the X axis the values represent the number of question that the graph corresponds to. And the Y axis shows the respondent score for the questions. Here 1 refers strongly disagree, 2 refers somewhat disagree, 3 refers no opinion, 4 refers somewhat agree and 5 refers strongly agree. The
line represents the average value for a particular privacy related question for all 25 respondents experience from using Internet banking.

![Privacy Average](image)

**Figure 14: Privacy Average**

Question 26 refers to the bank showing care in how it collects your personal information. With respect of the question most of the respondent on average have no opinion. Question 27 refers to the bank’s site does not use cookies to collect your personal information and average respondent agreed with this question. Question 28 refers to the bank site is secure for your credit card information. For that question most of the respondent on average agreed with this question. Question 29 refers to, you can rely on the information that you give not being misused. For that question most of the respondent on average agreed with the question. Question 30 refers to, you can rely on the information remaining in the register and most of the respondent agreed with the question. The average value for privacy received 4.11 (See Appendix V) which is the third highest score and falls within agreement.
Chapter 6

Analysis

In the previous chapter collected qualitative and quantitative data has been presented according to the service quality variables identified in the frame of reference regarding how service quality affects customer satisfaction. In this chapter data will be analyzed according to the same direction and as part of the analysis the data will be compared with the theories mentioned in the frame of references and literature review. At first, within-case analysis for the four cases will be presented, in which each of the four cases will be compared with theories. Secondly, a cross-case analysis will be executed to compare and analyze the four cases together to find the similarities and differences. Lastly quantitative data will be analyzed and compared with the theories and the qualitative findings.

6.1 Within-Case Analysis

Case One: Respondent A

The first case study was conducted with respondent A who is working as a researcher in the division of Ergonomics at Luleå University of Technology (LTU).

6.1.1 Service Quality Dimensions and Their Relationship with Satisfaction

Efficiency

The first variable mentioned in the frame of reference is efficiency that refers to the ability of the customers to get to the website, find their desire product and information associated with it (Zeithaml 2002). Respondent A mentioned the speed of login and logout time to be very fast. He is using Internet banking to pay bills and transfer money, and for this purpose he can find most of the information all the time and he is happy with that. He also mentioned navigation menu of the bank site to be appropriate for doing such routine work. All these criteria are associated with the efficiency of the bank site. These quality criteria are also related with the service quality dimension ease of use identified by Jun & Cai (2001). It refers to easy login, speed of responses, accessibility of the website, easy navigation and user friendliness. Respondent A mentioned that when he needs some extra information such as stock investment decision, or funds information he faces a problem in finding the information since the whole web site is in Swedish language. This criteria is related to the service quality variable communication as identified by Berry et al., 1985. Communication refers to keeping customers informed in a language they can understand.

According to Latimore et al., (2000) 87 percent of Internet banking users expect to use some variety of financial transaction from banking site such as paying bills electronically, view their monthly statements and purchasing stock and insurance. This is comparable that we found from the empirical data. The bank’s site regarding transaction is completely in Swedish, so for the respondent it is hard to make use or understand all the services that may be available through the Internet. For that reason he cannot use other services such as investment options, or buying stock over the Internet. According to respondent A the bank he is using is an international bank with fully functional websites in Norwegian, Swedish, Finish and Danish. So building an English
complete site with transaction facilities will improve efficiency of the bank website and then he may be more satisfied with the services he receives since he would be able to use all the services over the Internet. This is also related to the theory that mentioned variety of product offering is important factor to attract customer. According to Dixon (1999) the products offered to the customer through the online services is the key important factor to attract more customers.

**Reliability**

Reliability is concerned with the technical functioning of the site, particularly the extent to which it is available and functioning properly, ability to perform the promised service dependably and accurately, the degree of accuracy, accuracy in billing, keeping records correctly, performing the services at designated time, dependability and consistency of the information and accurate (Zeithaml et al., 2002; Parasuraman et al., 1985; Berry et al., 1985; McKinney et al., 2002). These reliability concepts are similar that we found from the empirical data. Regarding the reliability issue, respondent A mentioned banking service over the Internet is quite reliable, bank site was down only a couple of times and not for too long, he can rely on the appropriate functioning of the website, the bank site is up and running most of the time and down time is very low. He also did not experience any site freezes when he put all the information in. Most of the time he has to pay several bills at the same time. Every time it works perfectly. All the links worked properly and he can download pages in a very short time. Respondent A also mentioned all the information provided on the site is accurate for serving his purpose. Since the whole site is in Swedish he does not browse for much additional information. But he is satisfied with the proper functioning of the bank’s site.

**Responsiveness**

Responsiveness measures the ability of the e-tailers to provide appropriate information to customers when problem occurs (Zeithaml et al., 2002), involves timeliness of services that means- mailing a transaction slip immediately, calling the customer back quickly, giving prompt services (Berry et al., 1985). These theories are similar to the empirical data that we found from the interview with the respondent. Regarding the issue of responsiveness of the bank, the respondent mentioned Only a few times he faced some minor problem, at that time he contacted the bank support team through e-mail, however he said he had to wait for one or two days to get a reply. He never phoned them. Once he talked to the bank’s employee about options for stock investments but the employee was not much interested in providing him advice. He just gave him some brochures instead of taking the effort to explain. That created a negative attitude in him as a customer. He thinks personal service is somewhat lacking and they are not willing to give advice to all the people. Personalized service is related to the empathy refers to the caring, individualized attention the firm provides its customers (Parasuraman et al., 1985). Jun & Cai (2001) identified understanding the customer as one of the service quality dimensions in Internet banking. It means personal attention to the customer.

From the respondent’s point of view regarding means to increase responsiveness of the bank over the Internet, he suggested the bank should provide live support over the Internet instead of e-mails. The e-mail responses are not fast enough. So chatting with the personnel over the Internet may be easier to solve the problem and it will also be a more convenient service for him as a customer. This is related to Contact dimension which includes customers to be able to speak to a live customer service agent online or through the phone. (Zeithaml et al. 2002)
Fulfillment
Regarding the issue of fulfillment of the services over the Internet, the respondent mentioned the bank’s site provides quick confirmation because he always gets the receipt quickly when he finishes his work. He had never faced any problem with such an issue, and he is quite satisfied with the services. He mentioned the bank fulfills promises according to his expectation. But better personal banking services, complete English website, facility for international bank transfers directly from the Internet will give him more satisfaction. All these factors are related to the theoretical perspective of fulfillment, Which according to Zeithaml et al., (2002) are accuracy of service promises, and delivering the product in the promised time.

Privacy
Privacy dimension includes data to be not shared and credit card information is kept secure. (Zeithaml et al., 2002). Jun & Cai (2001) also mentioned security as the one of the dimensions in Internet banking system quality. According to them, privacy and information transaction safety are the two criteria to measure the security dimension. These are in-accordance with the facts stated by the respondent, who mentioned the bank’s site does use cookies to collect information over the Internet, however he is comfortable with it since he is familiar with the technology. He is not worried about misuse of his personal information and is not afraid to use his credit card number. He thinks the bank’s site is properly secure for him and he can rely on the bank. From his point of view a section for assuring customers about privacy measures taken rather than just a privacy statement would be appreciated.

6.1.2 Relative Importance of the Service Quality Dimensions

Regarding the issue of service quality criteria for Internet banking, according to the respondent understanding all the services that are provided, proper execution of the services, and security of the transactions are the most important service quality criteria in Internet banking. He mentioned proper completion of the transaction from the beginning to end is the most important service quality for him. This is because if the bank’s site has any problem during a payment process, he has to start the whole process from the beginning which is inconvenient. Understanding all the services and proper execution of the services are related to the service quality criteria reliability as identified by Zeithaml et al., 2002; McKinney et al., 2002.

Regarding the issue of which service quality criteria is important to increase his satisfaction, the respondent mentioned understandability of the website as the first and most important factor for him. He should be able to understand everything that is being offered; otherwise the service is useless for him. Reliability of the services that is offered by the bank over the Internet is the second most important factor for him, since he should be able to finish a transaction without having to enter his data twice safely and securely. Reliability and understandability are related to the theoretical dimension identified by Vriens (2000). They identified accuracy and friendliness as the most important factors for measuring retail banking service quality. Respondent A mentioned responsiveness to be the third most important factor for him to increase his satisfaction. If a problem occurs, the bank should respond immediately, otherwise it will create dissatisfaction. Sometimes it is hard to find specific information due to the site design, so site design is also an important factor for him. Since he had a broadband connection so page-loading time, login time and logout time is not a problem for him. Thus efficiency is fourth important
factor for him. He believes bank’s site is secure enough. He believes the bank abides by a security standard by default, and there is not much need for him to worry about it. Thus privacy and security are taken for granted by him, and thus should not be ranked with the others but independently as an essential item.

Respondent A mentioned he was not much satisfied with the inter-bank transaction time because he has to wait up to a day sometimes to complete a transaction. According to the theory this is related to the technical functioning of the website (Zeithaml 2002). According to the respondent there is no way of getting personal service over the Internet. In the literature we brought up the variable personalization and customization service quality variables. Kaynana & Black (2000) identified personalization and customization is one of the service quality variable in online travel agencies. Joseph et al., (1999) identified customization is the one of the service quality dimensions of electronic banking.

All the quality criteria that we found from the empirical data are efficiency, reliability, fulfillment, privacy, responsiveness, contact, access, communication, understanding the customer and security. All these criteria are similar with the variables that we mentioned in the frame of references and the literature review identified by Zeithaml et al., 2002; Jun & cai 2001; Berry et al. (1985).

Jayawardhena and Foley (2000) mentioned some service quality of Internet banking website are important to increase customer satisfaction. These are download speed, content, design, interactivity, navigation, security. We found all of these service quality criteria to be present in the empirical data.

The following table shows the service quality dimensions in Internet banking- Respondent A

<table>
<thead>
<tr>
<th>Service Quality Dimensions</th>
<th>Measurement Criteria for the Dimensions</th>
<th>Experience of Service Quality according to respondent A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency</td>
<td>The ability of the customers to get to a website (Zeithaml et al., 2002).</td>
<td>Login and logout time is very fast. Navigation menu is quite appropriate.</td>
</tr>
<tr>
<td>(Zeithaml et al., 2002)</td>
<td>Find their desired product and information associates with it (Zeithaml et al., 2002).</td>
<td>For regular work it is easy to find information. But for all type of work it is not easy to find all the information.</td>
</tr>
<tr>
<td>Reliability</td>
<td>The technical functioning of the site (Zeithaml et al., 2002; McKinney et al., 2002).</td>
<td>Bank site is reliable for appropriate functioning, banking site up and running all the time, bank site does not freeze after put all the information, links are</td>
</tr>
<tr>
<td>(Zeithaml et al., 2002; McKinney et al., 2002; Madu &amp; Madu 2002; Wolfinberger &amp; Gilly 2002; Yang &amp; Fang 2004; Yang &amp; Jun 2002; Liu &amp; Arnett 2000; Parasuraman)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem free and accurate, page download time is very quick. Sometimes money transfer from different account takes more time.</td>
<td>Information that is provided is accurate (McKinney et al., 2002).</td>
<td>Information provided on the site is more or less accurate, all the text are not understandable since whole site is in Swedish.</td>
</tr>
</tbody>
</table>

**Responsiveness**  
(Zeithaml et al., 2002; Madu & Madu 2002; Kaynama & Black 2000; Yang & Fang 2004; Liua & Arnett 2000; Yang, Peterson and Huang 2001; Parasuraman et al., 1985; Johnston 1995; Berry et al., 1985; DeLone & McLean 2003)  
The ability of e-tailers to provide appropriate information to customers when a problem occurs (Zeithaml et al., 2002; Parasuraman et al., 1988; Berry et al., 1985).  
Willingness to help customers and provide prompt service (Zeithaml et al., 2002; Parasuraman et al., 1988; Berry et al., 1985).  
Sent them e-mail, but response time was not quick, tried to talk to bank personnel directly but didn’t get sufficient service. Not happy with the personal services. |

**Fulfillment**  
(Zeithaml et al., 2002)  
Accuracy of service promises (Zeithaml et al., 2002).  
Delivering the product in the promised time (Zeithaml et al., 2002).  
Bank site perform the service rightly at the first time.  
Bank site provide quick confirmation when the work has been done. |

**Privacy**  
(Zeithaml et al., 2002; Madu & Madu 2002; Wolfinbarger & Gilly 2002; Yang & Jun 2002; Yang, Peterson & Huang 2001; Parasuraman et al., 1985)  
Personal information is not shared (Zeithaml et al., 2002; Berry et al., 1985).  
Credit card information is secure (Zeithaml et al., 2002; Berry et al., 1985).  
There is no chance to misuse the personal information.  
Bank site is properly secure for credit card information. |

### 6.2 Within-Case Analysis

**Case Two: Respondent B**

The second case study was conducted with an international Ph.D. student respondent B. He is working at Department of Chemical Engineering and Geosciences, Luleå University of Technology (LTU). Demographically, the participant is a 31 years old male and he is from China.
6.2.1 Service Quality Dimensions and Their Relationship with Satisfaction

**Efficiency**
The first variable mentioned in the frame of reference is efficiency which refers to the ability of the customers to get to the website, find their desire product and information associated with it (Zeithaml 2002). This concept is similar to that found in empirical data presentation regarding the issue of efficiency. Respondent B mentioned the bank web site works well. The speed of both login and logout of his account was fast, and it only took seconds. In his point of view, it was easy to find the functional link that he needed from the bank’s site and it was simple to use if he knows the means. He can access his account at bank web site anywhere if the computer is available.

According to Latimore et al., (2000) 87 percent Internet banking users expect to use variety of financial transaction from banking site such as paying bills electronically, view their monthly statements and purchasing stock and insurance. This theory is comparable with the empirical that has been found before. The participant mentioned he uses different services over Internet, including paying bills, viewing monthly bank statements, and transferring money to other accounts. However he doesn’t purchase stocks or insurance online, the main reason being that at SEB website there is only the Swedish version available, without offering other language versions, such as English. This criteria is related to the service quality variable communication as identified by Berry et al., 1985. Communication refers to keeping customers informed in a language they can understand. For the interviewee, if the bank’s website offers English information or content, he can have unrestricted access to financial information and enjoy a wider range of services over the Internet, and consequently he will be more satisfied. According to Dixon (1999) the products offered to the customer through the online services is the key important factor to attract more customers.

**Reliability**
Reliability is concerned with the technical functioning of the site, particularly the extent to which it is available and functioning properly, ability to perform the promised service dependably and accurately, the degree of accuracy, accuracy in billing, keeping records correctly, performing the services at designated time, dependability and consistency of the information and accurate (Zeithaml et al., 2002; Parasuraman et al., (1985; Berry et al., 1985; McKinney et al., 2002). All these criteria are related with what was found from empirical data. To judge the reliability of the bank’s site, the participant brought up simple layout and clear function links. The bank’s sites never freeze after putting in all his information and links are problem-free and accurate. The speed of downloading is fast. He can rely on the appropriate functioning of the web pages. The information provided on the site is accurate for his particular purpose and the all content of the site is not very easy to understand. He cannot understand all of the information, since all the information that is provided in the bank site are in Swedish.

**Responsiveness**
Responsiveness measures the ability of the e-tailers to provide appropriate information to customers when problem occurs (zeithaml et al., 2002), involves timeliness of services that means- mailing a transaction slip immediately, calling the customer back quickly, giving prompt services (Berry et al., 1985). This responsiveness criteria can be comparable with what we found from empirical data presentation that how responsive is the bank in delivering its services to
customers. Participant mentioned he never phones the bank or e-mail to them, instead, he go to branch of bank directly. He said he prefers to solve problems face-to-face. He likes personal contacts and talking to a live person who might take care of problems promptly.

In his point of view, personal contacts with a live person were important when met with problems. Personal contact is related to the empathy refers to the caring, individualized attention the firm provides its customers (Parasuraman et al., 1985). In the literature we brought up the dimensions personalization and customization service quality dimensions. Kaynana & Black (2000) identified personalization and customization is one of the service quality variables in online travel agencies. Joseph et al., (1999) identified customization is the one of the service quality dimensions of electronic banking. The participant also brought up telephone support or using e-mail was convenient and both time and cost saving.

**Fulfillment**

According to Zeithaml et al., (2002) fulfillment refers to the accuracy of service promises, and delivering the product in the promised time. This dimension is correlated with the empirical data we found regarding the bank’s performance. When discussing fulfillment of the bank’s site, the participant said performance of SEB bank met his expectations. The bank’s site provides a quick confirmation of the service order or after making some transactions. After approving the payment, the amount was transferred on the second day. The completed payment could also be printed out as a physical evidence or proof. He recollected that once the bank’s site did not perform the service correctly the first time. In addition, the participant added the bank could correct their mistakes quickly in a satisfactory way if something went wrong, which made him satisfied.

**Privacy**

Regarding privacy issues, the participant began by saying he trusted the SEB bank, so he was not worried about these problems at all. He said he does not know if the bank’s site used cookies to collect personal information. He also relied on the information remaining in the register. Furthermore he added privacy/security was the most significant factor for him. The bank’s site was also secure for credit card information. He emphasized that he felt safety using SEB to pay bills. Every time, he had to identify himself with his ID number and using a one-time password received from special security pin cell, which was obtained only after he showed up in person at the bank branch and presented an ID document. All these criteria are related to privacy dimensions that mentioned in the theory. Privacy dimension includes data are not shared and credit card information is secure (Zeithaml et al., 2002).

**6.2.2 Relative Importance of the Service Quality Dimensions**

Regarding the quality criteria of Internet banking the participant mentioned security, convenience, fast browsing speed and ease of use. Security is of utmost concern for him because the insecure Web site or transactions may pose serious problems for him. He mentioned if the bank was not able to protect my personal information from potential fraudulent activities he will leave the bank and never trust this bank. All these criteria are comparable to theory. Berry et al., 1985 identified security is the one of the service quality criteria. Security has been identified as physical safety, financial security and confidentiality. In empirical data we found confidentiality about the personal information that match with the confidentiality identified by Berry et al.,
(1995) as measurement criteria for security, participant ranked all the criteria discussed above in the order as security, efficiency, reliability, responsiveness and fulfillment.

Additionally, the participant thought technology update was also very important. At the beginning of using SEB e-bank, an user just needed to identify himself with his ID number and one-time password. No further confirmation was employed, which made the payment not so safe. Now, a secondary confirmation was used to make the payment further reliable. We have not found technology update as a variable in theory. Finally the participant added that one aspect to be inconvenient for him in using Internet banking. he have to take his special pin input cell every time when he need to pay using Internet. Sometimes it is really inconvenient and he also need put the pin cell in special place. This can be dubbed as logistical or technical equipment related issue that has also not been identified in theory.

All the quality criteria that we found from the empirical data are efficiency, reliability, fulfillment, privacy, responsiveness, contact, access, communication, understanding the customer and security. All these criteria are similar with the variables that we mentioned in the frame of references and the literature review identified by Zeithaml et al., 2002; Jun & cai 2001; Berry et al. (1985).

Jayawardhena and Foley (2000) mentioned some elements of service quality in Internet banking websites which are important to increase customer satisfaction. These are download speed, content, design, interactivity, navigation, security. We found all of these service quality criteria to be present in our empirical data.

The following table shows the service quality dimensions in Internet banking- Respondent B

<table>
<thead>
<tr>
<th>Service Quality Dimensions</th>
<th>Measurement Criteria for the Dimensions</th>
<th>Experience of Service Quality According to Respondent B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Efficiency</strong> <em>(Zeithaml et al., 2002)</em></td>
<td>The ability of the customers to get to a website <em>(Zeithaml et al., 2002).</em></td>
<td>The speed both login in his account and logout of his account was fast, only took seconds, it is easy to find the function link that he needed from the bank’s site and it is simple to use</td>
</tr>
<tr>
<td></td>
<td>Find their desired product and information associates with it <em>(Zeithaml et al., 2002).</em></td>
<td>For regular work it is easy to find information. But for all type of work it is not easy to find all the information.</td>
</tr>
<tr>
<td><strong>Reliability</strong></td>
<td>The technical functioning of</td>
<td>Simple layout and clear</td>
</tr>
</tbody>
</table>

Table 9: Service Quality Dimensions in Internet Banking- Respondent B
<table>
<thead>
<tr>
<th>Responsiveness</th>
<th>Information that is provided is accurate (McKinney et al., 2002).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never faced any major problem. Never tried to talk to live person over the telephone. Personal contact is important for him.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fulfillment</th>
<th>The ability of e-tailers to provide appropriate information to customers when a problem occurs (Zeithaml et al., 2002; Parasuraman et al., 1988; Berry et al., 1985).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Employees are willing to help to the customer.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Privacy</th>
<th>Accuracy of service promises (Zeithaml et al., 2002).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Most of the time bank sites perform the service rightly.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Privacy</th>
<th>Delivering the product in the promised time (Zeithaml et al., 2002).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bank site provide quick confirmation when the work has been done.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Privacy</th>
<th>Personal information are not shared (Zeithaml et al., 2002; Berry et al., 1985).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>There is no chance to misuse the personal information.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Privacy</th>
<th>Credit card information is secure (Zeithaml et al., 2002; Berry et al., 1985).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bank site is properly secure for credit card information.</td>
</tr>
</tbody>
</table>

6.3 Within-Case Analysis

**Case Three: Respondent C**

Third case study was conducted with the respondent identified as C. He is working as a Lecturer in Industrial Marketing and E-commerce Division at Luleå University of Technology (LTU) and he is 42 years old.
6.3.1 Service Quality Dimensions and Their Relationship with Satisfaction

**Efficiency**

Regarding the issue of efficiency of the bank’s website, the response from the interviewee can be categorized under the efficiency service quality criteria identified by Zeithaml et al., (2002); Jun & Cai (2001). According to them the ability of the customers to get to the website, find their desire product and information associated with it (Zeithaml et al., 2002) and ease of use, easy login, speed of responses, accessibility of the website, easy navigation and user friendliness (Jun & Cai 2001). These concepts are similar to what was found in empirical data presentation regarding the issue of efficiency. In further detail, the respondent mentioned the bank’s website works perfectly. Login and logout time of his account is very fast. It is easy for him to use the site and find all the information he needs. The respondent also mentioned that he is not concerned about the policy and notice statement on the site and he never searched for it because he trusts them. He is very much confident about such matters.

From the respondent’s viewpoint, to increase efficiency of the bank it is of great importance to have a personal contact complementary with Internet banking, in terms of using other services like stock investment, insurance for the car etc. These criteria are matched with the service quality criteria *understanding of customer* meaning personal attention (Jun & Cai, 2001) and *empathy* referring to caring, individualized attention provided to customers (Parasuraman et al., 1985).

**Reliability**

*Reliability* is concerned with the technical functioning of the site, particularly the extent to which it is available and functioning properly, ability to perform the promised service dependably and accurately, the degree of accuracy, accuracy in billing, keeping records correctly, performing the services at designated time, dependability and consistency of the information and accurate (Zeithaml et al., 2002; Parasuraman et al., (1985; Berry et al., 1985; McKinney et al., 2002). All these criteria are more or less related with what was found from empirical data. In detail, regarding the reliability issue respondent mentioned he is getting services according to his expectations. He is very much satisfied with the services, neither is he scared about any incident. He can rely on the bank’s website because to him it is always functioning properly. He has a very good image about his bank, as well as a lot of trust about the bank. So he is not worried to use their services over the Internet. He thinks trust is a very important factor. He can rely on their services because he trusts them. He also trusts the employees of the bank, and the services of the bank. According to him proper delivery of the services and keeping their promises is important to measure reliability.

The respondent mentioned bank’s site to be up and running most of the time except when they have any server problem. But it is not very common. The bank site never froze when he put all the information in. He thinks all the links that is provided in the bank site are working properly. He needs very little time to download the page and information that has been provided on the site is accurate for him. Content of the website is also easy to understand. He mentioned that the bank’s site being up and running all the time is very much important for him.
Responsiveness
Responsiveness measures the ability of the e-tailers to provide appropriate information to customers when problem occurs (Zeithaml et al., 2002), involves timeliness of services that means- mailing a transaction slip immediately, calling the customer back quickly, giving prompt services (Berry et al., 1985). These measurement criteria are related with the opinion of the respondent. According to the respondent when a problem occurs the bank provides prompt services to customers and they are very helpful regarding any problem.

When he faces problems he prefers to talk to a bank employee. He prefers to phone them since he always gets a quick response. They are very helpful and they solve his problem all the time. He is very happy with the services he receives from the employees. He already has a good relation with the personnel of the bank, so it is easy for him to talk to them by phone or face-to-face. These service quality of the bank is related with the empathy refers to the caring, individualized attention the firm provides its customers (Parasuraman et al., 1985). Jun & Cai (2001) identified understanding the customer as one of the service quality dimensions in Internet banking. It means personal attention to the customer.

Fulfillment
Regarding the fulfillment issue, respondent C thinks the bank always meets his expectations. When he conducts some transaction, he gets the confirmation quickly. He always gets the receipt quickly and never faces any problem with this process. All the factors are related to the theoretical perspective of fulfillment, which according to Zeithaml et al., (2002) is the accuracy of service promises, and delivering the product in the promised time. According to the respondent he has been getting the same level of services from the beginning. Small changes happened to make the things easy along the way, but no big changes had occurred. This service quality issue is related to service quality dimension is identified by Jun & Cia (2001) as continuous improvement on customer services.

Privacy
Privacy dimension includes data that are not shared and security of credit card information. (Zeithaml et al., 2002). Jun & Cai (2001) also mentioned security to be the one of the dimensions in Internet banking system quality. According to the respondent, privacy and information transaction safety are the two criteria to measure the security dimension. These are in-accordance with the stated by the respondent, respondent C does not care how the bank collects his personal information. He has a trust about the bank image. So he is not much concerned about the privacy matters. He believes the bank will not misuse his personal information and he can rely on the information remaining in the register.

6.3.2 Relative Importance of the Service Quality Dimensions
Regarding the service quality criteria in Internet banking, respondent mentioned he uses Internet banking as a convenience tool. This is some how related with the service quality criteria responsiveness identified by Jun & Cia (2001). According to them responsiveness refers to prompt service, quick solution of problems, and convenient service. According to the respondent, he has been very satisfied with the services of bank and also satisfied with the employees. He is getting personalized services from this bank. For him personalized service is most important. Mainly for these reasons he is using their services and he is very satisfied with the services that
he is getting from the bank. He is very much appreciative of Internet banking and does not want to be without it. This criteria is match with the service quality criteria understanding of customer means personal attention (Jun & Cai, 2001) and empathy refers to caring, individualized attention provides to customer (Parasuraman et al., 1985).

Regarding the most important service quality criteria for satisfying customers, he thinks the bank can consider how to combine Internet banking with personal contact. Some of the segment they should look into those who are interested in investing money. Just putting information in the web page is not sufficient, personal contact is very important to satisfy the customer. This personal contact criteria is related to the dimensions mentioned in the theory as Kaynana & Black (2000); Joseph et al., (1999) identified personalization and customization to be one of the service quality dimensions in online travel agencies and electronic banking.

Trust issue is very important for him, he is a very loyal customer because he has a trust about the bank image, consequently the bank is very much reliable to him. This issue is related to the service quality dimensions responsiveness and fulfillment and privacy (Zeithaml 2002; Parasuraman 1988; Berry 1988). He does not care much about the technical aspects, though of course he needs to finish the transaction without having any problem. So the technical issue is a secondary factor for him. These technical aspects are related with the service quality efficiency and reliability (Zeithaml et al., 2002; McKinney et al., 2002).

The following table shows the service quality dimensions in Internet banking- Respondent C

Table 10: Service Quality Dimensions in Internet Banking- Respondent C

<table>
<thead>
<tr>
<th>Service Quality Dimensions</th>
<th>Measurement Criteria for the Dimensions</th>
<th>Experience of Service Quality According to Respondent C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency (Zeithaml et al., 2002)</td>
<td>The ability of the customers to get to a website (Zeithaml et al., 2002).</td>
<td>Login and logout time is very fast. Navigation menu is quite appropriate.</td>
</tr>
<tr>
<td></td>
<td>Find their desired product and information associates with it (Zeithaml et al., 2002).</td>
<td>It is easy to find all kind of information that is needed.</td>
</tr>
<tr>
<td>Reliability (Zeithaml et al., 2002; McKinney et al., 2002; Madu &amp; Madu 2002; Wolfinbarger &amp; Gilly 2002; Yang &amp; Fang 2004; Yang &amp; Jun 2002; Liu &amp; Arnett 2000; Parasuraman et al., 1985; Johnston 1995; Berry et al., 1995)</td>
<td>The technical functioning of the site (Zeithaml et al., 2002; McKinney et al., 2002).</td>
<td>Bank site is reliable for appropriate functioning, banking site up and running all the time, bank site does not freeze after put all the information, links are problem free and accurate, page download time is very quick.</td>
</tr>
<tr>
<td></td>
<td>Information that is provided is accurate (McKinney et al., 2002).</td>
<td>Information provided on the site is accurate.</td>
</tr>
</tbody>
</table>
**Responsiveness**  
(Zeithaml et al., 2002; Madu & Madu 2002; Kaynama & Black 2000; Yang & Fang 2004; Liua & Arnett 2000; Yang, Peterson and Huang 2001; Parasuraman et al., 1985; Johnston 1995; Berry et al., 1985; DeLone & McLean 2003)  
The ability of e-tailers to provide appropriate information to customers when a problem occurs (Zeithaml et al., 2002; Parasuraman et al., 1988; Berry et al., 1985).  
Respondent has a good relationship with the bank employee, he always get quick service when he phoned them.

**Willingness to help customers and provide prompt service** (Zeithaml et al., 2002; Parasuraman et al., 1988; Berry et al., 1985).  
Personal contact is important for the customer. He is always gets personalized services from the bank.

**Fulfillment**  
(Zeithaml et al., 2002)  
Accuracy of service promises (Zeithaml et al., 2002).  
Bank site perform the service rightly at the first time.

Delivering the product in the promised time (Zeithaml et al., 2002).  
Bank site provide quick confirmation when the work has been done.

**Privacy**  
(Zeithaml et al., 2002; Madu & Madu 2002; Wolfinbarger & Gilly 2002; Yang & Jun 2002; Yang, Peterson & Huang 2001; Parasuraman et al., 1985)  
Personal information are not shared (Zeithaml et al., 2002; Berry et al., 1985).  
There is no chance to misuse the personal information.

Credit card information is secure (Zeithaml et al., 2002; Berry et al., 1985).  
Bank site is properly secure for credit card information.

---

**6.4 Within-Case Analysis**

**Case Four: Respondent D**

The case study was conducted with the respondent D who is a Ph.D student in division Industrial Organization at Luleå University of Technology (LTU) and he is 29 years old.

**6.4.1 Service Quality Dimensions and Their Relationship with Satisfaction**

**Efficiency**

Regarding the issue of efficiency of the bank’s website, the response from the interviewee can be categorized under the efficiency service quality criteria identified by Zeithaml et al. (2002). It refers to the ability of the customers to get to the website, find their desire product and information associated with it. This concept is similar to what was found in empirical data presentation regarding the issue of efficiency. In further detail, regarding the issue of efficiency the respondent mentioned login time and logout time for both bank take little time. The respondent mentioned there is a login problem in Handels bank. He can only login from a computer where he has installed some special software. But for the SEB account he can login from any place. In that case he thinks SEB is better compared to Handelsbanken. However, it is easy to find all the information from both bank’s site. It has always available updates regarding information regarding the economy, and the stock market and also the navigation menu is easy. He never feels lost when he browses over the bank’s website, because he is always looking for a
particular or specific information. He never searched for finding policy and notice statements in the bank’s website.

From his point of view updated information, reliable information, accessibility of the webpage at any time, and ease of finding information are important for increasing the efficiency of the bank’s website. He is very much happy with the services. These criteria are related to the theoretical perspective. Jun & Cai (2001) identified account access to be one of the service quality criteria for Internet banking. Reliable and updated information is associated with the service quality variable reliability of the information. It refers to the information that is provided is accurate and updated (McKinney et al., 2002).

**Reliability**

*Reliability* is concerned with the technical functioning of the site, particularly the extent to which it is available and functioning properly, ability to perform the promised service dependably and accurately, the degree of accuracy, accuracy in billing, keeping records correctly, performing the services at designated time, dependability and consistency of the information and accurate (Zeithaml et al., 2002; Parasuraman et al., 1985; Berry et al., 1985; McKinney et al., 2002). All these criteria are related with what was found from empirical data. Regarding the matter of reliability, he thinks both banks are reliable. He can rely on the appropriate functioning of the web page. The bank’s site is always up and running. When he pays bill or performs some other work the bank sites never creates any problem. Every link of the web page works properly. Information that is provided by the bank’s site is appropriate for him and he can easily understand all the text. He is also happy with downloading time of the page.

**Responsiveness**

Responsiveness measures the ability of the e-tailers to provide appropriate information to customers when problem occurs (Zeithaml et al., 2002), involves timeliness of services that means- mailing a transaction slip immediately, calling the customer back quickly, giving prompt services (Berry et al., 1985). These variables are related to what the respondent mentioned. Respondent D is happy with the helpful behavior of the bank personnel, because sometimes he has to take some advice regarding stock investment. But he never faces any problem doing Internet banking. He thinks if any major problems happen he will prefer to call them instead of e-mail. When he needs to borrow some money or need to do insurance, he usually talks to an employee of the bank, since in that case he prefers direct contact with the employee. These things are related with the personal contact that is mentioned in the theories. Personalized service is related to the empathy referring to the caring, individualized attention the firm provides its customers (Parasuraman et al., 1985). Jun & Cai (2001) identified understanding the customer as one of the service quality dimension in Internet banking. It means personal attention to the customer.

**Fulfillment**

Regarding the fulfillment of the promises, the respondent mentioned the bank fulfills his expectations. After finishing the work he always gets a quick response, nor did he face any problem with confirmation. He mentioned the bank always performs services the right way. He does not need to do repeat work. When he transfers money within the same bank between two accounts it takes a second but paying bills and transferring money into a different bank
sometimes takes as much as a day. But he gets the confirmation receipt quickly. If it took less
time he would be happier with the services. All the factors are related to the theoretical
perspective of fulfillment, which according to Zeithaml et al., (2002) is the accuracy of service
promises, and delivering the product in the promised time.

Privacy
Privacy dimension includes data to be not shared and credit card information is secure (Zeithaml
et al., 2002) and Jun & Cai (2001) also mentioned security as the one of the dimensions in
Internet banking system quality. According to them, privacy and information transaction safety
are the two criteria to measure the security dimension. These are somewhat related with what we
found from empirical data collected from respondent D. In further detail, regarding the privacy
issue of the bank he believes the bank will not misuse his personal information and credit card
number. He has been using both banks for a long time now, and he has a good image about the
two banks in his mind. So he trusts the activities of the banks.

6.4.2 Relative Importance of the Service Quality Dimensions

The respondent mentioned that currently he has accounts in both FöreningssparBanken and SEB.
But he is not using the services from FöreningssparBanken because of a lack of personalized
services and lack of updated stock information. He is using SEB for stock investment because he
has a personal relationship with the people of SEB Bank. This criteria is matched with the
service quality criteria understanding of customer means personal attention (Jun & Cai, 2001)
and empathy which refers to caring, individualized attention provided to customer (Parasuraman
et al., 1985). Kaynana & Black (2000) identified personalization and customization to be one of
the service quality variables in online travel agencies. Joseph et al., (1999) identified
customization is the one of the service quality dimensions of electronic banking.

Latimore et al., (2000) mentioned 87 percent Internet banking users expect to use a variety of
financial transactions from banking site such as paying bills electronically, view their monthly
statements and purchasing stock and insurance. This theory is comparable somewhat with the
empirical that has been found before. Respondent is very much interested in investing money in
stock market. For this purpose he needs updated information, and that is not provided by
FöreningssparBanken.

Regarding the service quality criteria for Internet banking, the respondent mentioned that privacy
issue is more important, and also in using Internet banking personal attention is very much
important for him and he is very much happy with the personal services he receives from SEB
Bank. He thinks the bank should provide updated information, the webpage should function
properly, and complete the transaction without having any problem. He is using Internet banking
because it is convenient for him to pay bills and transfer money over the Internet.

Respondent mentioned that the privacy issue is most important for him and he is very much
happy with that aspect, because nothing wrong happened with him since he has been using
Internet banking services for a long time. The second important factor to him is reliability and
fulfillment of the promises. He thinks trust can be built in the customer’s mind based on how
reliable the bank is. He is satisfied with the service of both banks because he never faced any
problem in finishing his work over the Internet. He can rely on the appropriate functioning of
bank’s site. The third important factor to him is responsiveness. According to him it can be ensured by personal contact with the bank’s employee through telephone or face-to-face contact, and it is not so much possible over the Internet. Efficiency is the least important factor for him.

All the quality criteria that we found from the empirical data are efficiency, reliability, fulfillment, privacy, responsiveness, contact, access, communication, understanding the customer and security. All these criteria are similar with the variables that we mentioned in the frame of references and the literature review identified by Zeithaml et al., 2002; Jun & cai 2001; Berry et al. (1985).

Jayawardhena and Foley (2000) mentioned some elements of service quality in Internet banking websites which are important to increase customer satisfaction. These are download speed, content, design, interactivity, navigation, security. We found all of these service quality criteria in empirical data.

The following table shows the service quality dimensions in Internet banking—Respondent D

<table>
<thead>
<tr>
<th>Service Quality Dimensions</th>
<th>Measurement Criteria for the Dimensions</th>
<th>Experience of Service Quality According to Respondent D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Efficiency</strong> (Zeithaml et al., 2002)</td>
<td>The ability of the customers to get to a website (Zeithaml et al., 2002).</td>
<td>Login and logout time is very fast. Navigation menu is quite appropriate.</td>
</tr>
<tr>
<td></td>
<td>Find their desired product and information associates with it (Zeithaml et al., 2002).</td>
<td>It is easy to find all kind of information that is needed.</td>
</tr>
<tr>
<td><strong>Reliability</strong> (Zeithaml et al., 2002; McKinney et al., 2002; Madu &amp; Madu 2002; Wolfinbarger &amp; Gilly 2002; Yang &amp; Fang 2004; Yang &amp; Jun 2002; Liu &amp; Arnett 2000; Parasuraman et al., 1985; Johnston 1995; Berry et al., 1995)</td>
<td>The technical functioning of the site (Zeithaml et al., 2002; McKinney et al., 2002).</td>
<td>Bank site is reliable for appropriate functioning, banking site up and running all the time, bank site does not freeze after put all the information, links are problem free and accurate, page download time is very quick. Sometimes money transfer from different account takes more time.</td>
</tr>
<tr>
<td></td>
<td>Information that is provided is accurate (McKinney et al., 2002).</td>
<td>Information provided on the site is accurate.</td>
</tr>
<tr>
<td><strong>Responsiveness</strong> (Zeithaml et al., 2002; Madu &amp; Madu 2002; Kaynama &amp; Black 2000; Yang &amp; Fang 2004; Liua &amp;</td>
<td>The ability of e-tailers to provide appropriate information to customers when a problem occurs (Zeithaml et al.,</td>
<td>Respondent has a good relationship with the bank employee, he always get quick service when he</td>
</tr>
</tbody>
</table>
### 6.5 Cross-Case Analysis

The cross-case analysis has been done based on the within-case analysis done so far. Both similarities and differences were detected when comparing the four cases with one another. The similarities and differences that were found from comparing the four cases will be discussed in detail in the discussion and the tables.

#### 6.5.1 Service Quality Dimensions and Their Relationship with Satisfaction

**Efficiency**

Regarding the first variable mentioned in the literature, we found some similarities and differences between the respondent. These similarities and differences are discuss below:

All the respondents have the same opinion about the login and logout speed. They mentioned login and logout speed to be very fast, taking only a second or so. Respondent A, B and C mentioned that they can login from any place. But respondent D mentioned he has some login problem with one bank (Handelsbank). He can only login from a computer where he has installed some special software. But he also has an account with SEB bank. For this account he can log in from any place. They also have more or less the same opinion regarding the navigation in the bank sites. Navigation menu is appropriate for regular banking activities such as bills payment, transfer money. But two international customers (respondent A and B) mentioned that they can not use all the functions in the bank site since the whole site is in Swedish. But for other two Swedish customers (respondent C and D) the navigation is perfect for any kind of activities. Respondent C and D mentioned that it is easy for them to find all the information from the bank.

<table>
<thead>
<tr>
<th>Arnett 2000; Yang, Peterson and Huang 2001; Parasuraman et al., 1985; Johnston 1995; Berry et al., 1985; DeLone &amp; McLean 2003</th>
<th>2002; Parasuraman et al., 1988; Berry et al., 1985</th>
<th>phoned them.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willingness to help customers and provide prompt service (Zeithaml et al., 2002; Parasuraman et al., 1988; Berry et al., 1985).</td>
<td>Personal contact is important for the customer. He is always get personalized services from the bank.</td>
<td></td>
</tr>
</tbody>
</table>

### Fulfillment

(DeLone & McLean 2003)

<table>
<thead>
<tr>
<th>Accuracy of service promises (Zeithaml et al., 2002).</th>
<th>Bank site perform the service rightly at the first time.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivering the product in the promised time (Zeithaml et al., 2002).</td>
<td>Bank site provide quick confirmation when the work has been done.</td>
</tr>
</tbody>
</table>

### Privacy

(Zeithaml et al., 2002; Madu & Madu 2002; Wolfinbarger & Gilly 2002; Yang & Jun 2002; Yang, Peterson & Huang 2001; Parasuraman et al., 1985)

<table>
<thead>
<tr>
<th>Personal information is not shared (Zeithaml et al., 2002; Berry et al., 1985).</th>
<th>There is no chance to misuse the personal information.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit card information is secure (Zeithaml et al., 2002; Berry et al., 1985).</td>
<td>Bank site is properly secure for credit card information.</td>
</tr>
</tbody>
</table>
web sites. But respondents A and B mentioned for regular routine works (bill payment and transfer money) it is easy to find all the information but when they need some investment information or fund information, it is not easy for them to find all the information from the bank web site because of the language problem. So they cannot use all the services that are offered by the bank over the Internet. All these criteria that we found from the empirical data are related to the variable ‘efficiency’ (Zeithaml et al., 2002). It refers to the ability of the customer to get to the website, find their desired product and information associated with it.

Regarding the issue of how this criteria affects their satisfaction, respondent A and B mentioned building a complete English site with transaction facilities is important for improving the efficiency of the bank. In such a case they would be able to use all the services over the Internet that the bank is offering and they would be more satisfied. This factor is related with the theory. According to Latimore et al., (2000) 87 percent Internet banking users expect to use some variety of financial transaction from the banking site such as paying bills electronically, view their monthly statements, and purchasing stock and insurance. According to Dixon (1999) the products offered to the customer through the online services is the key important factor to attract more customers.

Respondent C mentioned from his point of view, to increase efficiency of the bank, it is of great importance to have a personal contact complementary with the Internet. According to respondent D updated information, reliable information, accessibility of the webpage at any time, and finding the information easily are important to increase the efficiency of the bank’s web site. These criteria match with the service quality criteria ‘Understanding’ of customer (Jun & Cai, 2001) and ‘Empathy’ (Parasuraman et al., 1985). All the respondents agreed that the personal contact and personalized services is very important for increasing their satisfaction. Account access is one of the service quality criteria for Internet banking and Reliable and updated information is associated with the service quality variable. It refers that information that is provided is accurate and updated Jun & cai (2001); McKinney et al., (2002).
Difference and similarities found from the four cases about the Customer’s experience about the service quality variable efficiency is summarized in the following table.

**Table 12: Difference and Similarities Between the Customer’s Experiences About the Service Quality Dimensions Efficiency**

<table>
<thead>
<tr>
<th>Service Quality Dimensions</th>
<th>Measurement Criteria</th>
<th>Respondent A</th>
<th>Respondent B</th>
<th>Respondent C</th>
<th>Respondent D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency (Zeithaml et al., 2002)</td>
<td>The ability of the customers to get to a website (Zeithaml et al., 2002).</td>
<td>Login and logout time is very fast. Navigation menu is quite appropriate.</td>
<td>The speed both login in his account and logout of his account was fast, only took seconds, it is easy to find the function link that he needed from the bank’s site and it is simple to use</td>
<td>Login and logout time is very fast. Navigation menu is quite appropriate.</td>
<td>Login and logout time is very fast. He has some login problem with one bank, he can not login from all the computer. For the other bank he can login from any computer. Navigation menu is quite appropriate.</td>
</tr>
<tr>
<td>Find their desired product and information associates with it (Zeithaml et al., 2002).</td>
<td>For regular work it is easy to find information. But for all type of work it is not easy to find all the information.</td>
<td>For regular work it is easy to find information. But for all type of work it is not easy to find all the information.</td>
<td>It is easy to find all kind of information that is needed.</td>
<td>It is easy to find all kind of information that is needed.</td>
<td></td>
</tr>
</tbody>
</table>

**Reliability**

Regarding the reliability issue all the respondents agreed that the bank site is reliable from the viewpoint of appropriate functioning, the bank site being up and running all the time, and the bank site not freezing after putting in all the information. Most of the time they think the sites work properly, links are problem free and accurate, and page download time is very quick. But respondent A and D mentioned that sometimes money transfer from different accounts takes more time. It would be more convenient for them if it took less time for inter-account transfers. All these criteria are related to the variable ‘Reliability’ that is mentioned in theory. Reliability is concerned with the technical functioning of the site, particularly the extent to which it is available and functioning properly, ability to perform the promised service dependably and accurately, the degree of accuracy, accuracy in billing, keeping records correctly, performing the services at designated time, dependability and consistency of the information and accurate (Zeithaml et al., 2002; Parasuraman et al., 1985; Berry et al., 1985; McKinney et al., 2002).

Respondent A and B mentioned that information provided in the site is accurate for their limited activity (bill payment and money transfer). But all the texts within the bank sites are not understandable since the whole site is in Swedish. It is little difficult for them to understand all that is being offered. So they do not know the extent of the services provided or how to use them.
Respondent C and D mentioned information that is provided on the site to be accurate. This criteria is related to the service quality variable ‘Reliability’ (McKinney et al., 2002). Reliability is concerned with the degree of accuracy, dependability and consistency of the information and accurate McKinney et al., (2002).

Difference and similarities found from the four cases about the Customer’s experience about the service quality variable reliability is summarized in the table.

<table>
<thead>
<tr>
<th>Service Quality Dimensions</th>
<th>Measurement Criteria</th>
<th>Respondent A</th>
<th>Respondent B</th>
<th>Respondent C</th>
<th>Respondent D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability (Zeithaml et al., 2002; McKinney et al., 2002; Madu &amp; Madu 2002; Wolfinbarger &amp; Gilly 2002; Yang &amp; Fang 2004; Yang &amp; Jun 2002; Liua &amp; Arnett 2000; Parasuraman et al., 1985; Johnston 1995; Berry et al., 1995)</td>
<td>The technical functioning of the site (Zeithaml et al., 2002; McKinney et al., 2002).</td>
<td>Bank site is reliable for appropriate functioning, banking site up and running all the time, bank site does not freeze after put all the information, links are problem free and accurate, page download time is very quick. Sometimes money transfer from different account takes more time.</td>
<td>Simple layout and clear functioning, banking site up and running all the time, bank site does not freeze after put all the information, links are problem free and accurate, page download time is very quick.</td>
<td>Bank site is reliable for appropriate functioning, banking site up and running all the time, bank site does not freeze after put all the information, links are problem free and accurate, page download time is very quick.</td>
<td>Bank site is reliable for appropriate functioning, banking site up and running all the time, bank site does not freeze after put all the information, links are problem free and accurate, page download time is very quick. Sometimes money transfer from different account takes more time.</td>
</tr>
<tr>
<td>Information that is provided is accurate (McKinney et al., 2002).</td>
<td>Information provided on the site is more or less accurate, all the texts are not understandable since whole site is in Swedish.</td>
<td>Information provided on the site is more or less accurate, all the texts are not understandable since whole site is in Swedish.</td>
<td>Information provided on the site is accurate.</td>
<td>Information provided on the site is accurate and updated.</td>
<td>Respondent need updated information for investment purpose.</td>
</tr>
</tbody>
</table>

**Responsiveness**

Regarding the responsiveness issue all the respondents mentioned personal contact is important for them. When they face a problem they prefer to talk to live person. Respondent C and D had a good relationship with the bank employee. Respondent C mentioned that when he needed to talk to an employee he phoned them and he always got personalized services from them. Respondent
D is happy with the helpful behavior of the bank personnel, because sometimes he has to take some advice regarding stock investments. Respondent B, C and D never sent them e-mails. Respondent A and B mentioned they never faced any major problems. Respondent A mentioned that once he had sent them an e-mail but the response time was not quick. Respondent A also mentioned that there is no way to get quick response over the internet when a problem occurs. He also mentioned that he talked to a bank employee regarding stock investment options, but he did not get proper advice. All these factors are related to the theoretical perspective. Responsiveness measures the ability of the e-tailers to provide appropriate information to customers when problem occurs (Zeithaml et al., 2002). Responsiveness concerns the willingness or readiness of employees to provide service. It involves timeliness of services that means-mailing a transaction slip immediately, calling the customer back quickly, giving prompt services (Berry et al., 1985).

Respondent A suggested that the bank should provide live support over the Internet instead of e-mails. The e-mail response is not fast enough. So chatting with the personnel over the Internet may be easier to solve a problem and it would mean more convenient service for the customer. This is related to ‘Contact’ dimension which includes customers to be able to speak to a live customer service agent online or through the phone. (Zeithaml et al. 2002).

Difference and similarities found from the four cases about the Customer’s experience about the service quality variable responsiveness is summarized in the table.

Table 14: Difference and Similarities Found From the Four Cased About the Customer’s Experience About the Service Quality Dimension Responsiveness

<table>
<thead>
<tr>
<th>Service Quality Dimensions</th>
<th>Measurement Criteria</th>
<th>Respondent A</th>
<th>Respondent B</th>
<th>Respondent C</th>
<th>Respondent D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsiveness</td>
<td>The ability of e-tailers to provide appropriate information to customers when a problem occurs (Zeithaml et al., 2002; Parasuraman et al., 1988; Berry et al., 1985).</td>
<td>Never faced any major problem. Never tried to talk to live person over the telephone.</td>
<td>Never faced any major problem. Never tried to talk to live person over the telephone. Personal contact is important for him.</td>
<td>Respondent has a good relationship with the bank employee, he always get quick service when he phoned them.</td>
<td>Respondent has a good relationship with the bank employee.</td>
</tr>
<tr>
<td></td>
<td>Willingness to help customers and provide prompt service (Zeithaml et al., 2002; Parasuraman et al., 1988; Berry et al., 1985).</td>
<td>Sent them e-mail, but response time was not quick. He tried to talk to bank personnel directly regarding the stock investment but didn’t get sufficient</td>
<td>Employees are willing to help to the customer.</td>
<td>Personal contact is important for the customer. He is always gets personalized services from the bank.</td>
<td>Personal contact is important for the customer. When he face problem or need some advice regarding stock investment and insurance, he prefer to talk to them directly.</td>
</tr>
</tbody>
</table>
service. Not happy with the personal services.

Fulfillment

Regarding the fulfillment issue all the respondents had the same opinion. They mentioned the bank site performs the service right the first time. The bank site also provides quick confirmation when the work has been done. These criteria are related with the service quality variable fulfillment. According to Zeithaml et al., (2002) Accuracy of service promises, delivering the product in the promised time.

Difference and similarities found from the four cased about the customer’s experience about the service quality variable fulfillment is summarized in the table:

Table 15: Difference and Similarities Found From the Four Cased About the Customer’s Experience About the Service Quality Dimensions Fulfilment

<table>
<thead>
<tr>
<th>Service Quality Dimensions</th>
<th>Measurement Criteria</th>
<th>Respondent A</th>
<th>Respondent B</th>
<th>Respondent C</th>
<th>Respondent D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy of service promises (Zeithaml et al., 2002)</td>
<td>Bank site perform the service rightly at the first time.</td>
<td>Most of the time bank site performs the service rightly.</td>
<td>Bank site perform the service rightly at the first time.</td>
<td>Bank site perform the service rightly at the first time.</td>
<td></td>
</tr>
<tr>
<td>Delivering the product in the promised time (Zeithaml et al., 2002).</td>
<td>Bank site provide quick confirmation when the work has been done.</td>
<td>Bank site provide quick confirmation when the work has been done.</td>
<td>Bank site provide quick confirmation when the work has been done.</td>
<td>Bank site provide quick confirmation when the work has been done.</td>
<td></td>
</tr>
</tbody>
</table>

Privacy

Regarding the privacy issue all the respondents mentioned the bank site is properly secure for credit card and personal information. They also think the bank will not misuse their personal information. These criteria are related to the theoretical variable ‘Privacy’ defined before. Privacy dimension includes data to be not shared and credit card information to be secure (Zeithaml et al., 2002). Jun & Cai (2001) also mentioned security is the one of the dimension in Internet banking system quality. According to them, privacy and information transaction safety are the two criteria to measure the security dimension.
Difference and similarities found from the four cases about the Customer’s experience about the service quality variable privacy is summarized below:

Table 16: Difference and Similarities Found From the Four Cased About the Customer’s Experience About the Service Quality Dimension Privacy

<table>
<thead>
<tr>
<th>Service Quality Dimensions</th>
<th>Measurement Criteria</th>
<th>Respondent A</th>
<th>Respondent B</th>
<th>Respondent C</th>
<th>Respondent D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Privacy</td>
<td>Personal information are not shared (Zeithaml et al., 2002; Berry et al., 2002; Wolfinbarger &amp; Gilly 2002; Yang &amp; Jun 2002; Yang, Peterson &amp; Huang 2001; Parasuraman et al., 1985)</td>
<td>There is no chance to misuse the personal information.</td>
<td>There is no chance to misuse the personal information.</td>
<td>There is no chance to misuse the personal information.</td>
<td>There is no chance to misuse the personal information.</td>
</tr>
<tr>
<td></td>
<td>Credit card information is secure (Zeithaml et al., 2002; Berry et al., 1985)</td>
<td>Bank site is properly secure for credit card information.</td>
<td>Bank site is properly secure for credit card information.</td>
<td>Bank site is properly secure for credit card information.</td>
<td>Bank site is properly secure for credit card information.</td>
</tr>
</tbody>
</table>

6.6 Quantitative Data Analysis

Quantitative data will be analyzed with respect to the frame of reference. Service quality variables and their relationship with satisfaction will be describe based on customer’s experience and the data will be compared with the theories mentioned in frame of references and literature review.

6.6.1 Service Quality Dimensions and Their Relationship with Satisfaction

Efficiency

First variable mentioned in the frame of reference is efficiency that refers to the ability of the customers to get to the website, find their desire product and information associated with it (Zeithaml 2002). This concept is similar that was found in empirical data presentation regarding the issue of efficiency. Regarding the issue of ease to find all the information, from their experience the respondent did not strongly agree with this issue but most of the respondents somewhat agreed that the bank site is easy to navigate and simple to use. Most of the respondents did not give any opinion on that it is easy to find the policy and notice statement from the bank’s site.

From the average value of the customer’s opinion we found efficiency to be the fourth important factor 3.98 (See Appendix V). Through asking independent question regarding this variable and its relation to satisfaction we found efficiency 4.4 (See Appendix IV) as an important variable.
Reliability
According to (Zeithaml et al., 2002) reliability is associated with the technical functioning of the site, particularly the extent to which it is available and functioning properly. Reliability means the ability to perform the promised service dependably and accurately (Parasuraman et al., 1985). Reliability involves consistency of performance and dependability. It means the firm performs the service first time. It also means the firm honors its promises, specially it involves: accuracy in billing, keeping records correctly, performing the services at designated time (Berry et al., 1985). All these criteria are related with what was found from empirical data. To judge the reliability of the bank’s site, the respondents on average agreed with the proper functioning of the bank’s web site. They also agreed that the bank’s site is up and running all the time. Most of the respondents agreed with that the bank’s site never freezes after putting in all the information, links are problem free, accurate, pages download time is quickly. Regarding the issue of understandability of the text in the web site, most people agree but some of them are not agreed with this issue.

From the customer’s opinion we found average value of the reliability is the highest score 4.24 (See Appendix V) that indicates customers can rely on the technical functioning of the website and they believe that information that is provided is accurate. Through asking individual question regarding the reliability issue and its relationship with satisfaction, we found reliability to be an important factor according to the customers’ viewpoint. According to the theory, The technical functioning of the site (Zeithaml et al., 2002; McKinney et al., 2002) and Information that is provided is accurate (McKinney et al., 2002).

Responsiveness
Responsiveness measures the ability of the e-tailers to provide appropriate information to customers when problem occurs (Zeithaml et al., 2002). Responsiveness concerns the willingness or readiness of employees to provide service. It involves timeliness of services that means-mailing a transaction slip immediately, calling the customer back quickly, giving prompt services (Berry et al., 1985). This responsiveness criteria can be comparable with what we found from empirical data presentation that how responsive is the bank in delivering its services to customers. Respondents on average did not have an opinion regarding the issues- bank provide appropriate information to customer when problem occurs, the bank is willing to help customers and provide prompt services, the bank site has customer representative. Some of them agreed with the issue when they face problem they are able to talk to live person by using telephone.

From the average value of the customer opinion we found responsiveness (value of 3.34; see Appendix V) to be not so important a factor and asking individual question regarding this variable and its relation to satisfaction we also found responsiveness (value of 4.24; see Appendix IV) to be less important variable. That indicated respondent are not happy with the bank’s responsiveness. According to the theory, The ability of e-tailers to provide appropriate information to customers when a problem occurs (Zeithaml et al., 2002; Parasuraman et al., 1988; Berry et al., 1985) and Willingness to help customers and provide prompt service (Zeithaml et al., 2002; Parasuraman et al., 1988; Berry et al., 1985).
**Fulfilment**

Three questions was asked to judge the experience of the this quality criteria. Respondents agreed with all this criteria. These are the bank’s site provides confirmation of the service ordered, the bank’s site performs the service rightly at the first time and the bank site’s provide quick confirmation. All these criteria are similar to fulfillment variable mentioned in the theory. According to Zeithaml et al., (2002) Accuracy of service promises, delivering the product in the promised time.

Average value of the fulfillment 4.21 (See Appendix V) showed that this variable is the second important factor from customer point of view. But asking individual question regarding this variable and its relation to satisfaction we found fulfillment 4.28 (See Appendix IV) to be less important variable.

**Privacy**

Privacy dimension includes data are not shared and credit card information is secure. (Zeithaml et al., 2002). Jun & Cai (2001) also mentioned security is the one of the dimension in Internet banking system quality. According to him, privacy and information transaction safety are the two criteria to measure the security dimension. This theory is similar to that we found from empirical data. Most of the respondents agreed with the issue- the bank site is secure for credit card information and personal information, there is no possibility to misuse their personal information, they can rely on the information remaining in the register.

From the customer’s opinion we found average value of the privacy 4.11 (See Appendix V) is the third important variable. But from the asking individual question regarding this variable and its relation to satisfaction we found privacy 4.56 (See Appendix IV) to be a very important variable. That indicates customer believe their personal information is secure and their credit card information is also secure. Bank will not misuse their personal information. So security is very important to increase customer satisfaction.
Chapter 7

Findings and Conclusions

In the previous chapter the empirical qualitative and quantitative data were analyzed. In this final chapter two research questions will be answered and general conclusions will be drawn. At the end implications for management, theory and future research will be addressed.

7.1 What are the Service Quality Dimensions in Internet Banking and How Do They Affect Customer Satisfaction?

A total nine service quality dimensions in Internet banking are identified or found in this study. They are efficiency; reliability; responsiveness; fulfillment; privacy; communication; personalization; technology update; and logistic/technical equipment. Based on qualitative and quantitative analysis of empirical data obtained, first five dimensions selected in this study were tested as the core dimensions in Internet banking which consisted with the previous research. Communication and personalization were identified as another two important service quality dimensions in Internet banking. Two new dimensions, technology update; and logistic/technical equipment, were discovered in present work.

Efficiency
To begin with, the speed of login and logout are important quality criteria for most customers. In addition, it was also detected that customers want appropriate navigation menu and simple to use of bank’s site. An interesting finding is that two international respondents in this study expect easy contents of bank’s site because of language problem. Therefore, the contents of the banks’ Web site should be concise and easy to understand. The finding show that the banks’ site should keep customers informed in a language they can understand, such as English, to ensure customer more satisfied. Moreover, the bank’s site should provide the adequate explanations in order to attract more customers. Otherwise it is hard for customers to make use or understand all the services that may be available over the Internet, such as purchasing stock and insurance.

Reliability
The findings reveal that the bank’s site should provide proper functioning to customers and should be up and running all the time. In addition, it is also significant for customer that the bank’s site never freezes after putting in all information. Otherwise, putting same information twice could create annoyance and confusion. It should be noted that problem free of links, accurate links and pages download times are also concern by online banking customers. More specially, money transfer time from different account should be cared and pay more attention by Internet banks. Finally, accurate and updated information and understandable text in the bank’s Web site are important quality criteria, especially for international customers and some customers who expect deeper level services using over Internet, such as investment or stock and insurance purchasing.
Responsiveness
The findings indicate that personal contact is the most preferred by customers. When problems occur or some advice needed customers prefer to talk to live person. The main reason might be the response time for e-mails slowly. Therefore, quick response to customers’ emails is the most concern by customers. The findings also indicate that quick response is one of the key drivers of customer satisfaction or dissatisfaction, which consists with the prior study. More importantly, the findings also show that some customers expect and need personalized services from the bank. Personalized services could build good relationship with customers, simultaneously gain trust and loyal customers. The findings suggest that the bank should provide live support over Internet instead of e-mails. The e-mail response is not fast enough. So chatting with the personnel over the Internet may be easier to solve a problem and it would mean more convenient service for the customer.

Fulfillment
The findings show that the bank site should perform the service right the first time and also provide quick confirmation when the work done. From the empirical data, quick confirmation after transaction or work over internet is significant for customers.

Privacy
The findings imply that the privacy issue is the utmost concern by online banking customer. Therefore, Internet bank should not misuse customer’s personal information and keep their credit card information secure in order to gain trust and loyal customer. Otherwise customer will leave and never trust and use the bank.

Communication
The findings indicate that it is important for customers to understand the content of bank’s website, especially for international customers. The bank’s website can offer different language version, such as English, in order to attract more customers. Then customer may have unrestricted access to financial information and enjoy a wider and deeper range of services over the Internet, consequently they will be more satisfied.

Personalization
One remarkable finding is that more and more customers expect personalized services. More importantly, to meet different customer’s different needs; to listen to customers’ voice; and to create customer trust, Internet banks should provide personalized and customized services.

Technology update
Technology update has not been found in theory. The findings of this study show that continues technology update is important in Internet banking, as nowadays IT world and technology of Internet change so fast, even everyday. Therefore, Internet bank should update technology continually to sustain and attract more customers.

Logistical or technical equipment
Logistical or technical equipment factor has never been identified by previous research in the Internet banking service sector. From qualitative data, it should be noted that logistical or
technical support is also important for Internet banks. It can be more convenient for customers if banks offer logistical or technical support.

Based on both qualitative and quantitative analysis and above discussion for our research question one, the specific conclusion has been summarized as follows:

- A total of nine service quality dimensions in Internet marketing were identified and found by this study:
  1. efficiency;
  2. reliability;
  3. responsiveness;
  4. fulfillment;
  5. privacy;
  6. communication;
  7. personalization
  8. technology update;
  9. logistic/technical equipment

- Among them, first five dimensions are consistent with the variables that mentioned in the frame of reference. We tested them as the core service quality dimensions in Internet banking. From qualitative empirical data, we identified communication and personalization as another two important quality criteria in Internet banking. Moreover, the last two dimensions are the new finding in this study. In addition, the first seven dimensions share the same meaning with the service quality determinants derived within the context of online services industries by prior research.

- All these nine dimensions are significant criteria and factors to judge services that are provided by Internet banks, simultaneously to identify and measure customers’ experiences and preference. However, considering limited resources of Internet banks, first five key dimensions should be more significant and focused by the Internet banks.

- All of the nine dimensions tend to have strong impacts on either customers’ satisfaction or dissatisfaction, depending on the quality performance of those dimensions.

- More specially, communication can impact satisfaction on international customers;

- Moreover, personalization is the key driver to enhance customer satisfaction, attract and retain customers, even lead to trust and customer loyalty;

- In addition, in responsiveness dimension, when problems occur, quick response and personal contact are also significant for establishing good relationship and gaining trust and loyal customers;

- Finally, privacy is the utmost concern by customers and has strong impact on trust and satisfaction.

7.2 Relative Importance of Service Quality Dimensions in Relation with Satisfaction

The second research question in this study focuses on relative importance of service quality dimensions and understanding different impacts of five key service quality dimensions on satisfaction. Addressing this issue will help Internet banks develop and implement effective service quality improvement initiatives within their organizations. The correlations among the five dimensions set forth earlier are high. Thus, it is impossible to improve individual critical
service quality dimensions without maintaining the quality level of all six attributes at least within the relevant zone of tolerance. Practically, however, it is difficult to offer all service quality attributes at a superior level. Therefore, it is important for Internet bank to balance the level of each primary service quality dimension.

From qualitative data analysis, privacy dimension is the utmost concern for Internet banking customers because the insecure website or transactions will bring serious problems to customers. Meanwhile this dimension has significant impacts on customer trust and satisfaction. From the quantitative data we also found Privacy to be an important factor. Reliability and responsiveness are the next important factors and have significant impacts on trust, and responsiveness is the foremost critical factor in determining satisfaction. The less important dimensions are fulfillment and efficiency. Since some customers use the broadband connection, page-loading time, login and logout time is no problem for them. From the quantitative data and analysis, the Reliability factor, which is a technical functioning issue was found to be very important both from the average values and the individual question. The average values showed fulfillment variables to be second in importance to customers. The quantitative data showed privacy to be the third important factor, but the qualitative discussions indicated customers give a very high importance to privacy. Next in line of importance is efficiency and responsiveness respectively.

7.3 Implications for Practitioners

With Internet and Web technologies development, customers can have unlimited access to the financial information they require and may enjoy a wider range of financial transaction from banking site. Therefore, it is not easy for Internet banking or traditional banking to gain and sustain competitive advantages based only on a cost strategy in Internet banking market. Rather, defining customers’ needs and preference, and their related quality dimensions have increasingly become a key driving force in enhancing customers’ satisfaction and attract more customers. Identification and measurement of customers’ expectations of the Internet banking services provide a frame of reference for banks’ assessment of their service quality.

This study identified a total of nine service quality dimensions. Obviously, in order to maintain a high level of overall service quality, the banks providing Internet banking services should pay attention to all these dimensions tested in this study. However, to strengthen competitiveness in the extremely competitive market, given limited organizational resources, it is recommended that the Internet banking should focus on the main five key dimensions, efficiency; reliability; responsiveness; fulfillment; and privacy, in order to achieve high level of service quality and customer satisfaction simultaneously.

More specifically, the following implications are recommended by us to Internet banks:

First, privacy dimension suggests that privacy/security may be the critical determinant of the success of the Internet banks. Since the Internet is an open network, Internet banking customers tend to be much more concerned with the security of their banking transaction and the privacy of their personal information. Therefore, in order to create satisfaction with customer, Internet banking should try their best to ensure and keep security of their customers’ personal information, banking transaction and credit card secure.
Second, the efficiency and communication dimension indicate that Internet banks should provide customers with understandable content on bank’s website. Multi language selection was highly recommended, at least the most popular English version should be provided on website. Since most customers expect to use various financial transactions over internet.

Third, the responsiveness service dimension implies that Internet banks should pay more attention to customers’ emails, phone calls and personal contact face to face when problems occur. Banks should reply customers’ e-mails as soon as possible and provide proper information when customers need some advice. Since quick response can increase customers’ satisfaction, personal contact can establish good relationship and trust with the customers. It is recommended that the bank can provide live support over the Internet instead of e-mails. The e-mail responses are not fast enough. So chatting with the personnel over the Internet may be easier to solve the problem and it will also be a more convenient service for customer.

Finally, personalization and customization dimension suggests that the Internet banks should offer personalized services to their customers in order to build customer loyalty, since they can track individual customers’ financial service usage and gather the information in their integrated database over the Internet. It is well advised that Internet banking need to have enough staff members to answer customers’ diverse questions via telephone and emails or utilize the electronic CRM applications.

7.4 Implications for Theory

The main purpose of the study is to gain a better understanding of the relationship between service quality and customer satisfaction in Internet banking sector and aim to describe and explore a phenomenon within this specific research area by answer two research questions. Theoretically this study extends the knowledge body of service quality and customer satisfaction by enriching the content of service quality dimensions applicable for Internet banking sector, and based on existing theories, this study tested five key service quality dimensions in Internet banking context. The primary contribution has been made to enrich the existing theories.

More specifically, concerning research question one the majority of the findings for this study supported the existing literature. The new findings were discovered from qualitative empirical data. These new service quality dimension are technology update and logistical and technical equipment.. Regarding research question two pervious theories were supported and further developed in this study. It also increased and enhanced understanding about relative importance service quality dimensions.

7.5 Implication for Further Research

With the development of e-commerce and Internet banking, some areas which are not covered in this study are interesting and need to explore. In addition, the limitation and shortcoming of this study also provide implications for future research. Future research could make several extensions of the current study.

Future research could make several extensions of the current study. First, future research needs to verify the service quality dimensions in Internet banking derived in this study, especially to test the two new dimensions discovered in this study. Also, this study was conducted to find the
linkage between service quality dimensions and satisfactions from the consumers’ viewpoint. The study could, in the future, be conducted to explore and include the providers’ viewpoint. In other words, it could assess the bank and other financial institutions’ viewpoints and their stance regarding what they might identify as service quality variables to satisfy their customers. This could further confirm or disconfirm the presence of the two variables identified in this study.

Second, the research findings need to be enhanced and validated by using more diversified random samples and employing online survey or content analysis method. Since the main limitation for quantitative data collection that restricts the development of the findings is the number of samples, which are only 25. Therefore, a greater number of samples might give a more reliable and different finding. However, since the results obtained through this study were through qualitative methods and quantitative methods were used simply to have a secondary confirmation of our findings, a larger sample size should not affect the conclusions drawn from this research.

Finally, since the time and cost limitation, the study conducted in Luleå, Sweden. Future research can be conducted in developing countries. A different picture might be offered.
References:


Yin, R.K., (1994), Case study research: design and methods, sage publication, Inc.


Appendix I: Interview Guide

Gender

Age

Profession

How long have you been using Internet banking?

Are you using same bank or different bank?

Name of the bank

Are you satisfied with the services that you are getting form your bank?

If you are not satisfied then what are the reasons behind your dissatisfaction?

What are the quality criteria that you consider in case of Internet banking?

Which one is most important?

Why do you think it is important?

What do you think about the efficiency of the website that you use for Internet banking?

- How fast is the speed of login in your account?
- Is it easy to find all the important information from the bank’s website?
- Is the site easy to navigate and simple to use?
- Is it easy to find policy and notice statement on the bank site?
- Do you ever feel lost when you browse through the bank’s website?
- Is the speed of logout of your account fast or slow?

Is there any other thing that you would like to consider that may lead to more efficiency on the Internet banking site?

Is this important for you and why it is important for you?

The banking site that you have been using for a long time now, how reliable is it in your point of view?

What criteria do you consider to judge the reliability of the bank’s site?
- Can you rely on the appropriate functioning of the web pages?
- Is the bank’s site is up and running all the time?
- Does the bank’s site page freeze after you have put in all your information?
- Do you think Links are problem-free and accurate?
- How much time is needed to downloading the page?
- Is the information provided on the site accurate?
- Is the content of the site interesting?
- Is it easy for you to understand all the text containing the bank’s site?

Do you want to add more criteria as reliability aspects of the banking site?
Is this important for you and why it is important for you?

How Responsive is the bank in delivering its services to you?

- When a problem occurs does the bank provides appropriate information to customers?
- Is the bank willing to help customers and provide prompt service?
- Does the bank compensate for the problem they create?
- Do you have the opportunity to talk to a live person using a telephone number?
- Have you used this opportunity?
- Are you satisfy with this service?
- Does the bank’s site have online customer service representatives?
- Does the bank take care of problems promptly?

Is there anything more that you can consider as responsiveness criteria for banking site?
Is this important for you and why it is important for you?

Does the bank’s site perform according to your expectations or surpass it?

- Does the bank’s site provide a confirmation of the service ordered?
- Does the bank’s site perform the service right the first time?
- When you make some transactions does the bank’s site provide quick confirmation?

Do you think there is anything else that the bank can perform to satisfy you?

How do you consider the privacy issues when you are dealing with Internet banking?

- The bank shows care in how it collects your personal information
- Does bank’s site use banner ads with cookies to collect your information?
- Do you think the bank’s site is secure for you credit card information?
- Do you think the information that you give is not being misused?
- Do you rely on the information remaining in the register?

Is there any new point you want to add regarding the privacy issue?
Is this important for you and why it is important for you?
Is there anything that you don’t like when you use Internet banking?

Could you please rank all the criteria that we discussed and tell us which one is more important for you and why?

Which criteria is less important for you and why?
Appendix II: Survey Questionnaire

**Questionnaire**

**Gender**  
**Age**

**Profession**

How long have you been using Internet banking?

Are you using only one bank or different banks?

**Name of the bank**

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>No opinion</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
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The speed of login of your account is fast.

It is easy to find all the important information from the bank’s website.

The bank’s site is easy to navigate and is simple to use.

It is easy to find policy and notice statement on the bank site.

The bank’s site does not get you lost.

The speed of logout of your account is fast.

*Above quality criteria are important for my satisfaction*

I can rely on the web pages functioning properly.
The bank’s site is up and running all the time.

The bank’s site pages don’t freeze after you have put in all your information.

Links are problem-free, accurate and the pages download quickly.

Information that is provided is accurate.

Information content and texts are easy to understand.

*Above quality criteria are important for my satisfaction*

The bank provides appropriate information to customers when a problem occurs.

The bank is willing to help customers and provide prompt service.

The bank compensate for the problem they create.

You are able to talk to a live person using a telephone number.

The bank’s site has online customer service representatives.
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<td>The bank takes care of problems promptly</td>
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<td>&quot;Above quality criteria are important for my satisfaction&quot;</td>
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<td>The bank’s site provides a confirmation of the service ordered.</td>
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<td>The bank’s site performs the service right the first time.</td>
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<td>The bank’s site provides quick confirmation.</td>
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<td>&quot;Above quality criteria are important for my satisfaction&quot;</td>
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<td>The bank shows care in how it collects your personal information.</td>
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<td>The bank’s site does not use cookies to collect information.</td>
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<td>The bank’s site is secure for your credit card information.</td>
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<td>You can rely on the information that you give not being misused.</td>
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</table>
You can rely on the information remaining in the register.

Above quality criteria are important for my satisfaction

Would you like to add more quality criteria that will help to satisfy your need when you use Internet banking service?
Appendix III: Quantitative Data Response Set

The response data set from the questionnaires are presented below. The questionnaire had 31 questions. The survey was done among a sample size of 25. In the table below, respondent numbers are shown on the left most column. Their corresponding sex and age are shown in the second and third columns. The fourth column (EXP) shows each of their experience in number of years in using internet banking. The columns q1,q2,q3…q31 shows the number of question. Each of the respondent’s answer to a specific question that matches from 1 to 5 on the Lickert scale is given in rows along the specific respondent.

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Appendix IV: Importance of Service Quality Dimensions from Customer Experience

![Graph showing the importance of service quality dimensions from customer experience. The graph plots respondent scores for Efficiency, Reliability, Responsiveness, Fulfillment, and Privacy. Efficiency starts at 4.4, Reliability at 4.48, Responsiveness at 4.24, Fulfillment at 4.28, and Privacy at 4.56. The x-axis represents individual questions regarding variables, and the y-axis represents respondent scores.]
Appendix V: Average Value of Service Quality Dimensions from Customer Experience

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![Graph showing average values of service quality dimensions](image)