THE EFFECT OF ELECTRONIC CUSTOMER RELATIONSHIP ON CUSTOMER SATISFACTION A STUDY ON WEB BANKING IN SAUDI ARABIA

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A B S T R A C T

E-CRM emerges from the Internet and web technology to facilitate the implementation of CRM; it focuses on Internet or web-based interaction between banks and their customers. In particular, E-CRM enables banks to provide appropriate service and products to satisfy the customer and enhance customer loyalty, Furthermore, E-CRM features are vital for managing customer relationships online. They are generally referred to as concrete website functionality or tools and they are required for customizing, personalizing and interacting with the customer. Without E-CRM features, CRM could not be realized on the Internet.

In fact, in the literature, there appears to be an absence of theoretical model for effects of E-CRM features on customer satisfaction in general, and E-CRM features affect service quality, which in turn leads to customer satisfaction in particular. Consequently, this research attempts to fill the information gap. The aim of this thesis was to examine the effect of various E-CRM features at the different stages of transaction cycle (pre-transaction, during-transaction, and post-transaction) on customer satisfaction on banks websites in Saudi Arabia.

Six basic hypotheses were tested, as parts of a theoretical model of these E-CRM features against seven service quality dimensions selected from the SERVQUAL instrument and discussed in detail in Chapter (3). Data was collected through a questionnaire which was administered in the Western Region (Jeddah) of Saudi Arabia in April/May 2010. The empirical analysis was carried out using a structural equation model. The results form of this research indicate that the use of E-CRM in building customer relationships effects online customer satisfaction and service quality. The efficiency of E-CRM program determine the level of which online features, such as site customization, membership, site information, privacy, security, product or service customization, alternative payment and frequently asked questions would be implemented on banks' websites.

This research contributes to knowledge in several ways. Most importantly, it illustrates the roles of E-CRM features in enhancing service quality and customer satisfaction at different stage of transaction cycle. In particular, this research highlight the critical dimensions of service quality, which managers in the banking sector should invest in their customer satisfaction strategies.

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LIST OF ABBREVIATIONS

CFA	Confirmatory Factor Analysis
CRM	Customer Relationship Management
E-banking	Electronic banking
E-Business	Electronic business
E-CRM	Electronic Customer Relationship Management
E-Service	Electronic Service
E-Service quality	Electronic Service quality
E-commerce	Electronic commerce
E-Government	Electronic Government
E-readiness	Electronic readiness
ERP	Enterprise Resource Planning
SE	Standard Error
Sig	Significant
a	Cronbach's alpha
SMEs	Small and Medium Enterprises
SEM	Structural Equation Modeling
SPS	Statistical Package for the Social Sciences
ICT	Information and Communications Technology
IT	Information Technology
PC	Personal computers

CHAPTER ONE

INTRODUCTION

1.1 Introduction

The Electronic Customer Relationship Management (E-CRM) is relatively new area of research and is undergoing significant change as new technologies are beginning to blur the lines of distinction between information channels. Customers are interacting with businesses across far more information channels that in part have emerged through the Internet and are related to information and communication technology applications. Information and communication technology is fast replacing labor-intensive business in all activities. Since the early 1990s information and communication technology has been merged to become a viable substitute for labor- and paper- intensive banking processes between and across all banks. This has been seen in the widespread use of the ATM, credit cards, debit cards, smart cards, and lending through E-CRM via the Internet. This type of computer communication systems-based bank-to-bank, bank-to-customer and customer-to-customer transactional and electronic data interchange has been referred to as Electronic Commerce (EC) (Elias, 2000).

Over the past decades, Customer Relatilonship Management (CRM) has become an important tool in increasing a firm's profitability by enabling it to recognize the best customer and satisfy his needs, in order to make him remain loyal to the firm's products or service (Thomson, 2005; Nguyen & Mutum, 2012).

CRM is a complete business and marketing strategy that combines technology, processes, and other business activities around the customer (Anton & Hoeck, 2002). The processes of customer relationship management are being largely applied within marketing and sales business units of major corporate (Johnson *et al.,* 2012). Fully implemented CRM is supposed to lead to bottom-line benefits for the organization (Anton & Hoeck, 2002; Rust & Zahorik, 1993; Swift, 2001).The Internet provided a background to deliver CRM applications on the Web or what can be called E-CRM. Therefore, as business moves to the web, E-CRM will move to center stage.

Customer satisfaction is a challenging task in today's competitive world of E-businesses. Among these E-businesses is banking sector business. These businesses are tremendously trying to deploy customer relationship management and improve the connections between

the business and customer for their satisfaction. Online banking offers facilities and services to the customers whereas the role of IT is very dominant factor for improving the quality of services to achieve customer satisfaction (Mohammed, 2012).

1.2 Research Background

The internet has changed the way of all business processes especially in the banking industry. The adaptation and strategic use of information & communications technologies (ICT), change began with introducing the internet which is considered the starting point for other developments in many fields form academic to business. One of the most important emerging developments is E-commerce, which has become crucial to all businesses. Due to its information-intensive nature, the banking industry can benefit greatly from the Internet. The Internet platform offers new opportunities to banks to improve customer services and gain competitive advantage by providing customers' requirements and needs through internet-based services. Whereas, from a marketing perspective, the internet is not merely another marketing tool but it can also be a strategic tool to help banks increase customer satisfaction and loyalty.

The objective of any service company that offers online service is to develop a service that not only meets customer expectations but goes beyond. It must endeavour to offer full satisfaction to the customer, as this has an important effect on customer retention (Petterson *et al.,*1997; Sedon,1997). In the virtual-world, this presents a major challenge, as customer can easily switch from one service provider to another at low cost (Khalifa & Liu 2003).

Therefore, in a web-based banking service, retaining existing customers could be considered more economic than acquiring a new customer (Van *et al*., 2001). Therefore, banks are laying much more emphasis on CRM as a tool for managing customer relationship and increasing customer satisfaction and loyalty. Customer satisfaction is a critical issue in the success of any business system which uses traditional or manual processes or online which uses the electronic processes in order to identify customer's reaction to the goods or services (Broderick & Vachirapornpuk, 2002).

In a highly competitive online environment, Internet-based companies need to understand how to achieve customer satisfaction as this is critical for establishing long-term client relationships (Peterson *et al.,* 1997). It is evident from 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-business. Furthermore, there is a clear need for research in web-customer satisfaction in seeking long-term profitability from on-line companies and traditional companies that are "Net-enhanced" (Pather & Remenyi, 2002).

The role of an Internet website has changed from a simple indication of presence on the World Wide Web (WWW) into a vital marketing and customer communication tool. Today, a website represents a new platform for customer interaction (Bradshaw & Brash, 2001; Pitt *et al.,* 2006; Zineldin, 2000). Recent research indicates that certain features on a website can create and maintain customer satisfaction. These are so-called electronic CRM (E-CRM) features (Khalifa *et al.,* 2002; Khalifa & Shen, 2005). E-CRM is a body of knowledge that deals with the application of CRM principles in the new e-commerce context. E-CRM features range from advanced applications, such as database-driven product customisation tools, to simple ones, like a line contact information (Feinberg *at el*., 2002; Scullin *et al.,* 2004).

Bose (2002) described the essential and vital function of customer-oriented marketing is to gather and accumulate related information about customers in order to provide effective services. CRM involves attainment analysis and use of customer knowledge in order to sell goods and services. Reasons for CRM coming into existence are the changes and developments in marketing environment and web technology. Relationship with customers is a newly distinguished key point to set competitive power of an organization. Companies gather data related to their customers, in order to perform CRM more effectively. Web has opened a new medium for business and marketing scope to enhance data analysis of customers' behaviors, and environments for one to one marketing have been enhanced. CRM lies at the heart of every business transaction.

Roh *et al.,* (2005) study used customer satisfaction as one aspect of CRM success. Authors studied the effect of internal efficiency for CRM process fit, customer information quality and systems support on customer satisfaction as intermediate factor and profitability as final factor. This study explores the CRM system success model that consists of CRM initiatives: process fit, customer information quality and system support as intrinsic success: efficiency and customer satisfaction as extrinsic success. These constructs underlie much of the existing literature on information system success and customer satisfaction perspectives.

Moezzi *et al.,* (2012) studied the presence or the absence of meaningful difference between the levels of user customer satisfaction of E-CRM system and non-user customer satisfaction of E-CRM system and the base of his research was on the model of "The customer satisfaction (ACSI)" for private sector industry. The company investment of E-CRM system lead to upgrading level of user group satisfaction in comparison with non-user group and this is a success for investment. The meaningful difference between user and non-user satisfaction is hidden in presenting services issue. As the user group makes use of better and more economic services than the non-user group due to using E-CRM system, its level of satisfaction is higher. This rustle is in tune with the researches carried out by other researchers such as Becker *et al.* (2009) who prove the positive effects of technological and organizational performance of CRM on obtaining satisfaction and customer retention in which they found that there is a positive relation between technological and organizational performance of CRM on obtaining satisfaction and customer retention.

Chang (2005) found that E-CRM evolved recently with the emergence of information technology such as Internet and web technologies. It integrates and simplifies all customer-related processes through the Internet and helps leverage integrated information on customers to improve customer acquisition, customer development and customer retention by managing deep and long-lasting relationships. Firms can understand and anticipate customer needs much more easily than before through online activities tracking and analyzing customer behavior.

E-CRM applications aim at providing additional value for customers via the use of the company's website. E-CRM is a part of the company's overall CRM strategy to manage customer interaction regardless of the time and the channel the customer chooses (Feinberg *et al.,* 2002). According to Kotorov & Radoslav (2002), E-CRM is the use of information and communication technology to improve customer service in terms of scale and scope. An example is 24-hour-a-day web-banking, which is a threefold increase in scale compared to the working hours of a bank's brick-and- mortar office. The increase in scope is manifested in offering value-added banking services online. The potential of E-CRM for building fruitful customer relationships can only be realised if the company is organised in such a way that it can quickly and efficiently respond to customer requests. It is imperative that the customer requests are handled across different communication channels, involving different

organisational units (Bradshaw & Brash, 2001; Kotorov, 2002). There are many items that can be described as features of E-CRM. These features are illustrated in Table 1-1

Table 1-1   Items Described as Features of E-CRM

Some Important Features of E-CRM	Authors
E-CRM is vital for managing customer relationships online.	Feinberg *et al.,* 2002
E-CRM roughly refers to concrete website functionality or tools.	Khalifa & Shen, 2005
E-CRM is needed for e.g., customizing, personalizing and interacting with the customer.	Nysveen, 2003
Without E-CRM, CRM could not be realised on the Internet	Khalifa *et al.,* 2002
E-CRM are also often labeled as "value-adding services."	Nysveen *et al., 2001*
Online banking is an example of E-CRM features.	Kotorov, 2002

The main driver for E-CRM adoption seems to be a commonly shared belief of improving customer loyalty and retention (Rosenbaum & Huang, 2002) through the enhancement of customer satisfaction. Researchers and practitioners alike are claiming positive effects of E-CRM on customer satisfaction. However limited empirical evidence has been provided for these claims. Since the late 1990s, CRM has been one of the fastest growing businesses and energetically debated topics among practitioners and academicians. Companies have invested or are planning to invest huge amounts to implement CRM strategies tools and infrastructure in order to win the battle in an increasingly competitive economy (Moedritshcher & Mussnig, 2005).

As a result, the growth in demand for CRM solutions has been increasing. Gartner estimated that the market for CRM software exceeded $7.4 billion (£3.6 billion) in 2007, up 14 per cent from 2006 (Barker, 2007). Forrester estimated moderate growth in the CRM industry through 2012. Forrester suggested that worldwide revenues for CRM solution providers reached $8.4 billion (£4.08 billion) in 2006 and would continue to grow to $10.9 billion by 2012. Forrester anticipated that overall CRM spending will remain steady with services taking an increasing share of vendors' revenue (Band, 2007).

To understand satisfaction in the web context, we need to have a clear understanding of what is meant by customer satisfaction. According to Bleuel (2004), customer satisfaction is defined as equivalent to making sure that product and service performance meets customer expectations and occurs when the marginal utility of a transaction is equal to or greater than preceding acquisitions.

Most of the researchers found that service quality is the antecedent of customer satisfaction (Bedi, 2010; Kassim & Abdulla, 2010; Kumar *et al*., 2010; Yee *et al.,* 2010; Naeem & Saif, 2009; Balaji, 2009; Lee & Hwan, 2005; Parasuraman *et al*., 1988), therefore, understanding service quality issues with in the new delivery channel becomes very important to satisfy the customer (Broderick & Vachirapornpuk, 2002). For this, the study is intended to evaluate effect of Electronic Customer Relationship Management on customer satisfaction in Saudi Arabian personal banks. This work aims to provide empirical evidence about E-banking services quality and measurement framework to evaluate the effect on customer satisfaction.

1.3 Research Problem

Establishing strong relationship with the customers has attracted an ever increasing attention from all types of organizations. Many organizations have started to apply new marketing strategies by building strong communication channels with their customers and using new technology to facilitate this process. The ultimate objective is to improve customer satisfaction, loyalty and retention. These goals can partially be achieved by enhancing the quality of the service provided to the customers. Recent advances in technology, particularly the emergence of the Internet has offered new opportunities for organizations to utilize this new tool as an effective, efficient and economic means to market their products and services.

The banking industry has been the first to jump on this opportunity and fully exploit the potential an innovative web-based service can offer. Many banks have begun to use the Internet as a new market channel to offer their customers a variety of services 24 hours a day and 7 days a week. However, in a highly competitive industry, such as banking, a web-based service presents a major challenge, as the vast amount of information the web places at its disposal, offers the customer a variety of choices, as well as ample opportunity to compare and contrast the services of one bank with others. Further, customers in Saudi Arabia expect some sort of personalized attention and care in their dealings with banks. Banks are, therefore, confronted with the challenge of offering the best possible service and in a prompt and efficient manner so as to ensure that they retain their customer base.

According to Khalfan *et al*. (2006), reasons for E-banking infrastructure investment include the promise of transaction cost reduction by limiting overheads associated with bank staff and bank branch costs and to provide better services to customers who increasingly desire

24 hour banking. Indeed, Almogbil (2005) notes that a common reason for banks adoption of E-banking is to maintain the bank's competitive position and image.

In order to improve the level of service quality, many companies need to set up web sites that provide reliable information and competitive services to customers.The rapid development of information and communication technologies during the 1990s has enabled companies to introduce web services and to present a move to more personalized web services based on behavioral patterns. For this, bankers first need to understand the attributes that customers use to judge service quality and monitor and enhance the service performance.

In addition, to gain a competitive advantage in the personal banking sector in Saudi Arabia, the knowledge about defining high-quality service delivery over the internet becomes crucial for banks that want to stay competitive in the marketplace. If banks have knowledge about the quality attributes they can use to measure the quality of their online services and the overall satisfaction of their customers with each of these attributes, it would be much easier for them to take necessary measures to improve the overall service quality.

1.4 Research Importance

Web banking has become an important element of marketing strategy in all banks; many researchers have investigated the effect of e-banking on the banks return on investment. However, while the importance of web banking has been researched all over the world, there is a scarcity of research efforts in this field in Arab countries, in general, and in Saudi Arabia, in particular. This research makes an effort to study the impact of e-banking and the multitude of challenges it presents in terms of ensuring customer satisfaction so as to retain the Bank's customer base.

In addition, the importance of the current research is derived from the importance of the banking sector in Saudi Arabia. This sector contributes significantly to the national economy and improving the performance of the Saudi banks is expected to have positive effects on all economic sectors of the country.

Furthermore, the web service quality is one of the most important topics in the banking sector. The quality of service offered can contribute significantly to the level of customer satisfaction. However, the area of service quality with regard to the banking sector has not

been adequately researched in Saudi Arabia. Finally, the increasing importance of E-CRM in establishing and maintaining long-term relationships and ensuring customer satisfaction through personalized web services, in general, and E-banking, in particular, merit further investigation.

1.5 Research Aim and Objectives

1.5.1 Aim

The study is intended to evaluate effect of E-CRM features on customer satisfaction in Saudi Arabia web banking. This work aims to provide empirical evidence about the quality of Web-banking services and measurement framework to evaluate the effect on customer satisfaction.

1.5.2 Objectives

In order to meet the aim of this research, the following objectives are pursued:

Objective 1: Identify the types of web service provided by the personal banks sector in Saudi Arabia to maintain a strong relationship with the customer.

Objective 2: Evaluate the levels of customer satisfaction in the personal banks sector in Saudi Arabia.

Objective 3: Explore the customer perception of the service quality provided by their banks in Saudi Arabia.

Objective 4: Understand how web service quality can support the implementation of successful E-CRM system in the personal banks sector.

1.6 Research Questions

In order to achieve the aforementioned objectives, this research must answer the following questions:

1. What are the main types of web-based services provided by banks in Saudi Arabia?
2. Does the E-CRM features have an effect on the customer perception of service quality in the personal banks sector in Saudi Arabia?
3. Does customer perception of the service quality affect the level of customer satisfaction?

4. Does the E-CRM features have a direct effect on the customer satisfaction in the personal banks sector in Saudi Arabia?

1.7 Potential Outcomes

This research is expected to shed light on how the implementation of E-CRM features is related to satisfaction. The findings of this research offer important managerial insights in assisting banks define or reassess their E-CRM initiatives.

The E-CRM model indicates significant features which banks should implement on their sites in the quest for enhanced customer value and increased competitive advantages. An understanding of the connection between satisfaction and service quality would help managers to essentially focus on upgrading services that will lead to increased satisfaction by securing these basic services and adding value to their services. Banks stand to gain a competitive edge that may attract customers to return.

Better understanding of customers' varying needs across segments leads to better planning of how to target marketing campaigns and investments for maximum competitive impact. This will provide some guidelines to managers on the level of quality and types of services that should be given more emphasis in order to attract varied customer segments.

In addition, the E-CRM process offers a high level framework of web technology contribution towards forging long-term customer relationships. Banks should be aware of the value of technology in driving growth in a customer-focused organization.Synchronizing the entire business strategies technology, in general, and the web in particular, could help banks improve their profits and increase market share in the long run.

1.8 Thesis Structure

This section provides and outlines the contents of the thesis; moreover, it discusses the key purposes of the remaining chapters.

Chapter One: presents an outline of why such research was undertaken, along with discussing the research motivations and the practical and theoretical outcomes. Furthermore, the aims of the research and the key objectives and questions are addressed. Finally, the research procedures are explained and an overview of the chapters is presented.

Chapter Two: This study is conducted on Saudi Arabia e-banking sector, therefore, it is important to identify the place in which this study is carried out (which in this case is Saudi

Arabia). This chapter describes Saudi Arabia in brief, its culture, economy, education and politics. It also explores the Information and Communication Technologies (ICTs) and the situation of e-banking in Saudi Arabia.

Chapter Three: This chapter provides the literature review for this PhD thesis. It covers the CRM from different perspectives and distinguishes between CRM and E-CRM (which is the focus of this research) explaining the main features of what can E-CRM add to the business for organizations in general. In addition, it explores the main activities of E-CRM in financial institutions. Finally, it presents findings suggesting how E-CRM could increase customer satisfaction in the online business, in general, and web banking, in particular.

Chapter Four: This chapter discusses the methodological approach of this research in order to achieve its objectives and answer its questions. It highlights the rationale behind choosing the selected methods. Moreover, advantages and disadvantages of each strategy are discussed.

Chapter Five: In this chapter, a quantitative methodology is used to answer the questions of this part. The data on this part has been collected through questionnaire and analyzed quantitatively using Statistical Package for Social Sciences (SPSS) software to describe sample and test the proposed hypotheses. Structural Equation Modeling (SEM) was used to measure the relationships between the independent and dependent variables, help to gain additional insight into causal models and explore the interaction effects and pathways between variables. The latest version of Amos 20.0, a software package used for SEM to give the power to easily perform SEM and also enable data to be imported directly from SPSS.

Chapter Six: This chapter discusses the results of the study. Furthermore, this chapter views and discusses the results along with the literature review presented in chapter three. Summary of the study methodology is briefly presented, in addition to reviewing the research question and objectives

Chapter Seven: This chapter aims to assess the results of quantitative analysis and view the main findings and their implications for the research questions and objectives it begins with discussion, the findings and implication for the study hypothesis and questions, followed by the contributions of this research to knowledge. Finally, the study limitations, recommendations and future directions of research conclude the chapter. Figure (1-1) summarizes the structure of this thesis.
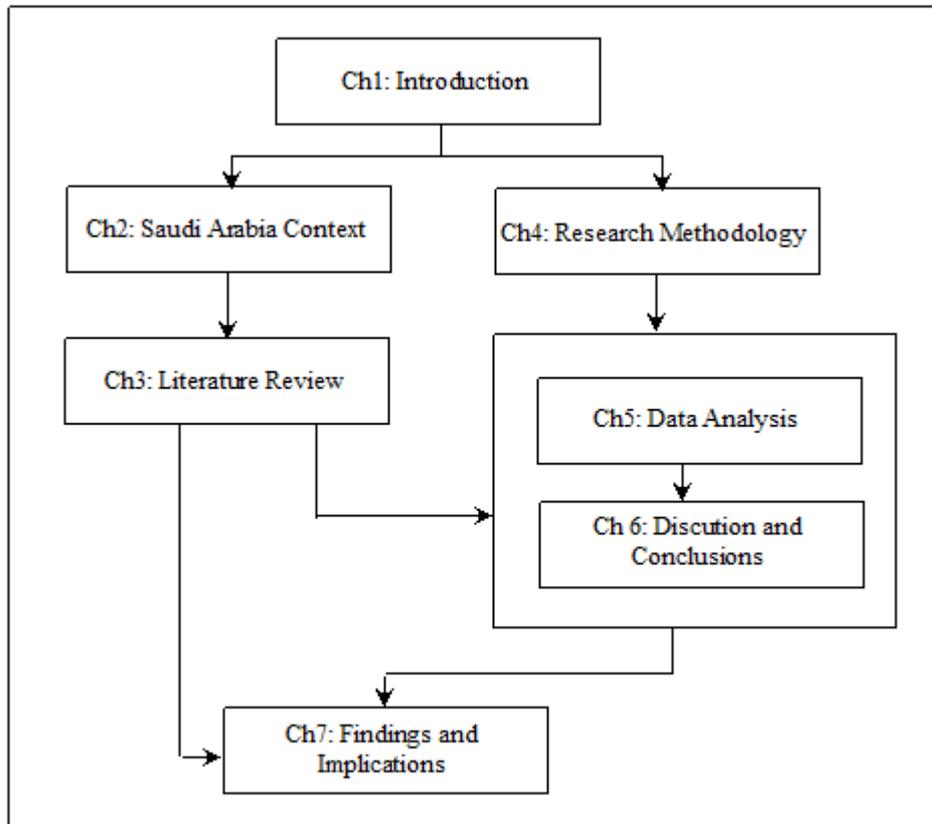
Figure 1-1   Thesis Structure

CHAPTER TWO

SAUDI ARABIA CONTEXT

2.1 Introduction

As mentioned in the previous chapter, E-CRM means using the Internet technology to improve the relationship with customers in any electronic business, in general, and in electronic banking, in particular. This chapter covers the country in which this research is conducted, from different perspectives. The first dimension is related to information and communications technology infrastructure in Saudi Arabia. It is important to examine these technologies because without the Internet, web and computers, E-CRM cannot be implemented. The second main dimension which is covered in this chapter is the status of e-banking in Saudi Arabia because this thesis investigates the effects of E-CRM on customer satisfaction in e-banking.

2.2 Information and Communication Technologies Readiness in Saudi Arabia

Just like any other country, Saudi Arabia shares the desire to develop a people-centered Information Society. Saudi Arabia is a large country with an area of 2.4 million km^2 and a population of around 28,686,633 million in the year 2009 (CIA The World Factbook, 2009). It has a vibrant economy with the highest consumer spending, in the region. The most recent estimate of E-commerce spending in Saudi Arabia (taken in 2010), is SR12 billion (The Arab Advisors Group, 2009), the largest in the Arab world. During the last decade, Saudi Arabia has made significant development in many Information and Communications Technology (ICT) fields; they include ICT initiatives, national IT plans, E-Services and telecom sector reforms; all these fields are discussed in the following sub-sections.

Since 2005 up to the year 2012, important developments in all main ICT sectors in Saudi Arabia have been witnessed particularly mobile subscribers with cumulative annual growth rate of 58.6% which is considered twice the world average (23.4%), with subscribers approaching 12 million until October, 2010 (over 50% penetration of the population). Internet users grew by over 430% in four years, with a percentage of 44.4% while world growth rate was 27.4% for the same period. Moreover, the number of Internet users is around 2.5 million.

Also penetration of Personal computers (PC) has grown 40% annually while the world PC growth rate has been 9%. In addition, fixed telephone lines are around 4 million while Internet international bandwidth capacity increased around 7 times during the same 4 year period (Leonaerd, *et al.*, 2011).

2.2.1 Initiatives of ICT

Saudi Arabia is carrying out some ICT initiatives in order to increase the access of Internet for the people and use of different ICT services. Some of the main initiatives being undertaken are: Home PC program, Easy Net, E-Government and E-Award program.

The Home PC Program is a collaboration between private and public enterprises under which it is proposed to distribute one million computers to Saudi Arabia's homes within 4-5 years. It will allow people of Saudi Arabia to have high-standard computers, at a very low cost. In addition to computers, this program's package includes some computer applications, monthly Internet access for specific hours and training. Besides improving skills and qualifications of people who use the computers, the Initiative has the objective of raising the penetration of computer and Internet across a wider sector of students.

Easy Net was introduced to reduce Internet access barriers and encourage its usage and penetration in Saudi Arabia. This is achieved by decreasing the cost of access and local call rates, along with eliminating the need for separate Internet subscriptions. Users can obtain Internet access by dialing dedicated national Easy Net numbers and receive a single bill with their fixed line charges. An assessment of usage patterns indicate an 11% increase in Internet usage for the past six months and a major shift to the Easy Net model.

E-Government A joint national E-government program was launched early 2005 under the name YESSER (www.yesser.gov.sa). It enables and facilitates the implementation of E-government in the public sector. Its purposes include raising the efficiency of public sector and providing better and faster government services. YESSER envisions that by the end of 2013, everyone in the Kingdom will be able to enjoy world class government services offered in a friendly and secure way by using different electronic channels. Different E-government projects have been already developed or are under development, by different public organizations. Some of these projects are e-government portal, E-government network, public key infrastructure (PKI), the national smart ID cards, e-Payment gateway, e-Tax system and electronic information exchange. A number of government services are

currently available on-line, such as investment licenses, visa applications, traffic tickets, enquiry payment, passport fee payment, and utilities bills payment etc.

E-Award A yearly contest (e-Award) is conducted to encourage, promote and recognize local initiatives, innovation and contributions to e-services and applications (Leonaerd *et al*., 2011).

2.2.2 National Information Technology Plans

The national ICT plan includes a five-year plan for ICT development in Saudi Arabia and a long-term vision plan. The five-year plan contains different projects that cover the major areas of ICT usage such as E-government, E-commerce, E-learning, and E-banking. The long-term vision plan is to transform the country into an information society, and thus enhance effectiveness and provide E-services for all sectors. Moreover, the vision includes building a solid ICT industry to become an important source of income. This vision envisages bridging the digital divide through facilitating all public sectors to reach; access and use ICT services easily. Other goals include creating more jobs and increasing the level of education and training through ICT. Furthermore, the plan includes the other activities such as issuing licenses for new voice operators and managing the ICT market. Further activities in the five-year-plan include ICT industry elements which help identify investment opportunities, research, development, and technology transfer (Leonaerd *et al*., 2011).

2.2.3 E-Services

E-Service refers to any service provided by electronic means e.g. Internet/website and mobile devices (Rowley, 2006). There are various types of E-services in Saudi Arabia such as:

E-Banking: Saudi Payment Network (SPAN) was one of the first country-wide inter-bank retail payment networks in the world which entered service in 1990 as a nation-wide network comprising thousands of ATMs and points of transactions (POS) terminals. Other E-Banking systems include SARIE (Saudi Arabian Riyal Interbank Express - for electronic fund transfer), Tadawul (securities trading), Semah (a national credit bureau) and E-Banking services offered by most Saudi Banks (phone, mobile and Internet banking in addition to e-Share trading). More details about E-banking in Saudi Arabia are covered later in this thesis.

E-Business: The main infrastructure needed to conduct E-business applications in Saudi Arabia are already available or in the final stages of development. The infrastructure covers legal issues and the e-payment gateway; the Public Key Infrastructure (PKI) is under development, the postal services are under major improvement, and finally ensuring information security and privacy. Examples of E-business applications implemented include e-Procurement systems in big corporations. e-Umrah system (for travel packages for religious tourism by linking the international travel agents, the local suppliers and the related government authorities) and e-Trade system that supports import/export processes by linking different stakeholders.

E-Education: The Ministry of Education is working on enhancing public educational environment by promoting curricula, preparing teachers, developing student skills and capabilities in dealing with ICT and building computer clubs in schools. Computer labs exist in virtually all secondary schools and will be set up in intermediate schools as well. Universities are increasingly adopting the e-education concept.

E-Health: Hospital Management Information System (HMIS) is currently employed in most big hospitals and clinics across Saudi Arabia whereas nineteen hospitals and clinics are connected to voice and video conferencing services as well as remote diagnostics. The system links Saudi hospitals to medical facilities abroad for lectures and video consultations as well as live casting of operations. Ministry of Health has also embarked on a program to link 25 additional hospitals in major cities and important rural areas in its efforts to further tele-medicine services and infrastructure as well as provide international connectivity to these sites.

2.3 Web Banking in Saudi Arabian Banks

Internet has led to an electronic revolution in the global banking sector during the last 15 years and web banking has become an important channel of banking products and services in the developed world. During the initial years of Internet services in Saudi Arabia, banks decided to use it in business. According to Jasimuddin (2007), 73% of the Saudi banks have their own web sites and 25% of them offer full services over Internet. The banks view the Internet as an essential alternative delivery channel. However, there is no specific strategy for utilizing the opportunities offered by Internet. Therefore, for E-banking to expand, banks have much to improve in their websites.

In general, commercial transactions began over the Internet in 1995. This is considered as particularly promising application of the Internet in the area of financial transactions that could actually take place over the Internet. While banks in the advanced countries have been providing banking services through Internet, Saudi Arabia still lags behind. However, environment is quite favorable for rapid development of web banking in Saudi Arabia.

Saudi Arabia has introduced Internet service as per Ministerial Decree No. 163 dated March 3, 1998 (Jasimuddin, 2007). As mentioned before, the implementation of ICT infrastructure in Saudi Arabia helps the process of E-banking. Another advantage for E-banking in Saudi Arabia is that majority of the citizens are not only familiar with PCs but also own it and it is one of the national plans of Saudi government to make the citizens familiar with PCs. Therefore, the future of Internet banking in Saudi Arabia is promising.

Websites can easily provide institutional information, financial reports, job opportunities and recruitment forms ways to contact the bank etc. By mid-2011, Saudi Arabia had 12 banks with 1212 branches operating around the country (Argaam, 2011). All banks in Saudi Arabia have established their own websites and offer E-banking services. These websites are designed in Arabic and English to help customers.

The contents found in each of the searched web sites include information about the bank and addresses of ATM/Branches (together with phone and fax numbers), press releases, newsletters, news about the site and welcome page, Hot links, job opportunities, publications, contact and email, feedback, site map, site search and line form. Almost all of them provide information regarding customer services that incorporate financial market, retail and corporate banking, investment, treasury services, telephone and PC banking. Saudi Arabia is considered to be one of the top Arab countries in terms of Internet banking (Naffee, 2011).

2.4 Business Culture of Saudi Arabia

According to Watson *et al*., (2002), culture is a set of values being determined by an underlying structure of interacting belief systems. Several studies have shown that the way in which individuals perceive their social environment is directly related to their cultural background (Hong & Chiu, 2002). It is therefore expected that these typical values and standards in every society affect its organizations and customs. According to Walter and Shyan (1999), it is necessary to consider the differences between countries by looking at

several factors, including the cultural factors, as these are partly responsible for the marketing environment in any market.

According to Dumond (1995), culture can affect the orientation of managers toward customer focus and satisfaction. An example is the research conducted by Everett and Sohal (1991), which found that Japanese managers are more oriented toward customers relative to their counterparts in Australia, which might be due to the differences in attitudes and beliefs (culture) about dealing with customers. According to Lakhe & Mohanty (1994), underlying political-legal systems have a significant effect on customer focus. An example is that in open societies, such as the UK, the government has been found to act as a passage between dissatisfied customers and industry (Field & Shutler, 1990). Furthermore, the degree of competition in different economies can influence the level of customer focus and satisfaction (Forker, 1990). When the level of competition goes up, customer expectations go up accordingly and customers become more demanding. Being customer-focused is largely influenced by the level of literacy and education of customers; that is why organizations in developing countries do not focus on customer satisfaction (Prasad & Tata, 2003).

According to Al-Ghamdi *et al*., (2007), "in many developing countries, customers are reluctant to complain to the concerned bodies. This may be due to lack of awareness of their basic rights or due to a lack of concern for safety." Furthermore, customers may not know the relevant bodies that should be approached to complain, as well as the business regulations and rules.

To understand clearly the culture of Saudi Arabia, it is important to understand the extensive influence of religion on society. The majority of the population of Saudi Arabia are Arabs who are followers of Islam. Islam pervades every aspect of the Saudi Arabia society and culture. As a result, Arabian culture is often described as detail orientated, whereby emphasis is placed on ethics and expected social behavior such as generosity, respect and solidarity. These are customs and social values that influence the Saudi Arabian business world and affect the way Arabs handle business dealings (Gorrill, 2004).

Another remarkable fact about Saudi Arabia's business culture is *inherent pride*. Respect is a major factor in Saudi Arabian culture and saving face, through the use of compromise and self-control is a means by which to maintain these qualities. Arabian culture deploys the

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concept of face to solve conflicts and avoid embarrassment. In a business context, avoiding loss of face is equally important and essential as business success in Saudi Arabia (Gorrill, 2004).

Culture in a Saudi Arabian context is considered a very high value matter. This means that the message people are trying to convey often relies heavily on other communicative cues such as body language and eye-contact rather than direct words. In this respect, people make assumptions about what is not said. In Saudi Arabian culture, particular emphasis is placed on tone of voice, the use of silence, facial cues, and body language. It is vital to be aware of these non-verbal aspects of communication in any business setting in order to avoid misunderstandings. For instance, silence is often used for contemplation and one should not feel obliged to speak during these periods (Lothar, 2010).

2.4.1 Working practices in Saudi Arabia

Generally speaking, business appointments in Saudi Arabia are necessary. However, some Saudi business executives and officials may be reluctant to schedule an appointment until after their visitors have arrived. Appointments should be scheduled in accordance with the five daily prayer times and the religious holidays of Ramadan and Hajj. It is customary to make appointments for times of day rather than precise hours as the relaxed and hospitable nature of Saudi business culture may cause delays in schedule.

The Saudi working week begins on Saturday and ends on Wednesday. Thursday and Friday are the official days of rest. Office hours tend to be 0900-1300 and 1630-2000 (Working hours in Ramadan 2000-0100), with some regional variation.

The concept of time in Saudi Arabia is considerably different to that of many western cultures. Time is not an issue; therefore Saudi Arabians are generally unpunctual compared to Western standards. Despite this, it is unusual for meetings to encroach on daily prayers and you will be expected to arrive at appointments on time.

2.4.2 Structure and hierarchy in Saudi Arabian companies.

There exists a distinct dichotomy between subordinates and managers within Saudi Arabian companies. Those with most authority are expected and accepted to issue complete and specific directives to others.

Age plays a significant role in the culture of Saudi Arabia. For this reason, greater respect must be shown to elders at all times. When first entering a room for example, or greeting one's Saudi counterparts for the first time, one should shake hands with the most senior person first. In business and working relationships in Saudi Arabia, people prefer face-to-face meetings, as doing business in the Kingdom is still mostly done against an intensely personal background. Establishing trust is an essential part of Saudi business culture; therefore, cultivating solid business relationships before entering into business dealings is key to your success. Respect and friendship are values that are held very highly by the Arab people. In a business setting, favours based on mutual benefit and trust are ways of enhancing these cultural values. Due to the personal nature of business in Saudi Arabia, family influence and personal connections often take precedence over other governing factors (Lothar, 2010).

2.4.3 Doing Business in Saudi Arabia

Business practices in Saudi Arabia The customary greeting is "As-salaam alaikum," (peace be upon you) to which the reply is "Wa alaikum as-salaam," (and upon you be peace). When entering a meeting, general introductions will begin with a handshake. You should greet each Saudi counterpart individually, making your way around the room in an anti-clockwise direction. However, it is generally uncommon for a Muslim man to shake hands with a woman, therefore, it is advisable for a woman to wait for a man to extend his hand first.

Business cards are common but not essential to Saudi Arabian business culture. If you do intend to use business cards whilst in Saudi Arabia, ensure that you have the information printed in both English and Arabic.

Initial business meetings are often a way to become acquainted with your prospective counterparts. They are generally long in duration and discussions are conducted at a leisurely pace over tea and coffee. Time should be allocated for such business meetings, as they are an essential part of Saudi Arabian business culture.

Gift giving in Saudi Arabia is appreciated but not necessary. Gifts are generally only exchanged between close friends and are seen as rather personal in nature. It is also advised to refrain from overly admiring an item belonging to another, as they may feel obliged to give it to you. In the event that you are offered a gift, it is considered impolite and offensive if you do not accept it (Lothar, 2010).

2.4.4 Cultural Effect on CRM Strategy

Having customers as the core of any CRM strategy motivates organizations operating in a global market to deal with culture as a major source of customer differences and as a source for employees' behaviour. Culture shapes rules, values and practices at the organizational level as well as at the individual level (El Sawah *et al.,* 2008). At the individual level, culture plays a role in determining the characteristics of customers in terms of habits and buying pattern as well as identifying the level of their satisfaction and their experience. At the organizational level, culture influences organizational structure, behaviour, and management style (Thanasankit & Corbitt, 1999). In their study on cultural dimensions and CRM systems, Ali *et al*., (2006) developed a conceptual framework of cultural dimensions for managing CRM within multinational organizations in which they identified comprehensive cultural dimensions that influence CRM culturally. Such dimensions should be taken into consideration when conducting CRM of a global nature.

The impact of culture on global CRM is not limited to multinational organizations. In fact, local organizations should consider cultural differences when implementing CRM. Taking into consideration the fact that CRM concept was developed in a western (developed) orientation, western values that are embedded in this orientation differ from other values such as Asian (Ramaseshan *et al.,* 2006). Such an impact of culture on CRM implementation could create a challenge for local organizations in countries other than developed ones to adopt cultural requirements (organizational culture) that are harmonized with a western business culture which is reflected in management style and business process of a western nature (El Sawah *et al*., 2008).

2.5 E-Readiness Assessment in Saudi Arabia

It is important to explain the definition of E-readiness assessment which has been defined in different ways; e-readiness refers to a country's ability to take advantage of the Internet as an engine of economic growth and human development (Al-Solbi & Mayhew, 2004). E-readiness is a measure of the quality of a country's ICT infrastructure and the ability of its customers, businesses and governments to use ICT to their benefit (Economist Intelligence Unit, 2010). The objectives as well as related factors to an assessment should all be carefully identified before proceeding to assess the e-Readiness in any country.

Many international organizations and governmental institutions are developing methods which can measure e-readiness of their countries (Bui *et al*., 2003). The assessment methods use different definitions of e-readiness; however, they have all been developed to measure the e-readiness of a nation. Every tool has different data as well as gives different results (Al-Solbi & Mayhew, 2004).

The problem becomes more direct if the application area is narrowed down for use purely in developing countries such as Saudi Arabia. It may be possible to reduce the range of categories that are assessed. What is clear is that the tool needs to be aimed at improvement rather than purely at assessment. In addition, it needs to be able to be applied correctly by people within the country, rather than relying only on experts from outside. In this way, the expertise can be developed quickly and the country's e-readiness can be improved.

2.5.1 Level of E-Readiness in Saudi Organizations

According to Al-Solbi and Mayhew (2010), who studied Saudi Arabia's experiment on e-readiness, the country is not yet ready for ICT infrastructure, as basic rules; regulations and practices esp. a "Code of Practice" are yet to be framed. For instance, the public sector in Saudi Arabia does not have an ICT Code of Practice, while the private sector depends on the US Code of Practice. Another point which emerged in their research is that "society is not fully ready for the adoption of an ICT infrastructure." They also indicated that there are not enough national ICT strategic plans.

In Saudi Arabia, it is noticeable that the level of ICT use varies from one organization to another. For example, King Fahad Library, with 350 employees, uses ICT in 93% of its financial and administrative work while its usage is much less in other large organizations. Further, the private sector in Saudi Arabia is of the view that in order to improve ICT infrastructure, a national ICT strategy should be put in place for all cities of the Kingdom. Also, standards and regulations should be published and distributed to all concerned with ICT. In order to develop e-readiness in Saudi Arabia the following actions need to be taken: devise and present a National ICT Plan, improve the standards and regulations related to ICT infrastructure, improve public awareness of the importance of ICT in our daily lives, and enhance ICT teaching (Al-Solbi and Mayhew, 2010).

2.5.2 *Influence of Saudi Culture on the Adoption of ICT Systems*

Related to the fact that Saudi society is a conservative society and that the abuse of the Internet technology could affect its cultural and religious values. Nevertheless, it is a positive factor to interact with other cultures. The main point which affects the e-readiness in Saudi Arabia is language which is considered as the main obstacle in this regard.

Moreover, the Internet must be used in a proper way to serve society rather than being used for other purposes. The Head of Department in King Faisal Academy in Saudi Arabia suggests that to promote the appropriate use of the Internet among young people, Internet material should be introduced in secondary schools and Internet teachers should promote ethical values and encourage Saudi family values.

2.6 E-CRM Implementation in Saudi Arabia

In the last decade, CRM has been implemented by organizations from different economies (IBM report, 2004). According to Hough *et al*., (2003), there are three types of world economies: (i) developed economies such as the US and EU which are characterized by high stability, highly literate population, high level of information technology and industrial infrastructure; (ii) less developed economies such as Bangladesh are characterized by political instability, low level of life standards (education, health etc.) and poor industrial and technological infrastructure and (iii) developing economies such as Saudi Arabia are characterized by higher income and in the process of evolving to become developed (Hough *et al.*, 2003). Countries within this category have different cultural, political, technological, and industrial variables that affect the implementation of CRM. El Sawah *et al.*, (2008) said developing countries face different obstacles when implementing western technologies, management processes, and information systems and techniques that have been created in developed countries.

There is a lack of literature on CRM implementation in Saudi Arabia which could be compared with developed countries (Ali *et al.,,* 2006). A limited number of studies on the implementation of CRM have, however, been conducted lately. According to research conducted by CRMguru.com, there are different insights about the implementation of E-CRM in Saudi Arabia especially in Small and Medium Enterprises (SMEs). The main findings of this research are:

- SMEs in general, have little or no background knowledge of E-CRM as a standalone system. There are exceptions, especially those related to the transaction field of a CRM software vendor.
- SMEs do not measure customer satisfaction as a crucial factor element of a CRM strategy. Informal research among the delegates revealed that only 10% carried out customer satisfaction surveys.
- SMEs were unclear about the financial consequences of CRM: Is it to get more revenue or cut costs?
- SMEs do not perceive CRM as an IT function. IT specialists were mostly reflecting the mailing list of the sponsor. They did not consider themselves as "in charge" of CRM initiatives but, rather, responsible for getting any CRM tools up and running.
- SMEs need and want more CRM information and training.

Muhammad *et al., (*2009) have conducted a study on implementing CRM in Saudi banking and investigated necessary factors for successful implementation of CRM in Saudi banking. The results show that only those banks that adopt a clear strategy that focuses on the goals of maintaining customer loyalty and of using complains handling data to solve problems and address issues raised by customers succeed in implementing CRM. Successful implementation of E-CRM in establishing and maintaining long-term relationships and customer satisfaction merit further investigation.

This research is, therefore, intended to evaluate the effect of E-CRM features on customer satisfaction in Saudi Arabia web banking. An understanding of the connection between E-CRM satisfaction, and service quality helps managers to essentially focus on upgrading services that will lead to increased satisfaction. By securing these basic services and adding value to their services, banks stand to gain a competitive edge that may attract customers to return. Better understanding of customers' varying needs across segments leads to better planning of how to target marketing campaigns and investments for maximum competitive impact. This will provide some guidelines to managers on the levels of quality and types of services, which should be given more emphasis in order to attract different segments of customers.

Another study which is evaluating implementation of CRM in developing countries, Mohammad Almotairi (2010) investigated and evaluated the successful implementation of CRM in Saudi Arabia.The study designed a conceptual framework for CRM implementation

that integrates CRM implementation phases/stage, CRM components, and CRM success factors as a way to understand the process of successfully implementing CRM in Saudi companies. According to this study, the pre-implementation phase of CRM in Saudi Arabian companies including the top management support was the first step in the implementation of CRM in the companies; the company's readiness assessment for implementation was holistic and covered different aspects (human capability, technological capability, and organizational capability), and developing the CRM strategy as part of a general strategy development to shift towards being customer-centric. With regards to the implementation phase, the study has suggested that CRM projects should be sub-divided into smaller parts and implemented over different periods of time.

With regard to the post-implementation phase, sufficient support for the proposed measurements (marketing and finance) with respect to the CRM components, the study found that business processes, people and technology were applied by the Saudi companies. Finally, the study found the importance of the success factors for implementing CRM in Saudi companies were: strategy, technology, data management, culture, infrastructure, education/training and governmental support.

CHAPTER THREE

LITERATURE REVIEW

3.1 Introduction

This chapter gives an overview of the existing literature with respect to emergence and development of CRM so as to give a clear picture of CRM, exploring different definitions of CRM, E-CRM in the field of marketing and information technology, as CRM and E-CRM concept could mean different things to different people. The chapter also explores technological differences between CRM and E-CRM, opportunities for E-CRM, and challenges of E-CRM. It also explains the main features of E-CRM and describes the main activities of E-CRM in the financial institutions. Finally, it explains how customer satisfaction can be enhanced in the online business, in general, and web banking, in particular.

3.2 Customer Relationship Management (CRM)

Since 1990, CRM is considered as one of the fastest growing management approaches adopted by many organizations (Buttle, 2009). From marketing perspective, customer has always been the cornerstone for any business activity. This importance was reflected in an increased need for business organizations to integrate customer knowledge in order to build relationship with their customers more effectively in an attempt to develop comparative advantage (Parvatiyar & Sheth, 2002). An enhanced relationship with customers can ultimately lead to greater customer satisfaction, retention and profitability. In addition, the rapid growth of the Internet and its associated technologies has greatly increased the opportunities of marketing and has transformed the way of relationships between companies and their customers are managed (Bauer, 2002).

CRM developed mainly from relationship marketing and the increased importance of improving customer retention through the management of customer relationships (Light, 2001). Relationship marketing means that the retention of the customer increases the profitability of organizations. This is because it is more economic to maintain an existing relationship with a current customer than create a new one (Payne *et al*., 1999; Reichheld, 1996).   In addition, the rapid growth of the Internet and related technologies has opened up

new opportunities of marketing and has transformed the way relationships between companies and their customers are managed (Bauer, 2002).

In a competitive business environment, CRM could be an effective and extremely important strategy to manage interactions with customers, combining latest technology with existing business processes. Organizations have, therefore, become more aware of the potential benefits CRM offers. According to Jutla, *et al.,* (2001), these benefits include increased customer retention and loyalty, higher customer profitability, value creation for the customer, customization of products and services and lower prices, higher quality products and services.

CRM literature indicates a positive relationship with the level of service quality with most service companies having developed programs designed to measure service quality. Such programs are designed to allow management to manage service provision and relationship building initiatives. They provide essential information to guide efforts to reduce variability in service quality and to provide customers with the service that will help ensure their continued satisfaction and loyalty.

Customer satisfaction is a well-known and established concept in any marketing strategy. Many well-known authors have defined *satisfaction* as a feeling which results from a process of evaluating of what has been received against what was expected. Armstrong & Kotler, (1996) and Bitner & Zeithaml, (2003) stated that satisfaction is the customers' evaluation of a product or service in terms of whether that product or service has met their needs and expectations.

The most important issues in CRM activities are to understand customers' value and retain profitable customers (Hawkes, 2000). When assessing customer profitability, marketers are usually reminded of the 80/20 rule. This rule states that 80% of the profits are produced by top 20% of profitable customers and 80% of the costs are incurred on top 20% of unprofitable customers (Gloy *et al*., 1997). Many organizations use value management processes to assess the value and profitability of its customer base and adopt appropriate strategies to retain profitable customers (Rosset *et al*., 2002).

In order to derive the maximum value from its customers, many organizations attempt to measure as well as to use customer value in their management activities(Rosset *et al*., 2002).

Thus, companies should assess their customers' value and build plans to keep profitable customers.

CRM is basically a technology-based solution that extends transactions, automation tools and databases to link marketing and transactions to a focused targeted effort. However, CRM is not just the application of technology for marketing and transactions, but also a "cross-functional, customer-driven, technology-integrated business process management strategy" which increases relationships with customers and covers the whole organization (Goldenberg, 2000).

Moreover, CRM applications connect front office operations such as transactions, marketing and customer service with back office operations such as financial, operations, and logistics functions with the company's customer "touch points" (Fickel, 1999). This may include e-mail, Internet, transactions, direct mail, telemarketing operations, call centers, advertising, fax, pagers, stores…etc. Usually, these points are managed and controlled by other information systems. CRM's role is to mix touch points around a common view of the customer (Eckerson & Watson, 2001). According to Injazz and Karen (2004), a mixture of people, processes and technology which aim to understand the customers of the organization is called CRM. Furthermore, CRM is an approach in interaction between humans and processes (Plakoyiannaki *et al*., 2008).

CRM systems include Contact Management, Call Centre, Data Warehousing, and workflow and business process management in order to retain existing customers and developing new customers (Xu, 2005). Contact centers have been playing a major role within the CRM system. Taylor and Hunter (2002) state that the European customer support and service market is largely focused on call centers especially in the UK.

3.3 Customer Relationship Management (CRM) Definitions

As stated earlier, CRM is all activities a company does that relate to developing as well as retaining customers through increased loyalty and satisfaction. CRM dynamically integrates transactions, marketing and customer care service in order to create and add value for the company and its customers.

In recent years, CRM has been expanded to include an integrated perspective on marketing, sales, customer service, channel management, logistics and technology for ensuring

customer satisfaction. Its practitioners call it CRM which aims to establish a long-term profitable relationship with them based on regular interactions (Nguyen & Mutum, 2012). CRM comes from the concept of customer orientation and has gradually been used by the service industry to increase the relationship between enterprises and their customers (Mahshid *et al.,* 2012).

According to Injazz & Karen (2004), a mixture of people, processes and technology which aim to understand the customers of the organization is called CRM. They further state that CRM is "a coherent and complete set of processes and technologies for managing relationships with current and potential customers and associates of the company, using the marketing, transactions and service departments, regardless of the channel of communication. Whereas Scott (2001) defines CRM as a set of business processes and policies developed and followed in order to capture, retain and provide service to the organization's customers. From an analysis of above definitions, it can be concluded that CRM systems are usually used to achieve the following three possible objectives. Firstly, develop and maintain a single view of customers. Secondly, manage customer relationships in one single way despite using different methods (website, telephone…etc). Finally, improving the efficiency and effectiveness of the procedures used to increase customer satisfaction (Greenberg, 2001).

CRM is a method developed in order to collect customers' data, to define customers' attributes and, finally, to apply these values in marketing activities. Choy *et al.,* (2003) suggests that CRM is an information industry for methods, software, and newly, Internet abilities which help organizations to manage customer relationships in an organized way. In addition, CRM concentrates on developing interactions with customers in order to achieve the maximum satisfaction of customers, ensure repeat business, and ultimately enhance customer profitability. However, managers usually see CRM from different point of views, for instance, CRM is considered as a part of marketing efforts, customer service, particular software and technology, or even process and strategy. Luck & Lancaster (2003) argue that the terminology CRM becomes an unclear concept, with the concept being used to reflect a number of different perspectives.

These definition determine the large spectrum of company's functions, processes and operations that enable the implementation of CRM (Dimitriadis & Stevens, 2008). Most researchers use a comprehensive definition of CRM, as follows: "*CRM is a business*

strategy that has a goal to make and develop value-creating relationships with customers based on knowledge by using IT as an enabler ,CRM requires a redesign of organization and its key processes to relate them to the customer, so that by customizing its products and services, the firm will be enabled to optimally satisfy customer needs and by that plan and create long-term bilateral beneficial Loyalty relationship's (Garrido & Padilla, 2011).

CRM is, therefore, more than the automation of traditional transactions, supply-chain and back-office or service functions using technology. It enables a business gain a competitive advantage, by helping develop a strategy that will transform the entire organization and how it does business with its customer. This is how businesses must compete in the 21st century.

CRM is involved at three different levels in an organization. (i) At tactical level, CRM means database marketing or electronic marketing. (ii) At strategic level, CRM means customer retention or customer partnering. (iii) At theoretical level, CRM is an emerging research paradigm in marketing (Sin & Tse, 2005).

In order to help organizations to deal with the challenges of customer relationships in the fast-evolving Internet world, companies have to understand three crucial insights to get customer relationships right (Bradshaw & Brash, 2001):

1. Building CRM in the front-office is just the start. It should include the back-office functions as well as the analytical functions like data warehousing.
2. Carrying out relationships across multiple media requires the correct technical infrastructure, allowing companies to deal with their customers in a consistent way across multiple media or even adding new media without starting from scratch.
3. Building the correct strategy for directing customers to different media. For a few companies, the strategy to deal with customers on whatever medium they want is right; however, for the majority of companies this is a big problem.

The right CRM across multiple media channels means that it may deal with customers using more than one media channel and yet have an up-to-date view of the customer with no gaps in information. Methods such as "one-to-one marketing" has been broadly discussed but rarely understood. Getting CRM working right is the closest approach to achieving these methods. As shown in Figure (3-1), CRM across multiple media channels integrates the front as well as the back office operations with different communications channels (Bradshaw & Brash, 2001).
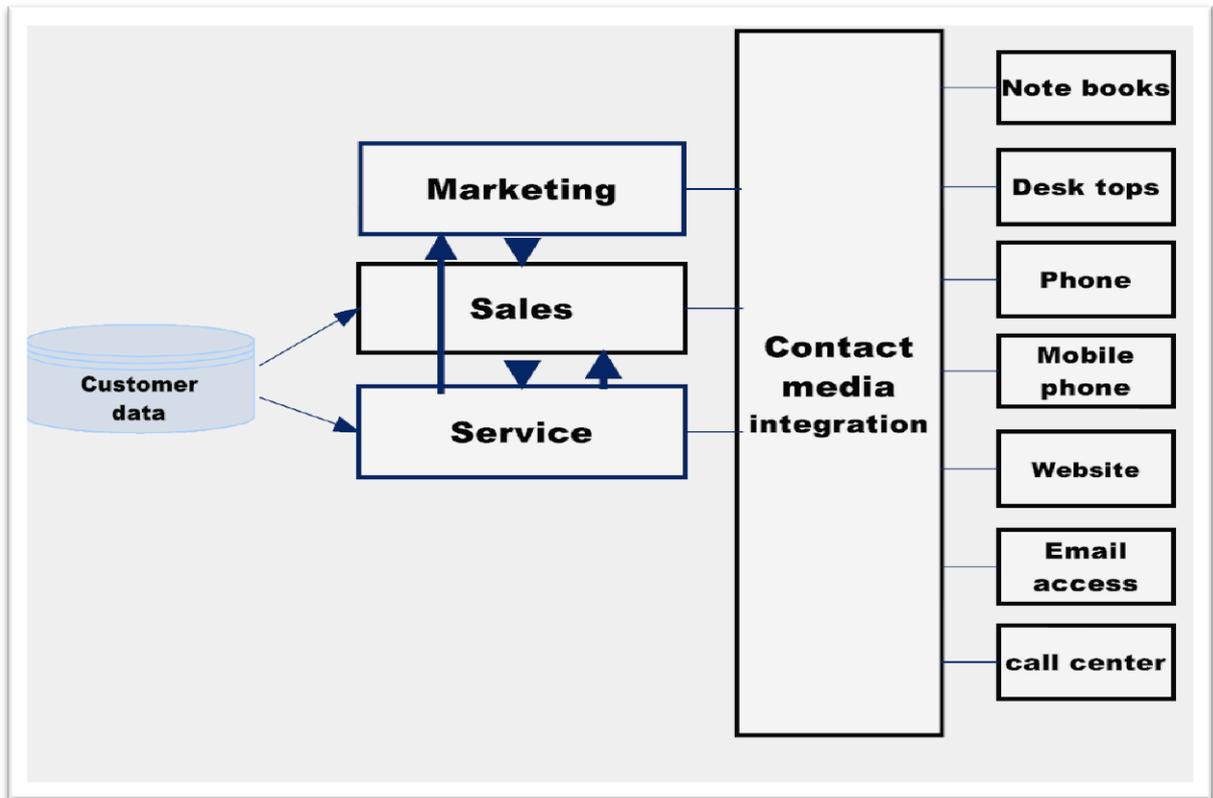
Figure 3-1   CRM and Multiple Media (Bradshaw & Brash, 2001)

In CRM, there is something called "virtuous triangle" which aims to make sure that organizations know their customer clearly and act according to their needs as well as interests. Important information generated in one area is used in other areas. This triangle includes and integrates three major operations, the front-office, back-office and snalytical dystems (Figure 3-2).
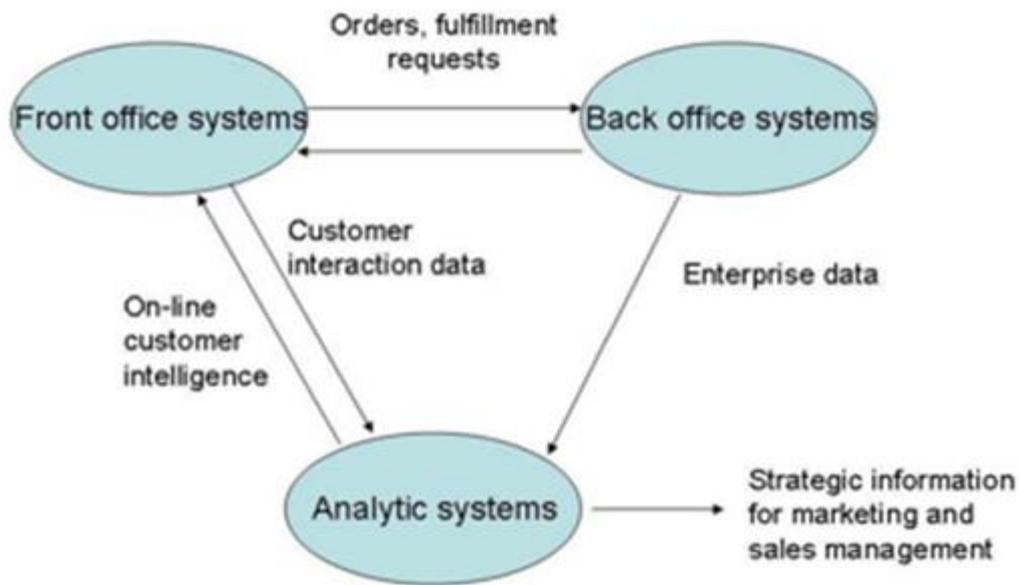
Figure 3-2 The "Virtuous Triangle" of CRM (Bradshaw & Brash, 2001)

The major function of the back-office operations is to complete the customer requirements which are only logistics and billing. However, even in these functions, the customer contact is moving into the front office operations. On the other hand, analytical software helps organizations to look for patterns in the customer data collected. The results of this triangle can be used to determine future strategy of organizations. The tactical information is generated and used on the fly in customer interactions (Bradshaw & Brash, 2001).

3.4 Electronic Customer Relationship Management (E-CRM)

With the advent of the Internet and its use as a marketing channel, CRM has advanced to Electronic CRM (E-CRM). E-CRM is a combination of hardware, software, processes, applications and management commitment to improve customer service and retain the customer (Noton, 2007). E-CRM is a term used for customer relationship management functions, which are delivered on the Internet (Feinberg & Kadam, 2002). It refers to online marketing activities, tools and techniques, which are aimed at building and improving customer relationship (Lee *et al.,* 2003). Pan & Lee (2003) state that E-CRM expands the traditional CRM techniques by integrating new electronic channels, such as Web, wireless, and voice technologies, and combines them with E-business applications into the overall enterprise CRM strategy. The concept and practice of E-CRM provides the ability to capture, integrate, and distribute data accumulated at the organization's website, throughout

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the enterprise. According to Dyche (2001), E-CRM can be divided into two main types : (i) Analytical, and (ii) Operational.

Analytical E-CRM aims to identify new business opportunities, by analyzing customer data while operational E-CRM is concerned with the customer contact points of call center, emails, web-based help desk, telephones, and faxes. Therefore, any contact or touch points between customers and service encounters would influence customer relationship (Winer, 2001). For the scope of this research, E-CRM definition is intended to cover major aspects of E-CRM and focus on its objectives, benefits, as well as the opportunities it offers and the challenges it presents (Payne & Frow, 2004).

The Internet has dramatically changed the way businesses are run and managed. It has enabled business to not only use the Net to market their products and services but also offer its customers the opportunity to access the same products and services through the Net. While this is a good opportunity for businesses to expand, it presents the customer a wide array of choices from which to select the product or service and that too from the comfort of home. Hence, in a virtual world, the customer becomes the king, as he does not have to worry about his identity, status, location etc. This has compelled businesses to drastically alter their operational and marketing approaches to attract customers and to retain existing customers.

Parvatiyar & Sheth (2002) have pointed out that for an emerging management discipline it is important to develop an acceptable definition that encompasses all facets so as to allow a focused understanding and growth of knowledge in the discipline.

For the purposes of this research E-CRM is defined as *A strategic approach that integrates via the Internet, process, people, and technology cross functionally to understand an organization's customers, manage customer interaction regardless of the time, attract and increase retention of profitable customers, through increased satisfaction and loyalty, by enabling customers to access information and services about the products that are less expensive and more convenient than the traditional ways*. Therefore, successful implementation of E-CRM applications (web-based applications) lie in the scope of the E-CRM features in relation to customer satisfaction.

3.5 Technological Developments from CRM to E-CRM

CRM helps organizations to design their services and products based on the preferences of customers. CRM "may be used to create a personalized, one-to-one experience that will give the individual customer a sense of being cared for, thus opening up new marketing opportunities based on the preferences and history of the customer" (Pepper *et al.*, 1999). Moreover, CRM is considered as a "customer-focused business strategy that aims to increase customer satisfaction and customer loyalty by offering a more responsive and customized service to each customer" (Croteau *et al.*, 2003). Nowadays, customers want all product information via Internet, wireless, mobile technologies or what can be called E-CRM. This section highlights the major differences in the two concepts (CRM and E-CRM) that organizations should take into consideration when deploying these technologies.

In 1990's, a new software called ERP (Enterprise Resource Planning) emerged that connects different related systems used for the 'back-end' operations and enables easy information exchange and sharing across the firm. Till then, firms used a host of specialized servers all over the organization, with each used to carry out a specific function. By using ERP systems, companies are able to capture data in one department or part and integrate it through the other departments and processes. ERP systems are useful in controlling back-office processes; however, they are not developed to capture marketing data such as marketing campaigns and customers' references. On the other hand, CRM systems were specially developed for the 'front-office' operations and were quickly adopted by organizations (Chandra & Ted, 2004). Despite the slight differences between CRM and E-CRM, (they are very crucial for the organization), both of them are about using technology and its interfaces with users and other systems. For example, many E-CRM systems provide the customer with a self-service browser-based window to place orders; check order status; review purchase history; request additional information about products; send e-mails and engage in a host of other activities. These capabilities provide customers freedom in terms of place and time. The customer is no longer forced to contacting an organization during regular business hours, and the organization does not have to provide a live contact at the other end for customers' requests.

Technology Map of CRM	Technology Map of E-CRM
Back- end Operation	Back- end Operation
↓	↓
ERP System	ERP System
↓	↓
Front - end operations supported through retail store and in-house customer services	Front - end operations supported through retail store ,customer call centers, voice response system,and in- house customer services
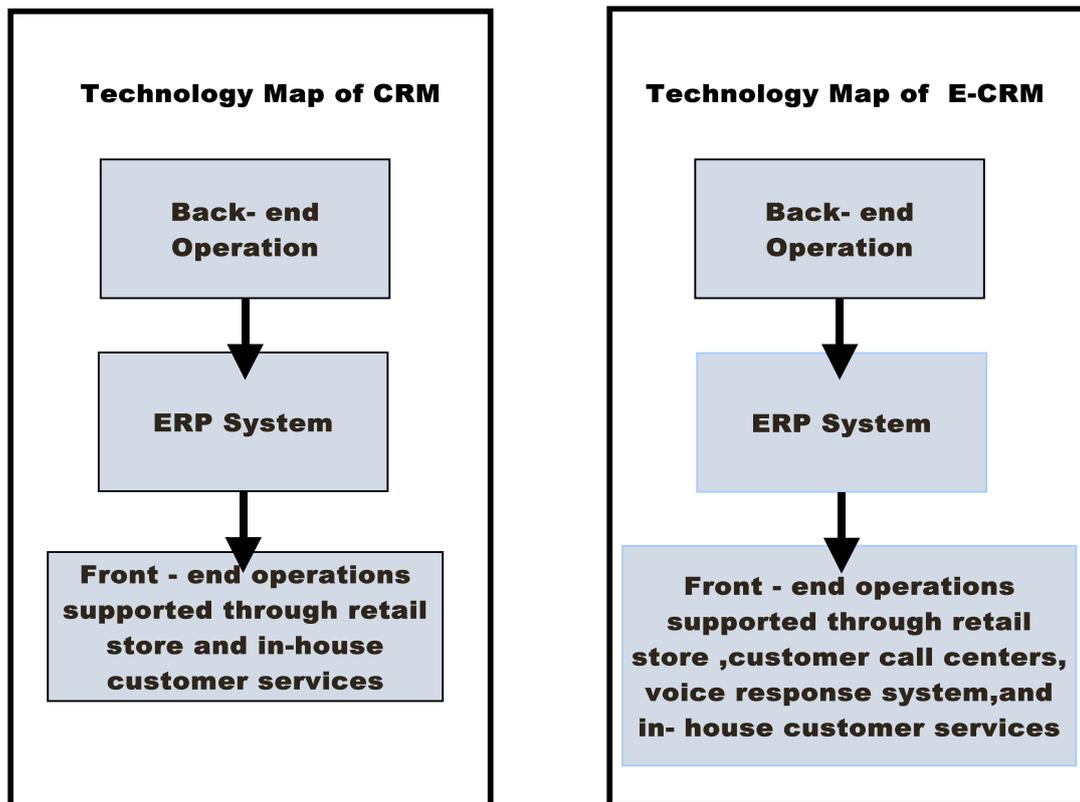
Figure 3-3   Technology Map of CRM and E-CRM (Satish *et al*., 2004)

Figure 3-3 represents the main differences between CRM and E-CRM systems. CRM systems normally use client-server technologies where all applications run on one or more central servers. The front-office operations of the system connect with the back-office operations using traditional ERP systems. CRM systems do not use data warehouses. In CRM, ERP systems act as data repositories and capture data from both front and back end operations. The typical touch points for customers are retail stores and the organization's customer service such as telephone or fax.

On the other hand, with E-CRM, the connection or interface between front-end and back-end operations is not only through ERP, but also uses data warehouses which is a collection of information, gathered from several databases, used to support business activities. In other words, data warehouses are multidimensional databases (Haag *et al.,* 2004). Customers' touch points in E-CRM include, beside the traditional points, the Internet, web and in some cases wireless devices such as mobile phones and personal digital assistant (PDAs). CRM provides access through a group of choices, which cannot be modified by the system users. Any customization requires making changes at the system level. In contrast, in E-CRM, a person can modify or customize the system via web-based interfaces.

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The application programs in CRM focus on back-end operations such as data collection and the interface with the client's computer. Web-enabling CRM systems entail downloading special program (applets) on the client computer which is considered a time consuming process. Moreover, web-enabling CRM systems need each application to be re-written for different platforms and any changes must be incorporated in all versions. Further, the information provided cannot be quickly, modified.

On the other hand, in E-CRM all applications are designed for web interaction and experience. Clients do not need to download special programs (applets) to access applications. The browser is the medium which allows access to suitable information irrespective of the clients platform. CRM systems are designed around job functions. The applications are designed for the department or the employee to access his customer-related database and to provide customer service in a better way, while in E-CRM the applications are designed with customers as the focus point. Each user has a different view of the array of information, goods, and services available to him/her.

Normally, CRM is planned around one business unit or department and not for the entire organization. On the other hand, in E-CRM, all applications are developed for the entire organization including all types of clients. Table 3-1 summarizes the major differences between CRM and E-CRM.

Table 3-1 Major Differences between CRM and E-CRM (Chandra & Ted, 2004)

Criterion	CRM (first generation)	E-CRM (second generation)
Customer Contacts Means	Customer contacts usually initiated through traditional means of retail store, telephone, or fax.	In addition to telephone, contact also initiated through the Internet, e-mail, wireless and cell phone.
System Interface	Works with the back-end applications through ERP systems	Designed for front-end applications, which in turn interface with back-end applications through ERP systems, data warehouses, and data marts.
System Overhead (client computers)	Web-enabled applications require PC client to download various applets and applications. These applications and applets would have to be rewritten for different platforms.	No such requirement; the browser is the customer's portal to E-CRM.
Customization and Personalization of Information	Different audiences require different views and types of information. Personalized views for different audiences are not possible. Individual customization requires programming changes.	Highly individualized "dynamic" and personalized views based on purchases and preferences are possible. Each audience individually customizes the views.
System Focus	System is designed around products and job functions (for internal use). Web-enabled applications are designed for one department or business unit.	System is designed around the customer needs (for external use). Enterprise wide portals are designed which are not limited to a department or a business unit.
System Maintenance and Modification	Implementation is longer and management is costly because the system is situated at various locations and on several servers.	Reduced time and cost. System implementation and expansion can be managed in one location and on one server.

3.6 E-CRM Opportunities and Challenges

One of the main objectives of E-CRM is to significantly improve a firm's marketing through presenting opportunities to organizations to deliver value to their customer while helping reduce costs of communications (Scullin *et al*., 2004). It also enables improved customer service, allows customized communications, retains valuable customers and helps a business gather vast amount of data to analyze customer behavior and preferences (Fjermestad & Romano, 2003), in order to respond quickly to customer demands, and deliver more value to customers. E-CRM can also be used to manage relationships not only with customers but also with other stakeholders, employees, partners and suppliers. Previous research has found some opportunities that E-CRM can provide to all organizations, in general, and banks, in particular.

Personalization of relationships is a significant opportunity of E-CRM. By electronically recording the purchasing history of customers and providing the metrics for calculating each customer's profitability, E-CRM allows organizations to tailor offerings and predict future behaviour (Crosby & Johnson, 2002). An example would be personalized emails, offering the right product to the right customer at the right time. Such customization can improve the

already essential flexibility which is the key strength of an organization against its larger competitor (Carson *et al*., 1995; Chaston & Mangles, 2003). E-CRM improves the personalization of an organization's communication and product offerings (Bradshaw & Brash, 2001; Durkan & Howcroft, 2003), which essentially can improve an organization's customer service levels (Bradshaw & Brash, 2001).

The use of E-CRM systems in information capture and management can assist firms in achieving better levels of customer service than traditional and non-Internet based CRM systems could. Thus by deploying an E-CRM strategy to maintain relationships with customers, an organization will be better equipped to serve its customers' desires and improve its loyalty, which will in turn improve the organization's efficiency and profitability. Committed customers are company assets (Ragins & Greco, 2003) and it is less expensive to retain than to attract a customer (Reichheld & Sasser, 1990; Storbacka *et al*., 1994).

Despite the noted opportunities, a common challenge for a company implementing E-CRM is the reduction in face-to-face contact with customers (Lituchy & Rail, 2000; McGowan *et al*., 2001). It is vital that company finds the right balance between face-to-face and virtual contact, as both can play different and complementary roles. Gillen *et al.,* (2000) asserts that Internet technologies, when used in wrong situations, can destroy customer relationships. Bauer *et al.* (2005) assert that Internet technologies are most suited in established face-to-face relationships where trust and security already exist. The company should also consider the perspective of the customer, for whom the absence of face-to-face contact is a concern (McGowan & Durkin, 2002; Durkan & Howcroft, 2003; Ragins & Greco, 2003).

As organizations become progressively more customer-persistent and motivated by customer demand, the need to meet customer's expectations and preserve their loyalty becomes more critical as E-CRM is gets seriously destabilized because of this unawareness. According to Sterne (2000), the main challenges of E-CRM are identifying actual input cost of wining, retaining the long lasting relationship with customers, measuring the effective business, increasing the customer loyalty and improving the customer service .

3.7 Characterizing Features of E-CRM

E-CRM features are critical for managing customer relationships online (Feinberg *et al*., 2002). They refer to existing website functionality or tools (Khalifa *et al*., 2002, Khalifa &

Shen 2005:2009). E-CRM features are needed for customizing, personalizing and interacting with the customer. Without E-CRM features, CRM cannot be realized on the Internet (Khalifa *et al*., 2002). E-CRM features are also often labeled "value-adding services" (Nysveen, 2003). In the context of E-commerce, Sterne (1996) proposes a framework to characterize online customer experience, consisting of three stages : per-sale, sale and after-sale interaction. Lu (2003) uses this framework to study the effects of E-commerce functionality on satisfaction demonstrating that E-CRM features contribute differently to the satisfaction associated with each transaction stage. Following the same line, Feinberg *et al*., (2002) map the E-CRM features of retail websites into the pre-sale, sale and post-sale stages in investigating the relationship between E-CRM and satisfaction. The usage of the transaction cycle framework to classify satisfaction is also supported by (Khalifa & Shen, 2009) who investigated the relative contribution of pre-sale, sale and post-sale satisfaction to the formation of overall satisfaction. Feinberg *et al.,* (2002) suggests three different groups of E-CRM features; pre-transaction features (marketing features that customers can get before deciding to purchase), transactions features (features that customers get at the time of transaction) and post-transaction or customers service features (features which customer may need after the transaction).

3.7.1 E- CRM Pre-transaction Features

Anderson & Kerr (2001) state that the first phase E-CRM is to provide information to customers. In this phase, companies can get information back from their customers as well and can know more about them, for example, an e-mail address can be provided to customers for further interaction, a registration can be requested from the customers to get some general information and on subsequent visit web-based software can track the way they use the site to get an idea about what customer is looking for.

Chaffey *et al*., (2003) adds to the discussion and say that E-CRM requires certain approaches to get online customer acquisition and retention. They state that the strategy for E-CRM is based on how to get new customers or to attract existing customers to the website using promotion methods such as search engines, portals and banner advertisements. According to them, it is important to provide such attractions on the website that customer must return back. They believe that if a customer could not find anything interesting, he or she will not visit the site again. Therefore, there must be some kind of incentives like sales

generation offers in which the customer is offered a free trial. In this way, the company can get customer contact information if the customer opts to get an incentive.

Ross (2005) gives much more detail about the subject and says that companies can win customers by personalizing the communication between the seller and the buyer and customizing the product and service offering according to desires and needs of their individual customers. According to him, before the advent of Internet, two-way dialogue between customers and suppliers was missing which is important to establish a true one-on-one relationship and after the advent of Internet, marketers got the mechanism to activate 'personal marketing'. He defines 'personal marketing' as "the capability of companies to present their goods and services customized to fit the distinct personal interest and need of the customer." He describes, 'permission of the customer' as a critical feature of personal marketing before giving different offers to customers. By defining the concept of Enterprise Marketing Automation (EMA) which means that the use of software applications can automate the marketplace function that enables companies to compile, search, and utilize customer databases to define who the customer is and then generate targeted marketing campaigns. With the use of e-mail, e-fax, the web, telephone or other tools to reach the consumer market and the focus of EMA is 'campaign management'. As compared with the past, the 'campaign management' is no more difficult because of the fact that EMA automates the entire campaign process. Ross (2005) summarizes the main features of pre-transaction E-CRM as the following:

- ➢ **Cross-selling and up-selling**: Cross-selling occurs when customer is offered related products during the buying process. On the other hand, up-selling means that customer is motivated to purchase more expensive products. An effective method to do this is that websites should be able to analyze customers and prepare alternative offerings that can be related more to the interest of the customers.
- ➢ **Marketing events**: In the past, enterprises used to arrange traditional events in order to let the customers get knowledge about new products and services. Currently, they broadcast the latest marketing information through online newsletters or maybe some special webcasts.
- ➢ **Customer Retention**: Enterprise Marketing Automation (EMA) may help organizations to mine customer data and make models which may help in order to predict customer's behavior.

- **Response Management and E-mail Marketing**: In Response Management, marketers can use the information gathered in marketing campaign for carrying out different tasks, whereas in E-Mail Marketing, customized customers information is captured via e-mails.

Another main feature of pre-transaction E-CRM is customized alerts (Ross, 2005; Khalifa & Shen, 2005). Customized alerts state that customers can pre-specify and automatically receive information about new services which banks release. Internet provides a means to get customers' acceptance about getting promotions from the company, which is not possible in case of paper-based or telemarketing type methods.

According to Feinberg *et al*., (2002) and Khalifa & Shen (2005), Site Customization, Alternative Channels', and the availability of search engines are considered very important features of pre-transaction E-CRM. Site customization means if the volume of information is higher than what the customer wants, then it can be a weakness of Web-based CRM. E-CRM is completely "one-to-one" website in case it is truly applied. This feature provides customers with facility to customize information according to their preferences. If a customer customizes the website on one visit, he can see the site according to his previous settings in his next visit. Alternative Channels indicates that the website is provided with different ways for contacting the company such as e-mail, fax, toll-free numbers, postal address, call back button and voice over IP, and bulletin board. Search engine provides customers an easy way to search for information about the service or how to use the website. Other features which are suggested by Feinberg *et al*., (2002) are stated below:

- **Introduction for first-time users:** For those visitors who are browsing the website for the first time can surf and access an introduction page. This page will have the information about how to use the site effectively.
- **Chat:** This feature allows visitors to enter a real-time conversation between two or more users on the website. In this way, users can interact with each other and also with the site.
- **Membership:** By having a password, a customer can browse the password protected pages within the website. This allows the company to collect information from the customer. When a customer registers for the membership, it gives the company an opportunity to track the behavior of the customer on the site at a

different time. This allows a business organization to choose a worthy customer by assessing the current and prospective customer.

➢ **Mailing list:** Website should accept the e-mails from visitors if they want to get more information from website automatically.

➢ **Site tour:** There should be site tour facility so that visitors can follow a tour through the website and get familiar with the web contents.

➢ **Site map:** This is also called site overview, site index, or site map and is a kind of hierarchical diagrams of the pages on the website. This gives the opportunity to understand the structure of the web site.

3.7.2 *Transaction Features of E-CRM*

Before the web-driven applications, organizations depended on individual transactions, customer capabilities and their knowledge of products or service, the marketplace, pricing and the competition. Nowadays, web applications enable organizations to communicate directly with customers and bypass costly intermediary channels. Ross (2005) believes that real-time technologies have also improved organizations' ability to employ resource and that technology-enabled selling has opened the doors for more productivity.

Chaffey *et al*., (2003) mentions that the relationship between a company and customer can be achieved by sending an e-mail to the customer, website personalization (displaying specific information on the website to the customer according to his profile), and using the push strategy to deliver information to individuals. He explains that many other marketing tools can be used in this stage. For example, loyalty schemes, which offer customer's points on each purchase and on the basis of these points, the customer gets some reward, news about a particular industry, product information and price promotions.

Khalifa & Shen (2005); Chaffey *et al*., (2003) emphasized on the loyalty program/scheme so that customers can get certain point on each purchase and on the basis of these points, they can get some reward in terms of discounts, special terms and benefits. Ross (2005) explains some of the features of E-CRM during the transaction process:

➢ **Online catalogs**: Online catalogs help customers to search and compare products, prices, and services offered by a supplier. In fact the wider the range products/services offered in an online store, the higher the possibility of a customer's needs could be met and satisfied.

- ➢ **Online order processing**: It is the most famous feature of E-CRM. It facilitates customers with online access to supplier information, pricing, and fulfillment capabilities. Customers can compare, shop, search for desired quality service requirements, view product or service aggregations and participate in online auctions. Companies get the detailed information about their customers' buying habits that can be used for cross-selling, up-selling, and customer service.

- ➢ **Online order configurability**: Customers can design their own products and services through special configuration facilities which mean that the customer can customize his required service or product on site before ordering. For example, online customer can have the option to assemble a PC for specific configuration which is not listed on the website. In fact, customers' participation in designing products/services offered by websites is imperative since customers have the very best understanding of their needs and relay the information to the providers (Von, 1998). This knowledge of customers' preferences is vital to avoid the sacrifice of customer's goodwill and maintain superior satisfaction (Du *et al*., 2003).

- ➢ **Lead capture and profiling**: Companies get detailed repositories of prospect inquiries, customer transactions, and profile information and hence can use it for website personalization or marketing follow-up.

- ➢ **Literature fulfillment**: Product and service information of company can be easily accessed and downloaded by the customers. In fact the site should have enough information to provide customers with all necessary product/service information such as item description, price, ordering and delivery time, warranty and refund policy. With more extensive product/service information and price-related information, customers benefit from the low search cost as well as product and price comparisons, hence higher levels of customer satisfaction can be achieved (Peterson *et al.*,1997).

Ross (2005) and Anderson & Kerr (2001) prefer the availability of online surveys mainly because online surveys help marketers to judge the attitudes and possible behavior of customers for website customization. This activity can cause the customers to spend more time on the website. Anderson & Kerr (2001) say that Internet is used to deliver products and services to customers under the heading of information, they reveal that Internet can provide useful information about products or services of an organization to current and potential customers. They believe that information-based webpage or articles on websites

are placed at this level so that customers and potential customers are likely to visit and find information easily and can transact business with the company. They believe that the main aim of CRM is creating, maintaining, and expanding customer relationships. This is not possible if the customers cannot find information easily.

Feinberg *et al*. (2002) and Khalifa & Shen (2005) discuss two more important features - product or service customization possibilities and purchase conditions. By product or service customization possibilities, they mean that it is the possibility which enables visitors to customize their service or product online before ordering. They believe that information on purchase conditions should be provided. They further state that purchase conditions include shipping policies, return policies, warranty, guarantee and other company commitments.

3.7.3 *Post-Transaction or Customer Service Features of E-CRM*

The third group is the post-transaction features of E-CRM which is also called customer service. Customer service management deals with answering in person, customer's correspondence for his problems and questions about the product through help desk where customer can directly interact with the organization (Ross, 2005). However, it is only since 1990s that customer service management has changed to a bigger phenomenon called contact centers or Customer Interaction Centers (CISs) which is defined by Ross (2005) as "Service functions sought to deploy a range of multimedia tools to not only relate order and account status, but also to manage every component affecting the customer, from product information to maintenance, warranties, and upgrades."

The revolutionary changes that new tools such as Internet, wireless communications, speech recognition, and video have brought about along with other older technologies, for instance, phone, fax, and Electronic data interchange) give a new meaning to CISs. These technologies help organizations to integrate all customer interactions on a central platform. Moreover, these technologies provide customers with more control on the services they want. The objective of these applications is to create effective communication channels between customer and organization which are personalized, prompt and friendly.

There are different Internet based E-CRM features of post-transaction or customer services which any bank can use to sustain its customers or even having other new customers.

- The first tool is Automatic call distribution which is used by banks and any other organizations in order to automatically divert calls to service agent with a specific area of expertise and can even prioritize calls to favor high-profile customers, reducing the customer's waiting time.

- The second main tool is Interactive Voice Response (IVR) which provides 24/7/365 service of routing calls based on customers' response typed on the telephone keypads. These applications allow call switching without even human interaction. The latest advances in technology relate to speech recognition abilities in place of telephone keypad recognition that allow customers to ask their questions verbally instead of using keypad or the telephone. Any effective customer service system should contain tools to monitor the performance of service. By using performance measurement tools, customer service interactions can be recorded and evaluated by the organizations.

- Other tools include Computer telephony integration (which is the integration of data with telephones by the use of these applications) and Service cyber-agents which is used to solve problems of customers with coordination of other agents.

Feinberg *et al*. (2002) is in favor of providing FAQs (Frequently Asked Questions) with their answers on the websites. They also support offering a Complaints Ability on the websites which provide specific area for customers where they can lodge their complaints. Whereas Feinberg *et al*. (2002) and Khalifa & Shen (2005) support the availability of problem solving feature where visitors can solve their problems themselves with products or services with the help of online self-help functionality. They also support the option of offering spare parts which allows the customers to order spare parts of products.

The availability of feedback channels, order tracking and online communities over the websites are also considered major features of post-transaction E-CRM (Khalifa & Shen, 2005). With the help of surveys, email and discussion forums, customer can give feedback and evaluation about the services provided by the banks. Using order tracking systems gives customers the possibilities to follow their orders. Online community is an online space where customers can interact with each other as well as share their experiences.

The summary of the classifications of E-CRM features by different authors is presented in Table (3-2), the majority of reviewed E-CRM features can be grouped along the basic stages of a customer buying process. The assumption behind this pattern is that at each stage of the

buying process, a customer buying online needs to use E-CRM features specific to the stage (Feinberg *et al*., 2002; Khalifa *et al*., 2002; Khalifa & Shen, 2005). However, customers may use the same E-CRM features at different stages of a buying process. Following this pattern shown by previous studies, the present study groups E-CRM features along the three basic stages of a customer transaction process: Pre-transaction stage, Transaction stage; and Post- transaction stage.

Table 3-2   Classifications of E-CRM Features Promoting Customer Satisfaction

Author(s)	Classification of E-CRM Features
Feinberg, et al., (2002) Sterne, (1996)	E-CRM features classified in three groups: (1) Contact and information, general CRM features (e.g., site customization, site search engine, mailing lists, prominently displayed mailing address and company profile, chat, bulletin board); (2) E-commerce features (e.g., online shopping, online product information, product preview, links and (3) Post-sales support features (e.g. FAQ, complaining ability, spare part
Bhattacherjee, (2001)	E-CRM features grouped along three customer "touch points": Marketing (e.g. personalization, one-on-one marketing); Sales (e.g., tools/interface for completing a sale); and Service (e.g., tools/interface for resolving customer complaints).
Rust & Lemon (2001)	E-CRM features differentiated with emphasis on 1-to-1 Marketing (e.g., site content customization; alternative contact channels; chat) and Personalization (e.g., "real-time" marketing – i.e., changing product offerings in real time based on choices and actions of the customer; "click-to-talk"-applications – i.e., click to have a representative call back; and web self-service – i.e., continuous updating of website and FAQ based on most frequently searched issue.
Nysveen & Lexhagen (2001, 2003) ,Nysveen Nysveen et al., (2003)	E-CRM features grouped according to their functions as: Online reservation services and Online value-added services (e.g., contact information, multimedia, search engine, FAQ, several languages, links to other websites, customer community, maps, decision support such as timetables, price comparison, personalization, push-based service such as weather reports, and mobile interfaces).
Khalifa et al., (2002) Khalifa & Shen (2005) Khalifa & Shen (2009)	E-CRM features are grouped along the stages of the shopping cycle: Pre-sales e-CRM (e.g., site customization, alternative channels, search); Sales process e-CRM (e.g., product customization, payment methods, dynamic pricing); and After-sales e-CRM (e.g., online sale of spare parts, problem solving, online community, web center)

Source: Extracted from Sterne (1996); Feinberg *et al*., (2002); Bhattacherjee, (2001); Rus and Lemon, (2001); Nysveen and Lexhagen, (2001); Nysveen, (2003); Nysveen *et al*., (2003); Khalifa *et al*., (2002); Khalifa and Shen, (2005: 2009).

3.8 Features of E-CRM in a Bank's Website

3.8.1 E-CRM Pre-Transaction Features

Researchers studying E-CRM success in banks sector have suggested that an E-CRM system should include several items in the pre-transaction stage which will lead to pre-transaction satisfaction. Rozita (2012) and Tanveer (2009) state that the most important features of E-CRM in the website banking is the information available to the browsing customer. The banks' websites which offer customized features allow customers to filter the contents they want to see. Web-based CRM future is "one-to-one" website. After first visit, a customer can see easily his/her preferences. Yoon *et al.* (2008) state that the e-mail is an important tool for communication between bank and its customers to keep customers informed.

Rozita (2012) states that the search ability is one of the benefits of E-CRM implementation in financial institutions which would help the customers to search the key words to locate the required contents quickly. Furthermore, Mittal & Kumara (2001) state that the pre-transaction E-CRM features are those related to activities that customer perform prior to placing an order, e.g. membership registration by having a password, a customer can browse the password protected page of the site which allows the bank to collect information from him when he registers for the membership.

Talhat *et al*. (2009) in his study highlighted the importance of pre-transaction E-CRM features dividing them into five elements: (a) Website Presentation that refers to pictures, images, and information well-presented on the website; (b) Access to Information which indicates how it is easy for a customer to find information about the products, prices and services; (c) Search Capabilities which allow the customer to specify multiple criteria for quickly retrieving the desired information; (d) Information Quality which refers to accuracy, content and update of the information on the website; and (e) Loyalty Programme.

Kennedy (2006), one of the major contributors who identified E-CRM pre-transaction features, stated that banks can win customer by personalizing the communication between the bank and the customer and customizing the product and service offering according to desires and needs of individual customers.

3.8.2 E-CRM During-Transaction Features

Different E-CRM features at this stage can influence a customer decision to complete the online transaction. Rozita (2012) highlighted the importance of the loyalty programme which enables customer to get points on each transaction. Based on the points earned, the customer is offered some reward in terms of discounts, special terms and benefits.

Moreover, Liu *et al.* (2008) highlighted the importance of the security/privacy factor which affects a customer's decision to perform a transaction via the bank's website. Website should, therefore, offer some E-CRM features to reduce any perceived risk and give customers sufficient confidence. E-CRM features can give customers a greater feeling of security in performing their transaction online. For these reasons, it is important that web designers make customers feel that the Internet is a simple, secure and reliable way of performing transaction (Talhat, 2011).

3.8.3 E-CRM Post-Transaction Features

Positive post-transaction customer experience after making a transaction is a significant factor in the success of any bank. Therefore, each transaction should be viewed as a starting point toward building a continuing relationship with the customer (Wang & Head, 2006).

Zineldin (2005) states that the post-transaction E-CRM features in a website can be divided into three elements; problem solving, order tracking, and after-sale service. Tanveer (2009) believes that with the use of Internet technology, websites actually have many advantages and much potential to deliver customer satisfaction, in the form of online support and live communication. Therefore, as suggested by Pitt *et al*. (2006), banks need to encourage customers to discuss problems and use their feedback to improve both products and services. E-CRM features at this stage are critical for increasing customers' post-transaction satisfaction via one-to-one communication and support from the bank's website.

3.9 Emergence of Financial Services Networks

Nowadays, it is obvious that there is emergence of financial services alliances. This has occurred due to three main trends in the financial market. The first trend which has led to the emergence of financial service networks is that customers increasingly want their financial requirements to be covered comprehensively. This forces financial services companies such as banks to offer full financial support for their customers, ranging from account management to life insurance and the granting of a home loan. The integration of different financial services is usually handled by specialized companies called relationship managers, which contact customers directly. The second trend is the risks which arise from new aggressive entrants to the market as well as the increasing customer requirements. This forces financial services organizations to focus on their best efforts to stay competitive in the market (Alt & Reitbauer, 2005). Thirdly, financial service companies have set the trend of increasingly outsourcing transactions to external processors in order to focus on their core competencies (Homann *et al*., 2004). All these trends have resulted in the emergence of networks consisting of relationship managers, product providers and transaction processors (Hagel *et al*., 1997).

3.9.1 E-CRM in the Financial Services Sector

E-CRM emerged as a consequence of customer loyalty decreasing in different sectors. The reasons behind decreasing customer loyalty in the financial services sector are different but

interconnected. Three primary reasons can be recognized (Kroner & Zimmermann, 2000; Krishnan, 1999). New technological avenues which allow financial services to be distributed through electronic channels, such as the Internet which, make it easier for new competitors to enter a market. Moreover, deregulation and globalization supported by new technological opportunities, the market for financial services is being transformed into a globally-connected emporium, thus, increasing the competition and since customers' behavior is changing, financial services customers are increasingly self-confident, better informed about products and services, and increasingly demand services, also as a result of technological possibilities. These factors have led to increase the importance of concepts that focus on the nurturing of customer relationships (Payne & Ryals, 2001; Peppard, 2000). CRM and E-CRM arose as a combination of :

- Different management and information system approaches (Sheth and Parvatiyar, 2000; Scullin *et al*., 2004).
- Technology-oriented approaches such as Computer-Aided Selling (CAS) and Transactions Force Automation (SFA) (Gebert *et al*., 2003).

Shaw & Reed (1999) define CRM as an interactive approach that achieves an optimum balance between enterprise's investments and the customer's satisfaction in order to generate profits. It involves: acquiring and continuously updating knowledge on customer motivations; behavior over the lifetime of relationship; applying customer knowledge to achieve continuously improved performance through a process of learning from successes and failures, integrating marketing, transactions, and service activities to achieve the common goal and the implementation of appropriate CRM systems to support customer knowledge acquisition, sharing, and the measurement of CRM effectiveness.

To integrate marketing, transactions, and service activities, E-CRM requires the business processes that involve customer services to be fully integrated. These customer-oriented E-CRM processes are mostly semi-structured, and their performance is predominantly influenced by the underlying supply of knowledge on products, markets, and customers (Day, 2000; Schulze *et al*., 2001; Garcia-Murillo & Annabi, 2002).

3.9.2 Benefits of E-CRM to the Bank

Most of the financial services organizations are trying to use E-CRM techniques to achieve a range of benefits (Foss *et al.,* 2002). The benefits of E-CRM to bank are presented below:

- **Personalized Services**: As every contact with the customer is an opportunity to build a strong relationship with the user, according to Adebanjo (2008), personalization can be defined as serving the unique needs of individual customers. By providing good customer satisfaction, the organization can improve the customer relationship. The main thing is to identify the customer needs and provide the best possible solution makes a quality service to the customers because banks' customers are becoming choosy and the success depends mainly on personalized services.

- **Better Relationship with Customers**: According to Aihie & Eddine (2007), CRM is an idea, which has its heredity line in the technology. In the earlier days, sole aim of relationship marketing was to get information about the preferences of the customer, which were stored in the bank's database, so as to protect and deal with one-to-one relationship with the customer. Once when the organization acquires the customer and is able to have him lastingly forever, this implies that the customer becomes more loyal by making good use of the service of the organization. Trust, cooperation and satisfaction have to be seen as the face of assurance between both the parties. For a long lasting relationship with customers, any financial institution needs a complete analysis of its customers across the different systems which hold their data. Managers may have a better understanding and customer preferences if the bank could track customer behavior. The data and applications can help the bank to manage its relationships with customers based on continuous growing and evolving process (Dyche, 2001).

- **Transaction Security**: According to Albrecht (2008), safety is the major barrier to internet banking. So it is important that companies' websites provide sufficient privacy statements and an explanation of security measures and also educate the customers about the unauthorized users like hackers. However, it is good that banks are trying to ensure secure payments on the internet by using latest technologies like encryption and firewalls.

- **Email for Business Communications:** According to Venugopal (2008), email is the inexpensive and fast source used to circulate information like sending order confirmations, transaction update, promoting new services and responding to enquiries from customers. Due to the large number of emails from customers, organizations have implemented automated email systems. Email scan also include the reviews and feedbacks and any edited contacts. By providing all these, E-CRM is bringing a connection between the bank and customer through email business communication**.**

3.9.3 E-CRM Customers Benefits

The benefits of E-CRM to the customer are presented below:

- **Interaction with Customers and Satisfaction:** Due to E-CRM, you can interact with the customer right at your site through phone, email, collaboration or forwarding of pages back and forth between the representative and the customer. According to Harris (2000), E-CRM customers will have any service available anytime throughout the year and the company representative can assist the customer in any way he requires and pass on any information about the company's product or service, right then and there when the customer is browsing through pages at your site. E-CRM maintains long term relationship with the customer with providing trust, ethics and friendship.
- **Speed of Processing the Transaction Through E-Response:** According to Jason *et al*. (2006), e-responses were widely used by businesses to acknowledge receipt of orders, payment and delivery of information. Many companies have changed the target time from 48 to 24 hours by the usage of E-CRM as customers can reach the company's website at any time. It has also been highlighted that the character of e-responses also helps build relationship between the provider and the customer.
- **Better Service Quality:** Taylor (1997) states that the main proportions of service quality are reliability, performance responsiveness, quality, empathy and assurance. In addition, delivering high quality services is a way companies manage to improve their customer relationships. Delivering high quality services is a qualification for achieving customer satisfaction and only through customer satisfaction can the company gain loyal customers. Secondly, several quality dimensions of perceived

E-CRM are new and most of them are related to technology: ease of navigation, flexibility, efficiency, site aesthetics and price knowledge.

3.10 Web Banking Services

Banking Industry is considered one of many businesses that have taken advantages of the Internet and its development by introducing Internet banking service to its customers that brings many benefits both to banks as well as customers (Kasemsan & Hunngam, 2011; Aladwani, 2001). The banking sector can barely be looked upon as a model of innovation. This is because its tradition, probity and methods of doing business have been a source of pride to the sector. Banking, which has been known by its "try and test" process of service delivery, is deeply affected by changes. Technology continues to make a profound impact on service industries and radically shapes how services are delivered. The primary motivation for the increasing role of technology in service organizations has been to reduce costs and eliminate uncertainties as well as to standardize services by reducing the heterogeneity prevalent in the typical employee/customer encounter (Durkin, 2004).

Different organizations got affected from this revolution, banking industry being one of them. In this technology revolution, technology based remote access delivery channels and payments system surfaced which included Automated Teller Machines (ATM) displacing cash-dispensing tellers; telephone represented by Call Centers replaced the bank branch, Internet replaced the mail, credit cards and electronic cash replaced traditional cash transactions, and interactive television will soon replace face-to-face transaction. This is a gain in time and spares callers from dealing with the wrong department before they can get the information they require. However, it is vital for the bank to convert its call centers from cost centers to profit centers. Therefore, they have to encourage callers to purchase new products, direct them to the less expensive distribution channels, and help the bank to cross-sell (Riyadh *et al*., 2009).

In recent years, banks have moved towards a marketing orientation and the adoption of relationship banking principles. The key motivators for embracing marketing principles were the competitive pressures that arose from deregulation of the financial services market. This essentially exposed clearing banks and the retail banking market to increased competition and led to a blurring of boundaries in many traditional product markets (Durkin, 2004). Regarding e-mail communication, messages have to be dealt with through a powerful artificial intelligence system, enabling the bank to send out standardized replies. It is

important to send the right reply to a request, and therefore an individualized answer should be provided to the client if there is any doubt. Indeed, if the artificial intelligence system does not have the capacity to reply to an e-mail message, it must be directed towards an employee who will be able to individualize the response the client requires. The past few decades have noticed rapid changes in technological innovation within the banking sector. The increase in innovation adoption is a "largely defensive measure against increasingly sophisticated and highly demanding customer, escalating competition, and the necessity to control and reduce rising costs" (Barra, 1990). Over the last few decades, technical evolution has highly affected the banking industry (Sherif, 2002). For more than 20 years, banks were using branch-based operations, however, since 1980s things really began to change with the advent of multiple technologies and applications.

Global changes led to generate new trends, directions and new ways of doing business. Also, it brought new opportunities as well as challenges to the financial organizations. Financial institutions must recognize the need of balancing their performance by achieving their strategic goals and meeting continuous and every-changing customer needs and requirements. This helps them to compete with newly increasing competitive pressures.

The banking sector has an essential position in today's economy. The saying "the customer is king" has never been more true for the banking sector than it is today. Rules have increased customers' rights while technology and competition tempt the customer with a wide array of products and providers. The Internet plays a crucial role in changing the working environment, living conditions and the way of using banks (Qin, 2009). The rapid increase in technological innovation, competition among existing banks, and new entrants to market have allowed for a much wider set of bank's products and services to become accessible and delivered to customers through an electronic distribution channel (referred to as E-banking). However, the rapid development of e-banking capabilities generates risks as well as benefits.

Electronic Banking (E-Banking) services refer to the processes and instruments which a virtual banking institution offers to its customers using the Internet and the Web. The E-Banking service consists of two major services, electronic payment service for enabling customers to make and receive payments, and account management service for creating, maintaining and controlling accounts.

Recently, banks and insurance organizations have made most effective use of CRM tools. The reasons which forced these institutions to deploy CRM and E-CRM strategies is the increased competition and shrinking margins in the market. Moreover, they deployed such strategies in order to respond to the needs of shareholders and clients. More recently, investment banks have begun to realize the essential value of E-CRM. Banks look at E-CRM activities as a marketing strategy which helps them identify profitable customers and focus more on them. Moreover, E-CRM helps banks understand the different combinations of service, products and customers. Indeed, information about who buys what and how much helps banks to have a commercial approach is based on both customer and service and not just the service.

3.11 CRM in Web-Banking

Recent researches in Customer Relationships Management focus on Self-Service Technologies for customers (SSTs). They emphasize the important issues where technologies act as a service enabler for the customer. The advantages of these technologies are said to be centered on the fact that "customers can access services when and where they want without some of the complications of inter-personal exchanges" (Durkin, 2004).

CRM Strategies will add value to banks by improving the ability of a bank to select and manage the right customer coverage, determine which services should be sold to which customer, minimize the cost of coverage through improving the productivity of transactions while maintaining quality of coverage and organize the multi-product and multi-country relationship in real time.

To gain the benefits of E-CRM, banks should have a clear view of what customers need from them. Durkin (2004) classified four crucial needs of most customers; efficiency in the services delivered, cost reduction, better control in delivering results, and banks knowing the needs of customers. Therefore, banks must ensure that products or services are offered at the right time and at the right price.

In Saudi Arabia, there are various activities of E-CRM that banks use these days. Some of these activities are operational CRM while others are the communicational CRM. Some of these activities are just for visual, such as check balances, view statement of account, and historical records; others are for account controls which are some CSS activities of operational CRM such as, accounts change, order cheque books, transfer funds, pay bills to

third parties, standing order or print statements, send messages, pay bills…etc. Furthermore, as observed by the researchers, there are different communication channels or contact points for customers with Saudi Arabian banks.

- **Agencies**: The communication with customers in the touch point are carried out face to face, which is considered an important source of valuable information.
- **Call centers**: This is the easiest and fastest access to products or advice from the bank.
- **Self-banking**: These are contact points between the customer and the bank. It enables the customer to make payments, draw cash, etc., and eventually interact with the bank.
- **Communication and advertising**: This department is responsible for the campaigns and client communication.
- **Client service**: This service helps client understand complex products and provides them with after-transactions service.
- **Home banking**: The customer can reach bank services via PC and Internet.
- **Technical support**: It consists of a group of employees who give technical advice and support regarding any problem as well as giving technical support concerning the bank's products.
- **E-mail**: The customer may like to send an e-mail without having wait for the representative.
- **Web chat**: Allows a website customer and organizational representative to have a text-based "conversation" in near real-time, by alternately typing text messages in the window provided by chat program.
- **Web callback:** Allows customers to enter their telephone numbers and be called by a bank representative.

Although, all these contact points have their specific features and importance in the communication process, the Call Centre has lately received more attention. Information Technology enables immediate recognition of the customers, provides the employee with the right data immediately, and allows sending customers to the right department according to their importance and need (Lind, 2004). Customers expect various functions from web banking; they can be classified under four different categories: (1) View-only functions. (2) Account-control functions, (3) Applying for new-service (4) Reconciliation functions. Each of these groups is divided into subsets of functions. The following paragraphs explain these groups.

View-only functions: Without exception, all banks in Saudi Arabia as well as the rest of the world offer this type of functions. The primary advantage of view-only functions for the banks is that it minimizes the load of work for their employees inside the branch and call centers, and it reduces the traffic at ATMs. The advantage for customers is that they can be sure about privacy as well as quick and efficient service during all times.

Account-Control functions: The primary role of these functions is to offer customers with the widest functions of control over their bank accounts to increase customer satisfaction. Web banking should provide as many of these functions as possible. All banks in Saudi Arabia offer the option of transferring funds between accounts. Moreover, bills have a significant proportion of household expenditure and the timing of these payments can be essential, therefore, the need for management of the household cash flows is a must in today's web banking sector. To make the most of Internet banking, customers must be able to apply for new banking services and open new accounts such as savings accounts, loans…etc. It is essential that existing customers as well as potential customers are encouraged to acquire new services. If any process cannot be completed over the Internet due to any kind of barriers, the customer must at least be allowed to add personal details so that the request service or process is accelerated.

There is an increasing number of customers using software packages in order to handle their finances. So, it is crucial that customers are given the chance to reconcile their accounts by downloading and sharing information from their bank accounts to their individual financial management software (Jayawardhena, 2004). Rapidly improving technology allows banks to make the best of each customer contact. E-CRM technologies normally include various applications such as Call Center Automation, Campaign Management,Contact Management, Data Warehousing, Email Management, Field Service Automation, Knowledge Management, Marketing Automation, Personalization Tools and Transactions Force Automation (Reynols, 2002).

Recent researches discussed in detail the growth of self-service technologies (SSTs). They propose that a successful self-service technology improves resource management through minimizing the costs of delivery. In addition, it improves resources management by releasing service personnel to provide better and more varied services. Self-service technologies can make sure that a customized service is offered to customers, and helps banks to recover from service failure.

3.12 E-CRM Customer Satisfaction for Success

Although there is common agreement that E-CRM has deep impact on customer satisfaction, profits, loyalty and transactions (Connelly & Yoger, 2001; Cusack, 1998; Tschohl, 2001), the importance of E-CRM and its features in impacting customer satisfaction has not been investigated clearly. The main objective of this thesis is to attempt to discover the relationships between E-CRM and customer satisfaction by determining a set of E-CRM features which can be applied by web banking. Determining what influence E-CRM factors have on customer satisfaction will allow banks in Saudi Arabia to focus on developing their website with thosee features of E-CRM that are related to customer satisfaction. This may lead to reduce costs, since elements that are not relevant need not be included anymore in the E-CRM implementation. Also, this may mean more customers, more transactions, more profit, and more loyalty because resources are focused on these aspects of E-CRM .

Few empirical studies show that CRM or E-CRM is related to customer satisfaction which of course leads to more profit for organizations. There are different CRM systems available in the market such as Siebel (www.siebel.com), Convergys (www.convergys.com) and Genesys (www.genesyslab.com). These systems, among many others, offer varied technical functions which can improve the concept of CRM. However, they do not focus on customer satisfaction measurement that must be at the core of any implementation of CRM or E-CRM. While it is globally believed that E-CRM applications are important, it is obvious that not all organizations succeed in implementing E-CRM or even if CRM is related to customer satisfaction, transactions or profit. Therefore, it is crucial to recognize the relationship between E-CRM or CRM and customer satisfaction. This is because by understanding what part, or parts, of E-CRM or CRM create satisfaction, management of the E-CRM functions become more efficient and more effective which lead to increase the profit of the organizations.

The Banking sector emerges to be a logical industry to assess the relationship between E-CRM and customer satisfaction. This suggests that the banking industry is likely to be ahead of other industries in understanding E-CRM. Most banks all over the world have websites with various E-CRM features. The main driver for E-CRM adoption seems to be a commonly shared belief that it improves customer loyalty and retention (Rosenbaum & Huang, 2002) through the enhancement of customer satisfaction. Some researchers claim

positive effects of E-CRM on customer satisfaction while others such as Feinberg & Kadam, 2002 suggest that E-CRM failure may be due to the implementation of features that executives believe affects customer satisfaction, but in reality does not have any effect at all.

Obviously, there is a need to build up a better understanding of E-CRM success factors because customer satisfaction is considered one of the most immediate goals of E-CRM. A good way to study E-CRM success is to assess the relationship between E-CRM and customer satisfaction. Despite the increasing interest in studying the relationship between E-CRM and customer satisfaction (McKinney *et al.,* 2002) past researches have not focused on this relationship. Many of the previous studies focused on the effects of specific features of E-CRM on satisfaction alone with no considerations on any other element.

3.12.1 E-CRM Success

As stated earlier, researchers are claiming positive effects of E-CRM. However, there is still lack of empirical evidence of these effects. In fact, there is no consistent measurement for E-CRM success making it hard to assess E-CRM activities (Talhat, 2011). Moreover, as E-CRM is a customer-focus strategy, it makes sense to study its success from the customer's standpoint. Past researches suggest that measuring the E-CRM success directly is not practical and rather impossible (Galletta & Lederer, 1989) justifying the usage of other measuring factors.

Satisfaction is an important determinant of the success of E-CRM. It is usually used as a measure to assess the success of Information System (IS) in general and the E-CRM applications, in particular (Kim *et al*., 2002). Compared to other general success factors such as perceived usefulness or usage, satisfaction allows a higher degree of content validity. Some of the researchers even argue that satisfaction is an overall measure of the success (Gable *et al*., 2003). In fact, satisfaction proves to have important effects on customer loyalty (Anderson & Srinivasan, 2003) customer retention (Rust & Zahorik, 1993) and profitability (Homburg *et al*., 2002). Based on the theoretical arguments presented earlier, this thesis uses online customer satisfaction as a factor for measuring the success of E-CRM in the web banking.

3.12.2 E-CRM and Satisfaction

At the beginning, researchers of information system, focused on end-user satisfaction and transforming their needs as functions in the system. The beginning of E-commerce makes it

difficult to choose the distinction between end-users and online customers, leading the need for the mix of marketing and technological factors which become more important in the Internet world. The satisfaction of online customers is not only determined by product and service attributes, but also by the customer's interaction with the system. It is difficult to distinguish these kinds of satisfaction. Likewise, in studying the role of E-CRM in customer satisfaction, it is impossible to separate the effects of marketing activities from the system features; therefore, a view of satisfaction is preferable (Rust *et al.*, 1999).

In the context of E-commerce, Sterne (1996) suggests a model in order to describe online customer experience, consisting of three stages: (i) Pre-transaction, (ii) Transaction, and (iii) After-Transaction interactions. Lu, (2003) uses this framework to assess the effects the functionality of E-CRM on satisfaction, demonstrating that E-CRM features act in different ways to the satisfaction associated with each transaction stage. Using the same line, Feinberg *et al.*, (2002) drew the features of E-CRM in the retail websites into the pre-transaction, transaction and post-transaction stages in investigating the relationship between E-CRM and satisfaction. Wixdom & Todd (2005) examined factors such as 'ease of use' and 'usefulness' as determinants of satisfaction in the context of online. However, there is an absence of theoretical models for those E-CRM features that affect online satisfaction (Talhat, 2011). Furthermore, there is a lack of studies that focus on E-CRM features correlated with different stages of transaction (pre-transaction, at-transaction, and post-transaction). Therefore, this study attempts to improve on prior research in providing empirical validation of an E-CRM model by determining its effect of E-CRM features on customer satisfaction in the different stages of transaction in a bank's website.

The concept of satisfaction must also consider the lifecycle for the customer. Recent information system satisfaction researches focus on the dynamic nature of satisfaction (Khalifa & Liu, 2003). Satisfaction during the initial stages of usage is more likely to be determined by internal desires (Bhattacherjee, 2001). Over time and with experience, user's attitudes and beliefs are expected to change (Karahanna *et al.*, 1999). The satisfaction then is mainly determined by more expectations (Karahanna *et al.*, 1999). The importance of the satisfaction determinants is likely to change depending on the adoption stages (pre-adoption and post-adoption). For E-CRM, these adoption stages are related to the lifecycle phases of retention and attraction. The E-CRM features that are important for customer retention are not necessarily the same as those needed for customer attraction. Customer satisfaction

seems to be the subject of considerable interest by both marketing practitioners and academics since 1970s (Churchill & Surprenant, 1982; Jones & Suh, 2000). Companies and researchers first tried to measure customer satisfaction in the early 1970s, on the theory that increasing it would help them prosper (Coyles & Gokey, 2002).

Throughout the 1980s, researchers relied on customer satisfaction and quality ratings obtained from surveys for performance monitoring, compensation as well as resource allocation (Bolton, 1998) and began to examine further the determinants of customer satisfaction (Swan & Trawick, 1981). In the 1990s, however, organizations and researchers became heavily concerned about the financial implications of their customer satisfaction (Rust & Zahorik, 1993). While satisfaction has been examined by many researchers in different industries (Ranaweera & Prabhu, 2003), service quality is also likely to influence customer behavioral intentions (Choi *et al.,* 2004).

3.13 Satisfaction and Service Quality

Many researchers indicated that high levels of customer satisfaction are related to the service quality provided through customer interactions (Vilares & Coehlo, 2003). According to literature, there is a strong and direct relationship between service quality and customer satisfaction (Storbacka & Luukinen, 1994; Strandvik & Liljander,1994a ,1994b; Spreng & Mackoy,1996; Oliver, 1997; Sureshchandar *et al.,* 2003; Ribbink *el al*., 2004; Ladhari, 2009; Nadiri *et al.,* 2009; Amin & Isa, 2009; Najjar & Bishu, 2006; Katircioglu *et al.,* 2005; Lai, 2004; Cui *et al*., 2003; Hassan *et al*., 2003; Lassar *et al*., 2002). The customer satisfaction concepts rely on customer's perception of service quality (Strandvik & Liljander, 1994a). Customer satisfaction is the result of customer's perception of the service quality (Blanchard & Galloway, 1994; Heskett *et al.,* 1990) relative to expectation (Zeithaml *et al*., 1990). Moreover, Looy *et al*., (2003) define customer satisfaction as; *"the customer's feeling regarding the gap between his or her expectations towards a company, product or service and the perceived performance of the company's product or service*."

Customer satisfaction can be interpreted as an overall evaluation of service quality Attributes (Formell *et al*., 1996 ; Johnson & Fornell, 1991; Boulding *et al.*, 1993). Several studies discussed the relationship between two constructs of service attribute - Performance and overall customer satisfaction (Anderson & Sullivan, 1993; Oliva *et al*., 1995; Oliver, 1993; Mittal *et al*., 1998). 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). Kumar *et al.,* (2009) stated that high quality of service will result in high customer satisfaction and increases customer loyalty Furthermore, Kazi (2011) in his study confirms the positive relationship between all service quality attributes and customer satisfaction.

3.14 Definition and Dimensions of Service Quality

In the contemporary era, wherein competition is an ever-increasing phenomenon, the concept of 'service quality' has been an area of intense academic research and very popular amongst researchers. It has been recognized as one of the crucial factors in maintaining competitive advantage and for the retention of satisfactory customer-company relationships (Zeithmal *et al*., 2000). Just like the concept of customer satisfaction, service quality has also been recognized as the level of difference between the expectation and the actual performance (Parasuraman *et al.,* 1988).

According to Woodside *et al.*, (1989) service quality is what customers expected or different from what they expected? Was the service they received approximately what they expected or better or worse than expected? In addition, there are three underlying themes with regard to service quality which have been considered significant to the study:

- Service quality is a rather difficult measurement for the customer to evaluate as compared to goods quality.
- Service quality perceptions are a result of the comparison made between the customer expectations and the actual level of the service that has been provided.
- Evaluations regarding the final outcome of the service are not the only factor which determines the service quality, but the delivery of the service is an important underlying determinant as well.

Researchers have made great endeavors in order to identify the global attributes of services which are most relevant to the quality assessment criteria in the conventional service environment (Groroos, 1982 and 1984; Parasuraman *et al*., 1985 and 1988). It has been observed and claimed that the assessment of service quality should include three major dimensions (Groroos, 1982). Firstly, the technical quality of the outcome which, needless to say, is the actual outcome of the service in particular, therefore it is *usually measured in an objective manner.* Secondly, the functional quality of the service experience this part focuses on the subjective aspect of the service being provided it is the interaction between

the provider and the receiver of the service. It is a feeling based phenomenon and thus is often *perceived in a subjective manner*. Finally, the corporate image of the service; this part pertains to the customer's perception about the organization providing the service.

There are many dimensions which frame the corporate image. These include the first two aforementioned dimensions of service quality along with the price, the location of the business, the external communication, the actual visible appearance of the site of location and also the competency and the behavior of the organization's employees.

Lehtinen (1982) have also identified these dimensions but have given them different terminologies, but the construct however remains the same. (Parasuraman *et al.*, 1985) however identifies ten major dimensions ranging from reliability, responsiveness, competence, access to courtesy, communication, credibility, security, understanding and tangibles respectively. He identified reliability to be the most critical dimension with regard to service quality.

It can be seen that there are slight distinctions between the concepts of 'customer satisfaction' and 'service quality', but the initial basis of evaluation is the same, that is the gap between the expectation and the actual performance, hence resulting in a high correlation.

3.14. 1 Definition of E-Service Quality

The incredible growth of the Internet and the reliance of people on the virtual network have dramatically increased over time. The Internet has provided managers with new ways of conducting business and increasing sales for their business, in an attempt to compete in an ever-increasing globalizing and competitive world. Hence, as a result of this, the number of research studies being focused on the impact of Internet on economic growth and business practices and profitability have undergone considerable increase over time (Venkatraman, 2000).

Today, Internet is not only a medium of sharing information and e-commerce, but it has served as a means of delivering services to business and customers worldwide. The type of services offered by this medium range from the more conventional form of services such as online travel reservations and directory services to a more modern service type of outsourcing entire business functions and IT related services (Casati & Shan, 2001).

According to Zeithaml *et al*. (2000), e-service quality can be defined as the extent to which a web site facilitates efficient and effective shopping, purchasing, and delivery of products and services. Santos (2003) defined e-service quality as overall customer assessment and judgment of e-service delivery in the virtual marketplace. One of the reasons for the increased importance of e-services quality is that over the Internet, it is much easier for customers to compare different service offerings than through traditional channels. Thus, customers of online services expect equal or higher levels of service quality than the customers of traditional services (Santos, 2003).

3.14.2 Service Quality in E-Banking

The Internet banking strategy which is currently affecting the economies of both the developing and the developed world is based upon service quality approach in the context of globalization and liberalization (Mohammed, 2012). In order to meet new challenges, banks are investing considerable amounts of money to develop efficient communication channels to their customers (Senger *et al*., 2002). But without understanding how to give their customers satisfying high quality online experience, they are not going to realize the benefits from the investments made (Kuo *et al*., 2005). The lack of face-to-face communication entails that banks focus on creating good web-based service quality. In the beginning of the 21st century, customers perceived the web-based quality as inferior. (Yang *et al*., 2004). Since then banks have made enormous investments to improve their web pages and endeavored to provide their customer with good quality online service.

Technology is having huge impacts on the service quality and customer satisfaction levels many researchers believe that customers have better service perception of technologies at use than the bank's employees that mean that when customers are in direct contact with the technology they have greater control and tasks are performed efficiently therefore the service quality will be perceived as good (Joseph *et al*., 1999). These are two important qualities that customers require when using online services. If the online task cannot be conducted efficiently and the customers feel that they do not have control over the technology, then the service quality perceived will not be good.

According to Zeithaml *et al*. (1996), banks should provide quality service to their customers in order to enhance a bank's reputation, improve its customer retention, attract new customers and increase its financial performance and profitability based on the traditional dimensions of service quality. Recent studies attempt to identify the dimensions of Internet

service quality. Zeithaml *et al.* (2001) contends that access, ease of navigation, efficiency, flexibility, reliability, personalization, security, responsiveness, assurance, site aesthetics and price knowledge are attributes of Internet service quality. Yoo and Donthu (2001) propose the SITEQUAL, a tool to measure online service quality consisting of four dimensions : Ease of Use; Aesthetic Design; Processing Speed and Security. Research has shown that *Ease of Use* is a significant dimension of E-service quality (Dabholkar, 1996; Davis, 1989; Venkatesh, 2000; Cox & Dale, 2001; Morris & Turner, 2001; Ribbink *et al.*, 2004).

Yang *et al.* (2004) identified five online service quality dimensions - responsiveness, reliability, competence, access, security - and their relationships with the customer satisfaction. Wolfinbarger & Gilly (2002) observed that reliability and fulfillment are the strongest predictors for customer satisfaction. Liu & Arnett (2000) identified five critical dimensions of online service quality in relations to customer satisfaction in the website. Among these, the quality of information that is relevant, accurate, timely, customized and complete are given priority for the customer satisfaction in the online service.

The study by Khalil & Pearson (2007) has found that trust significantly affects attitude towards E-banking acceptance. To encourage E-banking adoption, banks need to develop strategies that improve the customer's trust in the underlying technology. The other factors include quick response, assurance, follow-up and empathy, Security, correct transaction, customer control on transaction (personalization), order tracking facilities and privacy are other important factors in the online service that affect the customer satisfaction. A study done by Joseph *et al*., (1999) investigated the service quality within banking industry when costumers are using Internet, telephone or ATM machines. The study has shown that there are six factors when identifying service quality of electronic banking, namely; Convenience and Accuracy, Feedback and Complaint Management, Efficiency, Queue Management, Accessibility and Customization.

Jun & Cai (2001) identified 17 service quality dimensions of E-banking service quality. These are: Reliability, Responsiveness, Competence, Courtesy, Credibility, Access, Communication, Understanding the Customer, Collaboration, Continuous Improvement, Content, Accuracy, Ease-of-Use, Timeliness, Aesthetics, Security and Diverse Features. They also suggested that some dimensions such as Responsiveness, Reliability and Access are critical for both traditional and Internet banking.

Jayawardhena (2004) transforms the original SERVQUAL scale to the Internet context and develops an array of 21 items to assess service quality in E-banking. By means of an Exploratory Factor Analysis (EFA) and a Confirmatory Factor Analysis (CFA), these 21 items are condensed to five quality dimensions: Access, Website Interface,Trust, Attention and Credibility.

Further studies were done on how to measure service quality within banking industry. Bahia & Nantel (2000) proposed an alternative measure on how service is perceived in the banking industry. Their results were inspired by those done by Parasuraman *et al*. (1988) and contained six dimensions: Effectiveness and Assurance, Access, Price, Tangibles, Service Portfolio and Reliability, Effectiveness and Assurance means that customers should feel safe in using the bank. Access is when customers expect the bank to have the latest technology so that they can perform their banking errands efficiently and safely.

Bahia & Nantel (2000) suggest that the price should be reasonable as this is a primary issue in attracting the customer. Tangibles refer to the atmosphere of the bank where the effective service environment exists. Service Portfolio focuses on the services offered while Reliability deals with trustworthiness of the banks from the customers' point of view.

On the other hand, Jun & Cai (2001) measuring service quality in the E-banking, identified seventeen dimensions which could be divided into three categories: 1. Customer Service Quality, 2. Online Systems Quality and 3. Banking Service Product Quality. Because E-banking has special characteristics, the SERVQUAL instrument used has been extended. Customer Service Quality contains dimensions like reliability and credibility, communication and understanding the customer. Online Systems Quality is about the security online and a demand of an easy to use E-banking program. Banking Service Product Quality is where customers want a variety of products and the services offered through E-banking (Jun & Cai, 2001).

Technology must be easy to use to ensure that customer adopts the service (Wallis, 1997; Sathye, 1999). Gefen & Straub (2003) contend that ease of use is a significant determinant of service quality for new customers. Cox & Dale (2001) also found other attributes such as customer confidence, online resources and relationship services to evaluate E-service quality. Santos (2003) uncovered reliability, efficiency, support, communication, security and incentive as dimensions of online service quality.

White & Nteli (2004) conducted among Internet banking users in Britain and found that security is the most important attribute among the users, followed by responsiveness of service delivery, ease of use, credibility of the bank and product variety. Liao & Cheung (2002) found that Singaporeans expectations regarding accuracy, security, transaction speed, user-friendliness, user involvement, and convenience were the most important quality attributes in the perceived usefulness of Internet-based E-banking. Among these quality attributes, the first five dimensions determine customers' willingness to use the service.

Jayawardhena (2004) developed a model consisting of five dimensions: access, web site interface, trust, attention and credibility and it was found that customers place more importance upon access and web site interface than the other dimensions and concluded that banks should focus on building trust through ensuring the security and privacy of customer information. Internet banking has been portrayed as an "Internet portal through which customers can use different kind of banking services ranging from bill payment to making investments" (Pikkarainen *et al.*, 2004).

Different studies consider particular service quality dimensions of simple banking websites. Jayawardhena (2004) did a research on the service quality in E-banking by using an adopted version of the SERVQUAL instrument for the Internet context. The study resulted in 21 items which were reduced to five quality dimensions: access, website interface, trust, attention and credibility. Conclusively, it should be said that some researches have been done to identify service quality dimensions in E-banking, but so far no model has been developed, that can be universally used and applied as far as E-banking services quality is concerned.

Zeithaml *et al.,* (2001) contends that access, ease of navigation, efficiency, flexibility, reliability, personalization, security, responsiveness, assurance, site aesthetics and price knowledge are attributes of Internet service quality. Yoo and Donthu (2001) propose the SITEQUAL, as a tool to measure online service quality consisting of four dimensions: ease of use, aesthetic design, processing speed and security. Research has shown that ease of use is a significant dimension of E-service quality (Dabholkar,1996; Davis,1989;Venkatesh, 2000; Cox & Dale, 2001; Morris & Turner, 2001; Ribbink *et al.*, 2004). Technology must be easy to use to ensure consumer adopt the service (Wallis, 1997; Sathye, 1999).

Gefen & Straub (2003) contend that ease of use is a significant determinant of service quality for new customers. Cox & Dale (2001) also found other attributes such as customer confidence, online resources and relationship services to evaluate E-service quality. Santos (2003) uncovered reliability, efficiency, communication, support, security and incentive as dimensions of online service quality. White & Nteli (2004) found that security is the most important attribute among the users, followed by responsiveness of service delivery, ease of use, credibility of the bank and product variety.

Liao & Cheung (2002) found that Singaporeans expectations regarding accuracy, security, transaction speed, user-friendliness, user involvement, and convenience were the most important quality attributes in the perceived usefulness of Internet-based e-banking. Among these quality attributes, the first five dimensions determined customers' willingness to use the service. Jayawardhena (2004) developed a model consisting of five dimensions: access, web site interface, trust, attention and credibility and it was found that customers place more importance upon access and web site interface than the other dimensions and concluded that banks should focus on building trust through ensuring the security and privacy of customer information.

Internet banking has been portrayed as an "Internet portal through which customers can use different kind of banking services ranging from bill payment to making investments" (Pikkarainen *et al.*, 2004). Yang *et al.* (2004) argue that customers assess the online product portfolio as they prefer firms which offer a substantial selection of e-products to satisfy their diverse needs. Banks have realized that in order to remain competitive, they need to restructure their services to make use of rapid technology as well as to offer diverse service portfolio (Arasli *et al.*, 2005).

According to Akinci *et al.,* (2004) the developments in technology and fierce competition have compelled organizations to introduce Internet banking and they argue that the development and dissemination of online banking should lead to improved banking services. Although research has shown that technology has many advantages, it can also make service delivery more complex and affect service quality. Zeithaml *et al.* (2001) contend that many customers cannot clearly determine their expectations of Internet services. Similarly, Rubino (2000) argues that E-service quality has been evaluated as inferior by customers since the Internet is a relatively new transactional channel. According to Yang *et al.*(2004), companies may not clearly understand what specific services are needed by customers.

Further studies were done on how to measure service quality within banking industry. Bahia and Nantel (2000) proposed an alternative measure in how service is perceived in the banking industry. Their results were inspired by those done by Parasuraman *et al.* (1988) and contained six dimensions: Effectiveness and Assurance, Access, Price, Tangibles, Service Portfolio and Reliability. Effectiveness and Assurance means that customers should feel safe in using the bank. Access is when customers expect the bank to have the latest technology so that they can perform their banking errands efficiently and safely. Price is an important measuring instrument. Bahia & Nantel (2000) suggest that the price should be reasonable because it is attracting the customer. Tangibles refer to the atmosphere of the bank where the effective service environment exists. Service Portfolio focuses on those services that are offered while Reliability deals with trustworthiness of the banks from the customer's point of view.

3.14 .3 E-SQ (E-S-QUAL and E-Rec S-QUAL) Instrument for Measuring Online Services Quality

E-SQ Instrument is an instrument similar to the SERVQUAL scale, developed specifically for measuring quality of online services (E-services). The model has been developed in the year 2000 and tested and revised in 2002 by Parasuraman, *et al.* (1988) who made an exploratory study on quality perceptions of customers as far as online shopping is concerned. The development of this instrument went through three stages. During the first stage, researchers used qualitative study with six focus groups and six to seven participants in each group (Zeithaml *et al*., 2000). Furthermore, they claim that "the responses of focus-group participants to E-service quality (e-SQ) dimensions were remarkably consistent across the groups, experience levels, and E-service businesses discussed. The focus groups revealed that consumers use basically similar dimensions in evaluating e-SQ regardless of the type of product or service being evaluated on the Internet" (Zeithaml *et al*., 2000).

The dimensions for measuring E-service quality, found at that stage were eleven: Reliability, Responsiveness, Access, Flexibility, Ease-of-Navigation, Efficiency, Assurance/ Trust, Security / privacy, Price, Knowledge, Site Aesthetics and Customization / Personalization.

Table 3-3 Dimensions of Perceived e-SQ

E-Service Quality Dimension	Description
Reliability	Involves the correct technical functioning of the site and the accuracy of service promises (delivering when promised) and product information.
Responsivnes	Quick response and the ability to get help if there is a problem or question.
Access	The ability to get on the site quickly and to reach the company's Web site when needed.
Flexibility	Choice of ways to pay, ship, buy, search for and return items.
Ease of Navigation	The site contains functions that help customers to find what they need without difficulty, possesses a good search engine, and allows the customer to maneuver easily and quickly back and forth through the pages.
Assurance/Trst	The confidence the customer feels in dealing with the site and is due to the reputation of the site and the products or services it sells as well as clear and truthful information presented.
Efficiency	The site is simple to use, structured properly, requires minimum information to be input by the customer.
Security/Privacy	The degree to which the customer believes the site is safe from intrusion and personal information is protected.
Price Knowledge	The extent to which the customer can determine shipping price, total price and comparative prices during the shopping process.
Site Aesthetics	The visual e appearance and look of the site.
Customization	How much and how easily the site can be tailored to individual customers' preferences, histories and ways of shopping.

Source: Zeithaml *et al*., (2000, p16)

The above described model resembles very much with the SERVQUAL instrument (Parasuraman, *et al*., 1991) but it also includes few new dimensions specific for the online space. First of all, the quality dimensions of reliability, responsiveness, access, assurance and customization/personalization are also key quality dimensions of the SERVQUAL instrument for traditional service settings. These five dimensions have the same perceptual attributes as those in traditional service quality evaluations, besides the access and reliability dimensions. These two dimensions have some attributes which deal with online-specific issues as well (Zeithaml *et al*., 2000). Secondly, several quality dimensions of perceived e-SQ are new and most of them are related to technology: ease of navigation, flexibility, efficiency, site aesthetics and price knowledge (Zeithaml *et al*., 2000).

The dimensions relating to Ease of Navigation, Efficiency and Site Aesthetics have been proved to be important for evaluating online systems quality (website quality in particular) by many researchers as shown by the authors of the thesis in the part dealing with online services quality (Doll & Torkzadeh, 1988; Abels *et al*., 1999; Jayawardhena & Foley, 2000; Liu & Arnett, 2000; Santos, 2003). Later, the attributes pertaining to the above-mentioned 11 dimensions of e-service quality found out in the research by Zeithaml *et al*., (2000) were used as the e-service quality (E-SQ) domain from which the researchers drew items for the E-SQ instrument.

As a second stage in the development of the E-SQ instrument Zeithaml *et al*., (2000) developed a preliminary scale consisting of 121 items which was incorporated into two questionnaire versions. These questionnaires were evaluated with the help of focus groups and as a result, a final, revised questionnaire consisting of 113 items was constructed. Then the researchers hired a marketing research firm to distribute the questionnaire to a random sample of Internet users who had sufficient online shopping experience. After collecting the survey data, the data was subjected to scale-reduction and refinement analyses. As a result, the initial 11 dimensions in 2000 were reduced to 7 dimensions (Parasuraman *et al*., 2005).

In the virtual space, customers communicate with the banks through an information system. By using the internet as a service delivery channel, banks should be aware of the fact that some aspects of the human interaction of traditional service settings - Courtesy, Friendliness, Helpfulness, Care, Commitment, Flexibility and Cleanliness - cannot be replaced by technology (Cox & Dale, 2001). The absence of these aspects of human interaction through which quality can be delivered to customers will have to be compensated by other quality factors, for example, different features of the bank's website, through which the online services are delivered. That is why a literature review on the online systems quality is necessary for the purpose of this study.

3.15 Research Model Development

The development of research model depends mainly on the theoretical background and related literature. Under the conditions of today's heightened competition, customer satisfaction is becoming more important than any time in the past. Therefore, customer satisfaction has attracted considerable research efforts in the recent years. In addition, many researchers, such as McKinney *et al*., (2002) stated that customer satisfaction is one of the most immediate objectives of E-CRM. However, reviewing the related literature indicates that E-CRM leads to customer satisfaction through the enhancement of the quality of the service provided to those customers. Consequently, this study examined the effect of E-CRM on the levels of customer satisfaction taking into account the moderating role of the service quality. The purpose of this section is: (a) to develop a comprehensive conceptual model that explains the effects of various types of E-CRM features in the context of website banks; and within the transaction cycle; on customer satisfaction, and service quality, (b) to present the hypotheses of this study, and (c) to investigate the relationships between E-CRM features, service quality and customer satisfaction.

3.15.1 *Conceptual Framework*

According to Sekaran (2000), a theoretical framework provides the foundation on which an entire research project is based. It describes the relationship between variables that contribute to the research problem. The theoretical framework provides a clear understanding of the dynamics of the problem being investigated and thus facilitates the generation of testable hypotheses. The direction of the relationships between study variables was consistent with the related literature and theoretical background in addition to the link between service quality and customer satisfaction whereas the direct relationship between E-CRM and customer satisfaction will be considered. The theoretical framework for this study contains five major constructs:

- Pre-transaction E-CRM features
- At-transaction features
- Post-transaction features
- Customer satisfaction
- Service quality

This study identified five variables that are considered relevant to the research problem. The Independent Variables (IV) for this study include pre-transaction, at-transaction, and post-transaction E-CRM features, while service quality is a dependent variable in relation to E-CRM but an independent variable in relation with the customer satisfaction. Finally, customer satisfaction is a dependent variable in relation to both E-CRM and service quality variables. The basic conceptual framework of this study is shown in figure 3.4
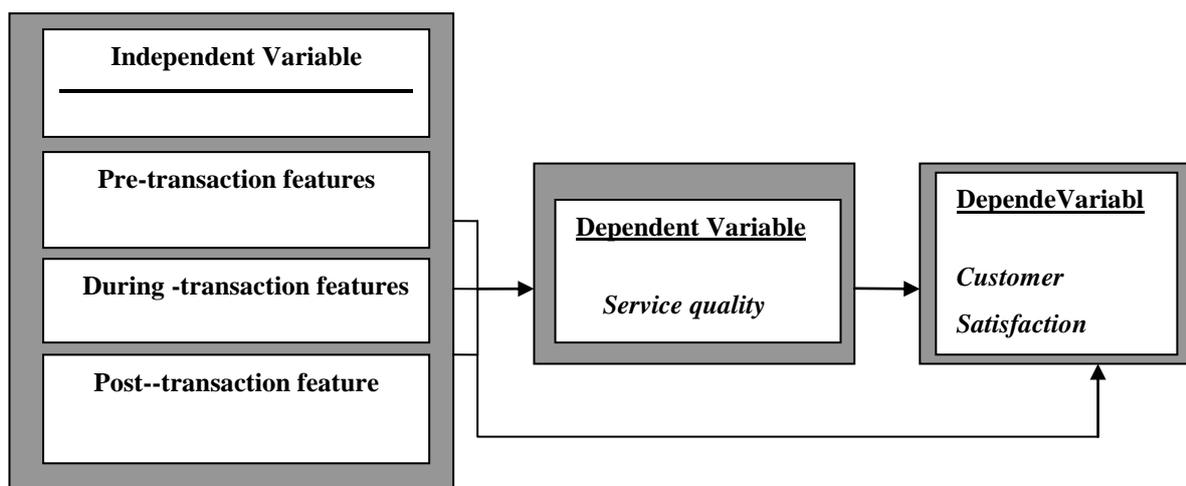
Figure 3-4 The Conceptual Framework

Since Internet technology changes rapidly along with the customers' expectations, the study of specific E-CRM features has made the past studies less appropriate. Instead, this study focuses on measuring an E-CRM program by investigating the most important E-CRM features in each stage of transaction cycle which include almost all of E-CRM activities. Furthermore, by carefully looking at the pre-transaction, at-transaction, and post-transaction features mentioned in section 3.8, one can easily find that there are some features which are completely for the use of e-retailer. For example, customer service and order tracking features are purely used for retail selling and have nothing to do with banks business. Based on our customer perspective of this study, the researcher has selected only those features which are related to customers. Therefore, we will also take this point into consideration while doing further selection. The purpose of our study requires to choose features related to customers' and web bank transaction perspective, so the choice of the E-CRM features to be tested in this study had the following selection criteria:

- Relevance of the E-CRM features for banks businesses.
- A representation of three main stages of an online transaction process (pre-transaction, at-transaction, and after-transaction stages) and varied importance of these stages for customer satisfaction (Khalifa & Shen, 2005: 2009; Lee & Joshi, 2006; Cheung & Lee, 2005; Wang & Hurang, 2004). Customers were asked to indicate what actually they want from E-CRM features in the web banks regarding their use of a wide list of E-CRM website features.

Consistent with the above justifications of selection of E-CRM features, the following factors were proposed as the dimensions of pre-transaction, at-transaction and post-transaction E-CRM constructs: For pre-transaction, (a) site customization, (b) membership, and (c) site information; for at-transaction (a) privacy, (b) security, (c) product or service customization, and (d) alternative payment; and for post-transaction (a) frequently asked questions (FAQs), (b) problem solving, and (c) online feedback.

3.15.2 Major Research Model Constructs and Research Hypotheses

The proposed conceptual model of this study assumes that customer satisfaction is affected by three types of E-CRM constructs: pre-transaction (site customization, membership, and site information.); (2) at-transaction (privacy, security, product or Service customization, and alternative payment); and (3) post-transaction (frequently asked questions (FAQs), problem solving, and online feedback) (Rozita, (2012); Talhat, (2011); Tanveer, (2009);

Liu *et al* ., (2008); Yoon *et al*., (2008); Kailua & Liu, (2007); Cheung & Lee (2005); Zineldin, 2005; Khalifa & Shen, 2005:2009; Rust & Lemon, (2001); Nysveen & Lexhagen, (2001); Nysveen, (2003)). The predictor variables from these three categories are expected to effect and explain the service quality, which in turn is effect to customers satisfaction. The following section provides in-depth description of each construct and the theoretical justification for including them in the proposed conceptual model.

3.15.3 Pre-Transaction E-CRM Construct

The pre-transaction E-CRM features are associated with the activities that customers encounter prior to placing an order, e.g, membership registration and information gathering (Khalifa & Shen, 2005:2009). Rozita (2012) and Tanveer (2009) in their study of bank's website, highlighted the importance of different pre-transaction E-CRM features (site customization, local search engine, membership, chat) on bank's website and their relationship to customer satisfaction. In order to gain an in-depth better understanding pre-transaction E-CRM features have been investigated in several studies (Rozita, 2012; Talhat, 2011; Tanveer, 2009; Liu *et al*., 2008; Yoon *et al.*, 2008; Kailua & Liu, 2007; Cheung & Lee, 2005; Zineldin, 2005; Khalifa & Shen, 2005:2009; Rust & Lemon, 2001; Nysveen & Lexhagen, 2001; Nysveen, 2003). Drawn from a comprehensive literature review, the following pre-transaction E-CRM construct, namely: (a) site customization, (b) membership and (c) site information. Table 3-4 describes the different dimensions of E-CRM features to be tested in this study and their sources of conceptualization by different authors. Thereafter, the related hypotheses are formulated.

Tables 3-4 Dimensions of the Pre-Transaction E-CRM Features

Pre-Transaction E-CRM Feature	Dimension	Importance	Supporting Reference
Site customization	Allow its users to filter the contents they want to see .It refers to thecreation of one-to-one websites that are personalized base customer's specific needs ,interests and preferen	Itis very importan to attract Customers and Access to information easy for customers to find the his\her preferences	Ho&Wu (1999) Lee&Cheung,(2002) Khalifa&Shen,(2005) Tanveer,(2009) Rozita. (2012) Talhat ,(2011) Tanveer, (2009) Liu et al.,(2008) Liu and Han (2007)
Membership	By having password a visitor can browse the password protected pages of the site.	Itis very important for customertore have protected pages of the site	Sterne , (1996) Rust & Lemon,(2001) Feinberg *et al*.,(2002) Rozita, (2012) Talhat,(2011) Tanveer, (2009) Liu *et al.,* (2008) Liu and Han, (2007)
Sie information	How easy it is for custome r to find information about the products prices and services. This is the combination of 'site tour' and introduction to first-time users' and' site map' features. First time visitors can get a tour to website and can get across an information page guiding them how to use the Website effectively whereas 'site map' can give them a site overview.	Creating maintaining, an expanding customer relationships	Sterne,(1996) Anderson&Kerr,(2001) Nysveen&Lemon (2001) Rust&Lemon(2001) Feinberg*et al*.,(2002)

- **Site Customization**

Site customization is a key feature in a transaction. This feature refers to the creation of personalized one-to-one websites based on dynamic customer profiles. The ability to adapt the website content to the customer's specific needs, interests and preferences requires the integration of information collected from all touch points (Khalifa & Shen, 2005: 2009). Ross (2005) stated that the companies can win customers by personalizing the communication between the companies and the customer and customizing the product and service offering according to desires and needs of their individual customers. According to him, before the advent of Internet, two-way dialogue between customers and suppliers was missing which is important to establish a true one-to-one relationship and after the advent of Internet marketers got the mechanism to activate 'personal marketing'. He defines 'personal marketing' as the capability of companies to present their goods and services customized to fit the distinct personal interest and need of the customer.

Feinberg *et al*., (2002) stated that if the volume of information is more than what is required by the customer, then it can be a weakness of web-based CRM. The future of truly implemented E-CRM is completely 'one-to-one' website. With this feature, the customer

can customize information according to his own preferences. When a site is customizable and the customer customizes it on one visit, he can see the site according to his previous settings on the next visit. Further, Khalifa & Shen (2009) found that the site customization enables the customer to be more efficient and to make better-informed decisions .and this feature had a positive effect on E-SQ and customer satisfaction.

- **Membership**

By having a password, customer can browse the password-protected pages of the site. This allows the bank to collect information from customers when they register for the membership (Tanveer, 2009). Feinberg *et al*. (2002) have stated that membership is a key feature in the pre-transaction. Holloway & Beatty (2008) stated that the password can be requested by the customers so that they can surf on password-protected web pages within the website. Moreover, they defined membership as an important factor in building customer satisfaction.

- **Site Information**

Although banks have a wide range of product/service assortments in their databases, failure to display up-to-date information regarding the product/service may be devastating. The website should have enough information to provide customers with all necessary information such as account information, price, purchase conditions, policy, and information about the product/service. With more extensive product/service information and price-related information, customers benefit from the low search cost as well as product and price comparisons, hence higher levels of customer satisfaction can be achieved (Koufaris *et al*., 2002). Anderson & Kerr (2001) said that internet is used to deliver products and services to customers under the heading of information they reveal, and internet can also provide useful information about products and services of an organization to current and potential customers. They believe that information-based webpage or articles on websites are placed on this step so that customers and potential customers can visit and find information easily and can transact business with the company. Because, they believe that the main aim of CRM is creating, maintaining, and expanding customer relationships and this is impossible if the customers cannot find information easily. Therefore, the above theoretical argument leads to the first hypothesis:

Hypothesis 1 : Pre-transaction E-CRM features have a positive effect on Customer Satisfaction

3.15.4 At-Transaction E-CRM Constructs

Khalifa & Shen (2005:2009) state that at-transaction E-CRM features are those that support activities associated with product selection and ordering, comparative shopping and order placement. This categorization of at-transaction E-CRM features is consistent with previous research that distinguished between satisfaction at different stage of transaction cycle. Homburg & Giering (2001) state that at-transaction, satisfaction occurs through personal interaction with the sales personnel and the capability of the seller to meet the individual needs of customer. In order to gain an in-depth and better understanding, at-transaction, E-CRM constructs have been investigated in several studies (Rozita, 2012; Talhat,2011; Tanveer, 2009; Liu *et al.*, 2008; Yoon *et al.*, 2008; Kailua & Liu 2007; Cheung & Lee, 2005; Zineldin, 2005; Khalifa & Shen, 2005: 2009; Rust & Lemon, 2001; Nysveen & Lexhagen, 2001).

Khalifa & Shen, (2005:2009) deconstructed at-transaction E-CRM features into five constructs, namely; product customization, payment methods, purchase conditions, comparative shopping, and dynamic pricing, whereas Liu *et al.*, (2008) deconstructed these features into four constructs; namely, transaction capability, response, security/privacy, and payment.

Following a comprehensive literature review (Rozita, 2012; Talhat, 2011; Tanveer, 2009; Liu *et al.,* 2008; Yoon *et al*., 2008; Kailua & Liu, 2007; Cheung & Lee, 2005; Zineldin, 2005; Khalifa & Shen, 2005: 2009; Rust & Lemon, 2001; Nysveen & Lexhagen, 2001), the following factors are proposed as the dimension of at-transaction E-CRM construct, namely: (a) privacy/security, (b) product/service customization, and (c) alternative payment. (Table 3-5) describes the different dimensions of E-CRM features to be tested in this study and their sources of conceptualization by different authors.

Tables 3-5 Dimensions of At-Transaction E-CRM Features

At-Transaction E-CRM Features	Dimension	Importance	Supporting Reference
Privacy/ security	Ability of website in protecting customer personal information collection transactional from unauthorized use or disclosure . customers feel comfortable that no one can interfere in the transactions communication.	Privacy and security are important to build trust and long-term relationship	Cho&Park,(2001); Abott *el al*,(2000); Dotan,(2002); Homburg &Giering (2001); Rozita, (2012); Talhat, (2011); Tanveer, (2009); Liu *et al.* (2008); Yoon *et al*, (2008)
Alternative payment	Enables the customers to choose a preferred payment method, e.g., credit card, cash on delivery and electronic cash.	Payment methods enhances customer transaction decision	Ho & Wu ,(1999);Lee & Cheung, (2002); Khalifa &She(2005);Kailua & Liu, (2007); Cheung & Lee, (2005); Zineldin, M, 2005;Khalifa &Shen, (2005:2009); Rust &Lemon, (2001); Nysveen & Lexhagen,(2001)
Product or Service Customization	This features enables customer to customize their service or product online before transaction.	Save customer's time	Feinberg *et al*.,(2002);Khalifa &Shen, (2005);Ross , (2005); Anderson &Kerr, (2001)

The above-mentioned at-transaction E-CRM features related to this study are discussed below in detail. Thereafter, the related hypotheses are formulated.

- **Security / Privacy**

Cho & Park (2001) stated that a website's security is its ability to protect transactions' personal information from unauthorized use or disclosure. Compared with the traditional economy, online customers are more keenly aware of the need for security/privacy (Culnan, 1999; Friedman *et al*., 2000; Grewal *et al*., 2004). Liu *et al*. (2008) highlighted the importance of the security/privacy factor which can affect the customer's decision to perform a transaction via the company's website. Website should therefore strengthen this construct at this stage to reduce any perceived risk and give sufficient confidence to the customer. Further, this dimension is the most frequently cited driver of satisfaction as suggested by Lee's model and it is frequently cited by many studies (Anderson & Srinivasan, 2003; Luo & Seyedian, 2004; Park & Kim, 2003; Salisbury *et al*., 2001; Szymanski & Hise, 2000; Yang & Peterson, 2004). Basically, online security is concerned with user authentication, data and transaction security (Ratnasingam, 1998; Rowley, 1996). Customers are concerned about online payment security, reliability and privacy policy (Gefen, 2000) since they have to provide their personal details and credit card information

in the ordering process. This concern increases the perception of risk and simultaneously reduces the level of trust in an online company, which in turn adversely affects satisfaction (Elliot & Fowell, 2000; Szymanski & Hise, 2000). Hence, online companies that clearly communicate to its customers on how their private and transaction data are secured, are more likely to benefit from increased customer satisfaction (Elliot & Fowell, 2000; Park & Kim, 2003).

- **Product / Service Customization**

Another important factor contributing to online customers satisfaction is product/service customization, which has rapidly gained broad attention by businesses (Economist, 2001) aims at providing products/services that serve an individual's personal needs and wants (Du *et al.,* 2003; Galbreath & Rogers, 1999) at the right time (Pine & Gilmore, 1999). In fact, customers' involvement in designing products/services offered by web sites is imperative since customers have the very best understanding of their needs and relay the information to the providers (Von, 1998). This knowledge of customers' preferences is vital to avoid the sacrifice of customer goodwill and maintain superior satisfaction (Du *et al.*, 2003). Indeed, customization attracts customers to come back repeatedly since it turns customers into product 'makers' rather than simply product 'takers' (Winer, 2001). Thus, customers are empowered in ways that they can choose their own preferred service, product updates and other attributes that go well with their needs. Slywotsky (2000) refers to this process as a "choice board" where customers take a list of product/service attributes and determine what they want. These customized offerings allow the banks to know their customers' behaviour in greater depth (Reichheld & Schefter, 2000).

- **Alternative Payment**

Another important factor contributing to online customer satisfaction is alternative payment as suggested in our model. Payments methods are another form of customization that enable the customer to choose a preferred payment method e.g., credit card , cash on delivery, and electronic cash (Khalifa & Shen, 2005). Clearly, e-payment methods are essential in E-commerce to achieve volume online transaction (Wang, 2001). Customers like to have more than payment option when buying products/service online. Further, Obia (2000) stated that offering multiple payment options on a company website is a means of increasing customer convenience and confidence. Liu *et al*. (2008) found in their study that the payment methods offered have an effect on service quality which in turn have effect on

customer satisfaction. Therefore, the above theoretical argument leads to the second hypothesis:

Hypothesis 2 : At -Transaction E-CRM Features have a Positive Effect on Customer Satisfaction

3.15.5 Post-Transaction E-CRM Construct

The post-transaction E-CRM function are those related to after-sales services e.g. problem solving and order tracking (Khalifa & Shen, 2009). Luo & Seyedian (2004) and Park and Kim (2003) suggest that customers thoughts and evaluation criteria in the pre-transaction stage from those that at the post-transaction stage. Salisbury *et al*. (2001) and Szymanski & Hise (2000); Yang & Peterson (2004) argue that customers satisfaction in mainly described as a post-transaction include refund and billing disputes, return and exchange policies, defective products, and poor customer service. Feinberg *et al.,* (2002) support the complaint ability of website which provide a specific area for customers to lodge their complaints. Furthermore, Feinberg *et al.* (2002); Khalifa & Shen (2009) support the availability of a problem-solving features where customers can solve their problems with service themselves with the of online self- help functionality. Following a comprehensive literature review (Rozita, 2012; Talhat, 2011; Tanveer, 2009; Liu *et al*., 2008; Yoon *et al*., 2008; Kailua & Liu, 2007; Cheung & Lee, 2005; Zineldin, 2005; Khalifa & Shen, 2005:2009; Rust & Lemon, 2001; Nysveen & Lexhagen, 2001). The following factors are proposed as the dimension of post-transaction E-CRM construct, namely: (a) frequently asked questions (FAQs), (b) problem solving, and (c) online feedback.

Table 3-6 describes the different dimensions of post-transaction E-CRM features to be tested in this study and their sources of conceptualization by different authors.

Table 3-6 Dimensions of the Post-Transaction E-CRM Features

Post-Transaction E-CRM Features	Dimension	Importance	Supporting Reference
FAQs	This feature works as self-help to the online customers who are looking for answers to their queries. And these frequently asked questions and their answers are available for reading.	Effect on customer satisfaction easy for customers to find information any time	Feinberg,(2002); Cao, et al., (2003); Khalifa & Shen,(2005); Rozita, (2012); Talhat, (2011); Tanveer, (2009); Liu, et al., (2008); Yoon et al., (2008)
Problem solving	Customers are able to solve their problems regarding bank products or services by themselves.	ProblemsolvingisImportant to in hence customer trust and retention, Keeping the communication with customers	Abott, el al., (2000); Cho & Park,(2001); Lee & Cheung, (2002); Dotan, (2002); Cao et al., (2003); Khalifa & Shen ,(2005)
Online feedback	Re-directing customer's correspondence for their problems and questions about the service to help desk where customers could directly interact with the bank.	Important to enhance customer trust and long-term relationship	Lee & Cheung, (2002); Gefen, (2002); Cheung & Lee, (2005)

The above post-transaction E-CRM features related to this study are discussed below in detail. Thereafter, the related hypotheses are formulated.

- **Problem Solving**

Khalifa & Shen (2009) defined problem solving is the provision of assistance to help the customer become more active and more efficient in solving problems. It can take several forms, some passive, e.g., online manuals, FAQs, and others more interactive, e.g., experts systems, web agents. By using this feature, customers are able to solve their problems themselves regarding company products or services with online self-help routine (Tanveer, 2009). Such a facility is at the core of E-CRM in that it helps to strengthen the relationship between the customer and online retailer by making it more active (Kim *et al.*, 2008).

- **Frequently Asked Questions (FAQs)**

This feature works as self-help to the online customers who are looking for answers to their queries. And these frequently asked questions and their answers are available for reading. Its main advantage to the company is reduced traffic on customer service (Tanveer, 2009). FAQs with their answers on the websites are well supported by Khalifa & Shen, 2005; Feinberg *et al*., 2002; Rozita, 2012; Talhat, 2011; Tanveer, 2009; Liu *et al.,* 2008; Yoon *et al.*, 2008) as they play a critical role in customer satisfaction. To satisfy customers in

today's competitive e-business environment, online company must focus on this features when the online customers have questions or run into problems (Talhat, 2011).

- **Online Feedback**

Online feedback is viewed as an antecedent and a salient dimension of customer satisfaction (Park & Kim 2003; Winer, 2001; Yang & Peterson, 2004). Indeed, it is vital for a bank to ensure that customer service has the capacity to handle frequently asked questions, inquiries pertaining to credit, return and payment policies as well as the ability to provide speedy answers accurately. Bank representatives should have the knowledge and basic technology skills to answer online questions. They should understand customer-specific needs, have the capacity to handle problems that arise and address customer complaints in a friendly manner (Yang & Peterson, 2004). Therefore, the above theoretical argument leads to the second hypothesis:

Hypothesis 3:   Post-transaction E-CRM Features have a Positive Effect on Customer Satisfaction

3.15.6   Service Quality Constructs

Based on the service quality dimensions reviewed in Section 3.14.1 and 3.14.2, this study adopted as a basis the e-SERVQUAL instrument for measuring internet banking services. The seven dimensions of E-SERVQUAL were Trust/Assurance, Site Aesthetic, Efficiency, Fulfillment, Reliability, Responsiveness and Communication. Based on the comprehensive literature review on using dimensions to measure Internet banking e-SQ (Doll & Torkzadeh, 1988; Liu & Arnett, 2000; Jayarwardhena & Foley, 2000; Jun & Cai, 2001; Yang, 2001; Zethaml *et al.,* 2000: 2002; Parasuraman & Malhotra, 2002; Santos, 2003; Saha, 2006; Wu & Chang, 2008), these dimensions are also mentioned by different authors (Nantel, 2000; Zeithaml *et al.,* 2000; Jun & Cai, 2001; Madu, 2002; Wolfinbarger & Gilly, 2002; Santos, 2003; Jun, *et al.,* 2004; Yang & Fang, 2004; Yang *et al.,* 2004; Lee & Lin, 2005; Vasya & Patrik, 2006) in their studies to determine online service quality dimension which has been proved to be important for online systems quality (website quality, in particular). These are the main reasons behind selecting these seven dimensions. The researcher used experts' opinion to filter the selected dimensions and defined items for them to match existing services in Saudi web-banking. The experts helped the researcher in translation and paraphrasing sentences so as to clearly express the items as a questionnaire in Arabic language (the Saudi official language). The following Table describes the different

dimensions depicted in the model and their sources of conceptualization by different authors.

Table 3-7 Web Service Quality Dimensions Considered for this Study

Web Service Quality Dimesions	Measurement Criteria	Supporting Articles
Site Aesthetic	The appearance of the Site.	Doll & Torkzadeh, (1988); Abels,White &Hahn,(1999);Jayawardhena&Foley, (2000);Cox & Dale,(2001);Yoo & Donthu, (2001); Madu & Madu ,(2002); Santos, (2003) ;Zeithaml, et al., (2006)
Trust /Assurance	The confidence the customer feels in dealing with the site and is due to the reputation of the site and the products or services it sells as well as clear and truthful information presented.	Zeithaml et al.,(2000);Cox & Dale, (2001);Jayawardhena, (2004);Khalil & Pearson ,(2007)
Efficiency	The ability of the customers to get to a website, find their desired service and information associated with it.	Joseph, (1990);Zeithaml et al.,(2002); Noel & Jermy, (2005); Kenova,& Jonasson,(2006); Wu *et al*., (2008)
Fulfillment	Accuracy of service promises.	Zeithaml et al.,(2002)
Reliability	The technical functioning of the site, information that is provided is accurate. The bank performs the service right the first time. Keeping records correctly.	Parasuraman,*etal.,*(1985,1988); Johnstn, (1995,1997); Nantel, (2000); Voss, (2000) ; Zeithaml, *et.al.,*(2000,2002); Madu, (2002); Wolfinbarger & Gilly, (2002); McKinney *et.at*., (2002); Santos, (2002) Jun *et al.,*(2004); Yang&Fang, (2004);Yang *et al.,* (2004); Lee & Lin, (2005).
Responsiveness	The ability of e-trailers to prove appropriate information to customers when a problem occurs, willingness to help customers and provide prompt service.	Parasuraman,*etal.,*(1985,1988); Johnston, (1995,1997); Berry,*e.tal.,* (1985); Zeithaml,*etal.,*(2000); Liu&Amtt ,(2000); Peterson & Huang, (2000, 2002); Cai, (2001); Madu & Madu (2002); DeLone & McLean (2003); Jun *et al*., (2004); Yang& Fang, (2004); Lee & Lin, (2005); Cheng & Liao (2008)
Communication	Keeping customer informed in language they can understand and listening to them. also mean that thebank has to adjust its language for different customers.	Parasuraman*, et al*., (1985); Jun & Cai, (2001); Madu, (2002); Wolfinbarger & Gilly, (2003); Yang *et al.,* (2004); Dina *et al*.(2004);

Therefore, the above theoretical argument leads to the following hypothesis :

Hypothesis 4 : There is a Significant Relationship Between Web-Banking Service Quality and Customer Satisfaction

3.15.7 Relationship between E-CRM Features, E-Service Quality and Customer Satisfaction

Customer satisfaction has been recognized as an essential factor affecting long-term relationships between banks and customers in both traditional and e-commerce business environments. Extant literature suggests that CRM and E-CRM features have a direct and indirect impact on customer satisfaction and loyalty (Rozita, 2012; Talhat, 2011; Tanveer,

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2009; Liu. *et al.,* 2008; Yoon *et al.,* 2008; Kailua & Liu, 2007; Cheung & Lee, 2005; Zineldin, 2005; Khalifa & Shen, 2005:2009; Rust & Lemon, 2001; Nysveen & Lexhagen, 2001). Despite the growing applications of CRM on building relationships on the Internet, there has been very little empirical work done on E-CRM features in bank website (Rozita, 2012). On the other hand, most of the researchers found that service quality is the antecedent of customer satisfaction (Bedi, 2010; Kassim & Abdullah, 2010; Kumar *et al*., 2010; Naeem & Saif, 2009; Balaji, 2009; Lee & Hwan, 2005; Parasraman *et al*., 1988).

Yee *et al*. (2010) found that service quality has a positive influence on customer satisfaction. Therefore, this study used a model that contributes to the related literature by determining the effect of E-CRM features on customer satisfaction through the enhancement of the service quality levels. Therefore, a full model of this study hypothesizes that: E-CRM features will effect on customer satisfaction, which is affected by service quality, and service quality will mediate the relationship between E-CRM features and customer satisfaction. Thus, in the present study, the following relationships are hypothesized:

Hypothesis 5: There is a Positive Relationship Between E-CRM Features and Service Quality

Hypothesis 6 :There is a positive Relationship Between E-CRM Features and Service Quality, which in turn Leads to Customer Satisfaction

A list of full research hypotheses is presented in Table 3-8 below

Table 3-8 Research Hypotheses

HN	Description
H1	Pre-transaction E-CRM features have a positive effect on customer satisfaction.
H2	At-transaction E-CRM features have a positive effect on customer satisfaction.
H3	Post-transaction E-CRM features have a positive effect on customer satisfaction.
H4	There is a significant relationship between web banking service quality and customer satisfaction.
H5	There is a positive relationship between E-CRM features and service quality.
H6	There is a positive relationship between E-CRM features and service quality, which in turn leads to customer satisfaction.

Figure 3-5 below presents the relationship between overall E-CRM features, service quality, and customer satisfaction.
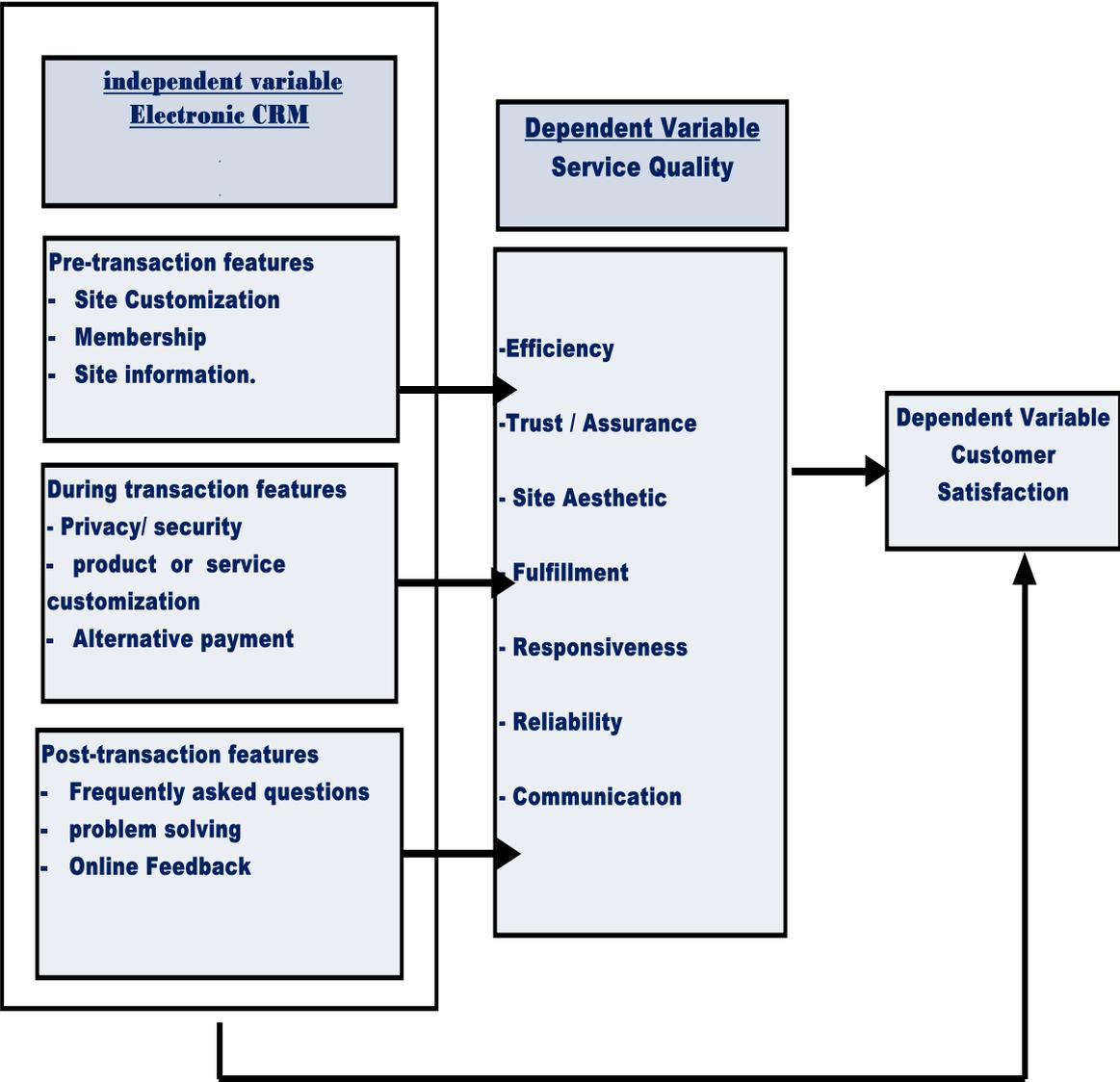
Figure 3-5 Research Model

According to the research model E-CRM is the independent variable, service quality is a dependent variable in relation to E-CRM but an independent variable in relation with customer satisfaction. Finally, customer satisfaction is a dependent variable in relation to both E-CRM and service quality variables.

In this study model, E-CRM incorporates three sub-variables: Pre-Transaction E-CRM, During-Transaction, and Post-Transaction features. The relationship in these three variables

and each one of the dependent variables will be studied separately because previous research has not clearly articulated the E-CRM features effect on customer satisfaction in web banking. The present study, therefore, attempts to reduce this gap by investigating the relationships between these variables in the setting of web banking.

This study proposes that the effect of E-CRM features in the three stages of a transaction is a major determinant of the extent to which specific variables impact customer satisfaction. The first stage, pre-transaction features which include site customization membership and site information. The second stage, during-transaction features which include privacy, security, product or service customization and alternative payment. Finally, post-transaction features including frequently asked questions (FAQs), problem solving and online feedback will be implemented. In turn, use of the web in building customer relationships (E-CRM) could increase customer satisfaction, On the other hand, service quality is constructed from seven independent variables: Trust/Assurance, Site Aesthetic, Efficiency, Fulfillment, Reliability, Responsiveness and Communication.

The current study model tries to prove that if the banks wish to satisfy their customers, they need to pay attention to three features of the E-CRM (pre-transaction, during-transaction, and Post-transaction features). In addition, they have to pay attention to the perceived level of service quality. It is important for banks to maximize their efforts to deliver the maximum value to the customer in order to keep old customers and attract new ones.

Table 3-9 List of Research Issues, Dependent and Independent Variables

Resreach Issues	Independent Variables	Dependent Variables
Does the E-CRM features have an effect on the customer perception of service quality in the banking sector in Saudi Arabia?	E-CRM features (Pre-transaction features:site Customization,membership,Site information. During transaction features: loyalty program, service, customization ,alternative payment. Post-transaction FAQs-, problem solving, Online feedback.	Service quality
Does customer's perception of the service quality affect the level of customer satisfaction?	Servicequality:security,Trust/Assurance,Site Aesthetic, Efficiency,Fulfillment,Reliability, Responsiveness, communication.	Customer satisfaction
Does the E-CRM features have a direct effect on the customer satisfaction in the banking sector in Saudi Arabia	E-CRM features (Pre-transaction features: site Customization, membership,Site information. During transaction features: Privacy/ security, product or service, customization,alternative payment. Post-transaction features : FAQs-, problem solving , Online Feedback.	Customer satisfaction

3.16 Summary

In a competitive business environment, managing customer relationship plays a pivotal role in the running of any business. Businesses are well aware of it and devote considerable time and attention and deploy innovative techniques and the latest technological tools for customer satisfaction and retention. The importance and attention given to it is so considerable that Managing Customer Relationships has become a subject by itself.

This chapter discusses the literature on CRM, recent technological advancements that have led to the emergence of E-CRM and how businesses, particularly, the Banking industry has deployed E-CRM to ensure customer satisfaction.

It covers several definitions given by various authors and offers brief discussion on the works of several scholars on the subject including Bauer, Buttle, Craig, Kotler Parvatiyar etc. who have stressed on the need for customer satisfaction to ensure customer loyalty and retention. These authors have stressed that CRM should not be confined to just marketing and transactions but go beyond to include "cross-functional, customer-driven, technology-integrated business process management strategy" so as to establish a strong relationship with the customer.

Based on these definitions, the author feels that CRM may broadly be defined as *"Actions an Organization takes to identify, acquire and retain loyal and profitable customers by offering the right products to the right customer."*

After a brief background, definition and discussion on CRM, the chapter, discusses how technological advancements have led to businesses adopting E-CRM in pursuit of ensuring customer satisfaction. E-CRM enables customized communications and helps businesses gather a vast amount of data and to analyze customer preferences and behavior, so as to respond to customer demands and preferences and make them increasingly, customer-oriented.

Businesses, in response to customer demands have developed web applications, using Enterprise Resource Planning as an interface, that enables customers to visit and browse a Company's website, choose products or services required and complete the entire transaction on-line. Thus, the personalization of relationships and the customized offerings,

has had a significant impact on how a business perceives its customers and how products and services are built around the customer's choice and preferences.

Recent developments in the area, which include an integrated perspective on marketing, sales, customer service, channel management, logistics and technology for engaging in customer satisfaction, have also been touched upon in this chapter. The primary reasons for the banks switching to technology is then discussed, which may be termed as a 'defensive measure against an increasingly sophisticated and demanding customer leading to competition as well as the necessity to reduce rising costs'.

The chapter then discusses the main features an E-CRM Management should offer or provide. These are classified as (i) Pre-transaction features such as marketing or providing information on products or services (ii) Transaction features that help customers process and carry out the specific transaction and (iii) Post-transaction features that help complete the transaction.

Literature on each of these features and their practical application is discussed at some length. Empirical studies have been cited to show how E-CRM leads to customer satisfaction. The chapter then moves on to discuss E-CRM in the financial sector, particularly, its main features and its adoption by the Banking industry. Banks have adopted E-CRM with the objective of providing customer satisfaction and thereby earning more profits. As the relationship between E-CRM and customer satisfaction has not been sufficiently analysed, especially in Saudi Arabia, this research is of high importance.

Customer satisfaction is directly related to the quality of service that a bank offers. This may be defined as the extent to which the site facilitates instant and efficient access, navigation ease, prompt processing of transaction and delivery of service. The chapter has tried to delve deeply into what actually constitutes service quality and its dimensions and how this could be assessed or measured in relation to the Banking industry. Views of several authors have been cited in this regard and the difficulty involved in measuring a 'service' as compared to 'goods is deliberated. Various authors have identified different service quality dimensions in an attempt to measure service quality.

Based on available research on E-commerce, especially web banking, three independent variables consisting of (i) Pre-transaction (ii) During transaction and (iii) Post-transaction have been identified which are required to process and complete any web banking

transaction and the features critical to each. These are then proposed to be tested against the Seven Service Quality Dimensions selected from the SERVQUAL instrument which include (i) Efficiency (ii) Trust / Assurance (iii) Site Aesthetic (iv) Fulfillment (v) Responsiveness (vi) Reliability and (vii) Communication (Section 3.14).

Based on reviewed literature and the selection criteria adopted, Tables on page (75); (76) and (77) describe the different dimensions of E-CRM features proposed to be tested and reference sources by different authors. The next chapter will discuss the research design and research methods adopted including questionnaire design; data collection; processing and analysis to come up with the final findings.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

In the previous chapter, the fundamental theoretical framework of this study was developed. This chapter describes the methodology that will be undertaken in relation to justification of the research paradigm, questionnaire design, sampling, sampling process and data collection and administration. Development of the research instrument will be described as well as the results from a pilot study. In addition, this chapter introduces the planned analysis strategy to test the hypotheses of this study. Finally, ethical considerations relating to the research design of this study are discussed and conclusions are drawn. The researcher discusses in detail the empirical research methodology including data collection and data analysis. The data collocation section is described in five parts; (a) data collection (b) sample selection participation (c) developing the survey questionnaire (d) pilot study. After that reliability and validity are discussed to justify the data. The chapter also discusses what kind of data is required for examining the variables. Then, data analysis processes and statistical techniques are selected to analyse the data. Finally, the research ethical issues are discussed to ensure the data is unbiased and can support generalizability. Conclusions are the final component of this chapter.

4.2 Justification of Paradigm and Methodology

Choosing the most appropriate research paradigm is the most important initial research design step. This section will review and evaluate research paradigms to identify the most suitable paradigm for this research. A paradigm reflects the philosophy of knowledge while methodology focuses on the practicalities of how we come to know (Trochim, 1998). According to Oates (2006), a paradigm is a set of assumptions and values concepts or a way of thinking in any topic in the life.

A paradigm serves a number of purposes: (1) it guides professionals as it indicates important issues challenging any discipline (2) it develops models and theories that permit practitioners to attempt to solve these issues (3) it establishes criteria for tools such as methodology, instruments, and data collection that might enable the solution of these issues; (4) it provides the principles, procedures, and methods to be considered when similar issues

arise again (Filstead,1979). Oates (2006) identified three major paradigms that researchers can select in order to guide a particular research. These are positivism, interpretive and critical research.

- **Positivism**

Positivism is an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond (Neuman, 2009). The positivism paradigm, also called the scientific method, is the oldest paradigm of the three (Oates, 2006). It focuses more on the natural studies such as chemistry. It requires a long time to develop and become well established. Positivist researchers believe that reality is stable and can be described by measurable properties regardless of the researchers' instruments (Mayers & Avison, 2002). Another theory of positivism is that the researchers can examine the world with its regular laws in an objective way (Oates, 2006). This research paradigm has three essential techniques; reductionism, repeatability and refutation (Galliers, 1992; Oates, 2006). Reductionism means to break down complex problems into smaller parts which are easy to analyze. Repeatability is to be able to repeat the experiment more than one time to assure that results will be as much accurate as possible while the third characteristic of positivism is to refute the hypotheses in case the researcher cannot repeat the experiment. This study is classified as an example of positivism research because there are quantifiable measures of variables, hypotheses testing and the drawing of conclusion about a "phenomenon from the sample to a stated population" (Orlikowski & Baroudi, 1991).

- **Interpretivism**

The Interpretive Information System research paradigm is"concerned with understanding the social context of an information system: the social process by which it is developed and construed through which it influences, and is influenced by, its social setting" (Oates, 2006). Moreover, according to Orlikowski & Baroudi (1991), interpretive research attempts to understand the phenomenon through the meanings that come from the people. Myers (1997) thinks that the objective of this kind of paradigm is to develop a better understanding of people's thoughts in real life. The interpretive paradigm has different features; it has multiple realities or no single truth. It is dynamic and socially constructed meaning; researcher reflexivity and mainly qualitative data analysis (Oates, 2006).

Since interpretivist epistemology focuses upon the complexity of human sense making, it is necessary to pursue research employing qualitative data collection (Straub *et al*., 2005) with limited respondents. Since the purpose of this research is to gather evidence in a quantitative manner; interpretivist epistemology was considered to be less relevant for this research.

- **Critical Theory**

Critical Theory is extremely useful to investigate social, political, cultural, economic, ethnic and gender values. Critical research is considered to be the less known as well as less accepted than the other two paradigms. It is concerned with identifying "power relations, conflict and contractions, and empowering people to eliminate them as a source of alienation and domination" (Oates, 2006). Researchers in this paradigm believe that the reality of a social setting is produced and reproduced by people (Myers & Avison, 2002). Moreover, critical researchers' ability to change their social attitude is constrained by several factors such as political and cultural factors. Critical researchers concentrate more on conflicts in society and look to be emancipators. Therefore, according to Cavan *et al.,* (2001), the major objective of this paradigm is to increase the power of people to improve their own lives. Howcroft & Trauth (2004) and Oates (2006) suggest some characteristics that critical researchers have in common. These include emancipation, critique of tradition, non-performativity intent, critique of technological determinism, and reflexivity.

Critical epistemology was not suitable for this research. This is because it is not the purpose of this research to focus upon oppositions, conflicts and contradictions; instead it investigates E-CRM features that have effect on customers satisfaction. Besides, the purpose of this research was to gather evidence in a quantitative manner, which critical epistemology does not facilitate.

Overall, from the above discussion, it can be seen that the positivism is the most suitable paradigm for this research. This is because E-CRM implementation is considered most mature areas within IS and marketing research. Due to a long tradition of research in this area, a number of theories and models have been developed and validated for examining a variety of technological objects. Consequently, a variety of constructs (dependent and independent variables) suitable for diverse situations are available which can rationally be adapted to examine the adoption and diffusion of new technologies (Venkatesh *et al.,*2003). This was the basis for developing a conceptual model of E-CRM and formulating the research hypotheses presented in Chapter 3. Following the description of positivism by

Staub *et al*.,(2005) this research will employ statistics, such as the, (CFA), SEM, and Chi-square test to determine if this data supports the research hypotheses.

4.3 Research Design and Methods of Data Collection

A research design, which is a function of the research objectives, is defined as "a set of advance decisions that makes up the master plan specifying the methods and procedures for collecting and analyzing the needed information" (Burns & Bush, 2002). According to Hair *et al.,* (2003) research design is essential as it determines the type of data, data collection technique, sampling methodology, the schedule and the budget. Primarily, it helps to align the methodology to the research problems.(Churchill & Iacobucci, 2004 ; Hair *et al*., 2003).

Researchers classify research design into two groups: Exploratory, Descriptive (Hartman & Heblom,1979; Crimp, *et al.,* 1993, Aaker *et al*., 2000; Burns & Bush, 2002). This research applies these research designs so as to achieve the objectives of this study. Burns & Bush (2002) say, it is common that researchers utilize multiple research design. That is, a research may begin with an exploratory study which will prove essential background information needed, preceding a descriptive study. In turn, information obtained from a descriptive study may help the researcher design a causal experiment. This study aims to explore the effect of E-CRM on the customer satisfaction through the service quality. To achieve these objectives, the research design of this study has been conducted in two stages:

Stage One: *Exploratory Research:* Malhotra (1999) and Parasuraman (1991) say that Exploratory Research is conducted to develop initial insights and provide direction for any further research needed. An Exploratory Research is essential when a researcher needs to define the problem more specifically and identify any specific objective or data requirements to be addressed through additional research. Indeed, web banking is a relatively new phenomenon in Saudi banks. Although web banking is proliferating, there is little empirical evidence to help bankers fully understand what constitutes customer satisfaction from a Saudi customer perspective. Therefore, the imperative of an exploratory study is to gain much needed background pertaining to building a long term customer relationship in the cyber space. In addition to reviews from literature, an experience survey, also known as Key Informant Technique (KIT), taps the knowledge of those familiar with the subject matter - in this case the effect of E-CRM features on customer satisfaction. In order to define a list of Pre-transaction, During-transaction and Post-transaction E-CRM features, the researcher will use qualitative methods. The first method (which was used as a

minor method) is bank documents and websites. The researcher has explored banks websites in Saudi Arabia in order to assess what E-CRM features are available for online customers. The second qualitative method used was unstructured and semi-structured interviews with bank managers and employees who are responsible for controlling the web banking activities. The outcome of the exploratory study helped in developing the scales for the survey instrument in descriptive research (stage two). For example information on the types of E-CRM features available on the website of Saudi banks should be focused on the questionnaire.

Stage Two: After the researcher obtained primary knowledge of the subject matter by Exploratory research, *Descriptive Research* was conducted. The purpose of descriptive research is to describe specific characteristics of existing E-CRM features in the Saudi web bank and service quality scales. That is, it is used to determine the frequency of occurrence of phenomena like web usage on a sample from the population. In addition, it helps provide data that allows for identifying relationships between two variables (Aaker *et al*., 2000).

As many researchers have noted, descriptive research designs are for the most part quantitative in nature (Burns & Bush 2002; Churchill & Iacobucci 2004; Hair 2003). There are two basic techniques of descriptive research: Cross-sectional and Longitudinal (Hair, 2003). In Cross-sectional studies, information is collected from a given sample of the population at only one point in time while the Longitudinal research deals with the sample units of the population over a period of time (Burns & Bush 2002). the cross-sectional study is also referred to as a sample survey in which selected individuals are asked to respond to a set of standardized and structured questions about what they think, feel and do (Hair *et al.*, 2003). For the purpose of this study, cross-sectional study was the appropriate technique as opposed to longitudinal study due to time constraints, and furthermore, this study does not attempt to examine trends.

4.4 Research Population

The research population for this study was defined as individuals using a web bank service in western Saudi Arabia (Jeddah). This choice was made in light of the following considerations:

- The Western Region (Jeddah) is one of the largest cities in the Kingdom with respect to population size. It also contains all kinds of Saudi banks.

- The availability of all types of banks which exist in the Kingdom.
- The proximity factor which made it easy for the researcher to collect data, and enabled to certain extent, higher response rate.where the researcher lives and works.

There is a similarity in regulations, economic growth rates, custom, demand for bank services, language, religion, cultural values and social development in all Saudi cities. This allowed the generalization of the research finding to other regions of the kingdom.

4.5 Sampling Frame

Sampling frame is a "kind of list or collection of the whole population of people that could be included in a survey, from which you will choose a sample" (Oates, 2006, p.95). Sampling is divided into two types: Probability sampling and non-probability sampling. (Bryman & Bell 2003). Probability sampling is to choose the participants on the basis of a belief that this sample fairly represents the population under study. Also, it is possible to use probability sampling if the purpose of the research is to draw conclusions or make predictions affecting the population as a whole. On the other hand, non-probability sampling means to pre-choose the participants of the survey based on specific characteristics (Saunders *et al*., 2003).

The major feature of all probability sampling techniques is that the sample is chosen randomly. Participants are randomly selected where each participant within the population has an equal probability of being chosen. Probability sampling has different techniques such as Random Sample, Stratified Sample, Systematic Sample and Cluster Sample (Oates, 2006). Random sampling means the participants are selected exactly on a random basis without any kind of consideration. Stratified sample means to choose the sample randomly but with the need to identify one or more of the participants' attributes. For example, if you want to ask 1000 employees in a specific industry but you need 30% of them to be managers. Systematic sample means to select participants randomly from a chosen list at regular intervals. One clear example is to choose one shop out of every 50 shops in the market starting from a random shop. Finally, Cluster sampling is used when there is a population diffused across a wide geographic area. This technique lets the researcher split the population into clusters, such as counties, census tracts, or other boundaries, and then select participants randomly in those clusters.

To establish the sample frame, a list of users bank's website was obtained from banks, university staff from king Abdulaziz University, Jeddah where the researcher works, and corporate institutions of the Western Region (Jeddah), Saudi Arabia. Letters seeking permission to access the institution's list of users' database were sent out to King Abdulaziz University, Jeddah, 12 banks. For reasons of confidentiality, neither the names of individuals nor the organizations they work for were included in the questions. From the correspondence, the 8 banks, and King Abdulaziz University, Jeddah were willing to cooperate and allow us access to their directory of users (individuals with email accounts) and could be obtained from the institutions' websites. The rest did not respond to our letters or turned down our request.

4.5.1 Sampling Techniques

Sampling technique means how the researcher chooses the actual participants of the study (Oates, 2006). There are two types of sampling, probability sampling and non-probability sampling. Probability sampling is to choose the participants on the basis of a belief that this sample fairly represents the population under study. Also, it is possible to use probability sampling if the purpose of the research is to draw conclusions or make predictions affecting the population as a whole. On the other hand, non-probability sampling means to pre-choose the participants of the survey based on specific characteristics. This is fine when the researcher is interested in seeing how a small group is performing the study issues.

Non-probability sampling is usually used when it is not necessary to have a representative sample or when it is not possible to obtain it. The first technique of non-probability sampling is quota sampling which means to ask everyone in the sample.

The second technique is convenience sampling. Using volunteers for a study is a clear example for this sampling method. Another technique for non-probability sampling is purposive sampling. Here, the researcher targets a specific group of participants that are average or typical. Also, it could be for a specially picked group of people for a specific objective. Finally, snowball sampling is another method of non-probability that starts with small number of participants, then increases it slowly depending on the results. (Oates, 2006). Probability sampling was used as this research sought to generalize the results obtained as much as possible (Kassim, 2001).

4.5.2 Sample Size

Now that the sampling method was determined, the next step involved determining the sample size of this study. The required sample size depends on factors such as the proposed data analysis techniques, financial and access to sampling frame (Malhotra, 1999). The proposed data analysis technique for this research is Structural Equation Modeling, which is very sensitive to sample size and less stable when estimated from small samples (Tabachnick & Fidell 2001). As a general rule of thumb, at least 300 cases are deemed comfortable, 500 as very good and 1000 as excellent (Comrey & Lee 1992; Tabachnick & Fidell 2001). Thus it was decided to target a total of 600 respondents from the users' of Saudi web banks.

4.5.3 Sample selection

A list of 2000 email account owners and contact details was obtained from participating institutions' websites. Thereafter, a systematic sampling was deemed appropriate as this method ensures efficiency, speed, low cost as well as produces a more representative sample (Hayes, 1998; Luck & Rubin, 1987; Wong, 1999). Indeed, each sampling method is prone to bias. In this technique, bias is deemed to occur when the original list is arranged in a systematic pattern (Zikmund, 2000). For example, a customer list was prepared according to frequency of visits. For this study, in order to minimize the sampling bias, several e-mailing lists of participating institutions' were used, as a mailing list provides a readily available list of population elements (Churchill & Iacobucci, 2004): university staff, working adults, executives and non-executives. Most importantly, these original lists were not arranged in sequence of users' level of experience with the website. From these lists, a major sampling list was prepared, from which samples were systematically drawn. In this study, it was decided that every 100th individual from the list would be selected until the required sample size of 600 respondents was reached.

4.6 Data Collection Method and Instrument

The instrument and primary sources used in this study were:

1. Questionnaire
2. Personal interviews
3. Secondary data which formed the theoretical framework of this study were obtained through book review, previous studies, published articles, electronic journals, databases, and statistics related to user of web banks in Saudi Arabia.

4.6.1 Questionnaire

A questionnaire is a set of questions that are pre-defined in order to solve or analyze a specific problem. Participants from the sample are asked to answer these questions so the researcher will have data to analyze in order to draw conclusions or solutions for the phenomena studied. In this study, a survey was used as the method of primary data collection. The decision to choose a survey method based on a number of factors which include sampling, type of population, question format, question content, response rate, costs, and duration of data collection (Aaker *et al*., 2000). Weber (2004) believes that the choice of different research methods is largely due to factors such as type of training provided for the researcher, social pressures associated with advisors and colleagues and preferences of obtaining certain types of insight during the research.

When the researcher considered an organization as a unit of analysis, the case study approach was favored. In studies related to individual users or customers, the survey approach was favored (Dwivedi, 2005). This can be attributed to issues such as convenience, cost, time and accessibility (Gilbert, 2001). Furthermore, the aim of this research was to examine the relationship between E-CRM features, E-Satisfaction and service quality. Therefore, in order to get an overall picture of the research issue, collecting data from a large number of participants was required. This meant employing any other approach such as ethnography which uses interviews or observation, as data collection tools would require a substantial amount of financial resources, and time.

Further, selection of the approach in this study was also influenced by the type of theory and models employed to examine the relationships between the variables (Chapter 3).The conceptual model proposed in Chapter 3 includes a number of research hypotheses that need to be tested before concluding this study. This requires collecting quantitative data and statistical analysis in order to test the research hypotheses. Although a number of research approaches are available within the category of quantitative positivist research (Straub *el al*., 2005). on the basis of the above-mentioned analysis, it was decided that the survey was one of the most appropriate and practicable research approaches to conduct this research**.**

4.6.1.1. Operationalization of Variables

Operationalization of variables need to be considered before designing the data collection instrument (Davis & Cosenza, 1993). Operational definition refers to a specific question

that will be used in a survey to measure the meaning of a construct (Burns & Bush 2002; Hair *et al.*, 2003). Since constructs that are relevant to this study such as E-CRM features, service quality and satisfaction cannot be exactly measured, operationalization is used to indirectly measure them.

Operationalization of variables

E-CRM Features: In order to define a list of Pre-transaction, During-transactions and Post-transaction E-CRM features, the researcher reviewed the literature and explored banks' websites in Saudi Arabia in order to define what E-CRM features are available for online customers. Detailed description of each of these features is presented in Section 3.7.

Service Quality: From the scales developed by previous researchers (Parasuraman, 1988; Joseph, 1999; Jun & Cai, 2001; Yang *et al.,* 2004), this study proposes that the construct is itemized by seven items.

4.6.1.2 Designing the Questionnaire

This step involves the design of the contents of the questionnaire for bank respondents which was prepared in order to achieve the research objectives:

- Measure the effect of each E-CRM feature in different stages on customer satisfaction
- Identify the types of web service provided by banking sector in Saudi Arabia to maintain a strong relationship with the customer in the banking sector.
- Evaluate the levels of customer satisfaction in the banking sector in Saudi Arabia.
- Explore the customer perception of the service quality provided by their banks in Saudi Arabia.

The survey questionnaire (Appendix B) was divided into the subsequently listed parts.

- An introductory letter was provided to the researcher by the Dean of Joint Program of PhD studies at King Abdulaziz University. This letter introduced the research objectives to the bank managers.
- The introductory letter from the researcher to the prospective study group in Saudi banks.

The questions in the survey questionnaire comprised four parts: The first part deals with Customer's Demographic Characteristics, such as gender, age, level of education, monthly income, number of years dealing with Bank, and number of times bank web service is used

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per month. The second part of questionnaire is made up of twenty three questions and deal with the features of E-CRM (the independent variable of the research). This part was designed according to the research model to help determine better understanding of customers' perception of E-CRM features on bank Websites. The third part was basically designed to induce the respondents to evaluate the effect of E-CRM features on service quality. The fourth part was structured to Assess the Attributes affecting Respondent's Perception on Satisfaction on the web and respectively. The respondents were asked to indicate their opinions on the various dimensions of the variables being studied.

To achieve the objectives of this research, three types of questions were employed:

- Opening question (multiple choice question), For the first part of the questionnaire to get the general information about each customer.
- Scale questions for the second, third and fourth part of the questionnaire in these questions, a five-point Likert Scale was used because, an increase in the Scale doesn't improve the reliability of the ratings (Oppenheim, 1986) and may be cause confusion to the respondents (Asker *et al.* 2003). Researchers also indicate that a five-point scale is just as good as any other (Malhotra 1999; Parasuraman 1991; Sekaran 2000). Therefore, a five-point Likert scale was used in this research.
- Open-ended questions in the last part of the questionnaire to allow respondents to qualify their own response. Adding issues that need detailed response.

The questionnaire was designed in English - the source language, and then translated into Arabic- the target language - by the researcher. Panels of experts were consulted to validate the questionnaire (Brislin,1970) (both Arabic and English versions). The panel of experts was composed of :

- Two information system management academicians and two statistical academicians (specialist in administration and social studies).
- Two bilingual translators (Arabic / English).

Three Arabic speaking colleagues from King Abdulaziz University, Jeddah, with doctorates in Information Management System, revised the questionnaire. The aim was to ensure that the questions are open and free from ambiguous wording or errors, before the survey is launched at large, and also to ensure that the questions are eliciting the responses required (Burns & Bush, 2002). The versions of the questionnaire and differences found were discussed in a committee meeting between the researcher and the academicians. The

differences in translation were dealt with quite easily since the university colleagues are all bilingual and experts on the subject. The revised and final questionnaire was re-tested. The researcher had a clearer vision of the questionnaire after retesting the Arabic version by random-probe questioning. The final Arabic version was used for data collection. This was done because, during the pilot studies, the researcher found that respondents preferred the questionnaire to be in Arabic because they found it easier to understand and answer in Arabic, as most of them are not experts in information technology.

4.6.2 Questionnaire distribution and administration

The researcher administered the survey herself using two basic ways in which questionnaire can be used in self-administered situation - the hand out survey and research assistants from the bank employees who are responsible for customer relationship management the allocation of research assistants was proportionate to the number of respondents in each bank. completion of the questionnaire took place through the following steps:

Determining the data needed about the E-CRM features and service quality in Saudi banks and the effect of these features variable on customer satisfaction from the point of view of the Customers of those who used web banks, which fulfill research objectives, answer its questions and test hypotheses. The customers who used the web bank service (whom this questionnaires were handed to) were asked to help by making sure their responses were complete and characterized by credibility and facts. The researcher did this through presenting her research objective and goals and assuring its confidentiality in the covering letter of the questionnaire.

Employing the three types of questions mentioned previously considering how to put the questions in the right order in the questionnaire, and avoiding questions that contained strange words or the words that may have different meanings. Considering other requirements concerning the form of questionnaire as follows:

- The questionnaire began with less sensitive and less complex questions and progressed to opinion sought questions.
- Availability of enough space for responding (open question) choosing suitable size and good quality paper.
- Examining and reviewing questionnaire in order to ascertain that they were free from wrongly typed word or letters.

- Considering attaining symmetry between the typed letter in order to avoid bias.

4.6.3 Interviews

Before developing the questionnaire, the researcher conducted semi structured interviews with 10 banks' managers, 3 experts in marketing and information technology, through face-to-face meetings in order to acquire the needed information about the available web based services and gather data relevant to E-CRM features are available for online customers (Appendix A).

The questions of this interview were focused on E-CRM features available in web banks which may impact customer satisfaction. The interviews were conducted in January 2010. The interview instrument and the data collection survey was completed in approximately five weeks. The interview administered to each respondent at the time they suggested the following procedures were followed.

- The questions of the interview were asked by the researcher, the way they had been written.
- The answers were written down by the researcher.
- Additional remarks or comments were recorded adjacent to the questions addressed.

Each interviewee listed different E-CRM features and explained how they can increase customer satisfaction. Obviously, their answers are based on their experiences during managing e-banking activities and from what they see from their customers' behaviour. The interviews helped the researcher to extend the theoretical model from Figure 3-4 as well as the literature review to Figure 3-5 (Chapter 3). This model helped in establishing better view for the researcher while asking sub-questions that arose from each question.

The questionnaire determined the effect of the E-CRM in different stages: (Pre-transaction, During-transaction and Post-transaction E-CRM features), on customer satisfaction from prospective customers. While the interviews explained the type of web service provided by banking sector in the Saudi Arabia to maintain a strong relationship with the customer in the banking sector, and how their banks could get benefits of E-CRM technology in web banking which were difficult to discover through the questionnaire data. Moreover, the interviews were used to contribute to testing the model and the hypotheses. The basic aims of this were to check the features of E-CRM of Saudi web banks which appeared in the theoretical model.

4.6.4 Pilot Study

To empirically examine the proposed model and associated hypotheses, we designed a questionnaire with multiple questions per construct. Prior to the main survey, the survey instrument was pilot tested. A pilot study is conducted to detect the weaknesses in design and instrumentation. It should draw subjects from the target population and simulate the procedures and protocols that have been designed for data collection. A pilot survey is a small-scale version of the larger survey; it relates particularly to questionnaire survey. There are many purposes of pilot survey, Ticehurst & Veal (2000) stated the following purposes of pilot study: (1) Testing questionnaire wording. (2) Testing questions sequencing. (3) Testing questionnaire layout. (4) Gaining familiarity with respondents. (5) Estimating questionnaire completion time, and (6) Testing analysis procedures.

The size of the pilot group may range from 25 to 100 (Cooper & Schindler, 2001). In this study, the pilot survey was conducted within by using personal administered survey. In total, 30 questionnaires distributed to the who used the bank's website in Saudi Arabia. The respondents were fellow researchers from the faculty of Economics & Administration in King Abdul Aziz University, Jeddah. In Personal interview setting, respondents were asked to look for any difficulties with wording, problem with leading question etc. Using a five-point Likert scale, rating from 1= strongly disagree to 5= strongly agree, respondents were asked to circle the response which best described their level of agreement. The completion time for the pilot survey was around 20 minutes to 40 minutes. The duration of this pilot survey was from 1st to 20th March 2010. There were interesting comments from respondents about wording, format of the questionnaire and inappropriate sequencing. It was better to find these early before distributing questionnaires to a large number of respondents. It was clear that the pilot survey could be used to test out all aspects of the survey and not just question wording (Ticehurst & Veal, 2000).The next stage was a pilot survey conducted in April 2010 on 100 web bank users. The surveys were personally administered and at the end of week two, a total of 90 responses to the questionnaire were collected (90%), probably because it was personal request and people were happy to help. After screening, 15 questionnaires were found to be unusable because of missing values, which resulted in 85 usable samples for analysis. For reliability, the researcher used SPSS and yielded a high Cronbach alpha score (above 0.86). Table 4-1summarizes stages of data collection

Table 4-1 Stages of Data Collection

Stage	Data Collection Methods	Sample	Purpose of the Data
1. Pilot tests	Survey questionnaire	Group of 30 respondents	To look for any difficulties with wording, problem with leading question.
2.Pilot Study	Survey questionnaire	100 web bank users	To test reliability of the questionnaire
3. Survey	Survey questionnaire	Customers are using a web bank service in Western Saudi Arabia (Jeddah)	Testing research hypotheses
4.Expert Opinion	Semi StructuralInterview	10 bank managers, 3 experts in marketing and information technology	Forming the theoretical Model+Forming Research Hypotheses

4.6.5. *Reliability and Validity of the Instruments*

Reliability: In any questionnaire or interview design, two basic goals are sought to be achieved:

- To obtain information relevant to the purpose of the study
- To collect this information reliably.

The term reliability refers to the accuracy and consistency of the measuring instrument and its execution. If the same sets of objects are measured by a questionnaire, an interview, and the results are the same or very close, the questionnaire is considered a reliable instrument (Carmines & Zeller, 1997). In this thesis, the Cronbach's Alpha was used as measure of internal scale consistency, using SPSS (Statistical Package for the Social Sciences) which is the most common method used for test reliability for a measurement scale with multi-point items (Nunnally & Bernstein, 1994; Hayes, 1998, Flynn & Pearcy, 2001). According to Field (2005), values between 0.7 and 0.8 of Cronbach's Alpha are acceptable values of consistency. Any values less than that would be considered as unreliable. The alpha reliability coefficient higher than .70 indicated a high degree of internal consistency (Stevens, 2002) See (Table 4.2).

Table 4-2   Measure of Reliability

Factor	Number of Statements	Cronbach's Alpha
1- Pre-transaction E-CRM	12	0.794
2- During-transaction E-CRM	10	0.717
3- Post-transaction E-CRM	9	0.753
4- Service quality	28	0.921
5- Customer satisfaction	7	0.836
Total	**66**	**0.943**

Validity:

The term validity is used to refer to the appropriateness of the content of the questionnaire. The definition of validity has two parts: Firstly, theoretical research is concerned with applicability to the greater population and different social settings, i.e. with what could be called external validity. Megrath & Brinberg (1983) stress that external validity is more complicated than generalization. Secondly, whether the measuring instrument actually measures the concept in the question and not some other concept; and whether the concept is being measured accurately. The relationship between the validity and reliability is asymmetrical, as a validity means reliability but not vice versa (Oppenheim ,1986).

The type of validation used in this research was content validity which includes the variables that have been defined from marketing and information systems literature. Some research experts at King Abdulaziz University in the field were also consulted to ascertain the validity and the construction of the questionnaire and interview items. Three Information System Management academics were requested to review a list of measurement scale in a questionnaire before it was sent out for pre-testing. A pilot test also conducted by the researcher with a randomly chosen sample of 100 respondents who were met individually by the researcher, with the researcher noting any ambiguity, misunderstanding, or sensitivity that might occur.

In order to check the validity of questionnaire items, researcher developed the following criteria, which have also been applied in this study:

- The questionnaire has a central topic.
- The questionnaire sought only information, which could not be obtained from non-survey.

- The questionnaire requested only data essential to the subject Matter.
- Respondents were given clear and complete instructions on how to answer each item.
- The questionnaire was objectively constructed with no hint of desired responses.
- The questions were presented in good psychological order.
- Proceeding from general to more specific responses. Embarrassing questions were avoided (Caramines & Zeller,1997).

The items were derived from past literature, marketing and information systems and measure scales were adopted and modified from past research in order to increase the scale sensitivity (Churchill, 1979).

These are the characteristics of a good and reliable questionnaire which are very carefully followed during the construction of the survey instrument. In summary, this study measuring instrument used, took the form of a questionnaire. The validity of this research depends mainly on the questionnaire design. The questionnaire was also tested through conducting a pilot study.

4.6.6 Data Processing and Analysis

The Questionnaire Data

The survey data treatment was undertaken as out lined below :

Checking the data: Checking the data before coding was done primarily to identify the open-ended questions and have the answers categorized into groups; and check the missing responses; details of procedure used; screen and clean the data are explained in Chapter 5.

Coding the data: Coding the data for computer was done through assigning a number or character symbol to the data, This could be done in two ways : Pre-coded and Post-coded (Luck & Rubin, 1998; Wong, 1999). In this study, starting with first part (Questions 1- 9) represent customers demographic characteristics which required post-coding. Pre-coding was used in questions 10-80 giving a number corresponding to a particular selection. Merges the logic of multiple regression and path analysis with a single analytical framework and therefore can provide for the presence of a mediating variable between exogenous (independent) variables and endogenous (dependent) variables (Bentler, 1980; Cheng, 2001).

4.7 Statistical Procedures and Data Analysis

The final step is to select the appropriate statistical analysis technique. To do this, research elements, namely the research problem, objectives, characteristics of the data and the underlying properties of the statistical techniques are considered (Malhotra, 1999).To meet the purposes of this study, the following statistical techniques were used:

4.7.1 Descriptive statistics

Descriptive statistics refers to the transformation of raw data into a form that would provide information to describe a set of factors in a situation that will make them easy to understand and interpret (Kassim, 2001; and Zikmund, 2000). Descriptive analysis is a univariate analysis which consists of frequency tables, diagrams, measures of central tendency (mean, median, and mode) and measures of dispersion (Bryman & Bell, 2003). In this study descriptive methods were used to organize, describe, and summarize data to gain general views about the different characteristics of the sample structure and distribution.

4.7.2 Correlation analysis

This examines the relationships between variables describing the direction and degree of association between them. A correlation matrix includes the values of the correlation coefficients for the variables involved. (Robson, 2002). A correlation is very low if the coefficient has a value under 0.20, low between 0.21 and 0.40, moderate between 0.41 and 0.70, and high between 0.71 and 0.91 (Pfeifer, 2005). In this study,Pearsoncorrelation coefficient was used to explore the relationship between study variables. Initially it was targeted to find the value and the direction of the relationships between independent and dependent variables.

4.7.3 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) is a multivariate statistical procedure that is used to test how well the measured variables represent the number of constructs. Confirmatory factor analysis (CFA) and exploratory factor analysis (EFA) are similar techniques, but in exploratory factor analysis (EFA), data is simply explored and provides information about the numbers of factors required to represent the data. In exploratory factor analysis, all measured variables are related to every latent variable. But in confirmatory factor analysis (CFA), researchers can specify the number of factors required in the data and which measured variable is related to which latent variable. Confirmatory factor analysis (CFA) is

a tool that is used to confirm or reject the measurement theory. CFA allows the researcher to test the hypothesis that a relationship between the observed variables and their underlying latent construct(s) exists (Fox,2010). The researcher uses knowledge of the theory, empirical research, or both, postulates the relationship pattern a priori and then tests the hypothesis statistically (Noar,2003).

CFA is a special case of the structural equation model (SEM), also known as the covariance structure (Byrne, 2006) or the linear structural relationship (LISREL) model (Joreskog & Sorbom, 2004). SEM consists of two components: a measurement model linking a set of observed variables to a usually smaller set of latent variables and a structural model linking the latent variables through a series of recursive and non-recursive relationships. CFA corresponds to the measurement model of SEM and as such is estimated using SEM software.Truxillo, (2003) suggested approach to CFA proceeds through the following process:

1 Review the relevant theory and research literature to support model specification.
2 specify a model (e.g., diagram, equations).
3 Determine model identification (e.g., if unique values can be found for parameter estimation; the number of degrees of freedom, df, for model testing is positive).
4 Collect data .
5 Conduct preliminary descriptive statistical analysis (e.g., scaling, missing data, collinearity issues, outlier detection).
6 Estimate parameters in the model.
7 Assess model fit.
8 Present and interpret the results.

The following are the procedures involved in confirmatory factor analysis (CFA):

1 The researcher review the literature to define the E-CRM features construct, service quality construct and customer satisfaction to develops a theoretical model (through a set of hypotheses) about the effect of E-CRM features on customer satisfaction.
2 Developing the overall measurement model theory: In confirmatory factor analysis (CFA), we should consider the concept of unidimensionality between

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construct error variance and within construct error variance. At least four constructs and three items per constructs should be present in the research.

3 Designing a study to produce the empirical results: The measurement model must be specified. Most commonly, the value of one loading estimate should be one per construct. Two methods are available for identification; the first is rank condition, and the second is order condition.

4 Assessing the measurement model validity. To check the measurement model validity, the number of the indicator helps us. For example, the factor loading latent variable should be greater than 0.7. Chi-square test and other goodness of fit statistics like RMR, GFI, NFI, RMSEA, SIC, BIC, etc., are some key indicators that help in measuring the model validity.

4.7.4 Structural Equation Mode

Structural equation modeling (SEM) is a tool for analyzing multivariate data that has been long known in marketing to be especially appropriate for theory testing (Bagozzi, 1980). Structural equation models go beyond ordinary regression models to incorporate multiple independent and dependent variables as well as hypothetical latent constructs that clusters of observed variables might represent. They also provide a way to test the specified set of relationships among observed and latent variables as a whole, and allow theory testing even when experiments are not possible. As a result, these methods have become ubiquitous in all the social and behavioral sciences (MacCallum & Austin, 2000). SEM has two parts: a measurement model and a structural model The measurement model for both CFA and SEM is a multivariate regression model that describes the relationships between a set of observed dependent variable and a set off continuous latent variables. The structural model describes three types of relationships in one set of multivariate regression equations: the relationships among factors, the relationships among observed variables, and the relationship between factors and observed variables that are not factor indicators. These relationships are described by a set of linear regression equations for the continuous observed dependent variable, a set of censored normal or censored-inflated normal or censored-inflated normal regression equations for binary or ordered categorical observed dependent variables, asset of probit or logistic regression equations for binary or ordered categorical observed dependent variables. A set of multinomial logistic regression equations for unordered categorical observed dependent variables, and a set of Poisson or zero-inflated

Poisson regression equations for count observed dependent variables(MacCallum & Austin, 2000).

4.7.5 *Justification of Structural Equation Modeling*

Multiple regression is commonly used to identify the relationship between dependent and independent variables as a whole (Maruyama, 1997). But, the use of multiple regression could not achieve the objectives of the present study. Firstly, multiple regression is unable of handling latent variables such a customer satisfaction. Secondly, multiple regression cannot be used with the presence of a mediating variable(s), such as service quality. Thirdly, multiple regression cannot estimate dependent variables measured by multi-items, such as service quality.

Multiple regression was therefore considered to be an unsuitable method for analyzing the data in the context of linking E-CRM features, customer satisfaction and service quality. As an alternative, Structural Equation Modeling (SEM) was selected for data analysis and the development of the proposed model of E-CRM features]and customer satisfaction.

SEM has evolved from regression techniques and builds on the assumptions of regression, and can at the same time predict and explain relationships. It also merges the logic of multiple regression and path analysis with a single analytical framework and therefore can supply for the presence of a mediating variable between exogenous (independent) variables and endogenous (dependent) variables (Bentler, 1980; Cheng, 2001).

Furthermore, the causal effects of individual exogenous variables can be determined. This includes a combination of direct and indirect effects: the direct effect from the exogenous variables onto the endogenous variable, such as direct effects of ECRM features on customer satisfaction and the indirect effect from the exogenous variables onto the endogenous variable through mediating variables such as indirect effects of ECRM on customer satisfaction through service quality (Hoyle, 1995).

SEM has been widely used in customer behavior (Laroche *et al*., 1999) management (Van, 1999), service marketing (Caruana *et al*., 1999; Babakus *et al*., 1999), relationship marketing (Nielson, 1996), banking services (Heaney & Goldsmith, 1999), human resources (Elangovan, 2001), supply chain management (Tracey & Tan, 2001).

Researchers have often used SEM to examine the possible relationships among factors together and to address complicated managerial and behavioral issues. Because the research module consisted of service quality as a mediator between ECRM features (the exogenous variables) and customer satisfaction (the endogenous variable), SEM was justified for this study to analyse the link of ECRM features, service quality and customer satisfaction. The technique can estimate the causal effect of ECRM features, service quality and customer satisfaction. SEM was therefore chosen for this study.

This structural model is preferred to other multivariate analyses because it enables a complex study of interrelationships between independent variables and multiple dependent variables, "even when a dependent variable becomes an independent variable in other relationships."

4.8 Research Difficulties

The researcher, encountered some difficulties during the research, beside the following:

- Hesitation of some customers to fill the research questionnaire the first time, being busy and lack of time.
- The absence of some managers in the bank during data collecting either because of sickness or travel.
- Difficultly in conducting some interviews with experts in marketing and information technology because of their busy schedule.
- Filling in the research form with a few words and leaving some questions without answers.
- Loss of some forms as a result of some individuals taking them till the following day.
- Lack of some data and refusal of bank manager to provide data considered sensitive.
- Refusal of bank to give financial and marketing data.
- Lack of statistical record about the number of customers, and how many used the web bank.
- Lack of information as regards the E-CRM aspects at the Saudi banks.
- Lack of information as regards the customer satisfaction in Saudi Arabia.
- There is no empirical studies that show that CRM or E-CRM is related to customer satisfaction in Saudi Arabia.

The researcher was able to minimize the problems listed above as outlined below :

- The data for this research was collected through self-administered questionnaires distributed to the customers banks in Jeddah and by employees who are responsible for controlling the web banking activities. Questions for the survey were mainly of the closed type since this type of question generally is easier and quicker to answer which better suits customers. The wording of the questions in the survey was carefully chosen to avoid specialized words in the information technology (e.g. ECRM). A number of call backs had to be made in order to collect the completed questionnaires.
- Due to insufficient information about E-CRM features in the web banks, the researcher has used two qualitative methods. The first method (which is used as a minor method) is bank documents and website. The researcher explored banks websites in Saudi Arabia in order to define what e CRM features are available for online customers.
- The second qualitative method which was used during this part is semi-structured interviews with banks' managers and employees who are responsible for controlling the web banking activities.
- Finally, informal channels were also used to obtain the available information.

4.9 Ethical Considerations

Ethical issues were considered throughout the entire process in order to make sure that the results and the final report of this study truly represent all the data and relevant conditions (McPhail, 2000). The research was conducted according to the Economic and Social Research Council (ESRC) research ethics framework. The questionnaire was designed according to ESRC ethical guidelines. Therefore, the survey contained a covering letter explaining the purpose of the study, indicating that participation was voluntary and that responses would be treated confidentially. Also, participants were free to withdraw at any time and the respondents are also guaranteed protection through anonymity and all information that may reveal their identity are held in strict confidence.

4.10 Conclusions

The research methodology has been developed within this chapter. This methodology describes the stages in the research process. The research design was then operationalized into a protocol, which provides a 'step-by-step' procedure of the data gathering process.

Many researchers in the domain of IS and marketing research have applied a positivist a approach. Therefore, a positivist approach was considered to be an appropriate approach for this research. Following this, a justification for the selection of the survey as a research approach was provided. Having established that a survey was an appropriate approach, a detailed account of the various aspects of the survey approach was offered.

To validate and understand the conceptual framework, it was found that a quantitative research approach would be more appropriate than a qualitative one. Thus, measurement scales for each construct have been identified, based on a well-known previously tested scales. The data collection tool used in this research was a self-administrated questionnaire. The reasons for the selection of this method were also provided in a detailed manner.

A pilot study was conducted to measure the reliability and validity of the questionnaire before the actual full scale study. Details of practical considerations such as sampling and participation, measurement scales and data analysis procedure were also discussed in this chapter. Upon completion of the study, the data was cleaned, coded and entered on to the statistical package for social sciences (SPSS) version 18.00 for Windows. Analytical techniques included descriptive statistics and confirmatory factor analysis (CFA), and structural equation modeling (SEM) was discussed briefly.

The testing of the hypotheses and the relationships between independent and dependent variables is presented in Chapter 5.

CHAPTER FIVE

DATA ANALYSIS

5.1 Introduction

In the previous chapter, the methodology to collect data for this research was described. This chapter will discuss the results of quantitative data collected from the distributed questionnaire filled by the customers regarding E-CRM at Saudi banks, in order to discusses the interrelationships between E-CRM, service quality and customer satisfaction using various statistical and analytical methods. Firstly examination of the data is described which includes the data cleaning and screening. Descriptive and correlation analysis will be presented starting with the main characteristics of the respondents as described in Section 5.2 followed by the results of hypotheses tests using a structural equation model (SEM) in Section 5.3.which include two stages. In the first stage Inferential Analysis, (AMOS 20.0) was used to conduct the Confirmatory Factor Analysis (CFA) to assess the underlying dimensions of the variable. The measures to be assessed were (Pre-, During- and Post-transaction) E-CRM features, service quality dimensions and customer satisfaction. Amulet-step approach was used to ensure the validity of the measurement model. And the second stage SEM was applied to measure the relationships between the independent variable and dependent variable, to test the hypothesis and to examine effects.

5.2 Examination of Data

This section presents the cleaning of data before it was analyzed. Two groups of problems are discussed : The Accuracy of the Data input and Missing observations. Outliers, and the data will be tested for normality and consistency before implementing the SEM in order to ensure its validity for analysis.

5.2.1 Data Cleaning and Screening

Accuracy of data input. After collecting the questionnaire survey, it was entered into the SPSS statistical software version 18.0 in June 2010. A total of 580 (96.6%) respondents completed the survey. This could be attributed to the high level of cooperation from the banks as well as customers, in addition to the personal efforts of the researcher.

Kassim (2001) said through an examination of basic descriptive statistics, screening of the data was conducted and frequency distribution assessed. Values that were found to be out of range or improperly coded were detected with straightforward checks. Frequency tests were run for every variable to detect any missing and illegible responses. Five cases with illegible responses were noted and corrected. However, 33 cases of incomplete questionnaires were found to be unusable because of missing responses in Section three and Four. These missing responses were discarded immediately leaving a total of 547 usable responses.

Outliers. According to Barnett & Lewis (1985) an outlier is defined as an observation that 'appears' to be inconsistent with other observations in the data set. Outliers can influence the results of analyses and may lead to incorrect decisions about the analyses, such as Type I and Type II errors (Tabachnick & Fidell, 2007). Type I error refers to rejecting the null hypothesis when it is true, and is commonly known as the significance of a test (α). Type II errors, that is accepting the null hypothesis when it is false, is related to the power of an analysis (β). Both of these errors are important and a balance must be struck between them (Weiss, 2008) . Detecting univariate outliers was done on the observations of each variable (Hair *et al*.,1998).

Distinct observation that fell at outer ranges of the distribution were selected as outliers. This was done by converting the data values to standard z scores of each variable. Hair *et al*., (1998) suggests that a common rule of thumb is that z scores can range from +-3 to 4 for sample of more than 80. The z scores ≥ 3.29 were selected for this research. As per recommendations, in order to assess for univariate outliers, standardized (z) scores will be created for each dependent variable and cases with z scores ≥ 3.29 identified as potential outliers (Tabachnick & Fidell, 2007). Normal probability plots and histograms were evaluated in order to evaluate for univariate outliers. All data sets were assessed for univariate outliers. The results indicated that only four cases have z score beyond the mean; the z scores of these cases were very close to 3.29. Since the most extreme case has z score 3.72, and the least extreme case has z score 3.33, therefore the researcher decided to keep all cases in the following analyses.

Normality. The first basic assumption about SEM is that all data have a multivariate normal distribution (Hooley & Hussey, 1994; Hulland *et al.,*1996). Multivariate normal distribution includes both the distributions of individual variables and the distributions of variables (Hooley&Hussey,1994). This assumption is necessary in order to allow significant testing

using the T-test and *F* statistics (Tabachnick & Fidell, 2001). Also,in the SEM model, estimation and testing are usually based on the validity of multivariate normality, and lack of normality will adversely affect goodness-of fit indices and standard errors (Hulland *et al.,*1996; Kassim, 2001). According to Tabachnick & Fidell (2007), there are two ways that can be used to validate an assumption: *skewness* and *kurrtosis.* Skewness refers to the symmetry of distribution, that is, a variable. On the other hand, kurtosis relates to the peakedness of a distribution. A distribution is considered normal when the values of skewness and kurtosis are equal to zero (Tabachnick & Fidell, 2001). Chou & Bentler (1995) suggest that absolute values of univariate skewness indices greater than 3.0 seem to describe extremely skewed data sets.

According to Hoyle (1995) and Kassim (2001), if the kurtosis index is greater than 10.0 may suggest a problem and values greater than 20.0 may indicate a more serious one.   In this research, all variable were tested at a univariate level and multivariate level for normality using SPSS, 20.0. At the univariate level of the observed variables in the proposed models, none had skewness greater than 3.0 and none had kurtosis index greater than 8.0. The minimum and the maximum values of kurtosis are -,585 and 522 respectively; similarly the minimum and the maximum values of skewness are -0,859 and 0,123 respectively.These results indicated that the data was distributed normally.

5.3   Descriptive Statistics for Demographic Variable

To present and analyze the customer's demographic characteristics, the researcher uses the frequencies, percentage and the descriptive statistics. The distributed questionnaires were (600) while the returned and accepted questionnaires for analysis were (547), which consist of (91.1%) of the total distributed questionnaires and this could be considered a high level of cooperation from the banks and customers side in addition to the researcher's efforts.

As shown in Table 5-1, demographic characteristics indicate that the respondent gender were the (68.4%) were males, and only (31.6%) were females. Vast majority of respondents were males and only few of them were females, the dominant age category of the respondent were young and they from (25 to 34) with (48.8%). The level of education shows that most of respondent holds Bachelor degree with (42.2%), with regards to the average of monthly income, most of the respondent income considered moderate and ranged from (5000- 20,000 SR) per month. The respondents shows a very good level of loyalty to their banks as (55.4%) indicate that they are dealing with their banks more than 5 years (5 to

15 years). All the previous results justify the question related to if the respondent are using the web services, when all of them choose "Yes" as an answer with (100%). Furthermore, the respondents reveals that they are using bank web services for a duration ranged from three years to less than one year with (70.2%) which shows that there is raising trend toward using the web services. The frequency of using the web services most of the respondents ranged from (4-8) times monthly with (40.6%). Another support to the raising trend toward using the web services is the respondent answer to their frequent visits to the bank branch per month as (39.3%) of the respondent says that they never visits their bank and the frequency of visits of the respondents to the bank branch per month range from 1 to 3 times (33.6%), and the respondents who visit the bank over more than 8 times came in the last (1.3%).

Table 5-1 Summary of the Customers Demographic Characteristics

Variables	Category	Results	
		Frequency	Percentage
Gender	Male	374	68.4
	Female	173	31.6
	TOTAL	547	100
Age	Under 25 years	45	8.2
	25 to 34 years	281	51.4
	35 to 44 years	156	28.5
	45 to 54 years	49	9
	55 to 64 years	19	2.9
	TOTAL	547	100
Education	Primary & secondary education	30	5.5
	High school	37	6.8
	Diploma degree	59	10.8
	Bachelor degree	231	42.2
	Masters	75	13.7
	PhD	81	14.8
	TOTAL	547	100
The average of monthly income	Less than 5000 SR	37	6.8
	5000- 20,000 SR	279	51
	20,000-30,000 SR	134	24.5
	More than 30,000 SR	97	17.7
	TOTAL	547	100
Years of dealing with this Bank	Less than one year	16	2.9
	1 to 5 years	86	15.7
	5 to 15 years	303	55.4
	More than 15 years	142	26
	Less than one year	16	2.9
	TOTAL	547	100
Do use your bank's web services?	Yes	547	100
	No	0	0
	TOTAL	547	100
How long have you been using your bank web services?	Less than one year	179	32.7
	1 to 3 years	205	37.5
	4 to 6 years	107	19.6
	More than 6 years	56	10.2
	TOTAL	547	100
Frequent use bankweb monthly	one time	119	21.8
	2 to 3 times	149	27.2
	4 to 8 times	222	40.6
	9 to 12 times	42	7.7
	TOTAL	547	100
Frequently visit the bank branchper month	Never	215	39.3
	1 to3 times	184	33.6
	3 to5 times	118	21.6
	6 to 8 times	23	4.2
	over 8 times	7	1.3
	TOTAL	547	100

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5.3.1 Summary of the Customers Demographic Characteristics

This study has not investigated the effects of the customers' demographic characteristics such as age, gender and educational level on their satisfaction towards Web banking technologies, so the researcher not used this information to analyse the data because it doesn't add anything to the understanding of the topic.

The reseasrcher asked all these questions in order to illustrate that the overall majority of the respondents is web-banking literate as they have sufficient knowledge of web-banking and were appropriate candidates to participate in this study.

5.4 The Confirmatory Factor Analysis

AMOS 20.0 was used to conduct the Confirmatory Factor Analysis (CFA). A number of fit indices criteria were employed to assess the model fit. Based on Hu and Bentler's (1995) recommendations both the Non-Normed Fit index (NNFI) and the Comparative Fit Index (CFI) require to reach values of over .90 to indicate acceptable fit, whilst values above .95 and nearer to 1.00 indicate close and exact model fit respectively. Standardized Root Mean Square Residual (SRMR) was also utilized; smaller values are considered to be better (Hu & Bentler, 1995). Root Mean Square Error of Approximation (RMSEA) was another fit index used and values from .10 to .08 indicate mediocre fit, whilst values that range from .08 to .06, near to .01 indicate acceptable and values from .06 to .00 indicate close and exact fit (Browne & Cudeck, 1993). Moreover, when the Chi-Square ($\chi2$) is divided by its degrees of freedom ($\chi2$ /df) to generate values below 2.0, an acceptable model fit is found (Bollen, 1989). Finally, the Akaike Information Criterion (AIC) and Consistent Akaike's Information Criterion (CAIC) were also used to determine the best fitting model because they have the capacity to indicate the best model out of a number of models tested (Bozdogan, 1987).

When the initial hypothesized model was determined not to be the best fitting model, the model needed to be re-specified (Kline, 2005; Meyer *et al*., 2006). Modification indices were examined to re-specify the model in terms of either trimming or building the model empirically and theoretically. If the empirically deleting or adding a path to the model was not supported by a theoretical basis, then the model trimming or building should not be considered (Kline, 2005; Meyer *et al*., 2006). Once the model was modified, the alternative hypothesized model would be tested using the same CFA procedures as the above described to determine the best fitting model to the observed dataset. To assess the internal

consistency reliability of the total scale and subscales of the ANSI, the Cronbach alpha reliability coefficient was used to analyze the data of 547 cases The alpha reliability coefficient higher than .70 indicated a high degree of internal consistency (Stevens, 2002). The questionnaire consists of five main subscales: Pre, During, Post E-Transaction Features, Quality Service, and customer satisfaction. In the following sections, the measurement model of each subscale will test, and goodness of fit indices will be examined to determine the fit of each model. If the model failed to fit the data, modification indices was investigate to determine the source of the misfit and the model will be re-specified and re-tested.

5.5 The Measurement Model of the pre E-transaction Features

The model was evaluated using AMOS 20.0 (Analysis of Moment Structures) to test construct validity of the survey instrument against the sample data (Byrne, 2010; McInemey & Ali, 2006). The pre E-Transaction features are measured by 12 items; the 12 items measure three subscales: Site Customization, Site Information, and Membership. Each subscale measures by four items. Table 5-1 displays the distribution of the 12 items across the three subscales.

The initial model failed to fit the data, the fit indices indicated inadequate fit to the data, χ^2 (51) = 157.580, p = .0001; GFFI = .96; AGFI=.93;RMSEA=.062,90%CI [0.051, 0.073]; close fit (Cfit) =.0361. To remove poorly fitting items from the initially hypothesized measurement model, we examined modification indices of the variables and identified the variable with the largest standardized residual. Based on the examinations, we dropped one item at a time and then re-ran the CFA on the subsequent model (Hofmann, 1995). Following the above procedures, two items were deleted: item 1 ("My bank's web site personalizes on the basis on my own preferences"), and item 2 ("The bank's web site has a clear strategy to identify the different customer needs").

Table 5-2 Distribution of Items Across the Subscales of Pre-Transaction Feature

Pre-transaction features	Question	Position number of the questionnaire
Site Customization	My bank's web site personalizes on the basis on my own preferences.	**1**
	The bank's web site has a clear strategy to identify the different customer needs.	**2**
	I found Site customization feature very useful and a sign of the success of the bank's website.	**3**
	The bank's website enables me to make transactions that are customized for me.	**4**
Site information	'Site Map' or 'Introduction Page' feature is available in my bank website.	**5**
	I found 'Site Map' or ' Introduction Page' feature useful before conduction online transactions .	**6**
	The bank's web site is capable to provide me with the needed information quickly and precisely.	**7**
	Website is using information how to use e-banking services	**8**
Membership	I always use the 'Log in' or 'Sign in' feature.	**9**
	The speed of 'Log in' or 'Sign in' feature is fast.	**10**
	'Log in' or 'Sign in' feature makes me feel more safe to use the bank website for my transactions.	**11**
	I feel like I am part of the website.	**12**

Figure 5-1 Initial Measurement Model of the Pre-Transaction Features

Figure 5-1 displays the hypothetical model of the pre-transaction features. The pre-transaction features are measured by 12 items; these 12 items measure three subscales: site customization, site information, and membership. Each subscale measures by four items.

The reliability level, standardised regression weights and goodness-of-fit statistics are illustrated in Table 5.3. As shown in Table 5.3 the standardized regression weights are all above 0.70. In addition, the internal reliability is very good ($\alpha = 0.85$) indicating high internal reliability and consistency. In addition, the goodness-of-fit measures of this model: RMSEA, CFI, TLI and AGFI . As shown in Table 5.4 all indicated a perfect fit of the model to the data. Hence, the three- indicator model of pre- transaction provides evidence of good fit and is depicted in Figure 5.2.

Table 5-3 Reliability Coefficient, Item to Total Correlation, and Standardized Loadings of Pre-Transaction

Pre-Transaction Features (α=.716)	Question	Itemtotal Correlation	Standardized Loading
Site Customization	3- I found Site customization feature very useful and a sign of the successful of the bank's website.	.437	.70
	4- The bank's website enables me to make transactions that are customized for me.	.457	.83
Site information	5- Site Map' or 'Introduction Page' feature is available in my bank website.	.378	.94
	6- I found 'Site Map' or ' Introduction Page' feature useful before conduction online transactions.	.331	.91
	7- The bank's web site is capable to provide me with the needed information quickly and precisely.	.317	.91
	8- Website is using information how to use e-banking services.	.283	.90
Membership	9- I always use the 'Log in' or 'Sign in' feature.	.317	.88
	10- The speed of 'Log in' or 'Sign in' feature is fast.	.399	.90
	11- 'Log in' or 'Sign in' feature makes me feel more safe to use the bank website for my transactions.	.472	.89
	12- I feel like I am part of the website.	.371	.90

Table 5-4 Fit Indices of the Initial and Revised Model of Pre-Transaction Features

The Fit Index	$\chi 2$	df	$\chi 2$/df	p- value	RMEA	GFI	AGFI	FI
Initial Model	157.58	51	3.09	001	062	96	93	72
Revised Model	79.35	32	2.48	.001	052	.97	95	84

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Figure 5-2 Revised Model of the Pre-Transaction Feature

In Figure 5-2, poorly fitting items were removed from the initially hypothesized measurement model, we examined modification indices of the variables and identified the variable with the largest standardized residual. Based on the examinations, we dropped one item at a time and then re-ran the CFA on the subsequent model (Hofmann, 1995). Following the above procedures, two items were deleted: item 1 ("My bank's web site personalizes on the basis on my own   preferences"), and item 2 ("The bank's web site has a clear strategy to identify the different customer needs").

5.6 The Measurement Model of the During-Transaction Features

The second scale is the during E-Transaction features which are measured by10 items; the items measure three subscales: product or service customization (measured by 4 items),

Privacy/security (measured by 3 items), and Alternative payment (measured by 3 items). Table 5-5 displays the distribution of the 10 items across the three subscales.

Table 5-5 Distribution of Items Across the Subscales During-Transaction

During E-transaction features	Question	Position number of thequestionnaire
Product or service customization	The bank's website allows me to customized products or services on my own need .	4
	I am able to interact with website to get service tailored to my need.	15
	Service customization motivates me to use my bank's website	16
	I found the service customization possibilities important for the success of the web banking	17
Privacy / Security	The bank's web site does not misuse my personal information .	18
	The bank's site is secure for my information.	19
	I'm sure that all private information about me as a customer are safeguarded from any unauthorized Access when using web service.	20
Alternative Payment	Different payment methods to choose are available in my bank's website.	21
	Different payment methods are an important factor for me to visit and use the website of the bank again .	22
	Different payment options are stated clearly.	23

Figure 5-3   Initial Hypothetical Model During-Transaction Features

Figure 5-3 displays the initial hypothetical model of the during E-transaction features. The initial model failed to fit the data, the fit indices indicated inadequate fit to the data, $\chi2$ (51) = 157.580, p = .0001; GFFI = .96; AGFI =.93; RMSEA=.062, 90% CI [0.051, 0.073]; close fit (Cfit) =.0361.

The goodness-of-fit statistics for the three-indicator model of during-transaction features is displayed in Table 5-6. All the measurement items weights exceeded 0.80, providing evidence in support of convergent validity. Based on the Cronbach alpha= 0.70, the items appeared to be reliable and consistent indicating that three items are reliable measures of reward construct. As a shown in Table 5-7 the fit indices: RMEA= 0.052; CFI= 0.97; GFI=0.97; and AGFI= 0.95 suggest a good fit of the model. The measurement model shows that the three items are reliable measures of during-transaction features as presented in Figure 5. 4.

Table 5-6 Reliability Coefficient, Item to Total Correlation, and Standardized Loadings of the During-Transaction Features

During-Transaction Features (α=.705)	Question	Itemtotal Correlation	Standardized Loading
Product or Service Customization	16- Service customization motivates me to use my bank's website.	**0.336**	**.89**
	17- I found the service customization possibilities important for the success of the web banking.	**0.561**	**.88**
Privacy / Security	18- The bank's web site does not misuse my personal information .	**0.520**	**.87**
	19- The bank's site is secure for my information.	**0.449**	**.86**
	20- I'm sure that all private information about me as a customer are safeguarded from any unauthorized Access when using web service.	**0.482**	**.85**
Alternative payment	21- Different payment methods to choose are available in my bank's website.	**0.473**	**.83**
	22- Different payment methods are an important factor for me to visit and use the website of the bank again .	**0.421**	**.82**
	23- Different payment options are stated clearly.	**0.393**	**.91**

Table 5-7 Fit Indices of the Initial and Revised Model of During-Transaction Features

Fit Index	χ^2	df	χ^2/df	p- value	RMEA	GFI	AGFI	CFI
Initial Model	157.58	51	3.09	.001	.062	.96	.93	.72
Revised Model	79.35	32	2.48	.001	.052	.97	.95	.84
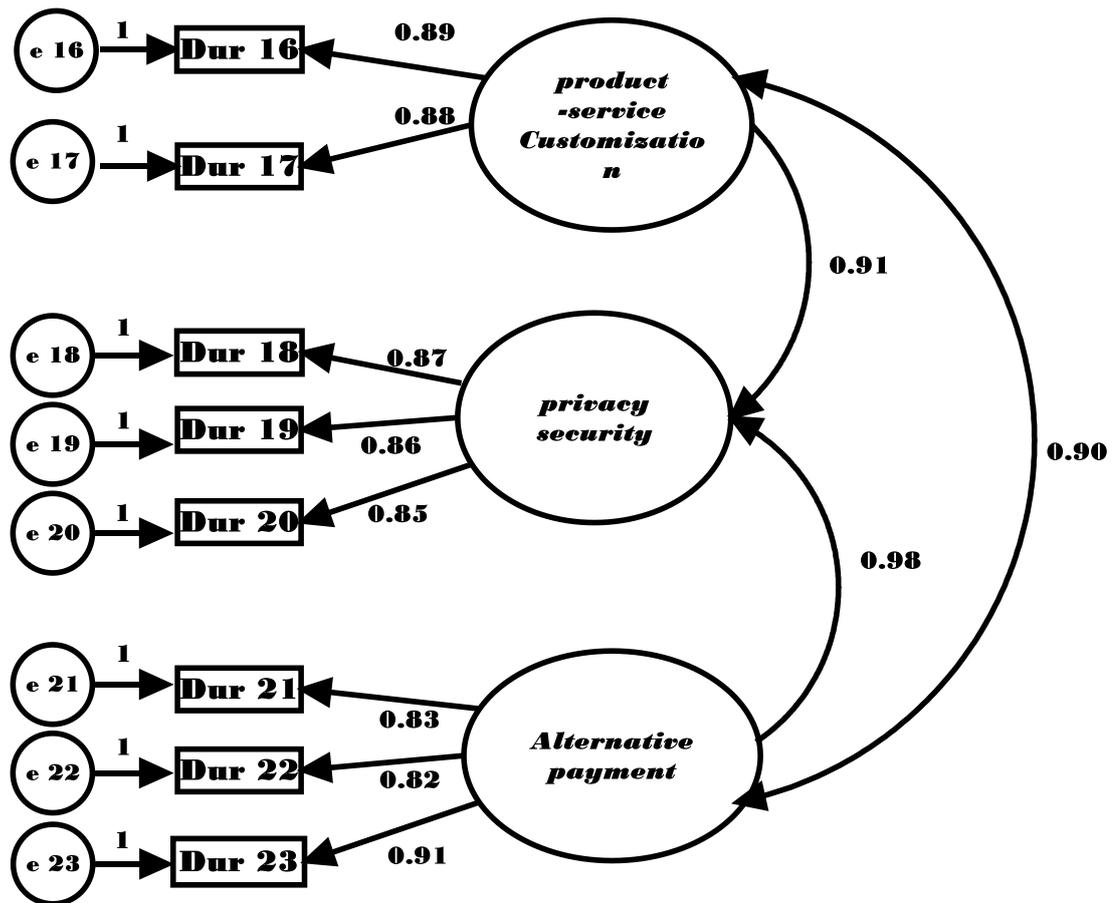
Figure 5-4 Standardized Estimates of the Revised Model of the During-Transaction Features

As shown in Figure 5-4, poorly fitting items were removed from the initially hypothesized measurement model, and examined modification indices of the variables and identified the variable with the largest standardized residual. Based on the examinations, we dropped one item at a time and then re-ran the CFA on the subsequent model (Hofmann, 1995). Following the above procedures, two items were deleted: item 14 (The bank's website allows me to request customized products or services on my own need .), and item 15 (I am able to interact with website to get service tailored to my need.). The modified model is displayed in Figure 4, and the indices are displayed in Table 5-7.

5.7 The Measurement Model of the Post-Transaction Features

The third scale is the Post E-transaction Features which consists of nine items which measures three subscales each subscale measures by three items (see Table 5-8)

Table 5-8   Distribution of the Items Across the Subscales of the During-Transaction Features

During E-transaction features	Question	Position numberof the questionnaire
FAQs	Frequently Asked Questions (FAQs) help me when I use the web banking .	25
	I use FAQs always while exploring the bank website	26
	I found FAQs useful.	27
problem solving	The bank provides appropriate information to customers when a problem occurs.	28
	The bank quickly resolves problems I encounter with my online transactions.	29
	Whenever I face any problem, I use the online complaining form to contact the bank.	30
Online Feedback	Online Feedback feature is available on my bank's website.	31
	I always use the Feedback form for the web bank.	32
	The site has customer service representatives available online	33

Figure 5-5 Initial Hypothetical Model of the Post-Transaction Features

Figure 5-5 displays the initial hypothetical model of the Post E-transaction features. The Post E-transaction features scale consists of three items and measure nine subscales.

The standardized regression weights, reliability and goodness-of-fit statistics are presented in Table 5-9. Providing support for convergent validity, the standardized regression weights for all the items are above 0.80. High internal reliability and consistency indicated by Cronbach alpha= 0.75. is an evidence that the three indicator model is a good measure of perceived value construct. The goodness-of-fit of this model is further reinforced by RMEA= 0.053, CFI= 0.97, and AGFI= 0.95. Hence, the three-indicator model of post-transaction provides evidence of good fit to the data as illustrated in Figure 5- 6.

Table 5-9 Reliability Coefficient, Item to Total Correlation, and Standardized Loadings of the post-Transaction Features

Post - Transaction Features (α=.751)	Question	Item total correlation	Standardized Loading
FAQs	Frequently Asked Questions (FAQs) help me when I use the web banking.	.288	.87
	I use FAQs always while exploring the bank website.	.437	.84
	I found FAQs useful.	.401	.83
Problem Solving	The bank provides appropriate information to customers when a problem occurs.	.453	.87
	The bank quickly resolves problems I encounter with my online transactions.	.498	.83
	Whenever I face any problem, I use the online complaining form to contact the bank.	.376	.85
Online Feedback	Online Feedback feature is available on my bank's website.	.417	.88
	I always use the Feedback form for the web bank.	.526	.86
	The site has customer service representatives available online.	.466	.89

Table 5-10 Fit Indices of the Initial and Revised Model of During-Transaction Features

The Fit Index	χ2	df	2/df	p- value	RMEA	GFI	AGFI	FI
Initial Model	61.38	24	2.556	.001	.053	.97	.95	.84
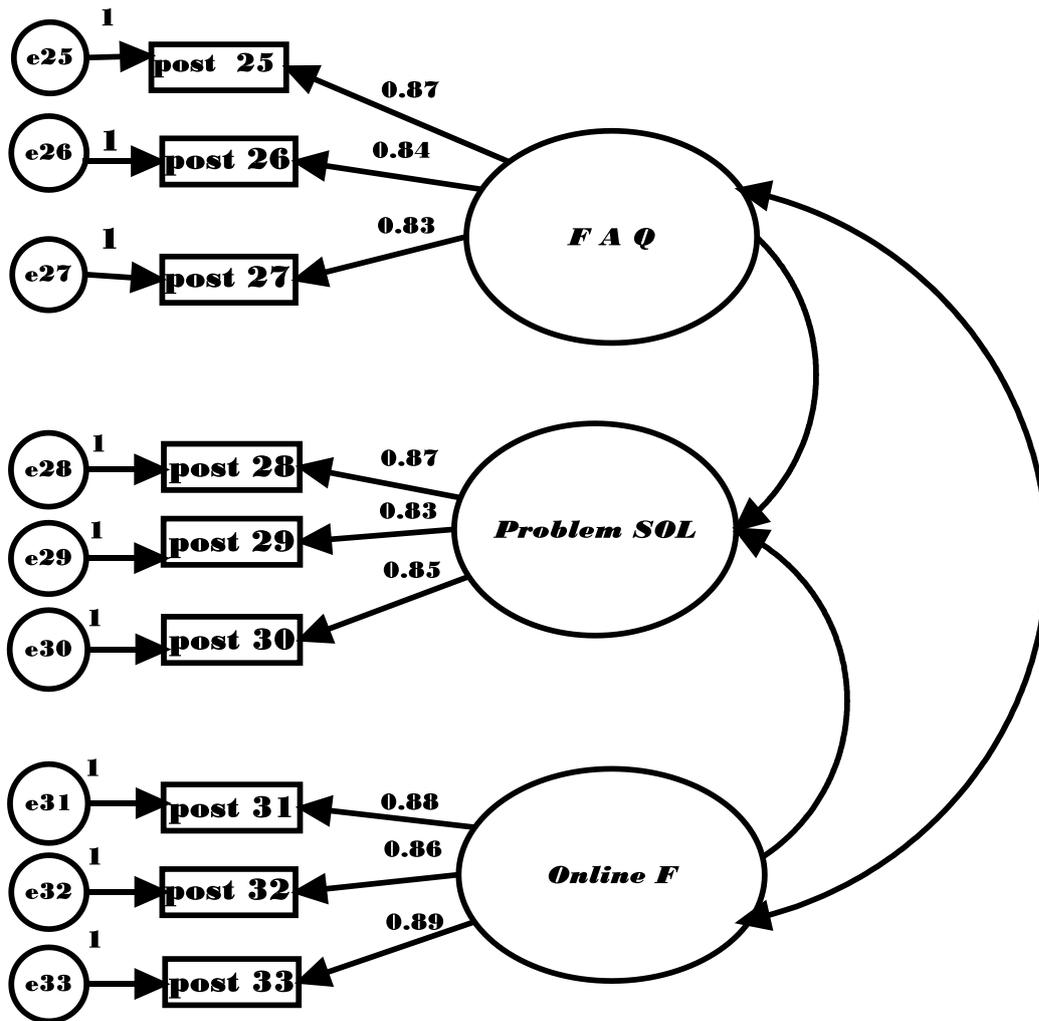
Figure 5- 6 Standardized Estimates of the Revised Model of the Post-Transaction Features

Figure 5-6 displays the measurement model the results indicated that the hypothetical measurement model fits the data reasonably well. Due to the relatively large sample size, the chi-square was statistically significant. However, the RMSEA=.053 and its 90% confidence interval 90% CI [0.97, 0.84]; close fit =.344 which means the model is close to fit. Also GFI=.97, and AGFI=.95>.90 which indicate that the model fit the data. The standardized estimates of the loadings are acceptable (see Figure 5-6).

5.8 The Measurement Model of the Service Quality

The quality service scale consists of 28 items and measure seven subscales. Table 5-11 displays the subscales and the items measuring each one.

Table 5-11 Distribution of the Item Across the Subscales of the of Quality Service Scale

Service Quality Dimension	Question	Position number of the questionin the questionnaire
Efficiency	The bank/s web site has the information about how to use the site effectively.	**35**
	The information on the web site is timely.	**36**
	My interaction with the site is clear and understandable.	**37**
	It is easy to find all the important information from the bank's website.	**38**
	I can make changes for my transaction without much problem	**39**
	It is easy for me to become skillful at using the website.	**40**
Trust / Assurance	The bank's web site has a good reputation	**41**
	I have confidence in the bank's service	**42**
	I trust the website to keep my personal information safe	**43**
	The web based services provided in my bank are reliable	**44**
	I feel safe in my website transaction.	**45**
Site Aesthetic	The website is visually pleasing.	**46**
	The site has an attractive appearance.	**47**
	The website design is innovative.	**48**
Fulfillment	My online transactions with the bank are always accurate.	49
	The service delivered through the bank's website is quick.	**50**
	The bank's site proved a confirmation of the service ordered quickly.	**51**
	The bank's site performs the service right the first time.	**52**
Responsiveness	It is little waiting time between my actions & website's response.	**53**
	The website loads quickly.	**54**
	The bank gives prompt responses to my requests by e-mail or other means.	**55**
Reliability	The bank's web site is always available for business.	**56**
	The bank's web site provides accurate information.	**57**
	The bank' site pages don't freeze after I have put in all my information.	**58**
	All my business with the bank are completed online.	**59**
Communication	Information is written for users of different cultures and languages.	**60**
	The website is available in the language I can understand.	**61**
	The website can understand what I need via interactive communication.	**62**

Keys: Effic= Efficiency

Trust/Assu=TrustAssurane

Site A= Site Aesthetic

Ful =Fulfillment

Respons=Responsiveness

commun=communication
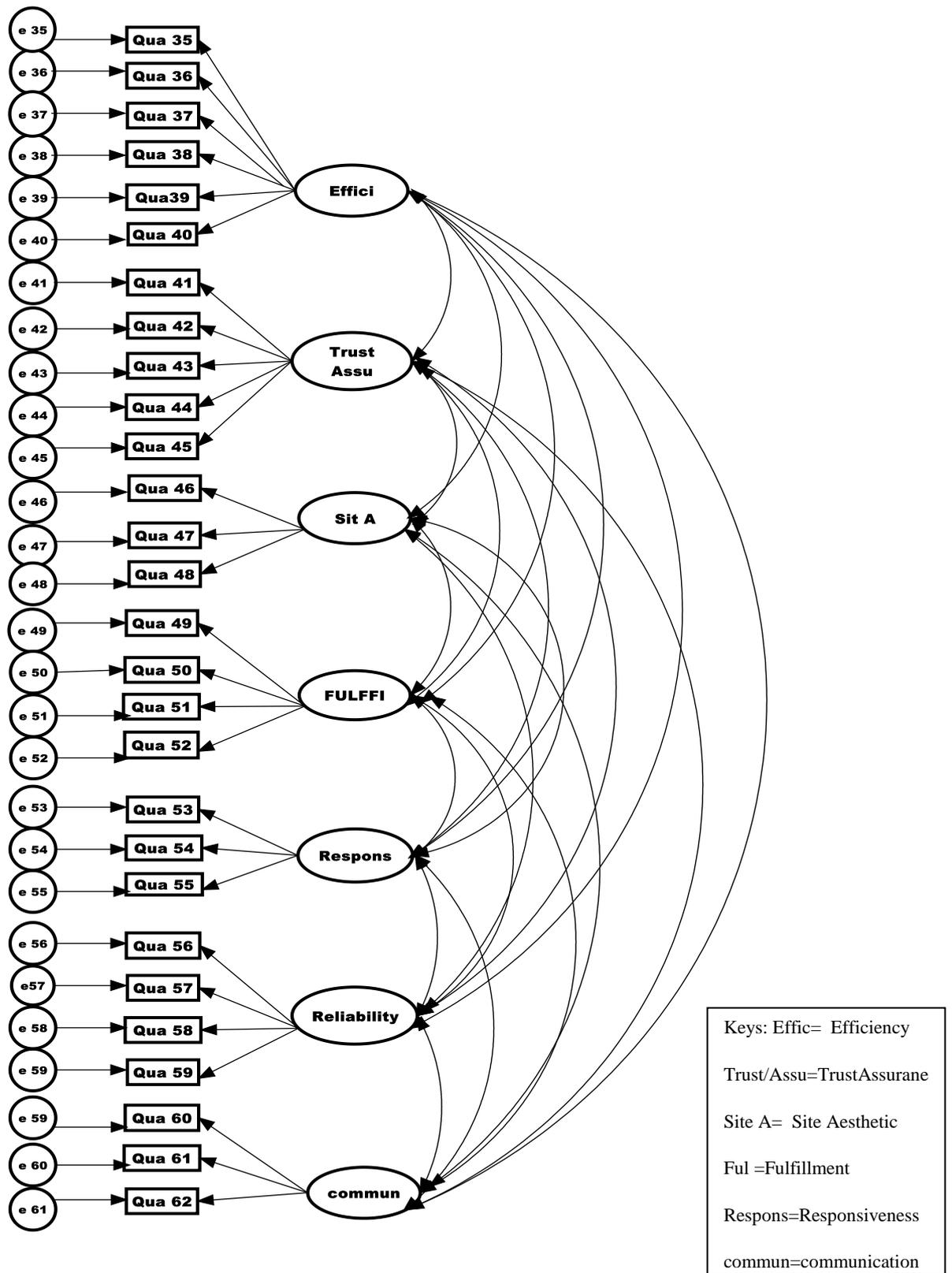
Figure 5-7 The initial hypothetical model of the Service Quality Dimension.

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Figure 5-7 displays the measurement model of the service quality. The quality service scale consists of 28 items and measure seven subscales. Figure 5-11 displays the subscales and the items measure each one the results indicated that the hypothetical measurement model fits the data reasonably well.

The CFA results indicated that the measurement model of the quality service failed to fit to the data. As shown in Table 5-12, the χ^2=1884.67, p<.001, and $\chi2/df$ >5, RMSEA = .093 > .08, and GFI=.89, and AGFI=.87<.90. Based on the modification indices, the model was revised following the steps described in the previous section. The revised model consists of 18 items, distributed as displays in Figure 5-7. The fit indices of the revised item reveals an acceptable fit, although χ^2=343.55 still significant, the RMSEA = 061<.08, and GFI=.94 and AGFI=.90 are less than and equal to .90. The overall conclusion from this step is that the revised model fits the data better than the initial model .

Table 5-12   Fit Indices of the Initial and Revised Model of the Service Quality Dimension

The Fit index	$\chi2$	df	$\chi2/df$	p- value	RMEA	GFI	AGFI	FI
The initial model	1884.67	329	5.73	.00	.093	.89	.87	.61
Therevised model	343.55	114	3.01	.00	.061	.94	.90	.87

Table 5-13 Subscales of the Quality Service and the Number of Items Measure Each Subscale

Service Quality Dimension(α=.829)	Question	Item total correlatin	Standardized Loading
Efficiency	37- My interaction with the site is clear and understandable.	.370	0.83
	38- It is easy to find all the important information from the bank's website.	.370	0.87
	40- It is easy for me to become skillful at using the website .	.373	0.83
Trust / Assurance	42- I have confidence in the bank's service	.373	0.86
	43- I trust the website to keep my personal information safe	.404	.0.82
	44- The web based services provided in my bank are reliable	.419	0.84
Site Aesthetic	46- The website is visually pleasing	.439	0.81
	48- The website design is innovative	.441	0.82
Fulfillment	50- The service delivered through the bank's website is quick..	.423	0.86
	51- The bank's site proved a confirmation of the service ordered quickly.	.412	0.88
	52- The bank's site performs the service right the first time.	.508	0.82
Responsiveness	54- The website loads quickly.	.549	0.89
	55- The bank gives prompt responses to my requests by e-mail or other means.	.457	0.88
Reliability	56- The bank's web site is always available for business.	.470	0.88
	57- The bank's web site provides accurate information.	.413	0.75
	58- The bank's site pages don't freeze after I have put in all my information.	.348	0.87
Communication	61- The website is available in the language I can understand.	.376	0.83
	62- The website can understand what I need via interactive communication.	.393	0.82

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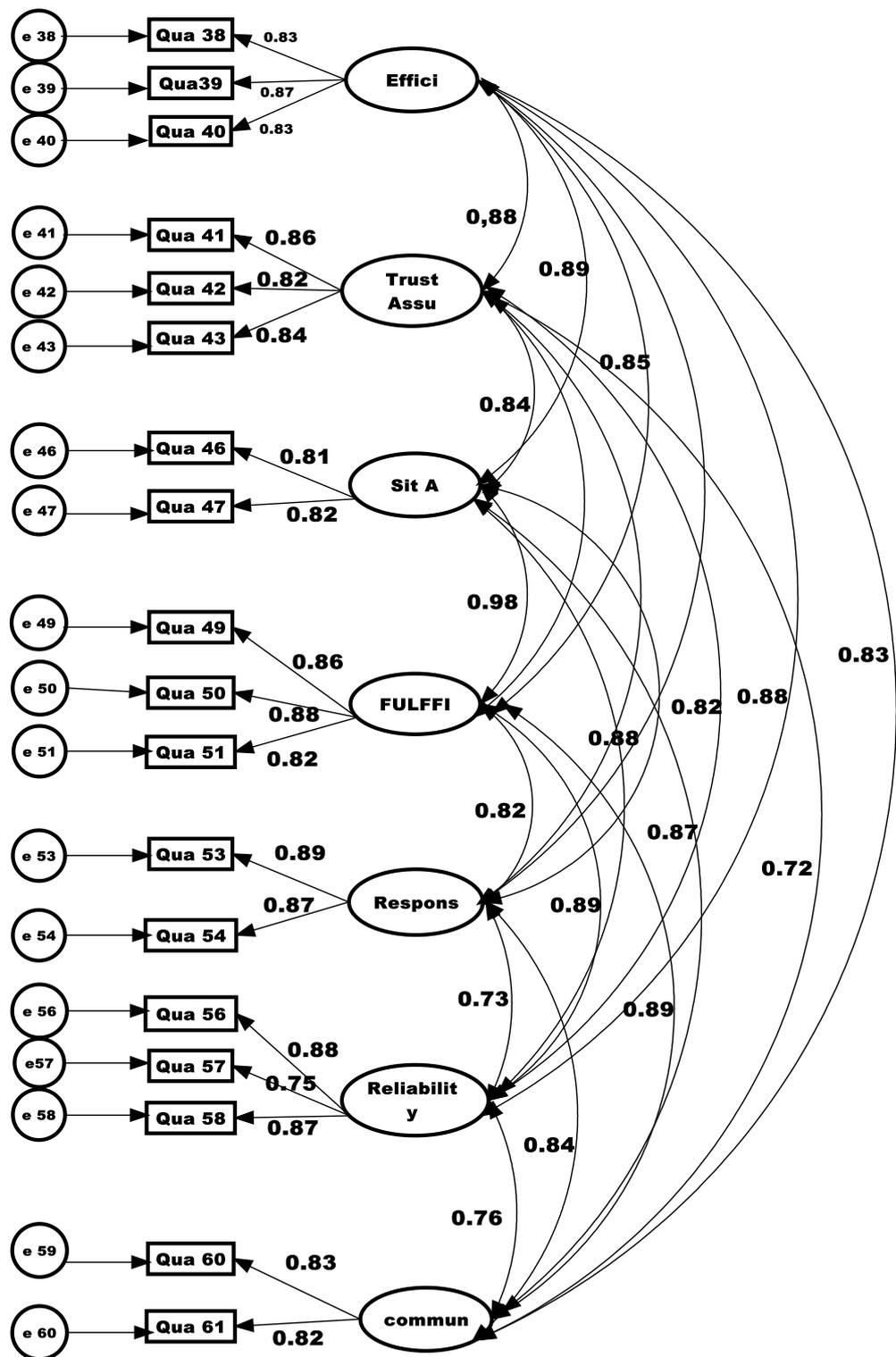
Figure 5.8 : The standardized estimates of the Quality Service Subscales parameters

In Figure 5-8, the fid indices of the revised item reveal an acceptable fit, although χ²=343.55 stills significant, the RMSEA = ..061<.08, and GFI=.94 and AGFI=.90 are less than and equal to .90. The overall conclusion from this step is that the revised model fits the data better than the initial model.

5.9 The Measurement Model of the Customer Satisfaction Scale

The customer satisfaction questionnaire consists of seven items which measure one general factor; Table 5-14 contains the items of the scale.

Table 5-14   The Items Measure the Customer Satisfaction Scale

Customer satisfaction	Question	Position number of the question in the questionnaire
Customer satisfaction Pre-Transaction	You are satisfied with the pre-transaction service provided by the website.	13
Customer satisfaction At-Tansaction	You are satisfied with the At -transaction service provided by the website.	25
Customer satisfaction After-Transaction	You are satisfied with the after-transaction service provided by the website.	35
	I feel happy when using the website.	63
	The bank's website service is meeting my expectation as a customer.	64
Service quality	All the services in the website functions very well From my own experience.	65
	Overall, I am satisfied with service website.	66

The seven items indicate that the factor loadings of the items model of satisfaction have good factor loading where each item loads more than 0.80 as illustrated in Table 5-15 suggesting that the indicators are good measures of satisfaction and provide an evidence of convergent validity. Moreover, an excellent Cronbach alpha value of 0.88 reflects high internal reliability and consistency. The fit measures well fit model with the RMSEA,CFI, AGFI and P- value were all above the desired level. The good-fitting model of satisfaction is illustrated in Table 5-15.

Table 5-15 The Reliability Coefficient, Item to Total Correlation and Standardized Loadings of the Customer Satisfaction Factor

Customer Satisfaction (α=0.88)	Question	Item Total Correlation	Standardized Loading
	13 - Are you satisfied with the Pre-transaction service provided by the website?	0.542	0.820
	25 - Are you satisfied with the At -transaction service provided by the website?	0.381	0.832
	35 - Are you satisfied with the After-transaction service provided by the website?	0.427	0.828
	63 - I feel happy when using the website?	0.542	0.820
	64 - The bank's website service is meeting my expectation as a customer?	0.88	0.90
	65 - From my own experience, All the services in the website function very well?	0.84	0.89
	66 - Overall, I am satisfied with service website.	0.88	0.90
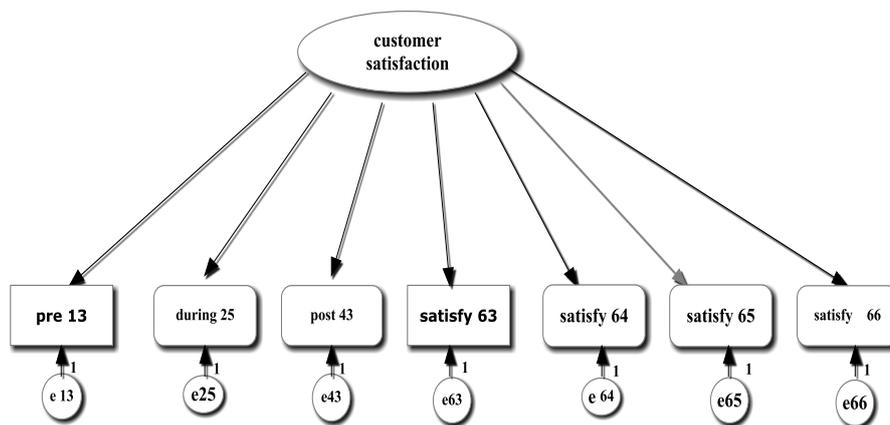
Figure 5-9   The Measurement Model of the Customer Satisfaction

Figure 5-9 displays the initial hypothetical model of the customer satisfaction. The initial model fits the data reasonably well.

Table 5-16 The Good-Fitting Model of Satisfaction

Thefit index	x2	df	χ2/df	p- value	RMEA	GFI	AGFI	CFI
The initial model	.97	.97	.99	0.70	.117	2.14	2.14	4.28
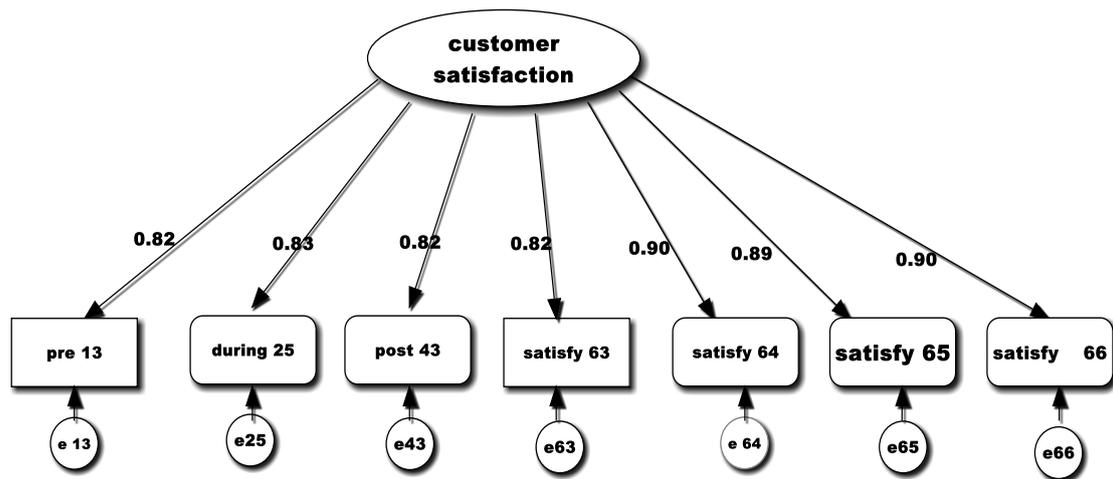
Figure 5-10   The Parameter Estimates of the Measurement Model of the Customer Satisfaction

Figure 5-10 displays the measurement model the results indicated that the hypothetical measurement model fits the data reasonably well. The fit indices of the model support the close fit of the model. Although the exact fit of the model as measured by $\chi2$=0.97 to fit the data; the RMSEA=.117 and 90%, p (Close Fit)=0.70 support the fit of the model. However, the standardized estimates of the factor loadings of the items revealed that the factor loadings of items 13(β=0.82), 25(β=.0.83) and 43 (β=0.82) The revised model satisfies the conditions of the close fit, and the parameter estimates of the items are greater than 0 .80.

5.10   Structural Component of the Model

Having evaluated the measurement model, the next step involves evaluating the Structural Models. Structural equation modeling was used to test the structural model depicted. In Figure 5-11, the research model indicates that E-CRM is the independent variable; service quality is a dependent variable in relation with the E-CRM but an independent variable in relation with the customer satisfaction. Finally, customer satisfaction is a dependent variable in relation to both E-CRM and service quality variables. The model included five factors made up of a total 52 items.The following sections present the results of the full-hypothesized model.
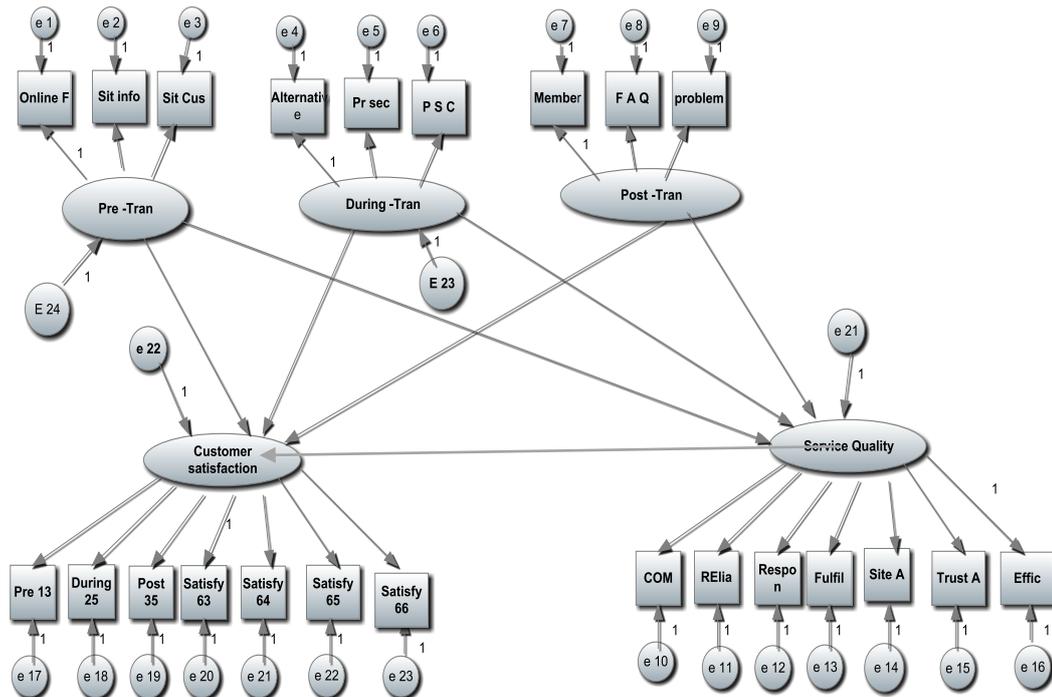
Figure 5-11 The Path Diagram of the Full Model

As illustrated above, the main study hypothesized that :

Hypothesis 1 :   *Pre-transaction E-CRM features have a positive effect on customer satisfaction.*

Hypothesis 2 :   *During-transaction E-CRM features have a positive effect on customer satisfaction.*

Hypothesis 3 :   *Post-transaction E-CRM features have a positive effect on customer satisfaction.*

Hypothesis 4 :   *There is a significant relationship between web banking service quality and customer satisfaction.*

Hypothesis 5:   *There is a positive relationship between E-CRM features and service quality.*

Hypothesis 6 :   *There is a positive relationship between E-CRM features and service quality, which in turn leads to customer satisfaction.*

5.11 Testing of the Research Hypothesis

The research hypothesis has been tested in order to figure out the relationship between the study variables. The following section will discuss the testing of the six main study hypotheses.

5.11.1 The Testing of HI

The E-CRM features could be divided into three main phases in term of its relationship to customer satisfaction; 1. Pre-transaction E-CRM features 2. During-transaction E-CRM features and 3. Post-transaction E-CRM features.

Pre-transaction E-CRM features contain mainly the following features; "Site Customization - Membership- Site information". Accordingly it can be hypothesized that:

>   *H1: Pre-transaction E-CRM features have a positive effect on customer satisfaction.*

Structural model of the relationship between the pre--transaction E-CRM features and customer satisfaction (H1)

To understand the effective Pre-transaction E-CRM features first factor model was performed. This model indicates that the effectiveness of the Pre-transaction E-CRM features account for the extent to which the three variables would be implemented in the web banks and are vital for customer satisfaction. Table 5-12 presents the goodness-of fit statistics of the pre-transaction E-CRM features. The results indicate a good-fit to data: $\chi2/df$ =2.78, RMSEA= 0.058, CFI=0.98,and AGFI=0.92, that is the fit indices are within the acceptable level.

Therefore, the use of pre-transaction E-CRM features *has a positive effect on customer satisfaction* which proves (H1) presumption.

Table 5-17   Goodness-of Fit Statistic for a Structural Model of the Relationship between the Pre-transaction E-CRM Features and Satisfaction

Pre-transaction & satisfaction	2/df	RMSEA	FI	GFI	T-value
	.78	0.058	0.98	0.92	0.00

Recommended value ($\chi2/df \leq 3.0$, RMSEA≤ 0.06,GFI close to 0.90,CF I> 0.95)

Table 5-18 presents the path analysis results of this model. The regression analysis indicates that the model explains 82 percent of the variance in customer satisfaction. In addition, from

the result, it is evident that the pre-transaction E-CRM features is a strong predictor of customer satisfaction (β=0.90,t-value=47.37,p=0.00).

Table 5-18 Path Analysis Results for the Pre-Transaction E-CRM Features - Customer Satisfaction

Path	Standardized Coefficient	t-value	r²
Pre-Tran ⟶ SATSFY	0.90	47.36	0.81

Keys : Pre- Tran = Pre-transaction E-CRM features: SATISFY= customer satisfaction

5.11 .2 The Testing of H2

During-transaction E-CRM contains the following features; "Privacy/security product or service customization. Alternative Payment". Accordingly, it can be hypothesized that :

H2: During-transaction E-CRM features have a positive effect on customer satisfaction.

Structural model of the relationship between the During-transaction E-CRM features and Customer satisfaction (H2)

The fit measure for the use of during transaction features of E-CRM to customer satisfaction is illustrated in Table 5-13. The $\chi2/$ df = 2.03 and the RMSEA=0.045 which mean agood fit of the model to the data. this is reinforced by CFI=0.95 and AGFI=0.90. All are close to 1.0 providing more support for the model. Therefore, the structural model of the effect of during transaction features of E-CRM on customer satisfaction is accepted. Table 5-18 displays the results of path analysis of this model which indicate that the during transaction features of E-CRM available in the web banks has a strong effect in customer satisfaction(β=0.82, t-value = 49, 34 p=0.00).

Table 5-19   Goodness-of-Fit Statistics for a Structural Model of the During-Transaction E-CRM Features and Customer Satisfaction

	x2/d	RMSEA	FI	GFI	p- value
During-Transaction E-CRM features and customer satisfaction	2.03	0.045	0.95	0.90	0.00

Recommended value (RAMSA≤0.06, Hu and Bentler (1999); χ2/ df ≤ 3.0 , Kline (1998)

Table 5-20 shows path analysis results for during-transaction E-CRM features and customer satisfaction.

Table 5-20   Path Analysis Results for During-Transaction E-CRM Features and Customer

Satisfaction

Path	Standardised Coefficient	t-value	r²
DUR –TRN ⟶ SATSIFY	0.82	49,34	0.87

Keys : DUR –TRN =During E-CRM features :SATSIFY= customer satisfaction

5.11.3 The Testing of H3

Post-transaction E-CRM contains mainly the following features; "frequently asked questions FAQ's - problem solving - Online Feedback". Accordingly, it can be hypothesized that:

H3: Post- transaction E-CRM features has a positive effect on customer satisfaction.

Structural model of the relationship between the post -transaction E-CRM features and customer satisfaction (H3)

Table 5-21 presents the results of the structural model of the use of the post- transaction E-CRM Features and customer satisfaction. The goodness- of –fit statistics of the model indicate the value $\chi 2 / df = 2.06$ and RMSEA= 0.045   are within the acceptable range. Moreover, the fit indexes; CFI =0.96,AGFI=0.90 are above the acceptable values, which indicate a good fit of the model to the data. Therefore, the structural model of the effect of the post transaction E-CRM features on the customer satisfaction can e accepted. Table 5.22 displays the results of path analysis. The results provide the evidence that post transaction E-CRM features are an important factor driving customer satisfaction (β =0.88,t-value=33.34).

Table 5-21 shows goodness-of-fit statistics for a structural model of the relationship between post-transaction E-CRM features and customer satisfaction.

Table 5-21   Goodness-of-Fit Statistics for a Structural Model of the Relationship between Post-Transaction E-CRM Features and Customer Satisfaction

Post-E-CRM Features and Customer Satisfaction	χ2/d	RMSEA	FI	GFI	p- value
	2.06	0.045	0.96	0.90	0.00

Recommended value (RAMSA≤0.06, Hu and Bentler (1999); χ2/ df ≤ 3.0 , Kline (1998)

Table 5-22 shows path analysis results for post-transaction E-CRM features and customer satisfaction.

Table 5-22   Path Analysis Results for Post-Transaction E-CRM Features and Customer Satisfaction

Path	Standardized coefficient	t-value	r²
post –Tran ⟶ satisfy	0.88	33.34	0.65

Keys: post-Tran- post -transaction E-CRM features: Satisfy -- customer satisfaction

5.11.4 The Testing of H4

Service Quality could influence customer satisfaction. Web banking service quality mainly consists of the following features;

Efficiency

Trust / Assurance

Site Aesthetic

Responsiveness

Fulfillment

Reliability

Communication

Accordingly, it can be hypothesized that:

H4: There is a significant relationship between web banking service quality and customer satisfaction.

Structural model of the relationship between Service Quality and Customer Satisfaction (H3)

In order to measure the relationship between service quality and customer satisfaction a structural model was performed using AMOS20.0 software. Structural equation modeling (SAM) test was conducted to determine whether the data fits the hypothesized model. Table 5-23 presents the goodness of –fit statistics of the relationship between the service quality and customer satisfaction. The results for goodness of fit test of the seven dimensions of service quality, show a good fit to data. Providing further support for the model fitness are RMSEA=0.043, CFI = 0.97, AGFI=0.90 and $\chi 2$ / df =2.06, that is fit indices are within the

acceptable level. Hence, this study concludes that an effect of service quality on customer satisfaction explains the extent to which, Efficiency, Trust / Assurance, Site Aesthetic, Responsiveness, Fulfillment, Reliability, Communication components are employed in web banks to achieve customer satisfaction.

The results of path analysis displayed in Table 5-24 show that the value of R Square indicates the ability of web banking service quality variable in predicting customer satisfaction which means that the ability of web banking service quality variable (independent variable) in the interpretation of changes in customer satisfaction (dependent variable). The overall conclusion from this step is that quality service has positive effect on the customer satisfaction; that is as the quality service improves the customer satisfaction increases.

Table 5-23 shows Goodness-of-fit Statistics for a Structural Model of the Relationship Between service quality and customer satisfaction.

Table 5-23   Goodness-of-Fit Statistics for Structural Model of the Relationship between Service Quality and Customer Satisfaction

Service Quality and Customer Satisfaction	χ^2/d	RMSEA	CFI	AGFI
	2.06	0.043	0.97	0.90

Recommended value (RAMSA≤0.06, Hu and Bentler (1999); $\chi^2/$ df ≤ 3.0 , Kline (1998)

Table 5-24   Path Analysis Results for Service Quality and Customer Satisfaction

Path	Standardized Coefficient	t-value	r^2
Efficiency ⟶ customer satisfaction	0.78	28.65	0.58
Trust / Assurance ⟶ customer satisfaction	0.83	35.15	0.69
Site Aesthetic ⟶ customer satisfaction	0.74	5.46	.54
Responsiveness ⟶ customer satisfaction	0.91	2.19	.89
Fulfillment ⟶ customer satisfaction	0.77	9.23	.59
Reliability ⟶ customer satisfaction	0.79	6.98	.83
Communication ⟶ customer satisfaction	0.84	35.98	0.70

5.11.5 The Testing of H5

This section presents the finding of hypothesis 5, which concerns the relationship between E-CRM features "Pre-transaction - During-transaction - Post-transaction" variables and the web-banking service quality. The hypothesized tested are:

H5.1: There is a positive relationship between pre-transaction E-CRM features and service quality.

H5.2: There is a positive relationship between during -transaction E-CRM features and service quality.

H5.3: There is a positive relationship between post-transaction E-CRM features and service quality.

The structural models are evaluated in terms of the hypothesized path and their strength.

Structural model of the relationship between the Pre-transaction E-CRM features and Service Quality (H5.)

Table 5-25 presents the results of the structural model of the effect of the pre-transaction E-CRM features on Service Quality. The goodness of – fit statistics of the model yielded the value of RMSEA = 0.042 and χ^2 / df =2.05 are within the acceptable range. In addition, the fit indexes: CFI =0.96 and AGFI= 0.89 are above the acceptable values, and indicate a good fit of the model to the data. Therefore, the causal model of the effect of the pre-transaction E-CRM features on Service Quality is accepted. Table 5-26 displays the results of path analysis. The results provide the evidence that the Pre-transaction E-CRM features are an important factor driving Service Quality (β =0.82, t-value =34.71).

Table 5-25 shows goodness-of-fit statistics for a structural model of the relationship between pre-transaction E-CRM features and service quality.

Table 5-25   Goodness-of-Fit Statistics for Structural Model of the Relationship between Pre-Transaction ECRM Features and Service Quality

Pre-transaction E-CRM features & Service Quality	x2/df	RMSEA	CFI	AGFI
	2.05	0.042	0.96	0.89

Recommended value (RAMSA≤0.06, Hu and Bentler (1999); χ2/ df ≤ 3.0 , Kline (1998)

Table 5-26   Path Analysis Results for Pre-Transaction E-CRM Features and Service Quality

Path	Standardized coefficient	t-value	r²
Pre- TRN ⟶ SR Q	0.87	34.71	.65

Keys : Pre- TRN= pre-transaction E-CRM feature, SR Q= service quality

The results of goodness-of-fit statistics of the three features model are presented in Table 5-27. The RMSEA =0.045 and $\chi 2$ / df =2.32 are well within the acceptable range, indicating a good fit of the model to the data. In addition providing further support to the goodness – of- fit are the AGFI =0.90, CFI =0.96, which are all above the acceptable level. Hence indicate a good fit of the model to the data. Therefore, the hypothesis of the effect of the During -transaction E-CRM features on Service quality is accepted.

Table 5-27 shows goodness-of-fit statistics for a structural model of the relationship between during-transaction E-CRM features and service quality.

Table 5-27   Goodness-of-Fit Statistics for a Structural Model of the Relationship between During-Transaction E-CRM Features and Service Quality

During-transaction E-CRM features and service quality	$\chi 2$/df	RMSEA	CFI	AGFI
	2.32	0.045	0.96	0.90

Recommended value (RAMSA≤0.06, Hu and Bentler (1999); $\chi 2$/ df ≤ 3.0 , Kline (1998)

Table 5-28 displays the results of path analysis. The results provide the evidence that the During-transaction E-CRM features is an important factor driving Service quality (β =0.82, t-value =33.71).

Table 5-.28   Path Analysis Results for During-Transaction E-CRM Features and Service Quality

Path	Standardised coefficient	t-value	r^2
DUR-TRAN ⟶ SR Q	0.88	33.71	0.65

Keys : DUR-TRAN = during - transaction E-CRM features:SR Q= service quality

Structural model of the relationship between the Post -transaction E-CRM features and Service Quality (H5.3)

A structural model of the relationship between the Post -transaction E-CRM features and Service quality is presented in Table 5-28 indicate a good fit of this model to the data . The fit indexes : RMSEA = 0.042 and $\chi 2$ / df = 2.05. Furthermore , the AGFI =0.92 and CFI = 0.97 indicated Support for the model. The results from the path analysis indicate the (β =0.86, t- value=34.33, p=0.00) which are all within the acceptable range. Hence indicate a good fit of the model to the data. Therefore, the hypothesis of the effect of the Post-transaction E-CRM features on Service quality is accepted. Table 5-29 displays the results

of path analysis. The results provide the evidence that Post-transaction E-CRM features is an important factor driving service quality.

Table 5-29 Goodness-of-fit Statistics for a Structural Model of the Relationship Between Post–Transaction E-CRM features and service quality

Post-Transaction E-CRM Features & Service Quality	χ^2/df	RMSEA	CFI	AGFI
	2.05	0.042	0.97	0.92

Recommended value (RAMSA≤0.06, Hu and Bentler (1999); χ^2/ df ≤ 3.0 , Kline (1998)

Table 5-30 Path Analysis Results for Post-Ttransaction E-CRM Features and Service Quality

Path	Standardised coefficient	t-value	r^2
POST-TRA N $\longrightarrow$ SRQ	0.86	34.33	0.66

5.11.6 The Testing of H6 - the full Model

The relationship between E-CRM features "Pre-transaction - During-transaction - Post-transaction" variables, the web-banking service quality and customer satisfaction should be tested to find out whether it is positive or negative. Accordingly, it can be hypothesized that

H6: There is a positive relationship between E-CRM features and service quality, which in turn leads to customer satisfaction.

Structural model of the relationship between the E-CRM features, Service quality and customer satisfaction (H6)

Using AMOS 20.0, structural equation model was used to test the hypothesized model The results for the overall model fitness indicators of this study are shown in Table 5.30 As shown in this Table, the ratio of χ^2 to degree of freedom(df) 2.12 ; a value of less than 3.0 indicates a good fit (Anderson & Gerbing, 1988; Chin, 1995) which means the model fits the data well. Providing more support for the acceptable fit are the fit indexes CFI=0.98 .AGFI= 0.967 all are greater than 0.90,and RMSE= 0.044 ,p=.00. The full model hypothesizes that the use of the E-CRM features will influence on web banks service quality, which in turn will affect customer satisfaction. Based on the above goodness –of fit results, this hypothesis is accepted.

The results of path analysis are displayed in Table 5-31 shows that the value of (β1 =0.89, β 2=0.78, t- value 1=48.35, t- value 2 =47.37 p=0.00) it indicated the ability of E-CRM features in predicting web banking service quality which means that the ability of web banking service quality variable (independent variable) in the interpretation of changes in

customer satisfaction (dependent variable). The overall conclusion from this step is that e-CRM features have positive effect on quality of service and service quality has positive effect on customer satisfaction.

Table 5-31 Goodness-of-fit Statistics for a Structural Model of the Relationship Between E-CRM features,service quality and customer satisfaction

E-CRM features, servicequality and customer satisfaction	χ^2/df	RMSEA	CFI	AGFI
	2.12	0.044	0.98	0.967

Recommended value (RAMSA≤0.06, Hu and Bentler (1999); $\chi^2/df \leq 3.0$, Kline (1998)

Table 5-32 Path analysis Results for E-CRM features, service quality and customer satisfaction

Path	Standardized Coefficient	t-value	r²
ECRM EFFECT ⟶ service quality	0.89	48.35	0,82
Service quality ⟶ customer satisfaction	0.80	47.37	0.81

Figure 5-12 The SEM Model of ECRM-Service Quality and Customer Satisfaction
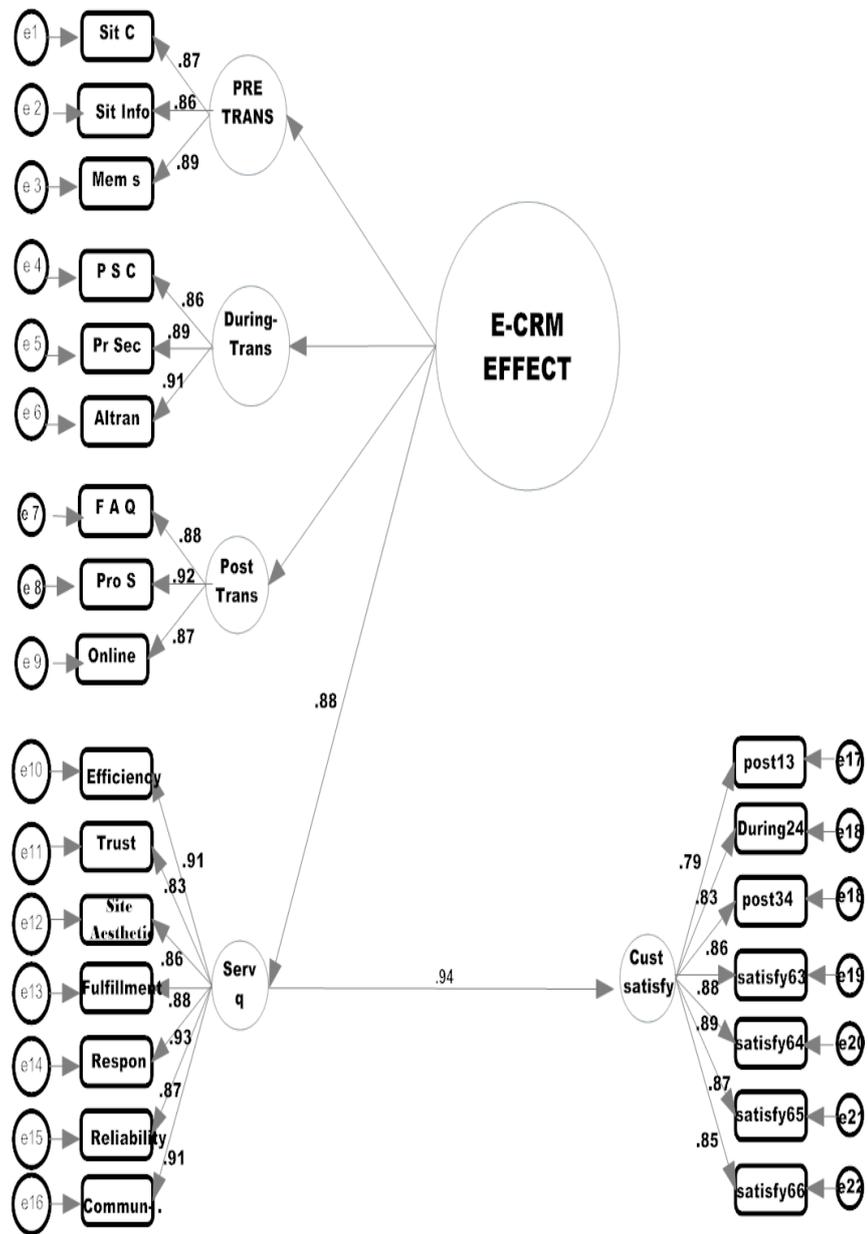
Keys: Sit c = Site Customization. FQ A = Frequently Asked Questions. Sit info = Site information. pros=problemsolving. Mem s = Membership. online= Online Feedback.Psec=Privacy/security. Altran= Alternative payment.

In Figure 5-12, the full model of this research hypothesizes a link between E-CRM features, service quality and customer satisfaction.The results suggest that E -CRM features in the three stage of transaction are critically important in enhancing the utilitarian dimensions of website service quality (eg ; Efficiency, Trust / Assurance, Site Aesthetic, Responsiveness, Fulfillment, Reliability, Communication.).Which in turn will effect customer satisfaction. The findings indicate that the use of E CRM features enhancing the website service quality dimensions, since it significantly positively affects the Responsiveness, ($r^2 = 0.93$) and Efficiency ($r^2 = 0.91$). Communication ($r^2 = 0.91$). E-CRM features are also significant since it was found that they significantly impact positively on fulfillment ($r^2 = 0.88$), Reliability ($r^2 = 0.87$), Site Aesthetic ($r^2 = 0.86$), and Trust ($r^2 = 0.83$). On the other hand, the majority of customer's web site reported that higher website service quality perceptions had a significant impact on customer satisfaction.

The results tend to agree with the findings of similar studies in E-CRM features by Feinberg and Kadam (2002) and technology-based service quality framework (Zeithaml *et al.,* 2000), Lee-Kelley *et al*., (2003), and Taylor & Hunter, (2002) studies .

5.12 Summary of the study Hypothesis

The previous analysis illustrates the results of the study hypothesis. Table 5-33 summarizes the results which indicate that all the hypotheses have been approved.

Table 5-33   Summary of the Study Hypothesis

	Study Hypothesis	Result
H1	Pre-transaction E-CRM features have a positive effect on customer satisfaction.	Approved
H2	During- transaction E-CRM features have a positive effect on customer satisfaction.	Approved
H3	Post- transaction E-CRM features have a positive effect on customer satisfaction.	Approved
H4	There is a significant relationship between web banking service quality and customer satisfaction.	Approved
H5	There is a positive relationship between E-CRM features and service quality.	Approved
H6	There is a positive relationship between E-CRM features and service quality, which in turn leads to customer satisfaction.	Approved

Table 5-33 clearly indicates that E-CRM features (Pre- During- and Post-transactions) are positively linked to customer satisfaction. Customer satisfaction tends to be associated not only with the existence of the web banking services, but with the quality of these services.

Furthermore, it shows that the E-CRM features are positively associated with both the service quality and the customer satisfaction.

CHAPTER SIX

DISCUSSION AND CONCLUSIONS

6.1 Introduction

The aim of this chapter is to discuss the results of the study. Furthermore, this chapter will view and discuss the results along with the literature review presented in chapter three. Summary of the study methodology will be briefly presented, in addition to reviewing the research question and objectives. This chapter contains five main sections. The first section will review the results of E-CRM, the second will review the results section service quality and the third section will review the results of customer satisfaction. Finally, the Chapter will conclude with brief details about limitations and future directions of research.

6.2 E-CRM

Technology, in the present day society, envelops or rather overwhelms, every aspect of our daily lives. The banking sector, in particular, has been significantly impacted by the technological developments, not only in terms of the nature of the services provided, but also in the way or in the manner in which these services are provided. It is now quite apparent that most banking institutions are currently involved it several technology-related issues such as e-services, Internet banking and E-CRM.

Several factors have led to the emergence of electronic services obliging businesses to create the appropriate environment for the increased use of e-services. In Saudi Arabia, the rapid implementation of advanced ICT infrastructure, in addition to the citizens awareness and familiarity in using the technological tools have been the main factors. On the other hand, the different industrial and services sectors realizing the importance of technology in their business, and the options for different forms of e-business have become important factors in providing such services. The Banking sector which introduced E-services and Internet banking nearly a decade ago, is considered one of the pioneer sectors in Saudi Arabia to have adopted technology in offering its business. E-CRM is considered as one of its best tools which it is still working to improve.

The increasing interest of E-CRM in the banking sector, emanates not only from its direct benefits achieved through reducing the operational cost of the banks, but also because it is vital and closely linked to customer satisfaction and quality of provided services.

The main variables of this study are highly interrelated and it is proved through the quantitative analysis. It is not important to initiate a good E-CRM from the bank point of view, rather it should be valued by the customers in order to achieve its objectives, and the main concern when dealing with customers is to provide a high quality service that fully meets their needs and leads to accomplishing the ultimate goal, which is customer satisfaction.

6.3 E-CRM and Customer Satisfaction

According to Clark & Das (2004) customer satisfaction is the key to building up a long-term relationship between the customers and the firm. With the change in times, business practices have undergone a significant change in terms of the bond businesses try to establish with the customers. There has been a paradigm shift from the transactional model to the relationship model where the focus is more on long-term customer satisfaction and less on the short-term profits acquired by the business.

As the relationship has changed from traditional to non-traditional relationship; new ways and tools need to be identified in order to stay in contact with the customers. One of the new tools that are being used is the E-CRM. Banks in Saudi Arabia seem to have realized its importance, and began to create and maintain their E-CRM systems. In order for E-CRM systems to be effective, it should contain some key features to meet customer expectations and eventually their satisfaction.

This study views the relationship of E-CRM features and customer satisfaction as recent research indicates that certain features on a website can create and maintain customer satisfaction. These are so-called electronic CRM (E-CRM) features (Khalifa, 2002, Khalifa & Shen 2005). E-CRM features range from advanced applications, such as database-driven product customization tools, to simple ones, like a line of contact information (Feinberg *et al.*, 2002, Romano & Fjermestad 2002).

The customer satisfaction questionnaire consists of seven items and measures one general factor the seven items indicate that the factor loadings of the items model of satisfaction has

good factor loading where each item loads more than 0.80. This indicates the *demonstrating convergent validity*. For formative items, the magnitude and significance of the weight indicate the importance of the contribution of the associated variable to customer satisfaction. All three determinants of overall satisfaction, (i.e. Pre-, During- and Post-transaction E-CRM features) are significant, but with different magnitudes. Pre-transaction E-CRM, with path coefficient of 0.90 is the main driver of customer satisfaction. The second important stage is the post-transaction E-CRM features with path coefficient 0.88, and during-transaction, the last important stage, with path coefficient 0.83. All path coefficients provide strong support for all the hypothesized relationships. Figure 6-1 displays the path coefficients for the three stages in the transaction.
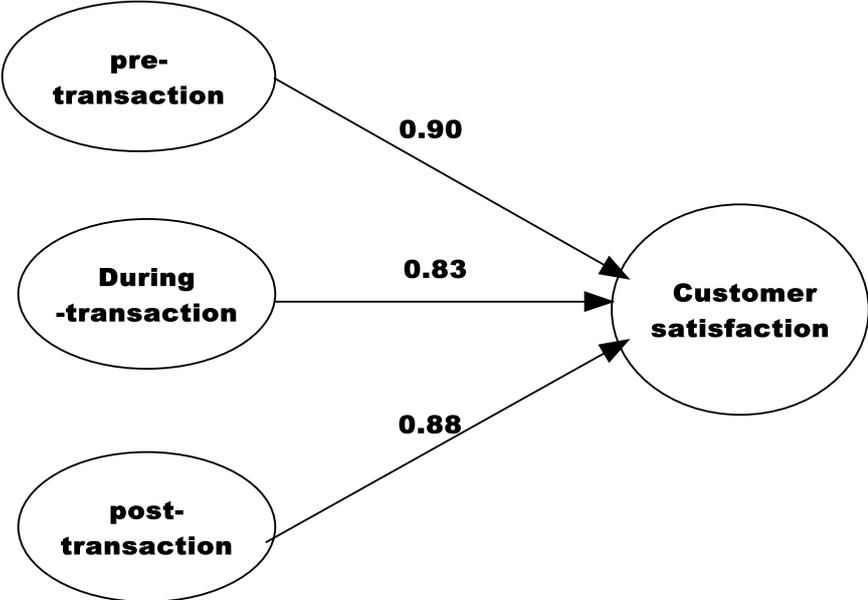
Figure 6-1   Path Coefficients for Three Stages in the Transaction

Thus, this finding provides support for the result put forward by(Feinberg, 2002; Romano & Fjermestad, 2002; Clark & Das, 2004; Ross, 200); Khalifa & Shen, 2005; Cheung & Lee, 2005 and Talhat *et al.,* 2009).

The following sections will illustrate the relationship between customer satisfaction and E-CRM features through its main three phases; Pre-E-CRM features, During-E-CRM features and Post -E-CRM features.

6.3.1 Pre E-CRM and Customer Satisfaction

The results of (H1) which suggested that the "Pre-transaction E-CRM features has a positive effect on customer satisfaction" shows that this hypothesis is correct and there is a positive relationship between Pre-transaction E-CRM features and customer satisfaction on the study sample. Pre-transaction E-CRM features is considered very important because a satisfied pre-transaction process may lead to positive transaction intention and post- transaction satisfaction. The main Pre-transaction E-CRM features included in this study based on literature review and other research surveys are: site Customization, Membership and site information.

The examination of the weights of the formative measures of the satisfaction determinants reveal the relative importance of specific E-CRM features in satisfaction formation. At the pre-transaction phase, site information is the dominant pre-transaction E-CRM feature with a weight of 0.90. So a website that provides information on how to make transaction through the web, helps the customer make a better transaction with confidence and satisfaction. The second important pre-transaction E-CRM feature is "site customization" with a weight of 0.88. This feature is important when the customer has to consider a large amount of information, which enables the customer to make better-informed decisions in the usage of the web transaction. Membership is also perceived as important as the other pre-transaction E-CRM features, that is significant with a weight of 0.85.

The results have reached the same findings of similar studies in E-CRM features, which indicate the positive relationship between Pre-E-CRM features and customer satisfaction such as the studies done by Talhat *et al.*, 2009; Khalifa & Shen, 2005; Feinberg, 2002; Romano & Fjermestad, 2002 and Feinberg & Kadam, 2002.

6.3.2 During E-CRM and Customer Satisfaction

As illustrated in the previous section that E-CRM has three main phases; Pre-, During- and Post- E-CRM features. The results of (H2) which proposed that the "During-transaction E-CRM features have a positive effect on customer satisfaction" show that this hypothesis is correct and there is a positive relationship between During-transaction E-CRM features and customer satisfaction on the study sample.The main During-transaction E-CRM features included in this study are: Product or service customization, Alternative payment and Privacy / Security.

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For the During-transaction stage, Privacy / Security of transactions emerges as the most important driver of satisfaction with a weight of 0.90 . This result is consistent with most of the results of previous studies, e.g (Waleed *et al*., 2010; Lee, 2009; Hua, 2009; Belkhamza & Wafa, 2009, Cho & Park, 2001; Shafi, 2002; Dotan, 2002; Salisbury *et al*., 2001; Abott *el al*., 2000). Actually, Privacy / Security of transactions over the Internet is an important factor that customers consider before using the transaction over the web. If the customers are afraid that the private information and the degree of safeguard of personally sensitive information is susceptible to fraud, they would avoid using Web banking. The second important feature is product or service customization with a weight of 0.88, this finding has been supported by another recent study conducted by (Anahita *et al*., 2011; Hua, 2009; Lee & Lin, 2005; Khalifa & Shen, 2005). The respondents also perceive Alternative payment as a significant E-CRM features with a weight of 0.83. This finding is consistent with the finding of (Ho & Wu, 1999; Lee & Cheung, 2002; Khalifa & Shen, 2005).

6.3.3 Post - E-CRM and Customer Satisfaction

The results of (H3) which proposed that that the "Pro-transaction E-CRM features has a positive effect on customer satisfaction" shows that this hypothesis is correct and there is a positive relationship between Pro-transaction E-CRM features and customer satisfaction on the study sample.

The main Pro-transaction E-CRM features included in this study are:

- FAQs
- problem solving
- Online Feedback

When analyzing the responses to the questionnaire and statements, the respondents' show different agreement level related to the post-transaction stage. Problem solving is the strongest feature with a weight of 0.89. The significance of problem solving is to provide immediate solutions to customers' problems and suggests the need for real–time interactivity. While, some simple problems the customers face, can be solved without contacting the bank employees through the information provided in online manuals and FAQs, the results support suggestions by previous researchers (Khalifa & Shen, 2005; Lee & Cheung, 2002; Cao *et al.,* 2003). The second important variable is Order Tracking with a weight of 0.84. With this feature, customers do not passively wait to be informed of the

status of their transactions and can actively seek the information online. Such capability is at the essence of CRM as it helps to strengthen the relationship between the customer and the bank by making it less passive and more active (Khalifa & Shen, 2005). Following in magnitude is feedback channel with a weight of 0.82, emphasizing the need for two-way communications. This result confirms the findings in previous research (Khalifa & Shen, 2005; Cao *et al.,* 2003; Talhat *et al.*, 2009).

This phase (Post-transaction E-CRM features) is concerned mainly with answering personal customer's correspondence for their problems and questions about the product to Help Desk where customers could directly interact with the organization (Ross, 2005). Technology has helped the banks in improving their communication with the customers, such as using the Internet and wireless communications along with some traditional tools such as the phones and faxes.

There are different internet-based E-CRM features of post-transaction or customer services which any bank can use to sustain its customers or even having other new customers. Feinberg *et al.*, (2002) is in favor of providing FAQs (Frequently Asked Questions) with their answers on the websites. They also support offering complaining ability on the websites which direct customers to a specific area where they can lodge their complaints. Whereas Feinberg *et al.*, (2002) and Khalifa & Shen (2005) supports the availability of problem solving feature where customers can solve their problems themselves, with products or services with the help of online self-help functionality.

The analysis of the quantitative questions also support the results of this study hypotheses. The interviews with the bank's managers pointed out that they have a Call Center responsible for all kinds of customer inquiries and complaints. In addition, they have well-developed processes for handling and solving customer complaints. All banks realize that if their customers are not satisfied and have unsolved problems, it will definitely affect the bank's reputation and profitability as they are likely to lose their business. The banks also have a window in their website for Frequently Asked Questions which is designed to help customers and attend to their expected inquires.

The banks studies also indicated that they seek to get a regular feedback from their customers through periodic surveys. Two of the banks studied reveal that they conduct, periodic survey every two months on the level of the services provided and on general

issues which is analyzed so as to be familiar with their customer inquiries and their level of satisfaction.

6.4 Web Banking Service Quality and Customer Satisfaction

According to Pitt (1995), the quality of service is one of the main factors which measure user satisfaction. Good customer service quality is the main factor that will determine in the future, whether the businesses will survive or fail (Thompson *et al*., 2000). Maintaining effective customer service helps to build and maintain customer relationship, which is the key success in e-commerce (Sing, 2002).

Many researchers indicated that high levels of customer satisfaction are related to the service quality provided through customer interactions. For that reason this study investigates the relationship between the service quality and customer satisfaction, and it approved practically through examining (H4) which stated that "There is a significant relationship between web banking service quality and customer satisfaction."

The seven service quality dimensions in this study have been selected from SERVQUAL instrument, which is applied for measuring the quality of web banking. These seven dimensions are: Efficiency, Trust/Assurance, Site Aesthetic, Responsiveness, Fulfillment, Reliability and Communication.

The quality service scale consists of 28 items and measures seven subscales in the study questionnaire. The results of this study indicate that the 'responsiveness '(β=0.91, t-value = 52.19) is the most important aspect of service quality. This result confirms the findings of previous studies (Parasuraman *et al*., 1985; Johston, 1997; Zeithmal, 2000; Jun & Cai, 2001; Madu, 2002; Jun *et al*., 2004; Yang & Fang, 2004; Lee & Lin, 2005, Azman *et al*., 2009).

The second important factor is 'Communication' (β=0.84, t-value=35.98), the results indicate that communication is a very important factor in service quality to customers in Saudi banking sector. This result is in line with earlier studies (Parasuraman, *et al*., 1985; Jun & Cai, 2001; Madu, 2002; Wolfinbarger & Gilly, 2002; Santos, 2003; Yang *et al*., 2004).

The third factor is 'Trust/Assurance 'which had positive effect, with path coefficient of (β=0.83, t–value = 35.15). This result indicates that trust/assurance are important issues for customer satisfaction. In fact, customer attitudes towards Internet banking are driven by

trust, which plays an important role in increasing usability within the Internet banking environment. The issue of trust is more important in online banking because transactions over web contain sensitive information, so the customers are concerned about access to critical files and information transferred via the Internet (Alsajjan & Dennis, 2006; Suh & Han, 2002).

The result shows that customers are satisfied with the level of services related to Trust/Assurance. Therefore, this result confirms the findings of previous research (Zeithaml *et al.*, 2000; Cox & Dale, 2001; Jayawardhena, 2004; Khalil & Pearson, 2007; Mustafa, 2011).

The fourth important factor is 'Reliability' (β =0.79, t-value = 36.98). This result indicates that the reliability is regarded as the important dimension in service quali*ty*. Therefore this result confirms the findings of previous research (Parasuraman et *al.,* 1985; Johston, 1997; Jun & Cai, 2001; Yoo & Donthu, 2001; Santos, 2003; Yang *et al*., 2004).

The results also showed that there is a positive correlation between efficiency and customer satisfaction of the web banking service (β=0.79, t-value = 28.65). These results were consistent with previous studies mentioned by (Parasuraman, *et al.,* 1985; Jun & Cai, 2001; Mad, 2002; Wolfinbarger & Gilly,2002; Santos, 2003; Yang *et al*., 2004).

The result of the correlation coefficient value between 'fulfillment' and customer satisfaction, (β=0.77, t-value=29.23), indicate these variables are strongly correlated since it is greater than 0.5. This finding is consistent with the finding of (Parasuraman, *et al*., 1985, 1988, 2000; Johnston, 1995, 1997; Nantel, 2000; Voss,2000; Zeithaml *et al*., 2000, 2001, 2002; Madu, 2002; Wolfinbarger & Gilly, 2002; McKinney *et al.,* 2002; Santos, 2003; Jun, *et al.,* 2004; Yang & Fang, 2004; Yang *et al.,* 2004; Lee & Lin, 2005; Kim & Stoel, 2004).

The study also shows that quality of the 'Site Aesthetic' include use, content, structure, linkage, search and appearance which are strongly related to customer satisfaction.This factor had positive path coefficients 0.74. Thus, user interface, design quality of e-banking websites is found to be a key determinant of satisfaction. This finding supports the findings of a study by (Doll & Torkzadeh, 1988; Abels *et al*., 1999; Jayawardhena & Foley, 2000; Cox & Dale, 2001; Yoo & Donthu, 2001; Madu & Madu, 2002; Santos, 2003 ; Zeithaml *et al*., 2006; Alam & Yasin, 2009). The findings are based on the results of customers satisfied about the level of services related to customer service quality which contain dimensions like

responsiveness, fulfillment, reliability, and communication. It also shows the dimensions, efficiency, trust, and site aesthetics have been proved to be important for evaluating website quality. These results should motivate the banks to work more in enhancing their services to the customer to maintain high level of the services quality and should focus on building trust through ensuring the security and privacy of customer information.

6.5 E-CRM Features and Service Quality

E-CRM is linked to service quality and electronic tools are considered one of the means that are used to provide the services in high quality in order to reach customer expectation which leads to their satisfaction. This link has been proposed by assuming that "There is a positive relationship between E-CRM features and service quality." The results of this study provides empirical evidence of this hypothesis (H5).

Regarding the service quality dimensions, as illustrated in the previous section which are, Efficiency, Trust/Assurance, Site Aesthetic, Responsiveness, Fulfillment, Reliability and Communication are affected by the E-CRM features. Tables 5-17, 5-19 and 5-21 provide the Path Analysis Results for Pre- During- and Post-transaction E-CRM features and service quality. They provide the evidence that the E-CRM features, enhancing the website quality play a vital role in website service quality dimensions, since it significantly positively affects the pre- transaction E-CRM features (β= 0.0.87, p<0.001) and during-transaction features (β = 0.88, p<0.001). Post-transaction features of E-CRM are also significant since it was found that they significantly impact positively on website service quality (β = 0.0.89, p<0.001).

This expected result of having a positive relationship between E-CRM and service quality not only proved by the empirical research, but also appears in the interviewee remarks, they reveals that they using E-CRM system has improved the level of service quality and they reach to this results as the number of customer complains reduced.

Another advantage of E-CRM is having the opportunity to receive their customer feedback, complaints or inquires, and then working on handling the inquiries and solving complaints. Also customers can use online feedback systems to share their evaluations of product/service quality, including online transactions (Wang & Day, 2001). In addition to that, the feedback system helps the banks in recommendation and suggestion regarding the current and proposed services and products.

6.6 Relationships Between E-CRM, Service Quality and Customer Satisfaction

The banks implement E-CRM in order to help banks offering customer high quality service, providing differentiation services ,maintaining satisfaction and building long-term relationships with customers. So, this study examined whether the use of E-CRM has an effect on service quality, which in turn leads to customer satisfaction.

The results of (H6) which proposed that there is a positive relationship between E-CRM features and service quality, which in turn leads to customer satisfaction. This indicates that the use of E-CRM in the banks plays an important role to improve service quality, which in turn leads to customer satisfaction. Various researchers have been discussed and examined about the link between E-CRM and customer satisfaction (McKinney, 2002; Tschohl, 2001; Feinberg *et al*., 2002; Churchill & Surprenant, 1982; Jones & Suh, 2000; Khalifa & Liu, 2002-2003; Ho & Wu, 1999; Rosenbaum & Huang, 2002; Anton & Hoeck, 2002; Connely & Yoger, 2001; Cusack, 1998; Swift, 2001; Tschohl, 2001; Khalifa & Shen, 2005). Although there have been several attempts to investigate the effect of E-CRM on web service quality (Gehrke & Turban, 1999; Cho & Ha, 2004; Kim & Moon, 2000; Schubert, 2002-2003; Kimery & McCord, 2002; Christou, 2011; Sigala, 2004-2005; Kotorov, 2002; Voss, 2000; Rowley, 2002). On the other hand, many researchers indicated that high levels of customer satisfaction are related to the service quality provided through customer interactions (Storbacka & Luukinen, 1994; Strandvik & Liljander, 1994a, 1994b; Spreng & Mackoy, 1996; Blanchard & Galloway, 1994; Heskett *et al*.,1990; Oliver, 1997; Vilares & Coehlo, 2003; Sureshchandar *et al.*, 2003; Ribbink *et.al*., 2004; Lassar *et al*., 2002).

Based on the above results, this study suggests that E-CRM improvement service quality which in turn will increase customer satisfaction. This study provides a contribution to knowledge on modeling the effect structure of E-CRM features, service quality and customer satisfaction. That is, the effective use of website in building customer relationships (E-CRM) will improve service quality which in turn customer satisfaction.

FINDINGS AND IMPLICATIONS

7.1 Introduction

This chapter aims to assess the results of quantitative analysis and view the main findings and their implications for the research questions and objectives. It begins with discussion, the findings and implications of the study hypothesis and questions, followed by the contribution of this research to knowledge. Finally, the chapter is concluded by study limitations, recommendations and future directions of research.

7. 2 Findings and Implications for the Study Sample

This study aimed to study the relationship between E-CRM features, service quality and customer satisfaction of clients using the E-CRM features of Banks in Saudi Arabia.

The study sample consists of 547 respondents, with a total (91.1%) response to the total distributed questionnaire. The study was conducted on the E-CRM services of three banks in Western Region of Saudi Arabia.

The sample could be argued that its convenient to the study under examination, their answers could be considered reliable as the respondents indicate that they all using the bank's web services as part of their answer to the questionnaire. A detailed description of the respondent characteristics was illustrated thoroughly in Chapter 5.

7.3 Findings and Implications for the Study Instrument

The researcher has conducted extensive review to the previous studies and general literature which related to the study variables (E-CRM features, service quality and customer satisfaction). As discussed in Chapter 4, that some studies have adopted most of the sub-variables that the researcher has chosen to adopt. Furthermore, a reliability test was carried out on 30 respondents in two separate weeks using Cronbach's alpha, the score was satisfactory and ranged from (0.94), which indicates that there is a good relationship/ correlation between the review of the literature and the findings of the empirical study.

The development of the study instrument and the related literature review, and by viewing the supporting experimental study who used the major of this study variables and customized to Saudi Arabia environment will help other scholars and researchers.

7.4 Findings and Implications for the Relationship Between Pre E-CRM Features and Customer Satisfaction

The first hypothesis was to be examined whether the use of Pre E-CRM features has an effect on customer satisfaction.

H1: Pre-transaction E-CRM features has a positive effect on customer satisfaction.

The empirical evidence to this hypothesis has proved that there is a positive relationship between Pre E-CRM features and customer satisfaction. The correlation coefficient is (0.90), which indicate that there is a positive relationship between the pre E-CRM features and customer satisfaction. The results tend to agree with the finding of studies in E-CRM features by Khalifa & Shen (2005) and Feinberg & Kadam (2002). This implies that the banks should pay more attention to the sub variables of Pre E-CRM features (Site Customization – Membership - Site information) in order to be able to achieve higher level of customer satisfaction. This requires also analyzing each factor independently and seeking customer recommendations and notes in order to meet their customers expectation.

7.5 Findings and Implications for the Relationship Between During E-CRM Features and Customer Satisfaction

H2: During- transaction E-CRM features has a positive effect on customer satisfaction.

The empirical evidence to this hypothesis has proved that there is a positive relationship between During E-CRM features and customer satisfaction. The correlation coefficient is (0.82), which indicates that there is a positive relationship and this implies that the banks should pay more attention to the sub variables of During E-CRM features (Privacy / security product or service customization / Alternative payment) in order to be able to achieve customer satisfaction and meet their expectation. These sub-factors should be analyzed to figure out the areas of deficiency, that could be causing inconvenience to the customers and take appropriate actions and procedures to overcome them.

7.6 Findings and Implications for the Relationship Between Post E-CRM Features and Customer Satisfaction

H3: Post- transaction E-CRM features has a positive effect on customer satisfaction.

The empirical evidence to this hypothesis has proved that there is a positive relationship between Post E-CRM features (frequently asked questions FAQ's - problem solving - Online Feedback) and customer satisfaction. The correlation coefficient is (0.88). This indicates that there is a positive relationship between Post E-CRM features and customer satisfaction and this implies that the banks should work more to strengthen these positive points and develop it so as to accomplish the objectives of having the E-CRM systems or applications.

7.7 Findings and Implications for the Web Banking Service Quality and Customer Satisfaction

H.4 There is a significant relationship between web banking service quality and customer satisfaction.

Based on the previous research, seven service quality dimensions were selected in this study and tested as the core dimensions in web banks. They are *efficiency; trust / assurance; site aesthetic; Responsiveness; fulfillment; reliability; communication.*

The results of this study support the hypothesis that there is a significant relationship between web banking service quality and customer satisfaction. The correlation coefficient among the seven dimensions and customer satisfaction are high, which means that there is a positive relationship between the two variables, whereas when service quality in web banking increases, the customer satisfaction increases in the same proportion. Based on quantitative data analysis, the findings indicate that '*responsiveness*' which means providing appropriate information to customer when problem occurs (Zeithaml, 2002) readiness of employees to provide service, calling back the customer quickly, and giving prompt services (Parasuraman *et al*., 1988; Berry *et al.,* 1985) are the key drivers of customer satisfaction for most customers. When problems occur, bank is eager to provide prompt services or appropriate information to the customer. The bank site has a customer representative. Some customers prefer to talk to a live person by using telephone when they face problem.The main reason might be the quick response it offers to customers. The findings also indicate that communication is a very important factor for customer satisfaction, which is also in conformity with the findings of previous studies. Trust / Assurance have significant effect on customer satisfaction. From the findings, we also found reliability to be an important

factor for customer satisfaction. Efficiency and fulfillment are the next factors and have significant effect on customer satisfaction. Site aesthetic is the final factor that impacts on customer satisfaction.

The banks should therefore, pay attention to all these dimensions in order to achieve high level of service quality and customer satisfaction. Furthermore, the dimensions of service quality like trust / assurance, reliability, responsiveness, communication, efficiency and fulfillment are not stand alone. It is important to see that the dimensions closely associate with each other. Managers in the banking sector are suggested to focus their resources on the dimensions selected in this study according to their relative importance to improve the overall perceived service quality in the web banking. More specifically, the following suggestions are recommended to online banks :

First, *'responsiveness'* service dimension requires that banks should pay more attention to customers' personal contact, phone calls and emails when problems occur, since quick response can increase customers' satisfaction. Banks can provide live contact over the Internet to solve the problem and also provide proper information when customer needs some advice. It is also suggested that the banks need to have enough staff members to answer customers 'questions via email and telephone or utilize the E-CRM applications.

Second, the communication dimensions indicate that banks should provide customers content on bank's website which is easily understandable. At least, the most popular Arabic version and English version. For that the bank managers should make the information more simple and clear for customers to navigate. Additionally, multiple language choices provided online need more focus. Furthermore, regular face to face meeting could be considered. It is also suggested that personal contact made online can bring more convenience to customers such as PC to PC call provided by bank.

Third, the Trust / Assurance dimension suggests that it may be a critical determinant of the success of the web banks, since Trust encourages online transaction and positively effects customer satisfaction. Therefore, banks should pay more attention to ensure security of their customers' information regarding banking transactions and privacy of their personal information which are strongly related to customer trust.

Fourth, the reliability dimension indicates that it should be ensured that the banks' site is maintained in running condition all the time, and does not freeze after entering in all the information; pages download time is quick and information that is provided is accurate.

Banks should avoid web pages with huge graphics / flashes which may increase the size of page and take more time to appear. Besides, the structure of the website plays a big role, as the number of clicks for reaching the desired information depends on the design of the website. Therefore, it is important for the banks to consider the different ways of reaching specific information on the website. Moreover, the banks should maintain the reputation of website and try to avoid non-responding situations. If anything happens that makes the website hang for a while, relevant information about the problem and the time it would take for the site to be back, should be provided.

Finally, Efficiency and Fulfillment dimension suggests that the bank's site should provide quick confirmation when the transaction is completed and also perform the service right, the first time. In addition, the contents of the bank's site should be easy to understand and provide adequate explanations about the service that are available over the web in order to satisfy customers.

7.8 Findings and Implications for E-CRM Features and Service Quality

The empirical evidence to this hypothesis has proved that there is a positive relationship between E-CRM features "Pre-, During- and Pro-transaction" variables and the web banking service quality. The correlation coefficient is the pre-transaction E-CRM ($\beta = 0.0.89$) which means that there is a positive relationship between the two variables, whereby as E-CRM features increase the web banking service quality will also increase.

This is considered a logical relationship as the three main phases of an improved E-CRM will lead to enhance the internal transaction and procedures, enabling the needed information by the customers. It could be claimed that the services and products provided to the customers, at present, need to move from traditional channels to non- traditional channels which could be implemented by adopting the E-CRM system.

7.9 Findings and Implications for E-CRM features, Service Quality and Customer Satisfaction

The empirical evidence of H6 suggests that there is a positive relationship between E-CRM features and service quality, which in turn leads to customer satisfaction. This proves that there is a positive relationship between E-CRM features "Pre-, During-, Pro-transaction" variables and service quality, which in turn leads to customer satisfaction. The correlation

coefficient between E-CRM and service quality is (0.8) and between Service Quality and Customer Satisfaction is (0.89).

In discussing the results of this Section, it is suggested that the banks should be focused in their strategies to review their plans and ensure that they are directed toward achieving Customer Satisfaction. They should have a clear strategy for implementing E-CRM system with clearly identified services and products to be provided. Moreover, the banks should be targeting both current and prospective customers through the provided e-service on the website. They need to work more in enhancing the E-CRM system to be able to provide a good e-service. It should be well identified and arranged in a way that it is ensured that it is functioning properly. Further, when deciding to provide services through the web, the bank should ensure that the website contains all the needed information in addition to main characteristics such as, designed in an attractive way; easy to navigate, (24/7) availability of services; at least dual language, with continual updates and improvement, in addition to offering an option for any notes or recommendations.

As the world evolves into a global village, the banks should begin to consider their services from a global perspective, as most of the services presently offered are provided and implemented locally with only some extra services such as Credit Cards (Visa / Master). The banks should start to think globally rather than being limited within the country or even within the region. They should consider initiating partnerships with multinational banks and other financial institutions, so as to expand their services and operations.

Finally, the result should motivate the banks to work in enhancing their strategies to maximize their benefit by implementing the E-CRM system. The fact is that implementing E-CRM system is costly and requires a lot of facilities and resources. Hence, any decision to implement the E-CRM should be evaluated carefully to ensure that in the long run, the cost of implementing the E-CRM system leads to minimizing cost and maximizing profit while at the same time ensuring customer satisfaction.

Several banks have indicated banks that E-CRM is not a choice, rather it is considered as a main tool in their strategies and ways to provide service to their customers. Nowadays, the E-services seem to be a characteristic to several sectors and fields such as commercial, education, health etc. These sectors sometimes interrelate for a wide range of customers,

and by providing e-services in the bank facilities, customers are enabled to carry out their daily activities in relation to those sectors such as paying bills or household obligations.

The banks should utilize the opportunity provided by Saudi Arabia's initiative in the continual improvement of developing the ICT infrastructures as a prerequisite to provide the E-services. Although Saudi Arabia has achieved a remarkable progress in these efforts, yet still more is required to enhance this trend and work more on the e-readiness of Saudi Arabia. The banks, therefore, have a great opportunity to direct their efforts towards designing and providing their e-services.

An important consideration should be given towards customer readiness to use these services; some customers still would like to use the traditional services or maybe they lack awareness about the provided services. In this regard the E-CRM could be of great assistance to the e-services in term of awareness about the provided services and in terms of balancing between the automated services and between the human interrelation between customers and the bank.

Further, these E-services should be associated with a good information security system to prevent any interventions in the customer's transactions, which enhance the customers trust in using the E-services.

The banks could reap a number of benefits by implementing the E-CRM and its relationship with the E-services and the transactions generally. It becomes easier for the customer to get the services and for banks it becomes easier as well to provide a wide range of services at less cost. This will give its customers 'satisfaction and the opportunity of increasing sales of different products as well as the opportunity for cross-selling along with the benefits mentioned earlier such as increase in customer loyalty and satisfaction, reducing the operational cost, which obviously leads to increase in banks' profits.

Despite the fact that the banks can reap a number of benefits by implementing the E-CRM, there should be an appropriate criteria to judge this relationship in a more systematic manner and supported by figures or statistics to show the correlation or the inter-relation with other influential factors.

7.10 Contribution of Research to Knowledge

The contribution of this study could be viewed based on the following:

7.10. 1 Academic Contribution

The findings of this study have important implication for the research as it provides further support to the studies that examine the relationship between E-CRM and both factors of customer satisfaction and service quality.

A number of studies have examined some of these study variables, such as the relationship between customer satisfaction and service quality, or between customer satisfaction and E-CRM or CRM, or between service quality and E-CRM or CRM. But few of them integrate all of these variables together.

Another contribution is that it will add to academic contribution in investigating the study variable (E-CRM, customer satisfaction and service quality) in the financial institution and banking sectors, in addition to helping enhance the Arabic and Saudi Arabian literature of this topics. This study combines between these variables to figure out their interrelationship. Accordingly, this study could be considered, a recognized Academic contribution.

7.10. 2 Managerial Contribution

Several studies assume the relationship between service quality and customer satisfaction considered positive and some examine the relationship between customer satisfaction and CRM, and only few examine the relationship between all these variables (E-CRM, customer satisfaction and service quality).

The findings of this study have another importance to the banks who are offering electronic banking services as well as the banks that are planning to offer e-banking services as the results of this study show a positive relationship between the study variables and the qualitative analysis contributes to the support this relationship.

Implementing E-CRM is considered costly and requires a lot of preparation and sometimes restructuring and re-organizing the work approach, methods, systems, and procedures. It may also require preparation time in addition to an experimental period before it could be fully operational. All these costs should be paid for the possibility to generate the benefits in

the future. Accordingly, the top management, particularly, needs to have strong evidence in order to realize that the (ROI) the Return on Investment will be good.

This study is considered particularly of great value, as it provides evidence on the positive relationship of implementing the (E-CRM, customer satisfaction and service quality) based on experimental study on three main, large and recognized banks in Saudi Arabia, which will assist in providing implication and insight for those banks and other banks and financial institutions as well.

7.11 Limitations

The researcher tried to develop an understanding of E-CRM features effect on customers satisfaction in Saudi Arabia web banking. Although the attempt was valuable, it was not without its limitations. However, the limitations of the study offer opportunities for future research.

First, the development of the conceptual framework was based on the evaluation of the previous presented frameworks that were available during the time of conducting this research between the beginning of 2009 and the end of 2012. The constructs of the framework were justified as well as the relations among these constructs based on the aim of the framework as a guide for E-CRM success to achieve a customer's satisfaction.

Second, The information about E-CRM and its use in the web services of Saudi Arabian banks is still in its infancy stage at the time of the study. Therefore, information and literature available on the subject came mainly from other countries such as US, UK, Europe and Asian countries and such literature may not accurately fit the situation in Saudi Arabia esp. with regard to cultural infrastructure differences.

Third, the sample for this study came from Internet users in the business-to-customers context, the results are limited to the e-banking environment and may not be applicable to business-to-business relationships, as the growth of Internet transactions in the business-to-business sector is escalating, studies designed to investigate the relationships between E-CRM, service quality and customer satisfaction in a business-to-business environment may well be worthwhile.

Fourth, while this research posits a positive relationship between E-CRM features, service quality and customers satisfaction, E-CRM features may have changed rapidly since the

point of time this study was conducted. Therefore other research may be necessary to incorporate other "new" factors of E-CRM not included in this study. Moreover, this study included some E-CRM features in the three stages while there are many other features of E-CRM not included in this study.

Fifth, in this survey, customer perceptions towards E-banking in specific were assessed. More in depth studies could be carried out in future to investigate customers' perception on the use of E-CRM towards E-commerce in general. Such as entertainment, health, government, and the education sector since E-CRM may imply different meanings to product-based versus service-based industries.

Finally, the study is conducted only in the western region of Saudi Arabia, (Jeddah), due to limitations on time and resources. which may have an effect on the generalization of the findings.

7.12 Recommendations and Suggestions

The limitation of the study provides implication for further research. For example, as the study respondents were mainly from the Western Region of Saudi Arabia; further studies could be conducted in other regions, to generalize the result across different groups of web bank users in Saudi Arabia. Further, a comparative study between the different regions of Saudi Arabia could be conducted in term of banks E-CRM services and analyze the variances (if it is proven to be a variance).

Another recommendation could be investigating the E-CRM services at the National banks versus foreign banks branches that are operating in Saudi Arabia, or a study may be conducted to compare the E-CRM services at the banks based on nature of the ownership. Furthermore, studies may focus on individual customers "retail customers" and compare them with "corporate customers."

Furthermore, the results of this research are limited to the web bank users in the business-to–customers context and may not be applicable to business– to-business relationships. As the growth of Internet transactions in the business-to–business sector is increasing, it may be worthwhile to undertake further research to investigate the relationships between E-CRM features and customer satisfaction in business–to-business.

Another important future research study which could be conducted could be to investigate the effect of use E-CRM on customer satisfaction in other sectors in Saudi Arabia, such as education, health, government and communication sector since E-CRM features may imply different features in the different industries. Furthermore, future research could be conducted to test the effect of other features of E-CRM that was not included in this study on customer satisfaction .

In addition, future research needs to verify the service quality dimensions in web banking which are not included in this study. Also, this study was conducted to find the relationship between E-CRM features, service quality and customer satisfaction from the customer's viewpoint. The study could, in the future, be conducted to explore these relationships from banks' viewpoint. This could further confirm or repudiate the results in this study.

7.13 Summary and Conclusion

Studies show evidence on how the E-CRM could be of a great benefit to business profitability, increasing customer satisfaction along with their loyalty. This could be applicable to a wide range of sectors and fields; the banks and financial institutions considered one of those sectors that could benefit from the adoption of E-CRM greatly, if it is designed and implemented properly.

Several researches have studied the relationship between (E-CRM, customer satisfaction and service quality), but few of them combine all these elements together. For that reason, this study could be considered quite important and its results will have academic and managerial value.

The results of the study show that there is a positive relationship between Pre-transaction, During-transaction, and Post-transaction E-CRM features and customer satisfaction. Thus it could be expected that there is a positive relationship between E-CRM features generally and customer satisfaction. Another result was there is a significant relationship between web banking service quality and customer satisfaction. Additionally the results find a positive relationship between E-CRM features and service quality.

This study discusses the results thoroughly through quantitative methodology and provides some implications related to the study variables, which mainly focus on how to enhance and strengthen the E–services and E-CRM system, in addition to providing a number of

suggestions related to improving those services, taking into consideration the remarks provided by the interviewees from the three banks studied.

Through the discussion, the research objectives and questions have been answered in details. A brief about the research question could be as follows:

- This study has aimed to identify the types of web service provided by banking sector in Saudi Arabia in order to maintain a strong relationship with the customer in the banking sector from the analysis of the main three banks based on the information generated during the interview. The E-services vary in its nature from one bank to another, but they have similar and basic services, such as account checking, request specific information by email. In addition to that these banks are serving both individuals and corporate/business customers.

- Evaluating the levels of customer satisfaction in the banking sector in Saudi Arabia; the results shows that there is good level of customer satisfaction regarding the E-services, and when analyzing the elements of customer satisfaction, the most positive and least preferred elements have provided suggestions to strengthen the positive elements and other suggestion is to overcome those least preferred elements.

- Exploring the customer perception of the service quality provided by their banks in Saudi Arabia.This study examined the level of service quality provided by three main banks in Saudi Arabia. The result shows that there is a good level of service quality provided, and some elements of the service quality achieve a high degree of acceptability, while others get low level of acceptability. These elements were pointed out and recommended for improved actions.

- Help understand how web service quality can support the implementation of successful E-CRM system in the banking sector; this relationship has been discussed and the results show that web service quality can support the implementation of successful E-CRM system, when customers find what they are looking for in easy and direct way, the web contains full information, and the possibility of providing help to the customers it will motivate them to use the E-services generally and E-CRM in particular. For example, they indicate that they are using the E-services and they think that the E-CRM could help them to response to their inquiries. But some features of the E-CRM (Pre-, During- and Post-) limit their ability for the best utilization. The need for frequent updating of information, the inability to customize

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some services according to their individual need, are some of the limitations. On the other hand, they point out a number of good features which facilitate their interaction.

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Appendix (A)

Interview Questions

Dear Manager,

This interview aims to acquire information about the available web-based services and the feedback collected from the customers.

Q .1 What are the main types of services your bank provides to the customers through your bank website?

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....

Q.2 Does your bank have the appropriate tool to measure the feedback on your web-based services?

....

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....

Q 3: How do you get the feedback from the customers regarding the services?

....

....

....

Q 4: Do you have a clear strategy for the E-CRM?

....

....

....

Q 5: Do you have a review plan to evaluate the current E-CRM?

....

....

....

Q 6: Do you think that the E-CRM leads to customer satisfaction?

....

....

....

Q 7: Do you think that the E-CRM improves the quality of service provided?٩

....

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....

Q 8: What do you think that the E-CRM advantages to both the customer and the bank?

....

....

....

Q9: How can Electronic Customer Relationship Management (E-CRM) be used in web banking?

....

....

....

Description of the question pertaining to each dimension and their number in the questionnaire

PART ONE - CUSTOMERS DEMOGRAPHIC CHARACTERISTICS

Please answer the following statements by placing (X) in the provided box.

Gender:	Male	Female

Age:	Under 25 years 35 to 44 years 55 to 64 years	25 to 34 years 45 to 54 years

Level of education:	Primary & secondary education High school Higher degree Masters	Diploma degree Bachelor degree phd

The average of monthly income:	Less than 5000 SR 5000- 20,000 SR	20,000-30,000 SR More than 30,000 SR

Years of dealing with this Bank:	Less than one year 1 to 5 years	5 to 15 years More than 15 years

Do use your bank's web services?	Yes	no

How long have you been using your bank web services?	Less than one year 1 to 3 years	4 to 6 years More than 6 years

How frequently do you use your bank web services per month?	one time 2 to 3 times 4 to 8 times	9 to 12 times over 12 times

How frequently do you visit your bank branch per month?	Never 1 to3 times 3 to5 times	6 to 8 times over 8 times

PART TWO

Please answer the following statements by placing (X) in the best level that describes your opinion:

#	The Statement	Strongly agree	agree	neutral	disagree	ngly disagree
Pre-Transaction E-CRM features		**5**	**4**	**3**	**2**	**1**
1	My bank's web site personalize on the basis on my own preferences.					
2	The bank's web site has a clear strategy to identify the different customer needs .					
3	I found Site customization feature very useful and a sign of the successful of the bank's website.					
4	The bank's website enables me to make transaction that are customized for me.					
5	'Site Map' or 'Introduction Page' feature is available in my bank website.					
6	I found 'Site Map' or ' Introduction Page' feature useful before conduction Online transactions.					
7	The bank's web site is capable to provide me with the needed information quickly and precisely.					
8	Website is using information how to use e-banking services.					
9	I always use the 'Log in' or 'Sign in' feature.					
10	The speed of 'Log in' or 'Sign in' feature is fast.					
11	'Log in' or 'Sign in' feature makes me feel more safe to use the bank website for my transactions.					
12	I feel like I am part of the website .					
13	You are satisfied with the pro-transaction service provided by the website.					
During-Transaction E-CRM Features						
14	The bank's website allows me to customized products or services on my own need.					
15	I am able to interact with website to get service tailored to my need.					
16	Service customization motivates me to use my bank's website.					
17	I found the service customization possibilities important for the success of the web banking.					
18	The bank's web site does not misuse my personal information .					
19	The bank's site is secure for my information.					
20	I'm sure that all private information about me as a customer are safeguarded from any unauthorized Access when using web service.					
21	Different payment methods to choose are available in my bank's website.					
22	Different payment methods are an important factor for me to visit and use the website of the bank again .					

23	Different payment options are stated clearly.					
24	You are satisfied with the At-transaction service provided by the website					
Post--Transaction E-CRM Features						
5	Frequently Asked Questions (FAQs) help me when I use the web banking.					
26	I use FAQs always while exploring the bank website.					
27	I found FAQs useful.					
28	The bank provide appropriate information to customers when a problem occurs.					
29	The bank quickly resolves problems I encounter with my Online transactions.					
30	Whenever I face any problem, I use the Online complaining form to contact the bank.					
31	Online Feedback feature is available on my bank's website.					
32	I always use the Feedback form for the web bank.					
33	The site has customer service representatives available Online.					

PART TWO - Service Quality
Based on your experiences as a customer of web banking services, do you agree that the facts listed below can influence your perception when you are evaluating the quality of a web site?

	The Statement	Strongly agrees	agree	neutral	disagree	Strongly disagree
34	The bank/s web site has the information about how to use the site effectively.					
35	The information on the web site is timely.					
36	My interaction with the site is clear and understandable.					
37	It is easy to find all the important information from the bank's website.					
38	I can make changes for my transaction without much problem.					
39	It is easy for me to become skillful at using the website .					
40	The bank's web site has a good reputation.					
41	I have confidence in the bank's service.					
42	I trust the website to keep my personal information safe.					
43	The web based services provided in my bank are reliable					
44	I feel safe in my website transaction.					

45	The website is visually pleasing.					
46	The site has an attractive appearance.					
47	The website design is innovative.					
48	My Online transactions with the bank are always accurate.					
49	The service delivered through the bank's website is quick.					
50	The bank's site proved a confirmation of the service.					
51	The bank's site performs the service right the first time.					
52	It is little waiting time between my actions & website's reply.					
53	The website loads quickly.					
54	The bank gives prompt responses to my requests by e-mail or other means.					
55	The bank's web site is always available for business.					
56	The bank's web site provides accurate information.					
57	The bank' site pages don't freeze after I have put in all my information.					
58	All my business with the bank are completed Online.					
59	Information is written for users of different cultures and languages.					
60	The website is available in the language I can understand.					
61	The website can understand what I need via interactive communication.					

PART THREE - CUSTOMER SATISFACTION
In general, I am satisfied with my bank's website now because:

	The Statement	Strongly agree	agree	neutral	disagree	Strongly disagree
62	I feel happy when using the website					
63	The bank's website service is meeting my expectation as a customer ..					
64	All the services in the website functions very well From my own experience					
65	Overall, I am satisfied with service website.					

Thank you for your time filling this questioner.

Survey instrument used in phase two of data collection (web bank users) – in Arabic.

المملكة العربية السعودية

وزارة التـعلـــــــــــيم العـــــــالي

جامـــــــــــعة الملك عبد العزيز بجده

كـــــلية الاقتصاد والاداره

قسم إدارة اعمـا ل

استبانـة دراسة

اثر إدارة علاقات العملاء الإلكترونيه على رضا العملاء دراسة تطبقية على مواقع البنوك في المملكه العربيه السعوديه

إعداد الطالبة :

فتحيه بنت حسن محمود عبد الفتاح

إشراف

الأستاذ الدكتور : Glenn Hardaker

بروفيسور في إدارة الابتكار وتقنية المعلومات جامعة هاذرفيلد انكلتر

الدكتور: خالد الجميح استاذ نظم إدارة المعلومات الإداريه جامعة الملك عبد العزيز

متطلب تكميلي لنيل درجة الدكتوراه في قسم ادارة نطم المعلومات

الفصل الدراسي الثاني

1431-1432هـ/2010م

بسم الله الرحمن الرحيم

المكرم.........

السلام عليكم ورحمة الله وبركاته ....وبعد:

تهدف هذه الاستبانة إلى التعرف على ائر إدارة علاقات العملاء الإلكترونيه على رضا العملاء مع التطبيق على مواقع البنوك السعوديه وذلك كمتطلب تكميلي للحصول على درجة الدكتوراه في إدارة نظم المعلومات الإداريه.

والباحثة إذ تشكركم على وقتكم المستقطع في المشاركة بالرأي للإجابة على الإستبانة بدقة وموضوعية،و تأمل أن تنال الإستبانة اهتمامكم واستجابتكم السريعة، وتود أن تؤكد على أن المعلومات المستوفاة لن تستخدم إلا لغرض البحث؛ وفي حالة غموض أي عبارة الرجاء التواصل مع الباحثة على العنوان البريدي...

وتقبلوا فائق الاحترام والتقدير على حسن تعاونكم ،،،

الباحثة: فتحيه حسن عبد الفتاح

fabdulfatah@hotmail.com

الجزء الأول – الخصائص الديموغرافية للعملاء

الرجاء الإجابة علي العبارات التالية من خلال وضع (×) في المربع المتاح

الجزء الثاني: الرجاء الإجابة علي العبارات التالية من خلال وضع(×) في افضل مستوي يصف رأيك

نوع الجنس :	❏ ذكر	❏ أنثي
العمر:	❏ تحت 25 سنة ❏ 35 إلي 44 سنة ❏ 55 إلي 64 سنة	❏ 25 إلي 34 سنة ❏ 45 إلي 54 سنة ❏ 65 سنة وما فوق
مستوي التعليم:	❏ تعليم إبتدائي ومتوسط ❏ تعليم ثانوي ❏ درجة عليا (ماجستير ودكتوراة)	❏ درجة الدبلوم ❏ درجة البكالريوس
متوسطالد خل الشهري :	❏ أقل من 5000 ريال سعودي ❏ 5000- 20000 ريال سعودي	❏ 20000 -30000 ريال سعودي ❏ أكثر من 30000 ريال سعودي
عدد سنوات التعامل مع البنك :	❏ أقل من سنة واحدة ❏ سنة إلي 5 سنوات	❏ 5 ألي 15 سنة ❏ أكثر من 15 سنة
هل تستخدم خدمات الويب البنكية ؟	❏ نعم	❏ لا
منذ متي تستخدم خدمات الويب البنكية؟	❏ أقل من سنة واحدة ❏ من سنة إلي 3 سنوات	❏ أكثر من 6 سنوات ❏ 4 إلي 6 سنوات
كم مرة تستخدم خدمات الويب الخاصة بالبنكك في الشهر ؟	❏ اقل من مرة ❏ 1 إلي 8 مرات	❏ 8 إلي 12 مرة ❏ أكثر من 12 مرة

لاأوافق بشدة	لااوافق	تعادل	اوافق	اوافق بشده	العبارة	
					المميزات الإلكترونية لإدارة العلاقة بالعملاء – ما قبل إجراء العمليه المصرفيه	
					مظهر الموقع الألكتروني الخاص بالبنك جذاب.	1.
					الموقع الإلكتروني يستخدم معلومات عن كيفية إستخدام الخدمات البنكية الإليكترونية.	2.
					كل المرفقات في الموقع الإلكتروني تعمل جيداً.	3.
					الموقع الإلكتروني الخاص بالبنك يحتوي علي العديد من وسائل الإتصال (التليفون ,الفاكس ,البريد الإلكتروني ,رسائل إس أم إس).	4.
					الموقع الإلكتروني الخاص بالبنك لدية إسترتيجية واضحة لتحديد متطلبات العميل المختلفة.	5.
					الموقع الإلكتروني الخاص بالبنك يمنح خاصية السماح بالتسوق.	6.
					الموقع الإلكتروني الخاص بالبنك يضفي الطابع الشخصي علي أساس تفضيلاتي الشخصية.	7.
					أستخدم خاصية محرك البحث أثناء التصفح للموقع الإلكتروني الخاص بالبنك.	8.
					محرك البحث المحلي الخاص بموقع البنك الإلكتروني يسهل عملية التصفح.	9.
					خاصية "أدخل" أو "تسجيل الدخول" تستخدم في الموقع الإلكتروني الخاص بالبنك لإعطاء أمان أكثر.	10.
					أنا عادة ما أستخدم خاصية "أدخل" أو "تسجيل الدخول"	11.
					خاصية "خريطة الموقع" أو "صفحة المقدمة ''متاحة في الموقع الإلكتروني الخاص بالبنك.	12.
					المميزات الإلكترونية لإدارة العلاقة بالعملاء –أثناء إجراء العملية المصرفيه.	
					الموقع الإلكتروني الخاص بالبنك يقدم برامج ولاء لتحفيز العملاء لزيارة الموقع مرة اخري .	13.
					المعلومة الخاصة بالمنتج أو الخدمة نفسها يتم تقديمها في الموقع الإلكتروني الخاص بالبنك علي حسب رغباتي .	14.
					تخصيص الخدمات يحفزني لإستخدام الموقع الإلكتروني الخاص بالبنك .	15.
					البدائل المختلفة للأسعار والخدمات للأختيار متاحة في الموقع الإلكتروني الخاص بالبنك .	16.
					الموقع الإلكتروني الخاص بالبنك لدية خاصية الخدمات المصرفية ذات الأولوية التي تعطيني إنتباه فردي من خلال قناة خدمة خاصة .	17.
					الموقع الإلكتروني الخاص بالبنك يقدم مجموعة متكاملة من الخدمات .	18.
لاأوافق بشدة	لااوافق	تعادل	اوافق	اوافق بشده		

لا أوافق بشدة	لا أوافق	تعادل	وافق	وافق بشدة	العبارة
					المميزات الإلكترونية لإدارة العلاقة بالعملاء –بعد إجراء العملية المصرفيه.
					19. خاصية الأسئلة الأكثر طلباً متاحة في الموقع الإلكتروني الخاص بالبنك
					20. أنا أستخدم خاصية الأسئلة الأكثر طلباً أثناء تصفحي للموقع الإلكتروني الخاص بالبنك .
					21. كلما أواجة أي مشكلة ,أستخدم نموذج الشكوي علي الأنترنت للإتصال بالبنك
					22. من خلال الموقع الإلكتروني الخاص بالبنك أستطيع حل أي مشكلة تواجهني بدون الإتصال بالبنك.
					23. خاصية التعليقات علي الإنترنت متاحة علي الموقع الإلكتروني الخاص بالبنك

الجزء الثالث: جودة الخدمة

استنادا إلى الخبرات الخاصة بك كعميل للخدمات المصرفية على الإنترنت، الرجاء الإجابة علي العبارات التالية بوضع إشارة (x) في أفضل مستوى يصف الرأي الخاص بك .

لا أوافق بشدة	لا أوافق	تعادل	اوافق	وافق بشدة	العبارة
					24. موقع البنك الإلكتروني يحتوي علي معلومات عن كيفية إستخدام الموقع بفاعلية.
					25. المعلومات علي الموقع تكون محدثه دائماً.
					26. إنه من السهل الحصول علي المعلومات المهمة من الموقع الإلكتروني الخاص بالبنك.
					27. الموقع الإلكتروني الخاص بالبنك يقدم معلومات علي المستوي الصحيح من التفاصيل.
					28. الموقع الإلكتروني الخاص بالبنك يقدم معلومات دقيقة .
					29. الموقع الإلكتروني الخاص بالبنك دأئما متاح .
					30. الخدمات القائمة علي الأنترنت المقدمة من البنك موثوقة .
					31. الموقع الإلكتروني الخاص البنك سهل التنقل خلاله وسهل الإستخدام .
					32. الموقع الإلكتروني الخاص بالبنك يضفي الطابع الشخصي علي أساس تفضيلاتي الشخصية .
					33. الموقع الإلكتروني الخاص بالبنك لا يسئ إستخدام معلوماتي الشخصية.
					34. الموقع الإلكتروني الخاص بالبنك ذو سمعة جيدة.
					35. المعلومات الخاصة بالخدمات سهل فهمها.
					36. تخصيص الخدمات يحفزني لإستخدام الموقع الإلكتروني الخاص بالبنك.
					37. اشعر بالأمان علي معلوماتي الشخصية.
					38. الموقع يقدم الخدمات محدثة يوميا .
					39. بسرعة استطيع إكمال معاملاتي من خلال الموقع الإلكتروني الخاص بالبنك.
					40. تفاعلي مع الموقع واضح ومفهوم.
					41. أستطيع عمل تعديلات علي معاملاتي بدون مشاكل كثيرة.
					42. خدمة المعاملات السريعة تستكمل في ثواني .
					43. معاملاتي مع البنك علي الأنترنت دائما دقيقة.
					44. كلما أواجة أي مشكلة ,أستخدم نموذج الشكوي علي الأنترنت للإتصال بالبنك.
					45. البنك يعطي إستجابات سريعة لطلباتي بواسطة الإيميل أو باي وسيلة أخري.
					46. البنك يحل مشكلاتي التي أقابلها مع معاملاتي البنكية علي الأنترنت بسرعة.

					العبارة
					47. الموقع يقدم جوائز مغرية (هدايا ,كوبونات, نقاط, إلخ).
					48. الموقع الإلكتروني الخاص بالبنك يسمح بالوصول إلي تتبع خدماتي .
					49. الموقع يقدم حسومات نقدية علي كل معاملة .
					50. خدمة العميل يمكن الأتصال بها خلال قنوات عديده(التليفون,الفاكس,إلخ).
					51. خدمة العميل علي إطلاع بالخدمات.
					52. خدمة العميل محترفين جدا في الإجابة علي الأسئلة.
					53. خدمة العميل تتصل بك عندما تواجة مشاكل مع الخدمة.
					54. خدمة العميل تستجيب فوراً لشكاوي العميل .

الجزء الرابع- إرضاء العميل

بوجه عامة , أنا راض عن الموقع الإلكتروني للبنك الأن بسبب:

لا أوافق بشدة	لا أوافق	تعادل	وافق	وافق بشدة	العبارة
					55. خدمة الموقع الإلكتروني للبنك تتوافق مع تطلعاتي كعميل .
					56. كل الخدمات علي الموقع تعمل بشكل جيد جداً من خلال خبرتي الشخصية .
					57. بوجه عام أشعر بأنني يتم تقديري بصفة عالية كعميل .
					58. أداء الموقع الإلكتروني الخاص بالبنك يتخطي توقعاتي .
					59. الخدمات علي الموقع دائماً سريعة وفعالة للتعامل مع شكاوي العملاء.
					60. أشعر بأنني كجزء من الموقع .
					61. الموقع الإلكتروني الخاص يساهم في توفير وقتي ويمكنني من إنجاز معاملاتي بشكل أسرع .
					62. أنا متأكد من أن المعلومات الشخصية الخاصة بي كعميل محمية من أي وصول غير مصرح به عندما أستخدم خدمة الأنترنت .
					63. الموقع الإلكتروني الخاص بالبنك قادر علي تزويدي بالمعلومات المطلوبة بسرعة وعلي وجة التحديد .
					64. سياسة سرية المعلومات الشخصية واضحة للعملاء .
					65. الموقع الإلكتروني الخاص بالبنك لدية خاصية الخدمات المصرفية ذات الأولوية التي تعطيني إنتباه فردي من خلال قناة خدمة خاصة .
					66. الموقع الإلكتروني للبنك يقدم معدل أفضل ورسوم خدمة منخفض أكثر من فرع البنك .

نشكرك علي وقتك لملأ هذا الإستقصاء

Appendix (D)

Description of the questions pertaining to each dimension
and its number in the questionnaire

Pre-transaction features	Question	Position number of the questionnaire
Site Customization	My bank's website is personalized on the basis of my own preferences.	1
	The bank's website has a clear strategy to identify different customer needs.	2
	I found site customization feature very useful and a sign of a successful website of a bank.	3
	The bank's website enables me to make transactions customized for me.	4
Site information	'Site Map' or 'Introduction Page' feature is available in my bank's website.	5
	I found 'Site Map' or ' Introduction Page' feature useful before conducting Online transactions.	6
	The bank's web site is capable to provide the needed information quickly and precisely.	7
	Website is using information how to use e-banking services.	8
Membership	I always use the 'Log in' or 'Sign in' feature.	9
	The speed of 'Log in' or 'Sign in' feature is fast.	10
	'Log in' or 'Sign in' feature makes me feel more safe to use the bank website for my transactions.	11
	I feel like I am part of the website.	12

During-transaction E-CRM features	Question	Position number of the question in the questionnaire
product or service customization	The bank's website allows me to customized products or services on my own need.	14
	I am able to interact with website to get service tailored to my need.	15
	Service customization motivates me to use my bank's website.	16
	I found the service customization possibilities important for the success of the web banking.	17
Privacy/ security	The bank's web site does not misuse my personal information.	18
	The bank's site is secure for my information.	19
	I'm sure that all private information about me as a customer are safeguarded from any unauthorized Access when using web service.	20
Alternative payment	Different payment methods to choose are available in my bank's website.	21
	Different payment methods are an important factor for me to visit and use the website of the bank again.	22
	Different payment options are stated clearly.	23

Post-transaction features	Question	Position number of the question in the questionnaire
FAQs	Frequently Asked Questions (FAQs) help me when I use the web banking.	25
	I use FAQs always while exploring the bank website.	26
	I found FAQs useful.	27
Problem Solving	The bank provides appropriate information to customers when a problem occurs.	28
	The bank quickly resolves problems I encounter with my Online transactions.	29
	Whenever I face any problem, I use the Online complaining form to contact the bank .	30
Online Feedback	Online Feedback feature is available on my bank's website.	31
	I always use the Feedback form for the web bank.	32
	The site has customer service representatives available Online.	*33*
	You are satisfied with the post -transaction service provided by the website.	34