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THE INTERRELATIONSHIP BETWEEN E-SERVICE QUALITY, CUSTOMER SATISFACTION, AND CUSTOMER LOYALTY: A SURVEY ABOUT LIBYAN PRIVATE BANKING MARKET

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CHAPTER 5

OZET

Literatür, müşteri memnuniyetinin ve müşteri sadakatinin birbiriyle pozitif ilişkili olduğunu vurgulamaktadır, ancak memnun bir müşterinin sadık bir müşteri olacağı her zaman doğru değildir. Zorluklar, çevrimiçi sistemlerin, dolandırıcılık ve hırsızlığın birçok güvensizliği nedeniyle hayati öneme sahip - daha da önemlisi, müşteriler bankacılık sektöründe günün 24 saati hatasız zamanında hizmet veriyorlar. Bu nedenle bu çalışma, hizmet kalitesi boyutları, müşteri memnuniyeti ve müşteri sadakati arasındaki ilişkinin teorik bir çerçevesini geliştirmeyi amaçlamıştır. Çalışma, Libya'daki 591 büyük özel banka müşterisinden veri topladı. Yapısal eşitlik modellemesi, karışık sonuçları rapor etmek için kullanılmıştır, çünkü hizmet kalitesi, müşteri memnuniyeti ile müşteri sadakati ile daha güçlü bir ilişki gösterirken, hizmet kalitesi ile müşteri sadakati arasında belirgin bir şekilde doğrudan bir ilişki olduğu görülmüştür.

Anahtar kelimeler: Elektronik hizmet kalitesi, Memnuniyet, Sadakat, Çevrimiçi bankacılık, Libya

ABSTRACT

The literature strongly emphasized that customer satisfaction and customer loyalty are positively related to each other, however, it not always true that a satisfied customer will be a loyally one. The challenges are even vital because of several insecurities of online systems, fraud, and theft—more importantly, the customers are error-free timely services round the clock in the banking sector. Therefore, this study aimed to develop a theoretical framework of the interrelation of eservice quality dimensions, customer satisfaction, and customer loyalty that advances the current understanding of these concepts by taking into consideration the contextual difference i.e. Libya, war trodden country. The study has collected data from 591 customers of major private banks in Libya. The structural equation modeling has been used to report the mixed results as eservice quality showed a stronger relationship with customer loyalty through customer satisfaction while there was a significantly weak direct relationship between eservice quality and customer loyalty.

Key words: Electronic service quality, Satisfaction, Loyalty, Online banking, Libya

Symbols

$\chi 2$:Chi-square

Abbreviations

ICT: Information and Communication Technologies

CSS: Customer Satisfaction of Cyber Shopping

IS: Information System

CBL: Central Bank of Libya

KMO: Kaiser-Meyer-Olkin

EFA: Exploratory Factor Analysis

CFA: Confirmatory Factor Analysis

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1 INTRODUCTION

The power of the internet has been dynamically revolutionizing the businesses across the world regardless of the size and location. Moreover, the contributions of technological developments are enormous in terms of globalization and markets deregulation that stimulated companies to pursue global businesses. Consequently, the rising competition led companies to consistently invest in technology to remain productive and competitive (Fredriksson & Wollscheid, 2008).

It is pertinent to note that rapid information technology developments have greatly impacted services industry both in terms of quality of services and process of delivery. Not even that, the knowledge customer is now more inclined to self-services that has the ability to remarkable convenience and speed. Moreover, there are several internet protocols (i.e. Email, Websites, smartphone applications, and E-commerce, etc.) facilitated the interaction between customers and the companies (Lee-Kelley, Gilbert, & Mannicom, 2003). These methods of interaction and communication served as an attractive alternative to visiting the branches and retailer outlets. The important underlying reasons for using the online services lie inaccessibility (Szymanski & Hise, 2000), time-saving and control over services (Dabholkar, 1996).

The comparison between services of competitors is extremely easy and the customers share their experiences on relevant website and online communities (Santos, 2003). Therefore, it becomes very crucial for companies to retain the customer because of low costs of swapping (Reichheld & Schefter, 2000), issues of customer perceptions (Yang & Fang, 2004), customers' evaluation of the quality of e-services (Zeithaml, 2002), and all other dimensions. The organizations that are successfully providing the e-services strongly emphasize on the importance of electronic services (Zeithaml, 2002). There is wide range of literature available that addressed the concepts of service quality, eservice quality, customer satisfaction, and customer loyalty, however, the Libyan context only provide a limited research on these topics (Cox & Dale, 2001).

The challenges of financial services organizations are paramount in the 21st century, particularly; the contentment of knowledgeable and highly demanding customers' needs a customer-focused approach. One of the most common practices that have developed over the time amid contemporary companies is to not only focus on attracting new customers but to retain and grow lucrative relations (Beneke et al., 2011).

Thus, better relations with customers not only give a competitive advantage but also provide greater profitability and revenues to service organizations in current competitive markets (Yuen & Chan, 2010).

Service quality has been the paramount antecedent to achieve successfully satisfaction of customers and subsequent loyalty (Zeithaml, Berry, & Parasuraman, 1996). In the same lines, it is service quality that determines how superior a product or service is (Parasuraman, Berry, and Zeithaml, 1988), and it is a sustainable competitive advantage (Lamb, 2012).

Kotler & Keller (2011) stated the marketing literature considerably discuss and give importance to relationship of eservice quality and customer satisfaction in different contexts—which leads to positive customer perceptions that navigate the chances of developing customer loyalty (Yuen & Chan, 2010). However, Beneke et al., (2012) indicated that few studies argued that service quality and customer satisfaction are the same constructs but most of the literature emphasized that eservice quality is precursor to customer satisfaction. Therefore, satisfaction of customer is the consequence of "post-choice evaluative judgment" by a consumer and that is directly related to the service purchase decision (Beneke et al., 2012). Consequently, a satisfied customer who makes a repurchase decision will lead to a loyal customer in the long run (Ranaweera & Prabhu, 2003).

Though, literature strongly emphasized that customer satisfaction and customer loyalty are positively related to each other, however, it not always true that a satisfied customer will be a loyally one. For instance, Sivadas and Baker-Prewitt (2000) found not direct effect of customer satisfaction on customer loyalty, however, customer satisfaction does impact attitude of customer, repurchase behavior, and recommendations. For that reason, it might not possible that extra expenditure on customer satisfaction will always convert into increased loyalty.

The challenges are even vital because of several insecurities of online systems, fraud, and theft—more importantly, the customers are error-free timely services round the clock in the banking sector. Therefore, customer retention is extremely important both in terms of profitability and cost effective in terms of acquiring a new customer (Reichheld & Schefter, 2000). Moreover, the development of electronic banking has certainly changed the handling of customers' perceptions and satisfaction as access to information has altogether changed the customers' expectations. Therefore, the

understanding and relationships between eservice qualities, customer satisfaction, customer loyalty is distinct based on the context.

The highly differentiating products and services in banking sector make eservice quality a vital construct in order to meet the competition (Kim, 1998). Interestingly, there is abundant literature available that address the service quality as it has been the focus of academics and practitioners—but the eservice quality is a different domain (Rowley, 2006). The advent of the internet during the second half of the 1990s gave a significant change to the banking industry. Consequently, the banking industry extensively invested in the development of technology infrastructure that further pushed the competition to make the customers happy and loyal. Overall, the information and communication technology (ICT) adoption in banking sector not only created a competitive environment for all the actors, similarly, it is also a challenge for banks to prove themselves up the expectations of their customers. The global ICT revolution captured the Libyan banking sector and potentially helping to improve eservices and performance (Leek, Turnbull, Naude, 2003).

The adoption of information and communication technology has introduced new ways of service delivery and distinct processes of relationships—making ICT the backbone of the financial sector across the world. The expansion of the banking sector and services expanded rapidly soon after the adaptation of ICT in Libya because it gave the accelerated ability to banks to respond to customer inquiries (Zammuto & Laube, 2003).

In the early 21st century, the Libyan government made heavy investments in order to develop information and communication technology infrastructure to upgrade the economic performance—particularly, the Libyan banking sector actively took advantage to expand the services and customer base (Twati & Gammack, 2006). It is extremely relevant to mention that the literature ICT development and adaptation is limited in Libyan banking sector—and the whole context took an altogether new face after the start of Libyan civil war in 2011. In Libya, the use of internet in banking sector started in 1998 (Twati, 2014), however, the use of internet in order to deliver the banking services including online shopping, access to the account, and fund transfer became the main channel. Libya had the lowest number of users in terms of internet use in the region (Twati, 2014) which was improved significantly in 2016 with 42.6% of the total population (Internet World Stats, 2019). In a nutshell, internet usage and ICT

development continue to increase and the service providers will be constantly grappled with issues of excellence, the satisfaction of customers, and loyalty. The nascent commercial banking in Libya offered limited insights on issues of electronic service quality, customer satisfaction, and customer loyalty. Therefore, the study aimed to explore the said relationship in Libya and the purpose is as follows:

> *"To develop a theoretical framework of the interrelation of eservice quality dimensions, customer satisfaction, and customer loyalty that advances the current understanding of these concepts by taking into consideration the contextual difference i.e. Libya, war trodden country"*

1.1 Problem Discussion

The eservice quality is related to satisfied customers that are significantly linked to the willingness of customers to recommend a service of a company, complaints reduction, and greater chances of customer loyalty (Zeithaml et al., 1996). There are several dimensions and characteristics of eservice quality that customers ponder in order to judge the quality—for instance; it is possible that efficiency might be important for some customers while some might prefer to emphasize on security and privacy issues. Therefore, the expectations and requirements of customers vary from the eservice process and delivery.

The available literature is abundant on the interrelationship of eservice quality, customer satisfaction, and customer loyalty—although, these relationships are directly contingent on the context and setting of eservice, time, and needs of different segments. Therefore, the nature of the product or service determines the eservice that will be offered in the different contexts and thus the measurement of eservice quality depends on different product and services offered in the different contexts.

The studies in Libyan context are scarce that measure eservice with other possible variables (Abukhzam & Lee, 2010), and the literature took a deep dip after the start of Libyan civil war in 2014. Therefore, it is worthy to explore these concepts in the Libyan context—that is a war trodden country since 2011. Further, the study will solely focus on the banking sector in Libya.

1.2 Research Questions

The primary research questions for the study are as follows:

1. What are the eservice quality dimensions in electronic banking (private commercial banks) in Libya?
2. How eservice quality dimensions affect customer satisfaction in electronic banking (private commercial banks) in Libya?
3. How eservice dimensions affect customer loyalty in electronic banking (private commercial banks) in Libya?
4. How eservice dimensions, customer satisfaction, and customer loyalty are interrelated in electronic banking (private commercial banks) in Libya?

1.3 Objectives of the Study

The objectives of the study are as follows:

1. To study the eservice quality dimensions, customer satisfaction, and customer loyalty
2. To explore the impact of eservice quality on customer satisfaction and customer loyalty
3. To find out the interrelationship between said variables
4. To explore the important dimensions of eservice quality from a demographic perspective (Libya as a context)

1.4 Significance of the Study

The focus of the study is to explore the eservice quality dimensions in the Libyan context is the sole focus on the private commercial banking sector—the study aimed to explore the interrelationship between eservice quality, customer satisfaction, and customer loyalty. Further, the mediating role of customer satisfaction is examined.

1.5 Disposition of the Study

Table 1.1 Disposition of the Study

Chapter 1 Introduction	This chapter provides the introduction, purpose, research questions, significance, and disposition of the study.
Chapter 2 Literature review	This chapter discusses the indepth literature review of banking sector in Libya, service quality, eservice quality, customer satisfaction, customer loyalty, theoretical framework, and hypotheses.
Chapter 3 Methodology and Theoretical Framework	This chapter presents the research design, sampling, data collection, and measurements for variables.
Chapter 4 Findings and Discussion	It includes the data analysis, results, findings, and discussion.
Chapter 5 Conclusions, Limitations, and Future Research Directions	The last chapter includes conclusions, the limitations of the study, and future directions for research.

2 LITERATURE REVIEW

This chapter discusses the in-depth literature review of banking sector in Libya, service quality, eservice quality, customer satisfaction, customer loyalty, theoretical framework, and hypotheses.

2.1 Service Quality as a Conceptual Framework

The service quality has been acknowledged as a competitive aspect to develop and maintain good relations with customers (Ojo, 2010). The knowledgeable consumer has significantly given rise to by not just accepting what is offered instead the culture of customization (Parasuraman, Zeithaml, & Berry, 1985).

The technological advancements and easy access to the internet over the past decades have made it even more crucial for organizations because it's an immediate effect on the performance of the business, satisfaction of customers, growth, loyalty, and cost-effectiveness (Seth, Deshmukh, & Vrat, 2005).

Most importantly, it is viewed according to customers' perceptions—how customers view it and what are their demands; therefore, companies try to utilize the resources for useful service quality programs (Gronroos, 2000). One of the brief and early definitions that incorporated the service quality by Parasuraman, Zeithaml, and Berry (1988) stated that it is "a global judgment or attitude relating to the overall superiority of the service" (p.15).

Furthermore, it is also referred to as a construct that must be evaluated on the post-purchase judgments of a customer (Roest & Pieters, 1997). Both explanations indicate and emphasize on the perceived service evaluation after completing the purchase experience. However, there are some scholars that explain service quality perceptions are related to the cognitive reactions and that only evaluate particular attributes of service while the judgments of satisfaction denote to reactions that emerge from emotions, affective, and inclusive (Oliver, 1997). Some other scholars also endorsed that "perceived service quality is the procedure of attitude and it is not equivalent to satisfaction"—an expectations comparison based on the perceived performance cause it (Bei & Chiao, 2001; Parasuraman et al., 1988).

Brady and Cronin (2001) gave a flexible definition on the basis of previous literature—the general perspective and perceptions of the customers' belongs to one of these several circumstances:

- The functional and technical quality of an organization.
- The product and service, delivery of the product and service, and service environment.
- The five typical dimensions namely "reliability, responsiveness, empathy, assurance, and the tangibility" in association with the experience of a service.

2.1.1 Service Quality as a Concept

Attitude is main construct the lays under the service quality definitions—that is directly related to the service (Bei & Chiao, 2001; Parasuraman et al., 1988). Therefore, it is clear that customers have their own criteria to evaluate the services based on their experiences and priority. Moreover, the service quality, thus, is evaluated on the foundations customers' opinion and not only on the standards of service. Consequently, the customers' feedback is important to get the true value of their services.

Conversely, the difference between pre-determined expectations of the performance of services and actual service experience is also used to view the service quality. Although this theoretical view has some potential problems—for instance, there must be different expectations and service perception if a customer has never ordered a pizza online compared to the ones who have been using this service for a long time. It is interestingly true if someone does not use a service will make expectations about the service by imagination and assumptions. Moreover, it is human psychology when the expectations are high it will result in the low perception of the service performance while on the other hand if the expectations are low. Resultantly, these measures are logical to measure service quality compared to perception minus expectations (P-E) measures (Dabolkar, Shepherd, & Thorpe, 2000).

As literature suggested that there is a complex connection, however, both constructs must be treated separately (Dedeke, 2003). For instance, if there is an increase in the quality of services then it will positively impact the satisfaction. Though, it is obvious that customers buy service satisfaction not the high-quality service. Therefore, the perceived service performances might not important for customers; however, it is extremely important that perceived service performance fulfills the expectations of customers for service quality.

The general definition of service quality given by Brady and Cronin (2001) refers to an integrative approach which is based on the SERVQUAL model—this

approach is useful for all kind of industries and sectors. For instance, the internet or mobile phone connection service providers are different from the telecommunication equipment repair service provider—the connection of internet will continue to work whether a customer uses it or not and will be not be closed until requested while repairing an item from a service provider is a one-time service.

The developer of the SERVQUAL scale claims that it can successfully explain the service quality variance 57% to 71% indicating towards some other factors that might impact the quality of service. Interestingly, one of the factors behind such results is the cross-industry sample because service features differ for different industries and sectors. The differences and similarities of industries in studying cross-industry research is important to identify to avoid the validity issues. Therefore, the emergence of different scales related to different sectors started coming out—for example, Retail and Service Quality Scale measures the five dimensions specifically retail sector (Dabholkar et al., 1996). The retail-specific scale also utilized the 17-items of the original SERVQUAL scale along with the addition of 11 new items to extent the scale to 28-items. The RSQS is a specific instrument to measure the service quality in retail organizations (Yuen & Chan, 2010). The scale consists of five dimensions that are "physical aspects, reliability, personal interaction, problem-solving and policy" (Dabholkar et al., 1996).

The SERVQUAL instrument has limited application to all the industries and sectors to measure the service which created a space for new scales with particular characteristics of industries. The same is true with the e-services, websites, and e-retailers that SERVQUAL scale in its original form is not appropriate. Therefore, the five dimensions do not necessarily represent different service contexts (Sachdev & Verma, 2002). For instance, the context of online shopping has critical aspects of security and design of the website that needs to be evaluated while servicing quality evaluations (Kim, McCahon, & Miller, 2003).

Service quality is an abstract concept that is relative to the context where it is applied, thus, the various definitions of service quality help to give birth to different frameworks that are contingent on perceptions of customers about service quality in different contexts. Therefore, the in-depth discussion of service quality frameworks is necessary to understand the concept thoroughly and set the basis for a theoretical framework.

2.1.2 The Gap Framework

The service quality gap framework is an extension of the two service quality dimension framework. Three fundamental themes of service quality as identified as follows (Parasuraman et al., 1985):

- The customers' difficulty in comparing and assessing quality of service.
- The perceived service quality is based on the difference between expectations of customer and actual service delivery.
- The service quality product and delivery determine the evaluation of service quality.

Figure 2.9 clearly demonstrate the five quality gaps indicating potential shortfalls (Rootman, 2006) and these gaps pertain to service quality perceptions of the organization. Moreover, these gaps serve as the basis for the major obstacles for companies to serve customers and also render the ability of organizations to induce a positive customer perception of quality. The starting part of the framework demonstrates the perceived service quality at customers' end whereas the lower side of the framework indicates the perceived service quality on organizations part. The service quality gap framework indicates that gaps 1-4 are related to the perspective of an organization while the gap 5 is related to the perspective of consumers.

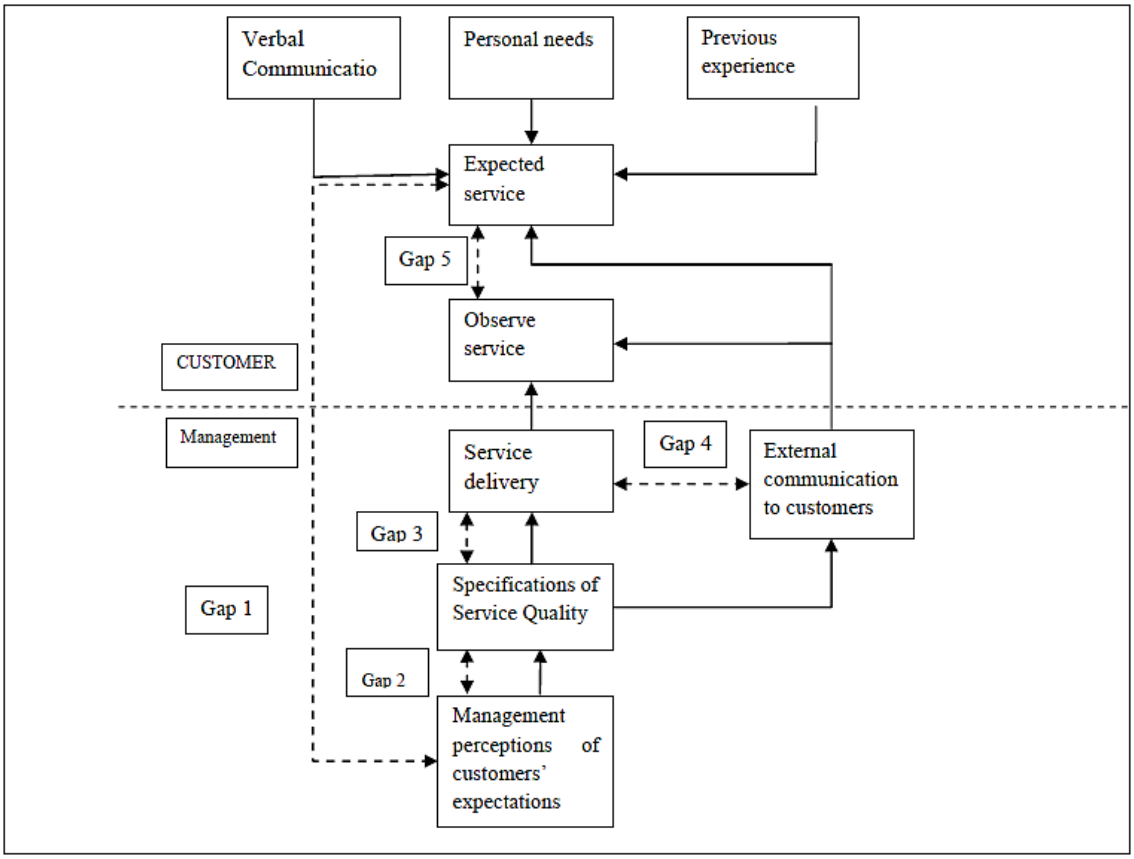

Figure 2.1: The Gap Framework

Source: Parasuraman et al. (1985)

The framework further extended the literature and paved the way for a ten dimensions service quality framework—however, the final framework was reduced to five dimensions.

2.1.3 SERVQAL versus SERVPERF

This section provides a comprehensive comparison between SERVQUAL and SERVPERF—the two leading instruments used to measure the eservice quality. The ten dimensions that identify the multi-dimensionality are categorized as "reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding, and tangibles" (Parasuraman et al., 1985). These dimensions make up the SERVQUAL instrument; however, the final instrument contained five dimensions

"tangibles, reliability, responsiveness, assurance, empathy". Table 2.1 briefly explains as follows:

Table 2.1 Dimensions of Service Quality

Dimensions of Service Quality	Explanation
Tangibles	It refers to the "physical facilities", the exterior of the facility, staff, equipment, and all the physical aspects of an organization that represent the product or service quality.
Reliability	The main constructs of consistency and trustworthiness. Therefore, it refers to organization's ability to bring accurate customers' services without any errors and upon the promised conditions
Responsiveness	Degree of willingness of staff to give timely feedback and help the customers in a timely manner. The dimension of responsiveness, further, talks about the prompt response to the customers' requests, complaints, questions, or any problems regarding services.
Assurance	Assurance describes that employees of the organization are well-informed and polite that inspire, trust, and confidence of the customers.
Empathy	The ability of an organization to give personalized attention to its customers. The organization has to listen and understand the problems of its customers and provide solve the problems in a personalized manner. Moreover, empathy emphasizes on the meeting the unique needs and requirements of the customers.

The famous SERVQUAL instrument consists of five dimensions and 22-items to measure the perceptions and expectations (E & P) of the customers. The SERVQUAL instrument measure in varying forms—first the expectations of the customers are measured followed by the measurement of perceptions.

The use of SERVQUAL is wide, however, the instrument must be used with care to have a proper evaluation and the context should be cautiously analyzed according to the dimensions and the attributes (Gronroos, 2000). Further, despite the wide use of

SERVQUAL and its popularity in literature, the instrument has been exposed to criticism on the both operational and theoretical basis (Buttle, 1995). A brief evaluation of operational and theoretical criticism is compiled in Table 2.2 based on the Buttle (1995).

Table 2.2 Criticism on SERVQUAL

Operational Criticism	**Theoretical Criticism**
While responding to expectations, the customers employ standards to evaluate the quality instead of expectations. Thus, the ability of SERVQUAL is limited.	Paradigm objections Gaps: The Perception-Expectation gaps have not sufficient proof to support to evaluate the quality of services. .
Item Composition: It is hard to reflect the variability of each particular dimension with only four or five items.	Orientation towards process: The SERVQUAL mainly focuses on the delivery of service process ignoring outcome of service encounter.
Scale: The Likert scale with seven points is inconsistent.	Dimensionality: Generalizability of SERVQUAL dimensions is an issue in different contexts; loading of items into the factors is a problem sometimes as at times items do not load which were highly expected; give service quality dimensions are highly inter-correlated.
Two assessments: SERVQUAL use two different scales to measure perception and expectation—thus extremely lengthy for respondents.	

Source: Buttle (1995, p.11)

Additionally, a notable criticism on SERVQUAL instrument suggested to use performance only measure instead of using both expectations and perception measures—the performance only measure is called SERVPERF (Cronin & Taylor, 1992).

Moreover, Bloemer, De Ruyter, and Peeters (1998) further emphasize that SERVQUAL has been widely used—though there are concerns about the validity and reliability issues for expectations and the actual performance variations. Therefore, several scholars have recommended the "perception only" scale to be used for the perfect indications of service quality (Cronin & Taylor, 1992; Teas, 1993). Therefore, the SERVPERF instrument also called as 'perception only' measure (Cronin & Taylor, 1992).

The SERVPERF instrument that was developed and introduced in response to the SERVQUAL instrument based on the arguments that it has poor theoretical support and less empirical evidence that demonstrate the expectation and performance gaps. The SERVPERF used the 22-items scale; however, it only measures the performance.

SERVPERF instrument compared to the SERVQUAL instrument provides better measures for validity, reliability, and soundness of methodology (Jain & Gupta, 2004). Moreover, scholars have criticized convergent and discriminant validity of the SERVQUAL instrument—the difference in the scores and existence of negatively phrased items (Boshoff & Terblanche, 1997). Therefore, SERVPERF demonstrated its ability to measure service quality with better validity and reliability and easy administration and data analysis (Gronroos, 2000). Besides these two general measurement instruments for service quality, there are specific measurements scales are also available.

2.2 Customer Satisfaction as a Concept

Customer satisfaction has a significant importance in marketing research for the past six decades. The early empirical research that involves customer satisfaction happened in the middle of 1960s. Interestingly, one of the earliest empirical studies on customer satisfaction and service quality indicated that perceived service quality, expectations, and the overall shopping experience influence customer satisfaction (Cardozo, 1965). On the other hand, the perspective of the consequences stated that satisfaction of a customer ensure the repeat buying behavior and similarly help sustain and develop the business (Dubrovski, 2001). Likewise, the dissatisfaction perspective talks about service recovery and handling customer complaints in order to reduce the dissatisfaction of the customers (Kondo, 2001). Later, Oliver (1997, p. 13) defines customer satisfaction as:

> *"Satisfaction is the consumer's fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under or over-fulfillment"* (Oliver, 1997, p. 13)

Satisfaction, nonetheless, is being defined on the basis of post-consumption evaluation that concerns a particular decision of purchase (Churchill & Surprenant, 1992; Oliver, 1980). Traditionally, customer satisfaction viewed as an essential factor that leads to consumer behavior in the long-term (Oliver, 1980). It is pertinent to mention to customer satisfaction has been widely debated in traditional service providers' context (e.g. Bitner, Brown, & Meuter, 2000; Caruana, Money, & Berthon, 2000; Cronin & Taylor, 1992; Zeithaml et al., 1996)—thus, the concept of customer satisfaction in electronic retailing, electronic satisfaction, and internet banking context is interesting (Szymanski & Hise, 2000). There are several definitions available on customer satisfaction but few of the below-given definitions are enough to understand the concept.

> *"Satisfaction is a person's feeling of pleasure or disappointment resulting from comparing a product's perceived performance (or outcome) in relation to his or her expectations" (*Kotler & Keller, 2000, p.48)

> *"Customer satisfaction is a collective outcome of perception, evaluation and psychological reactions to the consumption experience with a product/service."* (Yi, 1990, p.85)

> *"Satisfaction is a function of consumer's belief that he or she was treated fairly"* (Hunt, 1991, p. 110)

The literature on marketing and the recent literature on information system studies indicate that the disconfirmation theory serves as the main footing for models of satisfaction. As per the theory of disconfirmation, the discrepancy between expectations and perceived performance determine the satisfaction (Liu & Khalifa, 2003). Customer expectations, on the other hand, refer to the pretest beliefs and expectations about a product or service (Mckinney, Yoon, and Zahedi, 2002). Expectations, conversely, refers to the customers' predictions and the forecasting regarding the particular exchange or a transaction (Zeithaml & Berry, 1998). Perceived performance defined as "customer's perception of how product performance fulfills their needs, wants, and desires" (Cadotte, Woodruff, & Jenkins, 1987). Zeithaml (1988) suggested that

perceived quality is the judgment of the customer about whole superiority and excellence. Disconfirmation is defined as "consumer subjective judgments resulting from comparing their expectations and their perceptions of performance received (Mckinney, Yoon, Zahedi, 2002).

The expectancy disconfirmation framework is being described as a process for satisfaction judgment in Figure 2.4 that illustrates the relationship of satisfaction judgment and expectancy disconfirmation (Oliver, 1980). The expectations of buyers are formed about specific service or product prior to buying and levels of perceived quality influencing through expectations.

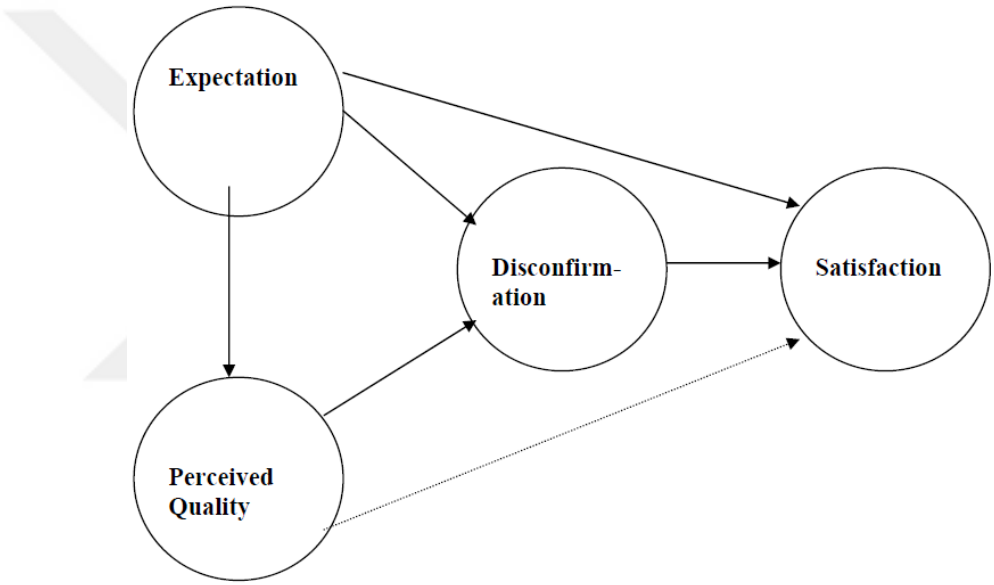

Figure 2.2: The Expectancy Disconfirmation Framework

Source: Oliver (1980, p.465)

Figure 2.4 below indicate that perceived quality directly depends on the expectations that is why a direct arrow goes through from expectations to perceived quality. The pre-purchase expectations of the customers are might be confirmed or disconfirmed based on perceived quality. The arrows drawn from expectations and perceived quality to disconfirmation determine the extent of disconfirmation. Lastly, the expectations and perceived quality of disconfirmation positively affect satisfaction.

Oliver (1980, p.465) indicated that "disconfirmation and perceived quality have a stronger impact on satisfaction".

It is important to note that customer satisfaction has been a wide research area in marketing for the past sixty years. An empirical investigation indicates service quality is not the only antecedent to customer satisfaction but the overalls shopping experience and expectations of customers are equally important (Cardozo, 1965). This was the start of a look at customer satisfaction from multiple perspectives. For instance, the antecedent perspective conceptualizes customer satisfaction as the response of customers to evaluate the discrepancies between expectations and perceptions of the performance.

On the other hand, the consequence perspective of customer satisfaction refers to the repeated buying behavior and subsequent sustainability and growth of a certain business (Dubrovski, 2001). Similarly, the perspective of dissatisfaction involves discourse of problems and complaints of customers during the service experience because complaints lead to dissatisfaction (Kondo, 2001). One of the very interesting definitions of customer satisfaction is of Oliver (1997, p. 13) that states that *"satisfaction is the customer's fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under- or over fulfillment."* A large number of diverse definitions of customer satisfaction make it a complex construct. Though, the Oliver (1977) definition has been consistent with both theoretical and empirical evidence.

2.2.1 Determinants of Customer Satisfaction

The research on customer satisfaction has been largely focused on determining the characteristics that influence the satisfaction of customers.

2.2.2 Theory of Expectancy Disconfirmation

The theory of expectancy disconfirmation (Oliver & DeSarbo, 1988) comprises of two major components i.e. expectations formation and disconfirmation of those expectations based on comparisons of performance—moreover, expectations indicate the likely performance (Churchill & Suprenant, 1982). One of the influential conceptual model of customer service expectations developed by Zeithaml, Berry, and Parasuraman (1993) and suggested three levels of customers' expectations including "ideal" referring

to the desired service, "should" denote adequate service, and "will" indicate the predictive service. However, the operationalization of these three levels of customer service expectations faced problems due to difficulty in distinguishing between the narrow levels of expectations (Tse & Wilton, 1988).

The literature on the construct of satisfaction strongly suggested that expectations of customers largely impact the levels of satisfaction—customers always form service performance expectations before purchasing (Oliver, 1993). Therefore, customers' satisfaction is based on expectations. It is interesting to note that in order to achieve the expectation levels, customers adapt satisfaction levels—that help them to elude discord of deviation in expectation-satisfaction levels. This psychological state consequently produces a judgment of high-low expectations and high-low satisfaction (Oliver, 1997; Oliver & DeSarbo, 1988). However, most of the empirical research indicated a positive relationship between customer expectations and satisfaction.

The most popular paradigm till the 1890s on customer satisfaction literature was disconfirmation (e.g. Churchill & Surprenant, 1982; Prakash & Lounsbury, 1984) that is based on four major constructs expectations, performance, disconfirmation, and satisfaction. According to Churchill and Surprenant (1982, p. 492), the disconfirmation is a result of a discrepancy between performance and expectations and it *"occupied a central position as a crucial intervening variable that eventually influences satisfaction"*. The results are obvious as the comparison of expectation-performance will produce exceed expectations, and zero if it meets the expectations. An empirical study by Szymanski and Henard (2001) proved that disconfirmation is a leading predictor of the effects of satisfaction.

Performance is also a dimension of disconfirmation along with wide empirical support that also suggests a strong relationship of performance with satisfaction (e.g. Anderson & Sullivan, 1993; Hartman & Schmidt, 1994). The performance of products and services may have several dimensions but research reduces those factors using factor analysis. The most famous scale to measure the service quality SERVQUAL is also based on the philosophy of expectations and performance E-P. Although, the approach has been fiercely debated in literature and scholars such as Tease (1993) proposed to use the perceptions only component. Thus, a modified form of the SERVQUAL scale was introduced with the name of SERVPERF (Cronin & Taylor, 1992; 1994). The new scale significantly proved that service quality can be exclusively

measured based on the perception only scale with had better discriminant validity (Parasuraman, Zeithaml, & Berry, 1994).

Equity refers to, in the context of service quality, fairness evaluation, rightness, and deservingness that a customer makes (Oliver, 1997). Equity theory in the context of satisfaction literature refers customers' contribution/output in comparison to the service provider's input/output (Oliver & DeSarbo, 1988). Later, this concept of input/output studied in the context of perceived value as evaluation of customers' perception of sacrifice (input) and offering (outcome) (Bolton & Lemon, 1999). The perceived sacrifice has been conceptualized as the possible costs i.e. price and the time consumed (Yang & Peterson, 2004). Therefore, a positive perception of value will bring the customer back (Minocha, Dawson, Blandford, & Millard, 2005). Further, if a customer feels good about the treatment of the service provider and the process of exchange, it will satisfy them about the transaction conditioned to the ratio of input and output.

2.2.3 Customer Satisfaction of Cyber Shopping (CSS)

Customer satisfaction of cyber shopping comprised for five antecedents of satisfaction that are appropriate in the context of internet shopping i.e. *"logistic support, technical characteristics, characteristics of information, presentation of the home page, and characteristics of the product"* (Ho & Wu, 1999, p. 4). Figure 2.5 illustrates the actual model adopted by Ho and Wu (1999).

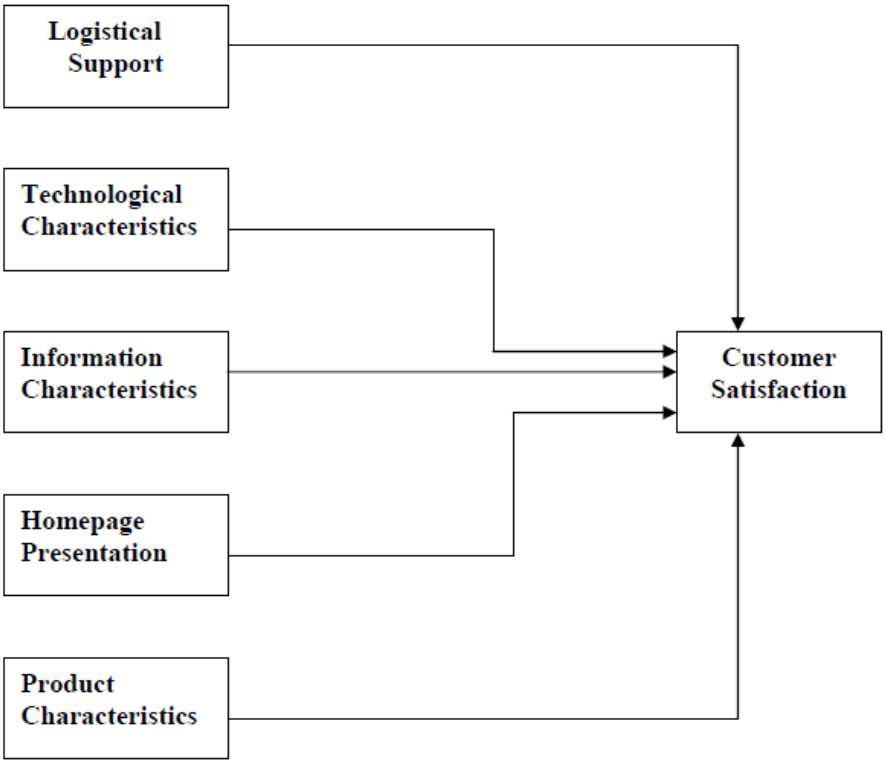

Figure 2.3: Model for Antecedents and Customer Satisfaction of Cyber Shopping Store (CSS)

Source**:** Ho and Wu (1999, p. 4)

The model has successfully operationalized all five variables in order to measure the online shopping experience that leads to customer satisfaction. For instance, logistic support refers to the quick response of the needs of the customers using efficient use of communication channels such as email, phone, or fax—moreover, the quick delivery of the products and services along with the affective after sales services. The use of modern facilities such as computers, networks, and well-structured communication and information system refers to technological factors. The information factor has been described as reliable information delivery and secures transaction systems. Moreover, the presentation of the homepage is simply referred to like the design of the website, interface, and detailed information on goods and services. Further, the variety of goods and services along with the prices falls under the factor of characteristics of products.

2.2.4 Information Systems Success Model

The information systems (IS) success model for end-user satisfaction originally developed and updated by DeLone and McLean (2003) addressed the changes in management roles and information systems. The model is intended to measure the challenges of electronic commerce.

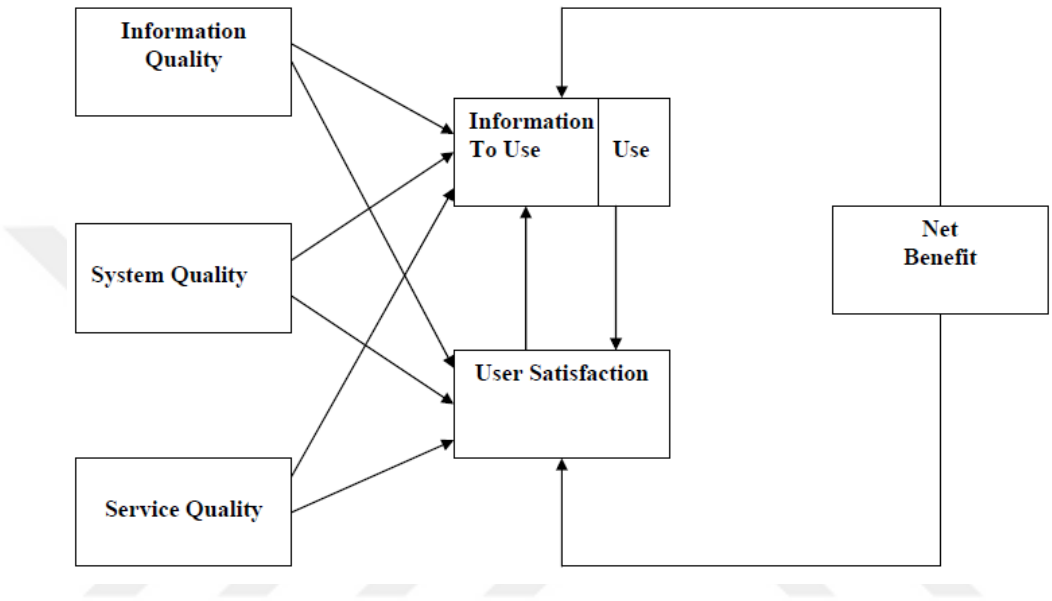

Figure 2.4: DeLone & Mclean IS Success Model

Source**:** DeLone and McLean (2003, p. 24)

The primary users of information systems in electronic commerce are the customers or suppliers compared to the internal users. It is customer and suppliers that make the primary decisions to buy or sell the product and services in order to execute the financial transactions. These financial transaction decisions have a huge impact starting from individuals, organization, sector and industries, and broadly the national economy. The six dimensions of the update are the Success model (DeLone & McLean, 2003) perfectly explain the commerce process using the six dimensions. As it is obvious in the illustrated model that system quality, information quality, and service quality effect 'use' and 'user satisfaction' both individually and collectively. Moreover, user satisfaction is affected positively and negatively by the amount of "use". The six constructs of the IS Success model are compressively explained as follows.

System quality refers to the measurement of characteristics of electronic commerce in the context of the internet environment. Moreover, electronic commerce users value the qualities of the system including usability, availability, reliability, adaptability, and response time. The *quality of information* must be personalized in the web content, complete, relevant, and easy to understand—consequently, these qualities help customers to complete their transactions easily online and push them to revisit the website for further transactions. Furthermore, the *service quality* refers to the overall perception of the service delivered that contains the all the support mechanisms of a service provider include the support of information systems department, other units of the organization, or any outsourced services e.g. ISPs. The importance of service quality is high as a poor service will lose the customer with a bad word of mouth while a good quality of services will not only retain the customers but bring new one (DeLone & McLean, 2003).

Usage comprises of the total interaction of a user with the website starting from a visit to explore, information seeking, and executing a transaction. It is extremely important aspect of customer's opinion measurement about e-commerce system that includes the whole cycle of customer experiences such as purchasing, receipt, delivery, and service. Usage also includes a factor of *net benefits* that are important because of their ability to capture impacts of e-commerce on customers, suppliers, and employees.

2.2.5 E-Service Quality and Customer Satisfaction

Previous sections discussed in detail that service quality and E-service quality has been gained considerable attention from practitioners and scholars. One of the important reason that led practitioners to take interest in service quality is the benefits of that phenomenon, especially for the bottom line performance. However, the construct of service quality and customer satisfaction has been used interchangeably by practitioners. However, the academic world differentiates both of these constructs and developed on separate lines (Oliver, 1980). Therefore, many research scholars indicated that customer satisfaction is a short term measure that is specific to a transaction, though, service quality is referred to a long-term and time taking the attitude that develops over time with a concrete general evaluation of the performance (Hoffiman & Bateson, 1997).

If we look at it as a process, the eservice quality comes first and executed to perform a transaction of goods or services that leads to the satisfaction or dissatisfaction

of the customers. Thus, the importance of good service quality is paramount as an input to customer satisfaction (Caruana, 2002). It is interesting to note that Cronin and Taylor (1992) conceptualized and hypothesized the construct of satisfaction as an antecedent of service quality; however, the findings of the research indicated the opposite relationship. Service quality is one of the factors of service that contribute to the judgments of customer satisfaction (Cronin & Taylor, 1992; Ruyter, Wetzels, Lemmink, & Mattson, 1997; Spreng & Mackoy, 1996). Moreover, there are several key determinants to assess the impact of service quality on customer satisfaction (Johnston, 1995). Further, the feature of eservice quality in the context of internet banking websites is critical to improving customer satisfaction (Jayawardhena & Foley, 2000). In internet banking, the unlimited access products and services such as fund transfer, bill payments, and investments, etc. have become the driving force for the attraction of new customers that may enhance customer satisfaction.

There is abundant research that has explored the relationship between internet banking and customer satisfaction—these studies offer findings that state internet banking improves the delivery of banking services and customer satisfaction. For instance, the study of Gera (2011) explored that interrelationship of internet banking, value, satisfaction, quality, and behavioral intents in the Indian banking sector—the findings stated that service quality significantly impacts the customer satisfaction. Moreover, service delivery and other factors have become extremely important over the years because of internet banking. The rapid development in information technologies and its application and acceptance in the financial sector has enhanced the quality of services and accessibility. The low-cost information technology solutions powered the banking sector that consequently influenced customer satisfaction (Wise & Ali, 2009).

The features of internet banking extend the financial services outside the physical facilities of the banks further enhance customer satisfaction. For instance, Lassar, Manolis, and Winsor (2000) explored how service quality affects customer satisfaction in the private banking sector using SERVQUAL and the instrument of technical/functional quality. The empirical study provided a comparison and contrast between two measures along with the analysis of various dimensions of these instruments on customer satisfaction. The findings of the study suggested the customer satisfaction is a multidimensional construct and various components of service quality

impact differently. The study also revealed the complex nature of the quality dimensions and customer satisfaction.

2.3 Customer Loyalty as a Concept

Research on the construct of customer loyalty shows those loyal customers become permanent customers for a long time, cost-effective in terms of service, highly profitable, purchase more on the available product lines, source of positive word of mouth, exhibit protection against competition, low price sensitivity, and ready to pay more to do business with preferable retailers (Baldinger & Rubinson, 1996; Gremler & Brown, 1999; Hart & Johnson, 1999; Reichheld & Sasser, 1990; Zeithaml et al., 1996). Thus, the role of customer loyalty has become vital for profitability, long term success, and competitiveness (Bowen & Shoemaker, 1998; Dowling & Uncles, 1997; Reichheld & Teal, 1996; Reichheld & Schefter, 2000).

The early focus on customer loyalty in the context of tangible products was exclusive to the behavioral dimension (Jacoby & Chestnut, 1978; Pritchard, Havitz, & Howard, 1999)—or in fact, the only one dimension of behavioral outcome that is repurchasing or switch intentions (Bansal & Taylor, 1999; Dabholkar & Walls, 1999; Sharma & Patterson, 2000). However, the one-dimensional view of customer loyalty was criticized for lack of conceptual basis and over-emphasized focus on an outcome-based view (Dick & Basu, 1994). Dick and Basu (1994) discussed that loyalty comprises of relative attitude and behavioral intentions. Therefore, loyalty combines attitude commitment and intentions to repurchase. Likewise, there are several scholars who have considered attitude as a dimension of loyalty (Dick & Basu, 1994; Jain & Gupta., 2004; Pritchard et al., 1991; Snyder, 1986).

The preferences of consumers and the intentions favoring a business (Jarvis & Wilcox, 1976; Pritchard et al., 1991), the operationalization of the loyalty dimension of attitude has several ways such as giving liking to a particular service provider among alternatives (Gremler & Brown, 1996; Mattila, 2001; Ostrowski, O'Brien, & Gordon, 1993; Zeithaml et al., 1996), recommendations to others (Javalgi & Moberg, 1997), preference forte (Mitra & Lynch, 1995), attachment to a product or service and organizational itself (Fournier, 1998). It is pertinent to mention that there are numerous drivers of purchasing or repurchasing such as commitment and word of mouth (Dick & Basu, 1994; van Riel & Semeijn, 2003).

Last but not the least, the third dimension of loyalty is cognitive loyalty that evaluates the attributes of a brand and consciously evaluates the rewards and benefits associating with a re-patronage (Bloemer, De Ruyter, & Wetzels, 1999; Gremler & Brown, 1996; Lee & Cunningham, 2001). Therefore, the cognitive loyalty reflects the trust and beliefs of customers to a particular retailer (Dwyer, Schurr, & Oh, 1987), exclusive consideration, tolerance for price (Anderson, 1996; Ruyter et al., 1998), and service provider identification (Butcher, Sparks, & O'Callaghan, 2001).

Therefore, based on the three perspectives described above i.e. behavioral, attitudinal, and cognitive loyalty—customer loyalty has been defined in different ways as it can be a favorable attitude towards a retailer/brand and repurchasing behavior associated with the same brand or a patronage behavior on repeat purchase behavior (Dick & Basu, 1994); a psychological bond connected to repurchase behavior (Jarvis & Wilcox, 1976). From the context of electronic commerce, customer loyalty is a favorable behavior of customers towards an electronic business that results in repurchases (Anderson & Srinivasan, 2003). Thus, it is important to consider all three dimensions that are attitude, behavioral, and cognitive to define customer loyalty in online retailing or electronic commerce.

Furthermore, the constructs of commitment, retaining, and barriers of switching have been used extensively in the literature of customer loyalty in multiple ways as factor, antecedent, or following customer loyalty construct (Luarn & Lin, 2003; Ranaweera & Prabhu, 2003). The different interpretations of attitude, behavior, and cognitive characteristics complicate the interrelationships—for instance; a psychological attachment with an organization are refer to commitment. On the other hand, the conceptualization and operationalization of retention are being as a customer loyalty dimension (Zeithmal et al., 1996).

2.3.1 Relationship of Eservice Quality and Customer Loyalty

As it has been elaborated in the previous section that customer loyalty construct has several dimensions and it is viewed as a behavioral consequence of service quality (Zeithaml, 2000). Customer loyalty has the power to impact the market share of a company and profitability (Anderson & Mittal, 2000). Customer loyalty, basically, is an outcome and behavioral intention after the evaluation of a service in terms of the perceptions of the customer (Rust & Zahorik, 1993), customer satisfaction and dissatisfaction, and service interaction (Kelley & Davis, 1994).

In the context of internet banking, the customer loyalty is being defined as the tendency of customers to continuous use of the particular website, frequently using, and express high linkage with higher spending time (Anderson & Srinivasan, 2003). Therefore, the interaction of customers with the website and subsequent experience is critical to influencing the decisions of customers to revisit the website and make the positive word of mouth (Gera, 2011). In the same way, online customers most likely develop an attitude towards purchase behavior on the basis of their past experiences (Caruana, 2002).

Therefore, the role of customer loyalty is important for banks in the context of internet banking to establish profitable relationships. In internet banking context, the loyal customers frequently visit the banks online platforms and recommend to others (Amin et al., 2013) leading to higher commitment for repurchasing or services in the future (Kandampully, Zhang, & Bilgihan, 2015) and prevent negative word of mouth. The findings of the Malaysian context that is similar to Libya on the basis of Islamic culture and social relationships indicated the family, friends, and relatives significantly influence the potential customers in the framework of financial decisions and financial institutes (Haron et al., 1994; Ndubisi & Ling, 2006).

2.4 Financial System Market

The role of financial system is paramount to stimulate the growth of economy, performance of the economic actors, and impact on the economic welfare. All of these are achieved through the support of a proper financial infrastructure that allocates the resources properly to entities that have more potential for productivity (Anderson & Mittal, 2000). Therefore, any financial system makes it possible to distribute funds efficiently. However, the access to information may vary as one party may have superior information compared to the others leading to the information asymmetry problem—this can cause inefficiency in allocating the financial resources. Thus, a financial system overcomes the problem of information asymmetry in order to maintain the balance between funds investment and the actual need of funds (Kandampully et al, 2015). The one of the famous approach to financial system is the structural approach that divides the financial system into three parts.

1. Financial markets
2. Financial intermediaries (institutions)
3. Financial regulators

It is pertinent to note that all of the given three components of financial system are extremely important and have a specific role in the economy. On the other hand, the functional approach indicates that the role of financial markets is to facilitate the transfer of funds in such a manner that it facilitates the individuals, companies, and governments to finance investments. It is extremely important to mention that the component of financial intermediaries (institutions) is the most important player in the financial market because they basically control the flow of the funds. Moreover, the third component of financial system that is regulators e.g. Central Banks monitor and regulate all the participants in the financial system. The Figure 2.7 illustrates the structure of financial system below.

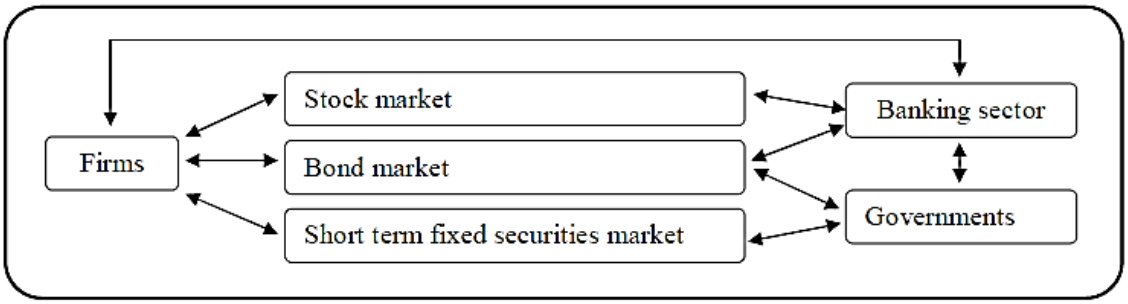

Figure 2.5: Financial System Structure

The studies on financial markets using the lens of capital market theory mainly focus on the financial system, interest rate structures, and financial assets pricing. It is important to understand the asset basically refers to a resource that has potential and expected to provide future benefits—moreover, these are divided into two categories the tangible and intangible assets. However, the financial assets that are often called as financial instruments fall under the category of intangible assets that are expected to provide future benefits in the form of cash. Further, there are some financial instruments are called securities that are generally traded at stock exchange are sometimes refers to stock and bonds. The transaction of financial instruments at least includes two parties:

1. The *issuer* is that promised to make future cash payments.
2. The *investor* is the one that own the securities, bonds, or stocks and has the right to receive the payment.

The most important economic functions that financial assets provide are as follows:

- It helps to efficiently relocate the funds and transfer them to those who wants to invest and are in need of it.

- The surplus and deficit economic units are facilitated be generation of cash on the basis of redistribution and unavoidable risk.

The role of financial intermediaries is important in this situation for particular entities in a financial system in order to handle the claims of actual wealth holders which have different liabilities from the entities that are in need of funds. Therefore, the entities that are in need of funds and generate funds from financial intermediaries are the one that make those liabilities available in the form of financial assets.

2.4.1 The Economic Functions of Financial Markets

The main function of financial market is to help exchange the financial instruments and trade and these are the economic functions of financial markets:

1. Discovering price
2. Liquidness
3. To reduce the transaction costs

The *discovery of price* refers to the determination of the price and cost of the particular traded asset in the financial market and it is based on the trades of buyers and sellers for specific financial instrument (Madura, 2008). The participants of the financial market determine the rate of return on the investment of funds and the rate of return on the investment depends on the motivation of fund seekers. The financial markets basically provide signals the availability of the funds from lenders and the allotment of the funds to those who needs it.

The *liquidity* offers a chance to investors in order to sell their financial instruments as the liquidity in its simplest meaning is the ability to sell the financial instrument at fair market prices at any time. It is important to note that liquidity is the most important determinant of a financial asset to sell or hold the financial instrument till the market conditions arise (Madura, 2008). On the other hand, an instrument of debt automatically liquidated upon maturity while the instrument of equity is based on the decision of the company to liquidate on voluntary and involuntary basis. It is important to mention here that financial markets are important in order to provide liquidity as there is a categorization of markets based on their liquidity.

The transaction costs reduction is exercised when the participants of financial markets are charged or bear the trading costs of financial instruments. The existence of financial institutions and instruments in the market economy related to the transaction

costs in economic context, therefore, the financial institutions and instruments that has lowest transaction costs have the significant ability to survive (Kandampully et al, 2015). The most significant determinants of transaction costs are specificity of an asset, uncertain, and occurrence.

2.4.2 Financial Institutions and Their Functions

The most important component of financial system is the financial intermediaries or financial institutions that facilitate the efficient allotment of funds, particularly, in the conditions of where there is no mechanism or difficulty to manage the lenders and the borrowers to exchange funds in financial markets. These financial institutions are institutions of depository, insurance companies, investment companies, investment banks, and pension funds. The main function of the financial intermediaries is to provide a platform where lenders and borrows can create more favorable transaction terms compared to the financial market where lenders and borrowers have to directly deal with each other (Madura, 2015). The functions of financial intermediaries are:

- Obtain funds from lenders and investors
- Lend funds to borrowers or invest the obtained funds

It is obvious that the acquired funds from lenders become the liability or the equity for financial intermediaries based on the financial claims. Similarly, the funds that are being lent become the assets of the financial intermediaries. Moreover, the transformation of the financial assets is also performed by financial intermediaries because investors do not desire to become the part of the other financial assets (Reszat, 2008). The asset transformation is also important in order to provide some economic functions:

- Intermediate maturity
- Diversify in order to reduce risk
- Reduce the cost for contract and process information

The financial market participants perform these important economic functions meanwhile provide special financial services. The Figure 2.8 illustrated the service that financial intermediaries provide.

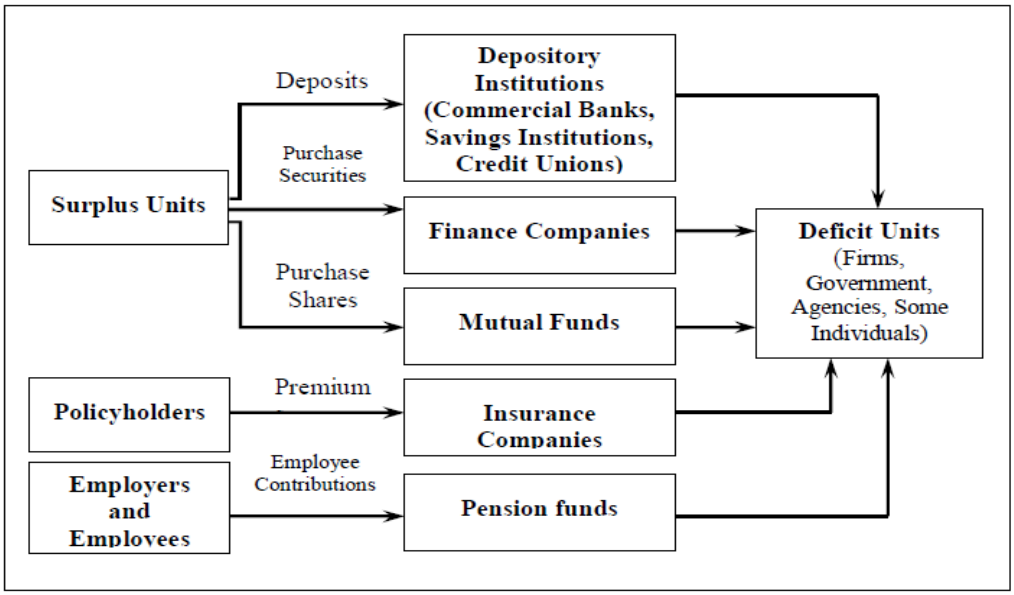

Figure 2.6: Financial Institutions Roles

Source: Madura J. (2008)

There are several services that are being provided by financial intermediaries and some of those are described as follows:

- Facilitate to trade the financial assets for the customers of financial institutions using negotiator arrangements.
- Utilizing the own capital of the financial institute to offer the financial assets trading to the customers of the intermediary.
- Assist to create the financial assets for customers and distribute to the participants of the financial market.
- Investment advice to customers.
- Financial assets management for customers.
- Define and provide the mechanism for payment.

2.4.3 Financial Market Classification

There are different ways that can be used to classify the financial markets as they are based on the trade, types of services, produces of trading, participants, and market origins. Generally, the financial market is classified as follows in Figure 2.9.

Criterion	Features	Examples
Products	Tradability, transferability, ownership, maturity, denomination, substance	Equity, debt instruments, derivatives
Services	Technical, advisory, information and knowledge-based, administrative	IT support, research and analysis, custody
Ways of trading	Physical, electronic, virtual	Over the counter, exchange, internet
Participants	Professionals, non-professionals, institutions, officials	Banks, central banks, non-bank financial companies, institutional investors, business firms, households
Origin	Domestic, cross-border, regional, international	National markets, regionally integrated markets, Euromarkets, domestic/foreign currency markets, onshore/offshore markets

Figure 2.7: Classification of Financial Market

Adapted: Reszat (2008)

As it has been stated that financial markets are formed on basis of several circumstances and one of them is the origin of the market e.g. country. Based on the particular characteristic, the financial market can be broken down into internal and external market (Reszat, 2008). As the name suggests, the national market will be refers to the internal market or the domestic market. It is a financial market where the securities are issued and traded subsequently. On the other hand, the trade of securities in outside of the home country is refers to foreign market.

2.4.4 Online Attributes

The surveys on current financial systems, financial markets, and financial institutions regarding the evolution of these institutions towards becoming online generally indicate that more and more people wants to conduct their financial transactions online instead of offline. For instance, the percentage of online transactions in banks has cross the 50% customers prefer to perform transactions online and it has been now moving rapidly upward. It is interesting to note that this shift has hugely affecting the bank branches as only in UK, there were 800 branches closed down by banks in 2017—that could have a negative impact on the customers.

The shift of offline banking to online is huge but on the other hand, it has negative effects on customers that are old, reticent to switch, only rely on branches,

villages, or areas without proper access to internet. However, it is also not easy to gain the trust of customers in the context of online services and research has recommended several cognitive attributes associated with the overall service delivery platform e.g. security, privacy, useful, and ease of use.

As it has been mention that research emphasized on trust in the online banking context and it is the responsibility of the financial institute to ensure that customers should believe that the transaction is secure, no interceptions, and privacy of their personal data (Suh & Han, 2003). Therefore, the privacy perceptions and security are the important variables that need to be ensured using assurances from third party, proper policies on privacy, and different tools of security (Sah & Han, 2003). These positive customer perceptions have the power to reinforce the views of customers.

2.4.5 Offline Attributes

It is equally important to focus on the offline attributes of financial markets and particularly the banks—what are the financial decisions that can only be made in offline mode or in the bank branches? The services such as mortgages, loans, opening an account, and leases are still performing offline, though; the technology has empowered the banking staff to enhance these services. For instance, the traditional processes to perform a service in bank branches were hectic and long but the technological revolution has made it easy to make automatic decision using cloud computing and artificial intelligence programs. Now, it is possible for banks to process a mortgage request in 48 hours compared to the earlier 11 days of processing.

The technological advancement and the shift towards online banking also eased and freed up the banking staff that was previously engaged in performing the administrative tasks. The banking staff now can focus on the customers, improving service experience of the customers, and speed up the services to achieve higher customer satisfaction. Further, this also reduces the requirements for staffing in the branches to make it less expensive to sustain.

2.5 Interrelationship of electronic service quality, Customer Satisfaction, and Loyalty

Commitment towards the brand or store basically induce the customer loyalty through a clear wide cognitive process of decision making (Bloemer & Ruyter, 1998). Moreover, customer loyalty has also been seen as the process of conscious evaluation of

price and quality of a product or service or how willing someone is to pay the premium (Zeithaml et al., 1996). More specifically, the intentions of online shoppers to revisit the website are being significantly affected by corporate brand loyalty (Nysveen, Pedersen, Skard, 2013).

One of the earliest studies on the relationship between service quality, customer satisfaction, and intentions to purchase indicated that customer satisfaction is being directly affected or followed by service quality. The effect of service quality is much higher on customer satisfaction compared to purchase intensions and subsequently customer satisfaction significantly affects the purchase intensions. Literature is abundant as one more study indicated that customer satisfaction is a mediator in a relationship of service quality and behavioral intentions (Dabholkar, Shepherd, & Thorpe, 2000).

Moreover, the relationship of customer satisfaction and customer loyalty is also significant and literature indicated that it depends on the type of satisfaction. Though, service quality is the main antecedent to customer satisfaction while consequence of customer satisfaction is customer loyalty (Dabholkar et al., 2000).

The customer loyalty is being defined as the tendency of customers to continuous use of the particular website, frequently using, and express high linkage with higher spending time (Anderson & Srinivasan, 2003). Therefore, the interaction of customers with the website and subsequent experience is critical to influencing the decisions of customers to revisit the website and make the positive word of mouth (Gera, 2011). In the same way, online customers most likely develop an attitude towards purchase behavior on the basis of their past experiences (Caruana, 2002).

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Service quality is one of the factors of service that contribute to the judgments of customer satisfaction (Cronin & Taylor, 1992; Ruyter, Wetzels, Lemmink, & Mattson,

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2.6 Two Service Quality Dimensions Framework

"Customer oriented perspective" is the underlying philosophy for two service quality dimensions framework—it contains the "functional dimension (process) and the technical dimension (outcome)" that is depicted in Figure 2.8. The functional dimension as it is stated as a process of service deliver depicts that how the organization has performed the service whereas the technical dimension indicates what the customer receives by interacting of the respective organization (Gronroos, 2000). For instance, customers receive including both over the counter and electronically determine the technical dimension, although, the behavior of the employees and the electronic equipment towards the customer will refer to the functional dimension.

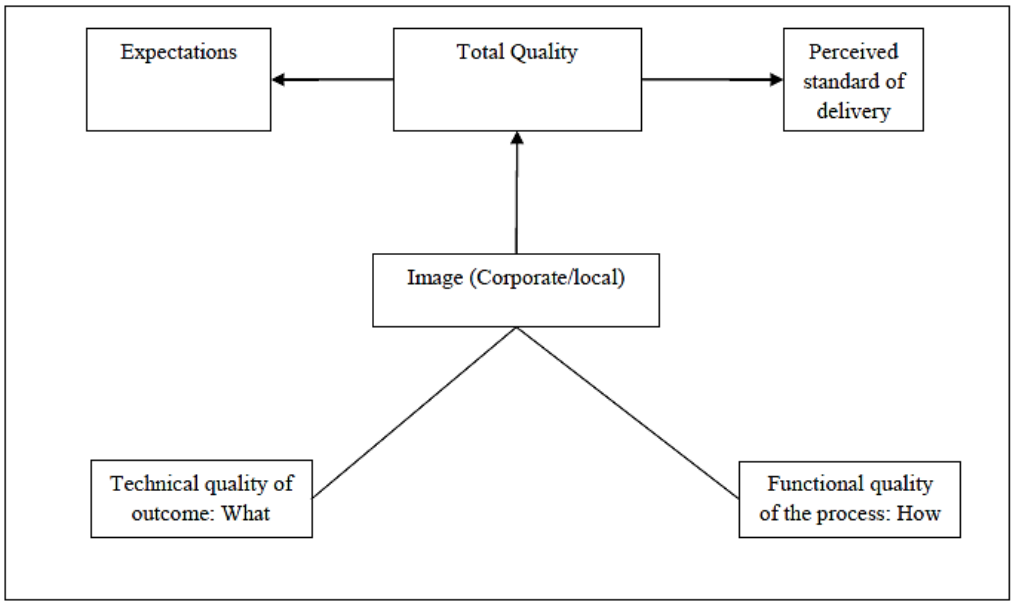

Figure 2.8: Two Service Quality Dimensions Framework

Source: Gronroos (2000. P.65)

Furthermore, the image of the particular organization (comparative image of A & B organization) indeed affects the judgment of the quality of a customer. Besides the quality dimensions of technical and functional, the evaluation of the image of the organization leads to the total quality that differentiates between expectations of service and perceived delivery standard. Thus, the performance of an organization based on the given two dimensions meets the customers' expectations—it indicates the achievement of total quality (see Figure 2.1). Parasuraman et al. (1985) expanded the two service quality dimension framework (Gronroos, 1984) to understand "how customers determine service quality based on the perceived service quality concept" (Gronroos, 2000, p.74).

2.7 Retail Service Quality Scale

The inability of existing service quality instruments to measure the service quality in all the sector and industry leads to the emergence of the new sector. Therefore, the emergence of different scales related to different sectors started coming out—for example, Retail and Service Quality Scale measures the five dimensions specifically for the retail sector (Dabholkar et al., 1996). The retail-specific service quality scale also utilized the 17-items of the SERVQUAL instrument with 11 new items to make the scale of total 28-items.

The Retail and Service Quality instrument is an industry specific instrument (Yuen & Chan, 2010). The instrument consisted of five dimensions as "physical aspects, reliability, personal interaction, problem-solving and policy". The **physical aspects** expanded the tangibility dimension of SERVQUAL— that include exterior, physical facility, and general presentation of store. The appearance of shop that includes décor, fixture, equipment, hygiene, product design, and overall appearance of the marketing material while shopping convenience refers to the shopping experience includes the interior design, layout of the store with arranged sections, and positions of the products (Vazquez et al., 2001). Moreover, other critical factors are the overall environment of the store and other physical facilities are important to gain competitive advantage (Beneke et al., 2012).

Reliability indicates the organization's ability to deliver the assured services to respective customers in an errors free manner (Beneke et al., 2012). However, the retail and service quality scale divides the construct into two dimensions. For example, the retail business contains a variety of products that can be offered to the customers using

advertising and there is always a guarantee attached to the quality of the product, return, or exchange (Vazquez et al., 2001). Moreover, the shortage of products and shortage of staff serving the customers negatively impact the reliability of the retailer and contribute to the dissatisfaction of the customers. Moreover, if a retailer failed to meet the promises can also defect the customers to competitors and not only this but customers may cause a negative word of mouth.

Personal interaction dimension refers to the contact with the staff of the retailer during the selling process and after sales service—customers extremely value the interaction with the staff of the company as well as what is being sold. The RSQS has taken three SERVQUAL dimensions to conceptualize the personal interaction. The personal interaction measures the perceptions of customers about the behavior of the store employees in terms of courtesy and helpfulness (Dabholkar et al., 1996). It is to note that knowledgeable employees tend to give prompt response to the customers call, always available to customers inquires, helpful, and confident results in the increased customer satisfaction.

Problem-solving dimension as the name suggests refers to problem handling and complaints e.g. products return and exchanges. However, the problem-solving dimension seems to be related to the dimension of personal interaction but it is actually referred to the complaints section and the handling of problems. In fact, the dimension narrowly denotes to the ability of the organization to honest and truthful interest in solving the problems of its customers and prompt and unswerving complaint handling (Beneke et al., 2012). It is obvious that customers, when served positively, generate favorable perceptions about the organization (Huang, 2009). Therefore, it is important for retail organizations to incorporate effective—most common examples are the help desks, customer care hotlines, and on location helpful staff (Beneke et al., 2012).

The policy talks about the strategic matters that are concerned with the service quality related to the policy of store i.e. merchandise quality, loyalty programs, facilities of credit and installments, opening and closing hours, and other miscellaneous facilities (Beneke et al., 2012). Huang (2009) emphasized that good quality facilities offered by a retailer indeed help to develop positive perceptions leading to customer satisfaction. Thus, it is obvious that the organization that offers high-quality products and services are highly preferred by customers.

2.8 Service Quality Measurement

The models of service quality indicated different approaches, though, it is manifested that all have been rooted in SERQUAL—moreover, the SERVQUAL and SERVPERF scales basically developed to measure the pure services, not the physical product-based services. One of the earlier quantitative studies to apply the SERVQUAL scale in a retail setting with an intention to see the applicability of the scale was by Finn and Lamb (1991). The study used a population of female-only shoppers from four different stores namely Dillards, Neiman Marcus, Sears, and K-Mart and the sample size consisted of randomly selected 1100 telephone numbers. The study finally got 258 responses with the reliability of each dimension 0.50 to 0.83; however, the validity of the sample was not estimated. Interestingly, SERVQUAL scale inadequately measures the retailing customers' perceptions.

Furthermore, one of the studies uses a hierarchical approach to classify the service quality dimensions in the context of retailing. The modified SERVQUAL scale used to measure the service quality—the RSQS that has been discussed comprehensively in section 2.13. Finn and Lamb (1991) used this new scale to collect data from 227 respondents from seven stores (two departmental chains). The results indicated that the retail service quality dimensions in hierarchical structure contain five basic dimensions that are "physical aspects, reliability, personal interaction, problem-solving, and policy". The new instrument has almost similar reliability estimates ranging from 0.83 to 0.89 with SERVQUAL consistency estimate i.e. 0.89 to 0.90. The confirmatory factor analysis specified that the overall scale construct validity was 0.74.

In order to perceive the use of SERVQUAL in the retail industry, one more study is important to mention here is correlational research that examined the interrelationship of service quality and levels of two retailing i.e. company level and employees' level. The study is significant because it has taken a sample of 1261 respondents from eight retail outlets. It is interesting to note that the internal validity of the modified SERVQUAL scale was 0.83-0.89 that again remains close to the original scale values.

Therefore, the literature on retail service quality suggest that SERVQUAL scale must be used in modified form while studying the retail industry because the context of service quality in retail sector is different from the categories used to develop SERQUAL. The use of Retail and Service Quality Scale (RSQS) which is a modified

form of SERVQUAL—prepared specifically to measure the service quality in the retail industry is more useful in retail context (Mehta, Lalwani, & Li Han, 2000). Though, the use of Retail and Service Quality Scale (RSQS) in different types of retailing business might bring new insight into the appropriateness of the hierarchical structure.

2.9 Electronic Service Quality

The self-service concept has become an extremely important model to apply in business and electronic commerce. The use of internet and website has made it simple for online shoppers to select the items, add to basket, online payment, and submit for the home delivery. The growing level of internet users and online sales indicate that the notion of help themselves and seeking of instant information (Bonde & Cahill, 2005). There are several advantages of self-service or electronic services; however, one of the studies reports that according to 50% of 1008 respondents indicated that time-saving is the biggest advantage whereas the biggest disadvantage is lack of human contact.

The physical retail bank service where the physical availability of the employees provides services to customers is similar to a webpage or a mobile phone application that provides the same services. However, the webpage or the mobile phone application has to be fancy, informative, easy to use, secure, and reliable for smooth operations. Boston Consulting Group reported that 48% of the online services users abandoned their use of online transactions because of slow response time (Teeter & Schointuch, 2000).

The post-purchase services, on the other hand, include timely delivery, the performance of the product, customer support, and tracking of order (Cao & Gruca, 2004). Similarly, Zeithaml et al. (2000) defined "e-service quality as the extent to which a website facilitates efficient and effective shopping, purchasing, and delivery" (p.11).

The e-tailer can be referred to a pure online product or service store and click & mortar store—for instance, a bank that provides online retail services and a physical facility in the shape of a branch is an example of click and mortar store. It is also important to note that operational and marketing strategies may not be the same for all types of businesses. On the contrary, Amazon.com is a purely online store and it is obvious that the internet is the only marketing channel for it.

Therefore, the type of e-tailer basically refers to a whole different business model that might have distinct operational and marketing strategies. It is also vital to

mention that the store such as click and mortar have the advantage to develop the customer expectation based on their historical reputation and the image of physical store environment whereas the purely online e-tailers do face difficulty in making better customer expectations because of their short history. Interestingly, the most famous SERVQUAL scale does not have the ability to differentiate customer expectations based on the two types of e-tailer (purely online and click and mortar). Moreover, the unfamiliarity of customers with a particular e-tailer's reputation and image may also contribute to generating low expectations and little self-assurance that ultimately affect the service performance perceptions (Wu & Hsia, 2006).

First phase that refers to the pre-purchase of services is extremely important because this is the stage where customer make a decision to buy the services—as far as the online service concerned it even become critical because it is quite possible that a customer abandon online shopping cart after selection based on the issues of product selection or performance of the website. Further, an e-tailer also cannot offer or sell products that are not available in the stock or if a customer is unable to find the desired product on the website. One of the most common problems that hinder the online customers is the performance of the website, layout, and easy availability of the information—these factors can hinder the intentions of customers to purchase a particular product. Cao and Li (2015) identify four major factors that cover most of the e-tailer's service issues. However, these factors have to be revised in order to include explain the issues such as the speed of the website and Wu and Hsia (2006) offered to revise the ease of use to design of a website. Moreover, the rapid advancement in technology and extremely ambitious technology users—the expectations of the customers from e-tailer services has no limits.

Alike the four major factors related to the pre-purchase of services, Cao (2002) also suggested four post-purchase service quality factors that cover most of the issues of e-tailers. The post-purchase issues are timely delivery, representation of the product, customer support, and tracking of an order (Cao, 2002). As far as the delivery of the product, almost all of the e-tailer regardless of the country of operations or whether a multinational or a micro company, have contracts with cargo companies—in the USA, the cargo companies such as FedEx and UPS also actively engaged in transporting merchandise. Not only that, most of the e-tailers now given an opportunity to the customer to select the preferred cargo carrier, delivery time and method, and e-tailers do

not take the responsibility to delivery time estimations (Wu and Hsia, 2006). However, it still needs to work out how e-tailers can reduce the order processing time to facilitate the customers. Information technology has extremely made the whole retailing experience hassle-free and customers can now track the updates on their products and services by themselves. For instance, an online fund transfer, paying a bill online, buying and selling stocks and currency, and dozens of more services—all these services are on the fingertips of customers beginning from buying to the end.

The protection of the customers' personal information that includes the name, address, phone number, bank account details, and credit card numbers is extremely important for the e-tailers. Therefore, the initially described post-purchase factors by Cao and Li (2015) need evaluation and revision based on the changing technological and social environment.

2.9.1 E-Service Quality Measurement

The website service quality guidelines provide the basis for the measurement of e-tailer service quality. The SERVQUAL scale is being modified purposefully in order to measure the quality of website services (Li, Tan, & Xie, 2002; Lin & Wu, 2002; Wu & Hsia, 2006). The literature that attempted to measure the eservices of different retailers including banking services has used qualitative, quantitative, and mixed method approaches. For instance, the modified SERVQUAL scale used for quantitative study utilized the factor analysis to repossess the service quality dimensions (Lin & Wu, 2002; Wolfinbarger & Gilly, 2002). However, on the other hand, Santos (2003) used a qualitative study to conduct a focus group and analysis indicated the two groups of service quality dimensions—the active and incubative dimensions.

The identified two service quality dimensions: the active and incubative dimension explains that active dimension describes the ability of website to provide reliability shopping services while the incubative dimension explains the extent of a design of a website, easy assistance to customers, efficient access and performance of website, and easiness to browse the available information (Santos, 2003). Furthermore, Loiacono, Watson, and Goodhue (2002) conducted a mixed method study that combined the data from focus groups and consequently a questionnaire-based survey.

The review of website quality literature provides insights into the number of service quality dimensions—the most common of these four to six dimensions was

customization and responsiveness (Lin & Wu, 2002). Interestingly, the context matters a lot as the interpretation of customization and responsiveness varies across traditional business service quality and online service quality. For example responsiveness, in the retailing context in branch of a bank, it is the responsibility of the bank representative to serve the customers but in online retailing experience with the same bank, it is the email response, availability of the online representative, and processing of the order in a timely manner (Li et al., 2002).

It is the customers or users who determine the service quality of online platforms. Thus, it is necessary to ensure the significant participation of the customers in a survey in order to evaluate the service quality. The literature on online retail services also illustrates some limitations—for example, most of the survey collected data from college students (Wu and Hsia, 2006). Moreover, the sampling of most of the studies used non-probability sampling and convenience sampling. One of the disadvantages of these sampling techniques is the lack of representation of the targeted population which leads to the weak the external validity. Secondly, it is necessary to differentiate the measurement scale on the basis of pure services platforms and physical and online services (banks) because both have different service dimensions.

The measurement scales for the website service quality or all online service platforms including mobile applications needs further development (Li et al., 2002). Even more, the measurement scale for eservices is a continuous development process that goes on with the advancement of technology and the expectations of the customers. The replications of the measurement scale in similar context may also be a fruitful way to ensure the reliability and validity of the particular scales. It is also recommended to design longitudinal studies to ensure the same. The additional service quality experiences might also change the perceptions of customers towards service quality. Van Riel, Semejin, & Janssen (2003) suggested that longitudinal studies help to observe the behaviors of customers over a period of time in order to identify the changes in the experience of eservices.

The literature on retail service quality along with online platform service quality provided the basis for electronic retailing and it is similarly measured on using the website service quality measures. Thus, it is up to the scholars whether they use the existing SERVQUAL scale, modify, or develop a new scale in order to measure eservice quality in banking sector (Kim, McCahon, & Miller, 2003). As far as the

quantitative studies concerned, a modified SERVQUAL scale is recommended. Though, the mixed method approach is more suitable for the development of new scales compared to replications of the SERVQUAL scale (Kim, McCahon, & Miller, 2003).

Eservice quality has several dimensions and it is traditionally defined as the extent of efficient and effective facilities of a website including but not limited to shopping, buying, and delivery (Zeithaml et al., 2000). However, as the most significant and rapid development in the past two decades, the given definition of eservices has become narrow to address the complete spectrum of service offerings. Therefore, looking beyond the transaction specific elements of a service provider—the eservice quality extends itself to the process evaluation by customers, quality outcome, and overall interaction experience with the service provider (Gummerus, Liljander, Pura, & Van Riel, 2004). The extant literature on eservice quality provides different dimensions and the thorough exploration of the literature helps to sum-up the dimensions into the Table 2.3.

The review of eservice quality and the electronic retailing context offered 28 distinct dimensions that explain the quality of online platforms or service providers. It is interesting to note that all of these dimensions are different from each other and explain the eservice quality dimensions differently. Moreover, the basis of such diverse dimensions is the context of the studies, population, sampling, different scales, and ultimately the different findings. However, the most frequent dimensions that are used in eservices used the dimensions of reliability, responsiveness, and security (Kim, 2003). Interestingly, the design of the website is not the only most important factor in order to measure the quality of electronic platforms but the information about a product, availability of the product, reliability of the system, and layout of the website are also equally important (Wolfinbarger & Gilly, 2002).

Barnes and Vidgen (2002) indicated that dimension of security i.e. related to trust is extremely important as the online customers do trust the online platforms while making transactions and if customers do not trust the security of the platform they will not make transactions. Moreover, the reliability of the website and the dimension of reliability are significant for servicing the customers (Santos, 2003; Zeithaml, Rust, Lemon, 2001).

Table 2.3 Eservice Quality Dimensions

Eservice Quality Dimension	Reference
Security	Zeithaml et al. (2002); Van Riel, Liljander, & Jurriens (2001); Santos (2003); Lee and Lin (2005); Madu and Madu (2002); Chang, Wang, and Yang (2009); Yoo and Donthu (2001)
Responsiveness	Parasuraman, Zeithaml, & Malhotra (2005); Van Riel et al., (2001), Zeithaml et al., (2002), Chang et al., (2009); Li et al., (2002)
Reliability	Zeithaml et al., (2001); Madu and Madu (2002); Barnes and Vidgen (2001); Li et al., (2001); Chang et al., (2009), Santos (2003)
Ease of Use	Zeithaml et al., (2001); Gummerus et al., (2004); Barnes and Vidgen (2002); Yoo and Donthu (2001); Wolfinbarger and Gilly (2003)
Fulfillment	Zeithaml et al., (2002); Chang et al., (2009); Gummerus et al., (2004); Sahadev and Purani (2008)
Efficiency	Chang et al., (2009); Sahadev and Purani (2008); Yen and Lu (2008);
Availability of the System	Zeithaml et al., (2002); Yen and Lu (2008); Sun, Quan, Chunlei Wang, and Hao Cao (2009)
Compensation	Zeithaml et al., (2002); Chang et al., (2009); Parasuraman et al., (2005)
Contact	Zeithaml et al., (2002); Chang et al., (2009); Parasuraman et al., (2005)
Assurance	Zeithaml et al., (2000); Li et al., (2002); Madu and Madu (2002)
Design of Website	Lee and Lin (2005); Bauer et al., (2006)
Empathy	Li et al., (2002); Madu and Madu (2002)
Aesthetics	Zeithaml et al., (2000); Yoo and Donthu (2001)
Available Information	Li et al., (2002); Zeithaml et al., (2002)
Tangibles	Li et al., (2002)
Quality Process	Bauer et al., (2006); Collier and Bienstock (2006)
Access	Zeithaml et al., (2001); Barnes & Vidgen (2001)
Care	Zeithaml et al., (2002)
Recovery	Zeithaml et al., (2002)
Customer Service	Wolfinbarger and Gilly (2003)
Customization	Zeithaml et al., (2002)
Communication	Santos (2003)
Flexibility	Zeithaml et al., (2002)
Communication Integration	Li et al., (2002)
Enjoyment	Bauer et al., (2006)
Quality of Outcome	Collier and Bienstock (2006)
Personalization	Lee and Lin (2005)
Graphical Outlook	Zeithaml et al., (2002)

Source: Author

The prevailing frameworks that examine the service quality are grounded in purely service-based businesses (Parasuraman et al., 1988), however, electronic retailers may have different dimensions of services that result in service quality. The application of the SERVQUAL instrument is limited for retailing businesses and electronic services providers; although, it has been used in several studies (Li et al., 2002; Lin & Wu, 2002; Van Riel et al., 2003; Yang & Jun, 2002) but the results of these studies indicate the validity issues when using SERVQUAL dimensions in the context of Internet-based services. The main problems emerged from non-probability sampling that leads to frail external validity and unexplored dimensions of eservices quality. Therefore, it is important to use or develop a customized scale as the context of the eservice quality. For instance, the study of Alzola and Robaina (2005) critically analyze the existing literature reviews in order to assess the SERVQUAL and suggested that the electronic commerce and business to consumer context have five common dimensions: design, reliability, guarantee, security, and empathy.

2.10 E-S-Qual Scale

The internet was no longer believed to be a revolution but it has become the most critical channel for selling goods and services (Zeithaml et al., 2002). For instance, there are now thousands of companies that sell their products through the internet and Amazon.com is one of the significant examples. Not only this, the financial sector particularly banks are now offering most of their retail banking services using websites and mobile applications. The use of internet in order to provide the services thought to be a low-cost channel that drives success but with time the service quality issues emerged in bulk. The service providers' web platforms and mobile applications face issues of incomplete transactions, delivery issues, late response to customers queries (emails), and inaccessibility to the desired information (Zeithaml et al., 2002). These web service quality issues are mounting and demonstrated in widespread academic research and practitioners (Ahmad 2002).

E-S-Qual scale was developed to measure the eservice quality based on 11 electronic service quality dimensions to measure the electronic service quality (Zeithaml et al., 2005). The E-S-Qual scale is developed on the basis of people-technology interaction and its implication to evaluate the customers' perception from a distinct way. On the basis of Zeithaml et al. (2000) study that identified dozens of features for websites were categorized in the 11 dimensions of the e-SQ:

1. *Reliability*: it refers to the accurate functioning of the technical aspects of the website and the precise promised services e.g. availability of stock, timely order delivery, correct billing, and information about the products.
2. *Responsiveness*: immediate response to the queries and in case of questions and problems, the system must have an ability to help properly.
3. *Access*: the ability to access the website quickly and similarly access to the company if required
4. *Flexibility*: multiple options (choices) to searching, buying, paying, shipping, and returning of items.
5. *Ease of navigation*: the website should be easy to use in order to get the necessary information, accurate in searching, and easy to move forward and backward and maneuver through the pages.
6. *Efficiency*: the website must be ease of use with simplicity, proper structure, and only requires the least information in terms of input.
7. *Assurance/Trust*: refers to the feelings of confidence by customers while interacting with the website which is due to website reputation, the products and services, and the true and flawless information available.
8. *Security/Privacy*: the extent of confidence that customers feel interacting the website and safety that personal information is safe from any kind of intrusion.
9. *Price knowledge*: the extent of the shopping process to facilitate the customers to determine the price of the product, shipping cost, and total costs along with the comparative analysis of price.
10. *Site Aesthetics*: the website appearance
11. *Customization/Personalization*: the ability of the website to provide tailored experience regarding the preferences of customers, history, and shopping.

In order to develop the preliminary scale for eservice quality, Zeithaml et al. (2005) prepared 121 items into two different versions of the scale. The process for exploratory focus groups was based on a three-stage approach with two phases of data collection. The preliminary study also helped to improve the eservice quality dimensions. The whole process helped the refinement of the e-SQ scale and ended up into two different scales for eservice quality. The first scale named as E-Core Service Quality Scale (E-S-Qual) that contains 22 items with four dimensions namely

“efficiency, system availability, fulfillment, privacy”. The second scale named E-RecS-Qual that stands for E-Recovery Service Quality Scale that contains 11 items with three dimensions namely “responsiveness, compensation, contact”.

Zeithaml et al. (2005) indicated that the second E-RecS-Qual scale serves as the subset of the E-S-Qual scale. After the development of the eservice quality scales, a quota sampling technique was used to successfully test the scales. The quantitative study was designed to test the new scale and one-third of the respondents of the study were asked to assess their favorite websites, while, the same number of the respondents was asked to assess their second favorite websites. Similarly, a similar number of respondents also asked to evaluate the third favorite websites (Parasuraman et al., 2005). However, the authors suggested that the E-RecS-QUAL scale need to be further examined for validity and reliability in the context of high problem websites. It is pertinent to note that authors of these scales for eservice quality suggested that scholars may modify these scales as per the requirements of their context and objectives of the study—not only this but the scales have to be modified based on the pure service websites and the websites that also physical sold products (Parasuraman et al., 2005). A comparison of the eservice quality scale (E-S-QUAL) with other available scales that measure the eservice quality is presented in Table 2.4.

Any firm whenever face a service failure, tries to take some actions to recover the service. The expectations of the customers remain unmet for particular service quality. For instance, website design and delivery are the major problems in electronic retailing (Holloway & Beatty, 2003). The failure of service delivery costs significantly to a firm i.e. loss of customers and negative word of mouth.

Table 2.4: E-S-QUAL in Comparison to Other E-service Quality Scales

	Kim et al. (2003)	**Loiacono, Watson, and Goodhue (2002)**	**Yang and Jun (2002)**	**Wolfinbarger and Gilly (2002)**
Scale	Newly developed scale	WebQual in modified form	SERVQUAL in modified form	.comQ
Items	Fifty-nine	Thirty-six	Forty-one and forty-three	Twenty-five
Collection of data	Golf management program students	Undergraduate level students	A regional ISP's subscribers	Harris Poll online panel members
Sampling size	Two hundred and ninety-four	Three hundred and eleven	Two hundred and seventy-one	One thousand and thirteen
Survey response scale	5-point scale	7-point scale	5-point scale	7-point scale
Administration of the survey	Using Mail	NA	Through Mail	Online survey
Procedures for data analysis	EFA and CFA	CFA	EFA	CFA
Final dimensions	three basic dimensions with thirteen subdimensions	Twelve	Based on two scales, six for first and seven for second	Four
Reliability	0.75-0.9 Cronbach's alphas	0.72-0.93 Cronbach's alphas	0.59-0.89 for purchasers and 0.68-0.89 for non-purchasers	0.79-0.88
Validity	The convergent validity indicate 0.85 of variance is explained in service quality	0.78 convergent validity	0.67 for purchasers and 0.70 for non-purchasers, the convergent	0.61-0.79, the convergent validity 0.55 and 0.48

Table 2.4: E-S-QUAL in Comparison to Other E-service Quality Scales

	Parasuraman et al. (2005)	**Yang and Fang (2004)**	**Van Riel et al. (2003)**	**Wolfinbarger and Gilly (2003)**
Scale	ESQUAL	Qualitative Study	SERVQUAL modified	e-TailQ
Items	ESQUAL	Thirty-five	Sixteen	Fourteen
Collection of data	Walmart and Amazon customers	Online reviews of the customers (Secondary data)	Students of college and recent alumni with reference	E-mail
Sampling size	Two hundred and five; Six hundred and fifty-three	Seven hundred and forty	One hundred and fifty-nine	One thousand and thirteen
Survey response scale	5-point scale	NA	7-point scale	7-point scale
Administration of the survey	Online	NA	Online	Online
Procedures for data analysis	EFA	Qualitative data analysis with Ethnograph software	CFA	EFA and CFA
Final dimensions	Four and Three respectively	Eight	Five	Four
Reliability	0.83-0.93 for first one	NA	0.59-0.85	0.79-0.88
Validity	0.71-0.94 for first one	NA	NA	0.70-0.91, the convergent validity

2.11 Theoretical Model

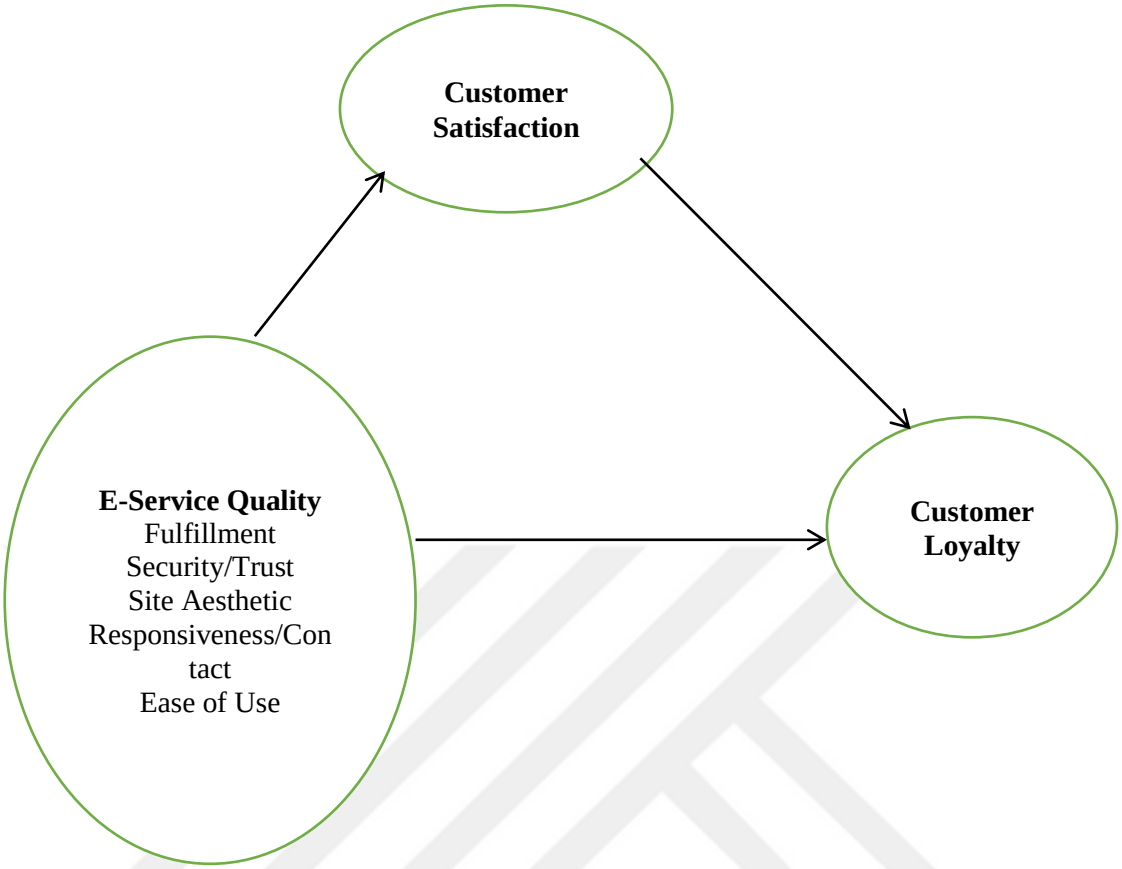

Figure 2.9: Theoretical Model

Source: Author

2.12 Hypotheses

The first group of hypotheses states the relationship between antecedents of eservice quality and customer's perception of the overall eservice quality of banks.

$H1_a$: An efficient and reliable service is a significant driver of customer's perception of eservice quality.

$H1_b$: Fulfillment is a significant driver of customer's perception of eservice quality.

$H1_c$: Security/trust is a significant driver of customer's perception of eservice quality.

$H1_d$: Site aesthetic is a significant driver of customer's perception of eservice quality.

$H1_e$: Responsiveness/contact is a significant driver of customer's perception of eservice quality.

$H1_f$: Ease of use is a significant driver of customer's perception of eservice quality.

The second group of hypotheses states the relationships between customer's perception of eservice quality, customer satisfaction, and customer loyalty.

H2: Customer's perception of eservice quality has a positive and direct influence on customer loyalty.

H3: Customer's perception of eservice quality has a positive and direct influence on customer satisfaction.

H4: Customer's perception of eservice quality has a positive and indirect influence on customer loyalty, moderated by customer satisfaction.

H5: Customer satisfaction has a positive and direct influence on customer loyalty.

3 METHODOLOGY

The chapter of methodology discusses the details of research design, instruments, population and sample, data collection procedures, administering the questionnaire, and statistical analysis for investigation of the interrelationship between eservice quality and customer loyalty with moderating effect of customer satisfaction. The research framework of this study addresses the following research questions:

1. *What are the eservice quality dimensions in electronic banking in Libya?*
2. *How eservice quality dimensions affect customer satisfaction in electronic banking in Libya?*
3. *How eservice dimensions affect customer loyalty in electronic banking in Libya?*
4. *How eservice quality dimensions, customer satisfaction, and customer loyalty are related to electronic banking in Libya?*

3.1 Libyan Banking Environment

The existence and performance of banking sector are significant in the economy of any country because banks play essential functions that are not limited to handling savings, an intermediary between saving and borrowing, facilitate the payments both domestic and foreign trade, and perform the monetary policy objectives of any country. Moreover, the advancement of technology has further enhanced the ability to offer services such as online payment of utilities, transfer of money, facilitate online shopping, and control over personal accounts. Therefore, the banks play a role of a social institution that directly influences and also being affected from the general environment where they operate—accordingly, the impact of culture, politics, and social change on banks is similar to the effect on other institutions. Consequently, like other institutions or companies, banks also have to balance the demands of the customers, shareholder, stakeholder, and government for survival and profitability (Oxford Business Group, 2019).

The Central Bank of Libya introduced amendments for financial sector in 2005 which led to a significant development. The CBL restructured the capitals plus reorganizes the commercial banks to attract the investment opportunities to compete for delivery of services similar to the international banking standards and guided banking sector to raise the equity (Twati & Gammack, 2007). Conseqently, banks opted for the

new services offering that include electronic banking, mobile banking, Visa and Master cards, ATMs, Western Union, and Money Gram, etc. (Twati & Gammack, 2007).

In the last two decade, developing countries have been a noticeable increase in the banking sector. Although, a very large body of literature belongs to the developed markets, however, there are still few empirical studies available from the developing markets. It is pertinent to note that the competitiveness of the banking sector is different compared to developed and developing economies (Fungacova, Solanko, & Weill, 2010). Therefore, the rule and policies of the banking sector in developed countries cannot be directly applied to the emerging markets.

3.1.1 Libyan Banking System

Central bank of Libya controls the monetary policy, commercial banks, and special purpose banks (CBL, 2019). The main role in the banking system is of a central bank that serves as the main source to implement the financial and monetary policy upon the advice of state. Similarly, the central bank is responsible to set the guidelines for banks to conduct activities and serve the interests of the state at large. The banking law no. 1 of 2005 with article number five explains the tasks and responsibilities of the Central Bank.

Like other countries, Libyan economy also largely rely on commercial banks (Habara, 2009) and these banks are further divided into public and private banks. The main aim of commercial banks is to raise profits and these banks have more freedom to operate for profitability. In addition, there are a number of purpose-specific banks operate that exclusively support the agriculture sector, housing and industrial, and other specialties. The total number of specialized banks was four by the end of 2010.

The unfolding of the Libyan Civil War in February 2011 that is called a “Day of Rage” divided the country into two regions. Consequently, the growth of the banking sector is being extremely hurted. President Gadhafi had successfully started the privatization of the state-owned banks in 2007 and 50% of each of the two public banks were sold—a public bank named Sahara Bank sold 50% of its shares to the French BNP Paribas in 2007.

International backing to the creation of new banks in Libya pushed the already existing incumbent institutions to face challenges and subsequently cemented the process of modernization—for instance, the Information and Communication

Technologies (ICTs), a credit monitoring system, and launching new products and services (Elmadani, 2015). Not only had this but the expanding market capital of financial institutions and increased insurance demand boomed the need for international partnerships in order to gain the required experience and expertise (George & Meadows-Oliver, 2013).

The reforms in financial sector helped it to improve the performance, particularly, the banking sector. For instance, the significant changes in the total assests that are raised from $12 billion (2004) to $54 billion (CBL, 2019)—indicating a growth of 58%. Moreover, the other indicators were also were handsome as the 17% decline in the non-performing loans that is half of the statistics of 2004 (Elmadani, 2015). George (2012) indicated that there was a rise of 17% in capital ratio compared to 10% in 2004.

It is obvious to mention that civil war in Libya had severely impacted the economic system and the banking sector. The banking sector was also under significant risk in terms of the government's actions to seize the assets of opposition. Further, the banks had to cease the loans to the businesses during the conflict that led to extreme cash-flow problems and liquidity crisis (Ahmed Al-Darwish et al., 2012).

According to IMF, there is a substantial improvement in the financial situation and subsequently, banks started to gain normal operations in Libya (Elmadani, 2015). Particularly, the CBL efforts have improved transparency, financial governance, and successful creation of the bond market that has significantly helped the small and medium businesses. Therefore, the moves of the CBL definitely helped the private commercial banks to grow in Libya.

Initially, the Libyan banking system showed a slow adoption of modern technologies (Abukhzam & Lee, 2010). Interestingly, the adaptation of ICT in banking operations is based on the availability of the infrastructure that includes technical and interactive infrastructure, and efficient employees. Despite rapid growth of ICT in the financial sector all across the world, the Libyan banking sector has a slow pace to adopt e-banking technology to gain maximum benefits (Abukhzam & Lee, 2010)—however, the civil war in Libya is not a negligible factor that significantly affected the process of adoption and innovation.

As per the CBL (2019), there are 19 public and private commercial banks in Libya. After the some amendments in financial laws in 1989 that allowed investors to

start commercial banks in Libya along with the foreign investment to achieve the national development goals—the six major lenders were interested such as HSBC Holding and PLC, Standard Charted PLC (Alrafadi, Kamarunddin, & Yusuf, 2014).

3.1.2 The Central Bank of Libya (CBL)

CBL implements the economic policy and regulates the activities of the banks. Moreover, CBL is responsible to supervise the financial institutes and regulations. The CBL founded in 1955.

The initial capital of CBL was one million LYD (Libyan Dinars) and the capital was later increased to LYD 100 million which were in 2006 reported LYD 500 million. At the time of establishment, it was decided to offer 30% of the shares to the public while rest will remain under the government ownership (El-Shukri, 2007). However, the government's efforts to take full control of the economy let the government authorities to take 100% ownership of the bank—thus; CBL became the state-owned central bank that constitutes the monetary policy along with other necessary functions of a central bank. As like others, the CBL is an autonomous body.

All the banks work under the economic policies of the national government—the Governor of the Central Bank chair the board of governors to handle the general affairs . The boards of directors are responsible to implement the bank's policies, managing the general affairs, and represent the Central Bank to third parties during the negotiations and agreements. Moreover, the board of directors also has Vice Chairman that also serves as the Deputy Governor along with the five other members of the board that are taken from the professional organizations that are focused on the economic and financial interests (CBL, 2019).

CBL is headquartered in the Capital city Tripoli with branches in the three big cities. The regional branch of the central bank in Benghazi handles the commercial banks and the issues of the public in East of Libya; the city of Sabha branch serves the same functions in the South of Libya, and the branch in Sirte is responsible for Central Libya (Central Bank of Libya, 2019). Generally, it is the responsibility of the central bank to successfully carry out the economic policies and regulate the overall financial activity within the country (Masoud & El-Sherif, 2002). Therefore, the Central Bank of Libya help the government to achieve economic objectives, maintain monetary policy

and stability, facilitate the growth of the national economy—particularly, the non-oil sectors (Elmadani, 2015).

Fundamentally, the Central Bank of Libya being an autonomous institution must also adhere to the desires and plans of the national government to not only facilitate the monetary policy but keep working on the liberalization in order to make fruitful policies to open the financial market and promote competitive environment in Libyan banking sector—moreover, it also serve the domestic responsibilities as it has to provide an economic environment to attract foreign investors. Since, it is the responsibility of the central bank to formulate and circulate the rules and guidelines for all the financial institutions in the country (CBL, 2019). However, the CBL has been successfully conducting the responsibilities and obligations regarding the national currency, deposit maintenance for federal and provincial governments, and monitoring of the banks (Elmadani, 2015).

It is pertinent to note that the up-gradation of the responsibilities of the central bank has been a continuous phenomenon and the changes that came under Law No.01 of 1993 further enhanced the duties. For instance, the Central Bank of Libya has taken control of international liquidity maintenance, domestic money regulations, and credit expansion under the monetary policy (CBL, 2019).

Mainly, the role of CBL is to assist Government of Libya to achieve economic development, modernization, and expansion of the financial sector. The most significant regulation that empowers the central bank introduced in 2005 which promulgated the responsibilities and duties as follows (Central Bank of Libya, 2019):

- Issue and regulate currency
- Ensure currency stability
- Managing the reserves and controlling the foreign exchange
- To regulate the credit in terms of quality, quantity, and costs to achieve economic growth and monetary stability
- Smooth function of financial institutions and tackling any financial and economic problems both at domestic and international level
- Last resort lender
- To supervise the commercial banks ensuring the security their financial position and protect the rights of the investors and depositors

- To act as an agent to state and public as a banker and fiscal mediator
- Management of the state loans

CBL is powerful enough to undertake functions of a central bank as per the laws of banking and as a party on behave of stat to undertake the international agreements. Figure 3.3 illustrates the summary of these banks and the full description will be provided in the upcoming section.

3.1.3 The Commercial Banks in Libya

The banking sector of Libya is consists of public and private commercial banks. Public commercial banks have a majority of shareholders associated with government or the organizations that work for deposits, lending, and offer other banking services (Elhamadi, 2015). Primarily, the commercial banks function as to offer services for deposits, savings, and lending to individuals and businesses. As the name suggests "commercial"—these entities involves in the lending to banks, businesses of every size, and individuals.

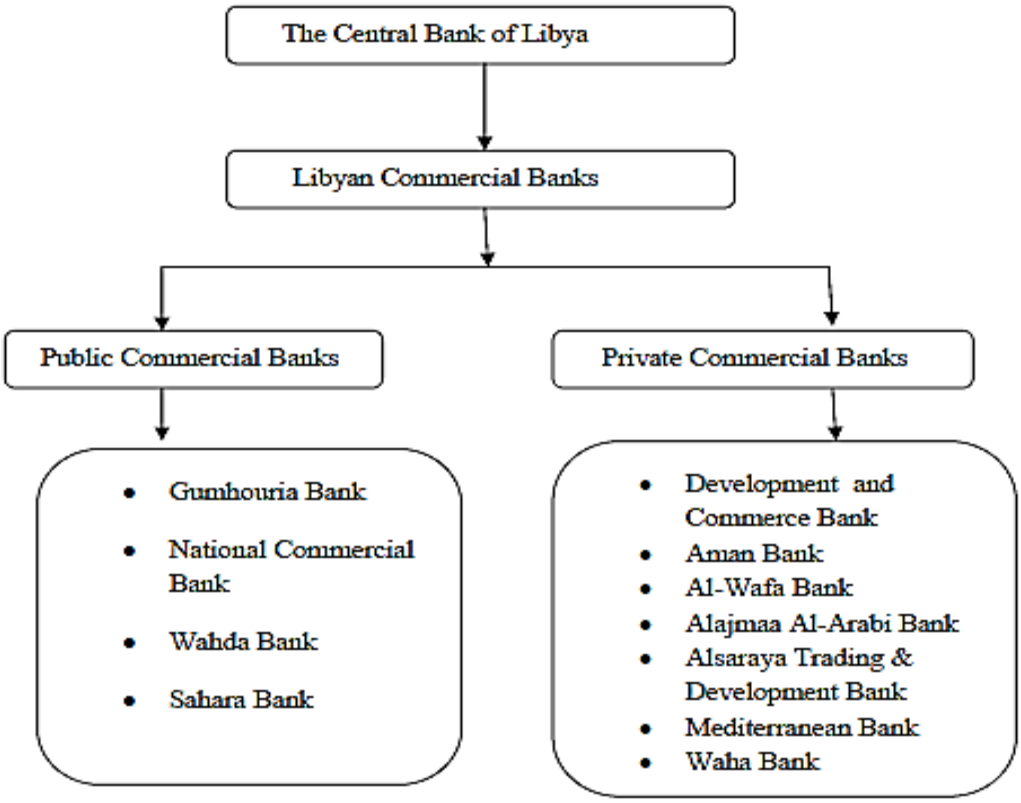

Figure 3.1: Summary of commercial banks

Source: CBL (2019)

The commercial bank as an entity is defined as "any company that ordinarily accepts deposits in current demand accounts or time deposits, grants loans, and credit facilities and engages in other such banking activities" (CBL, 2019). Moreover, it suggested that a commercial bank at inauguration has to be a public company and represent itself on the Libyan stock exchange along with minimum capital of ten million LYD—the capital must be offered in shares. Further, the value of each share of a commercial bank must remain equal to or less than 10 LYD. It is necessary that all the offered shares should be held by the general public or the private legal establishments. Furthermore, it is interesting to note that private financial institutes and the banking entities have the right to buy shares of the state-owned commercial banks—not even that but the banking law provide the further privilege to private banking institutions to sit in the general assembly of state-owned banks (El-Shukri, 2007). Importantly, the shareholders have the right to vote in accordance with the percentage of the share the held and it is limited to the 4% (El-Shukri, 2007).

The board of directors is comprised of five to seven members that are responsible to direct the proper functioning of a commercial bank. Moreover, it is the responsibility of the board to set the remuneration for staff and same is the true for all the commercial banks, though, the selection of the chairperson is the sole responsibility of the members of the board. It is appropriate to mention here that the salaries of the board members and the staff in state-owned commercial banks must be paid in accordance with Law No. 51 of 1981 (Elhamadi, 2015).

The Libyan commercial banks represent themselves a number of regional banking organizations (Elhamadi, 2015). However, there are mixed views on the performance and numbers—the number of banks in Libya are substantial but the level of services needs significant improvements, while, he mentioned that some keynote speakers believe that there are not enough commercial banks in Libya and they lack in meeting the requirements of the market (Abdelmalek, 2005). There might be several reasons for low numbers such as legal bounding make it difficult for new investors to start financial institutes plus the political risk (Elhamadi, 2015). Next section will discuss in detail the two categories of the commercial banks in Libya (1) Public Commercial Banks (2) Private Commercial Banks.

3.1.3.1 Public Commercial Banks

One of the major events that had changed the banking sector of Libya was the September 1969 revolution because soon after the establishment of the new regime—it was decided to increase the share of the state in the existing foreign banks in Libya up to fifty-one percent (51%). The sole purpose was to gain the majority shareholding in the foreign banks working in Libya and in response Barclays Bank and Banco de Roma adjourns the decision and demanded the equal share arrangement with Libyan government (Elhamadi, 2015). However, the foreign banks were only able to restrain for a short time and all the foreign banks later nationalized with their new Arabic names (Al-Arbah, 1985).

It is pertinent to note that soon after the independence of Libya in December 1951, the new government immediately started its own currency and issued several licenses to foreign banks to continue their operations or invite new ones. Later in 1956, Libya formed the National Bank but the commercial services remain under control of the private financial institutes. Moreover, the National Bank was replaced with the CBL in 1963 along with a new banking policy (Elhamadi, 2015).

The Libyan revolution and the new political regime bring fundamental reforms for economic activity based on socialist philosophy which resulted in the nationalization of the major pillar of the economy like private ownerships. The nationalization of all the commercial banks transformed into five major companies.

The public commercial banks branches expanded all across the country with 333 number of branches (St John, 2008), and the widespread of branches of different banks raises the competition between banks. Moreover, the competition between public commercial banks is insulated from the competition as all the salaries of the government employees into public banks. Therefore, the public commercial banks are on advantage compared to private banks.

The nationalization of all the foreign banks moved the whole business to government and the formation of the state-owned commercial banks became essential for financing the public projects and development projects—although, these companies were not the shareholders. Recently, the state-owned commercial banks are allowed to participate in investing and buying the shares of other companies (Kumati, 2008).

For the past two decades, the rapid growth of information technology increased the need for ICT for banking sector and literally become impossible to avoid internationally and particularly in Libya (Farazi, Feyen, & Rocha, 2011). The formulation and implementation of the appropriate policies and strategies to comprehensively shift towards e-banking, improve quality of services, and be competitive in both local and international markets (Saeed & Bampton, 2013).

3.1.3.2 Private Commercial Banks in Libya

As it has been discussed in details the CBL liberalize commercial banking activities around 1989 with the introduction of Law No. 01. The revision of the banking law provided an opportunity to the private commercial banks to inaugurate their operations.

The private commercial banks in Libya performed very well in offering the new services and up-gradation of the network. Moreover, the private banks more intensely pursued the progress through active and vibrant services, network innovation, and focused on the cities. Islamic banking products and services became available to all branches of the commercial banks (Oxford Business Group, 2010).

Alike commercial banks all across the world the Libyan banking sector also remain competitive (Masoud & El-Sherif, 2002). The strategy of commercial banks is to deliver customer satisfaction to domestic clients and investors from foreign countries to seek improved banking services (Shankar & Kumari, 2016). The most common services that commercial banks provide are loans, bills, bank check, letter of credits (LCs), collection of bills, and issuance of guarantee letters to domestic and foreign customers.

One of the earlier studies by Masoud and El-Sherif (2002) on commercial banks in Libya indicated the interest of financial institutions to pursue technological advancements in banking services. Additionally, the traditional banking services coupled with technology for retail customers not limited to but internet banking, telephone banking, travelers check, personal safety lockers, electronic banking, and ATMs (Kumati, 2008).

Regardless of the constraints and challenges from policies of the government, the private commercial banking sector still has the reputation to offer high-quality services and superior products. Consequently, the private commercial banks in Libya

not only successfully offered diverse and efficient services to customers but the performance of these banks also influence the public commercial banks to be transparent about disclosure of the financial statements. The quality of offered products and services such as all kinds of loans, mortgages, and the long term facilities is high (Kumati, 2008).

3.1.4 The Control of Central Bank of Libya on International Best Practices

The role of CBL is important to modernize the banking sector and enforcement of the state policies in order to help the Libyan economy to move forward by not only relying on the oil sector and overly controlled public sector but to expand to diversify and open economy (Elhamadi, 2015). Thus, the role of the central bank is now not only limited to be a holder of all the banking resources and influence substantially to private banks—but the focus of the central bank is now moved towards to supervise and enforce the compliance.

3.1.5 Fundamental Emphasis of CBL

CBL has shifted its focus to improve the banking infrastructure, ICT, and sufficiently capitalize the commercial (Chami et al., 2012). The support to the domestic banks in order to upgrade the information technology and systems of payment is significant—that has helped the private financial institutions to improve the flow of payments and speeding up the settlements for individual and commercial customers. The regulations to implement the computerized system to process the payments (checks), installation of ATMs, and overall up-gradation to strengthen the whole banking system.

The efforts of CBL to meet the "international best practices" promoted new financial products, the achievement of 24/7 banking services, real-time settlement, and removing the delays in the transactions (El-Shukri, 2007). Besides the infrastructure improvements and adoption of technology, the CBL has also fortified the financial industry to advance the employees skills, training, and allow them to form the strategic alliances with domestic and international financial institutes—enabling knowledge and technology transfer. Furthermore, the CBL has been working to ensure reliable communication infrastructure to support the banking system by introducing high-speed technology, satellite links, and fiber optic broadband (Elhamadi, 2015).

3.1.6 Explicit Outlook—Libya

The perceptions of the customers and the situation they encounter while interacting with the service providers are important to discuss for understanding among electronic eservice quality, customer satisfaction, and customer loyalty. Moreover, the banking customers come from diverse cultures and backgrounds.

As it is discussed for decades the role of public commercial banks in Libya remained limited to the receiving and distributing the salaries of the public sector employees. The existence of four commercial public banks based on the role to receive and distribute salaries doesn't require any efforts to attract and retain customers. Moreover, these banks remain inactive in planning and taking action to improve their infrastructure and technology. Consequently, the traditional manual banking operations were the only way to deal with customers and the implementation of the technology remained low. Further, the only service that customer may have in the Libyan public banks was to wait in long queues to withdraw or deposit their money using a checkbook or the information they access was limited checking account balance and transaction history (CBL, 2019).

Basically, the system of trading and credit based on historic relationships using face to face—although, the currency restriction in 1980 heavily damaged the customer trust as government regulated the currency exchange and make it limited to one transaction per week (Kumati, 2008).. Thus, the uncertainty and culture to retain the money with them are going on (Zarook, Rahman, & Khanam, 2013).

Not only this, the cultural values and the insisted that customers should have to be served on different desks for women and men. Thus, the banks were expected to provide all the services based on gender e.g. different service counters and different queues lines. In this manner, the men were happy to give priority to the female customers based on mutual respect (St John, 2008).

Banking not different from all other facets of the society in Libya is also strongly influenced by "Wasta" an Arabic word—it refers to if someone has a relation in the bank or know someone will more likely to be served quickly and on priority. For instance, personal relationships even can arrange a big loan only with a one phone call. Additionally, the family or kinship relations are even stronger in Libyan culture and significant importance is placed on managing these relationships like daily life.

Therefore, the importance of family and social relationships and its power in securing quick and reliable services from banks make the people selective while selecting a bank or branch—people prefer to do business with a branch or bank where their close friends or relatives have access (Kumati, 2008).

3.2 Research Design

The choices for research methods are available numerously in the area of social sciences—as for as eservice quality and related concepts, both quantitative and qualitative methods are equally available and suitable. For instance, qualitative methods that utilize the observations and interviews are generally more useful for in-depth insights and conceptually difficult issues. However, the uses of quantitative methods are recommended when a snapshot of a particular time and context is required (Attwell & Rule, 1991; Hartwick & Barki, 1994; Gable, 1994). There are various evidences of qualitative methods used to explore the relationship between eservice quality, customer satisfaction, and customer loyalty; however, the limitations such as time constraints, difficulty in the arrangement of interviews, resources, and scope of the study make quantitative methods a more appropriate method. Moreover, the qualitative method only provides limited views (e.g. few interviews or sometimes one) and may not be representative of the whole population. Further, the investigation of eservice quality and related constructs has typically been addressed using quantitative methods. The major advantage of quantitative research is to clearly understand the relationships between related construct. That is why; the quantitative method is the better choice of this study as it investigates the interrelationship between eservice quality, customer satisfaction, and customer loyalty.

For data collection, a questionnaire survey is perhaps the most widely used method to collect from respondents of a sample population in social science—that has the ability to collect data from a large population. The questionnaire surveys are easy to administer either by mail, telephone, and internet or as in the case of this research, by in person. The survey-based research has been the preferred method to explore the relationship between service quality and other organizational constructs (Guest, 2001). The survey instruments usually composed of open-ended, close-ended, or close-structured questions to measure reliable perceptions of respondents. However, the critics of the survey method state that it artificially forces respondents to articulate opinions and mask the complex and conflicting views, and the probability of unconscious biases

(Garson, 2009). It is pertinent to note that a case study is also a very popular method to collect data from respondents in the area of marketing but have distinctive challenges (Guest, 2001). Nevertheless, the advantages of quantitative methods outweigh the disadvantages as simplicity might be the biggest attraction of the survey. It is pertinent to mention that this study has relied on a valid and reliable survey questionnaire to reduce the bias related to self-administered surveys.

As it is already stated that survey design is considered the most suitable to measure eservice quality and related customer behaviors for this study because this is the only method that can help to collect data from a large number of banking customers. Kerlinger and Lee (2000) stated that a sample can be generalized to an entire population.

3.2.1 Selection of Subjects

The population consisted of customers of seven major private commercial banks in Libya.

The researcher the branches of these eleven banks Sunday to Thursday over the period of one month to get a better representation of the population. The simple random sampling technique was used to distribute the survey questionnaire to every customer who uses online banking services.

3.2.2 Sample Size

In order to achieve the statistical representation, Yamane (1967) formula used to calculate the sample size with 4% margin of error and the range of population range considered as 15000 to 2000000 then the sample size becomes 600 to 625 respondents

The sample size was calculated by the Yamane (1967) formula by using a 4% margin of error, and population range considered as 15000 to 2000000. The expected sample size based on the range of population is 600 to 625 respondents. Therefore, the researcher has personally requested customers to fill the survey outside the said banks in Libya. The total collected responses were 625 to meet the expected sample size. The actual sample size after cleaning for missing responses, the sample final sample size of 591 utilized for data analysis.

3.2.3 Measurements

The measurement instrument is extremely crucial and significant as it provides valid and reliable data for research. The reliable instrument refers to the consistent instrument while validity is "the ability of the instrument to measure what is expected to measured". Thus, the weaker instrument both in terms of validity and reliability straightway deteriorate the significance of any research coupled with false findings. Therefore, this study has used the already established instruments to measure the variables of the theoretical model. The measurements used for this study has already been used several times in modified forms and researchers have successfully measured the constructs of eservice, customer satisfaction, and customer loyalty. All three measures have proven validity and reliability.

3.2.3.1 Measurement for E-Service Quality

The most famous instruments to measure electronic service quality are E-SERVQUAL, WebQual, and eTailQ that emphasized on validation of these instruments, refinement, and reorganization of the variables and dimensions of eservice quality—particularly in diverse service contexts, cultures, and countries (Zavareh et al., 2012). There are institutional and environmental differences when theories, concepts, and instruments are exposed to them and these differences help validate and challenge the theories. In the context of the current study, the E-SERVQUAL instrument to measure eservice quality has to undergo further validation in Libya. Although, this study utilized a modified E-SERVQUAL instrument that has been used in Iran (Zavareh et al., 2012) which is similar to Libya on cultural, religious, and social background. The reliability of the instrument for every six dimensions was above 0.7 (Zavareh et al., 2012). The e-SQ instrument with six dimensions and 19 items is as follows in Table 3.1:

Table 3.1 Measurement for E-Service Quality

Efficient and reliable services items
"The service delivered through the Internet banking pages is quick"
"The Internet banking part of the website is always available for business"
"When the Internet banking section promises to do something by a certain time, it does so"
"Complete quickly a transaction through the bank's website"
Fulfillment items
"Organization and structure of Internet banking pages easy to follow"
"Accurate promises about the services being delivered"
"The Internet banking part of website launches and runs right away"
"Internet banking transactions are always accurate"
Security/Trust items
"No misuse of customers personal Information"
"Feel safe in internet banking transactions"
"Confidence in the internet banking service"
Site aesthetic items
"The Internet banking webpage is attractive"
"The Internet banking webpage is visually pleasing"
Responsiveness/Contact items
"Prompt response to customer request"
"Quickly resolves online transaction problems"
"The Internet banking customer services are easily accessible by telephone/other means"
Ease of use items
"Easily find what customers need on the website"
"Graphic representation of banks' websites help customers to use internet banking services"
"Able to use the Internet banking utilities of the website without a lot of effort"

3.2.3.2 Customer Satisfaction Measurement

The survey instrument for customer satisfaction is adopted from Amin (2016) that was previously used measure the customer satisfaction in online banking research by Herington and Weaven (2009), Ramseook-Munhurrun and Naidoo (2011), and Ribbink, Van Riel, Liljander, and Streukens (2004). The five-item instrument is given below Table 3.2:

Table 3.2 Measurement for Customer Satisfaction

Customer satisfaction items
"I am generally pleased with this bank's online services"
"Satisfaction I am very satisfied with these bank's online services"
"I am happy with this online bank"
"The website of online banks is simple to use"
"I am satisfied with overall online bank's products and services"

3.2.3.3 Measurement for Customer Loyalty

As it was discussed in the previous section 2.3 that customer loyalty construct is based on three perspectives that are attitudinal, behavioral, and cognitive loyalty. However, this study considers customer loyalty as intentions of customers to revisit the platforms of internet banking e.g. website and considering repurchasing the services and products. A five-item instrument adapted to measure customer loyalty from Amin (2016) which was used to measure customer loyalty in online banking research. Moreover, the instrument was also used by Amin et al. (2013). The five-item scale is as follows:

Table 3.3 Measurement for Customer Loyalty

Customer loyalty items
"I will recommend the online banking to other people"
"Loyalty I prefer the online banking above others"
"I would like to say positive things about online banking to other people"
"I would recommend online banking to someone who seeks advice"
"I intend to continue using the online banking"

4 RESULTS AND DISCUSSION

The results of interrelationships among three variables are presented in this chapter along with the discussion on the findings. It includes hypotheses testing using structural equation modeling, descriptive statistics, and other findings.

4.1 Findings

A question was asked to grasp an overall perception of customers towards electronic services of banks. The frequency distribution is given below Table 4.2 for 'are you satisfied with the eservices of your bank?'

Table 4.1 Frequently Used Bank Services

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Pay bills	163	27.6	27.6	27.6
	Bank statements	147	24.9	24.9	52.5
	Bank transfer	168	28.4	28.4	80.9
	Investments	52	8.8	8.8	89.7
	Insurance	51	8.6	8.6	98.3
	Loans and mortgages	10	1.7	1.7	100.0
	Total	591	100.0	100.0	

The results indicate that 65.8% of respondents agreed or strongly agreed to state that they are satisfied with the eservice quality of particular banks.

Table 4.2 Electronic Services Experience

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	No Idea	103	17.4	17.4	17.4
	Strongly Disagree	53	9.0	9.0	26.4
	Disagree	46	7.8	7.8	34.2
	Agree	199	33.7	33.7	67.9
	Strongly Agree	190	32.1	32.1	100.0
	Total	591	100.0	100.0	

4.2 Descriptive Analyses for Instruments

4.2.1 Eservice quality Descriptive

The instrument used to measure the eservice quality is adopted from Zavareh et al. (2012). The scale was modified from E-SERVQUAL instrument and used in Iran previously. This study has adopted the modified scale that was used in the banking sector and asked respondents to answer the survey questions on a five-point Likert scale. Higher the mean scores, higher will be the expectations to eservice quality. The instrument for eservice quality consists of six dimensions and 19 items. Therefore, this section will provide descriptive statistics for each dimension of eservice quality.

Referring to Table 4.3 below, the average E-Service Quality total score was 44.69 with a possible range of 19-95, similarly, the average item score of the whole of E-Service Quality scale was 2.35. It is important to mention that the E-Service Quality scale consisted of six dimensions and the highest mean score was for efficient and reliability whereas the lowest mean score remained with ease of use. Moreover, the score of efficient and reliable dimension was 14.46 with a possible range of 4-20; security/trust dimension was 6.17 with a possible range of 3-15; responsiveness/contact dimension score was 7.87 with possible range 3-15; fulfillment dimension with a range of 4-20 scored 9.72; site aesthetics dimension score was 3.62 with possible range 2.10; and ease of use dimension scored 2.85. Further, the item that has counted the highest mean score of 3.69 and standard deviation 1.09 was “the service delivered through the internet banking pages is quick” whereas lowest mean score items were “easily find what customers need on the website” scored 0.86 with standard deviation 0.86. The details of descriptive analysis for E-Service Quality are given below Table 4.4.

4.2.2 Descriptive analysis for customer satisfaction

The measurement instrument for customer satisfaction is adopted from Amin (2016). The same instrument employed to evaluate customer satisfaction in internet banking research by Herington and Weaven (2009), Ramseook-Munhurrun and Naidoo (2011), and Ribbink et al. (2004). The instrument asked respondents to answer the survey questions evaluated on a five-point Likert scale.

Table 4.3 Descriptive Analysis of Electronic Service Quality Items

Indicators	Items	Mean	Std. Deviation
Efficient and Reliable Services			
ER1	"The service delivered through the Internet banking pages is quick"	3.69	1.09
ER2	"The Internet banking part of the website is always available for business"	3.57	1.18
ER3	"When the Internet banking section promises to do something by a certain time, it does so"	3.52	1.12
ER4	"Complete quickly a transaction through the bank's website"	3.68	1.08
Efficient and Reliability Dimension score (possible range 4-20)		14.46	
Security/Trust			
ST1	"No misuse of customers personal Information"	2.04	.93
ST2	"Feel safe in internet banking transactions"	2.07	.89
ST3	"Confidence in the internet banking service"	2.06	.93
Security/Trust Dimension score (possible range 3-15)		6.17	
Responsiveness/Contact			
RC1	"Prompt response to customer request"	2.46	1.34
RC2	"Quickly resolves online transaction problems"	2.75	1.26
RC3	"The Internet banking customer services are easily accessible by telephone/other means"	2.66	1.28
Responsiveness/Contact Dimension score (possible range 3-15)		7.87	
Fulfillment			
FL1	"Organization and structure of Internet banking pages easy to follow"	2.32	1.15
FL2	"Accurate promises about the services being delivered"	2.47	1.14
FL3	"The Internet banking part of website launches and runs right away"	2.54	1.23
FL4	"Internet banking transactions are always accurate"	2.39	1.11
Fulfilment Dimension score (possible range 4-20)		9.72	
Site Aesthetics			
SA1	"The Internet banking webpage is attractive"	1.80	.82
SA2	"The Internet banking webpage is visually pleasing"	1.82	.80
Site Aesthetics Dimension score (possible range 2-10)		3.62	
Ease of Use			
EU1	"Easily find what customers need on the website"	0.86	.86
EU2	"Graphic representation of banks' websites help customers to use internet banking services"	1.01	1.01
EU3	"Able to use the Internet banking utilities of the website without a lot of effort"	0.98	.98
Ease of Use Dimension score (possible range 3-15)		2.85	
Average item score for the E-Service Quality scale		2.35	
Total score (possible range 19-95)		44.69	

Note: The instrument for eservice quality consists of six dimensions and 19 items measured on a 5-point Likert scale ranging from 1 being "strongly disagree" to 5 being "strongly agree".

Referring to Table 4.4 below, the average customer satisfaction total score was 11.39 with a possible range of 5-25, similarly, the average item score of the whole of customer satisfaction scale was 2.27. It is important to mention that customer satisfaction scale consisted of five items and the highest mean score of all the items was for "I am satisfied with overall online bank's products and services" with Mean=2.34 and standard deviation 0.79. Whereas the lowest mean score item was "the website of online banks is simple to use" mean score 2.30 with a standard deviation of 0.90. The details of descriptive analysis for customer satisfaction are given below Table 4.4.

Table 4.4 Descriptive Analysis of Customer Satisfaction Items (N=591)

Indicators	Items	Mean	Std. Deviation
CS1	I am generally pleased with this bank's online services	2.30	1.02
CS2	The satisfaction I am very satisfied with these bank's online services	2.29	0.99
CS3	I am happy with this online bank	2.30	0.89
CS4	The website of online banks is simple to use	2.16	0.93
CS5	I am satisfied with the overall online bank's products and services	2.34	0.79
Customer Satisfaction Dimension score (possible range 5-25)		11.39	
Average item score for the Customer Satisfaction scale		2.27	

Note: The instrument for customer satisfaction consists of 5 items measured on a 5-point Likert scale ranging from 1 being "strongly disagree" to 5 being "strongly agreed".

4.2.3 Descriptive analysis for customer loyalty

A five-item instrument adapted to measure customer loyalty from Amin (2015) which was used to measure customer loyalty in online banking research. Moreover, the instrument was also used by Amin et al. (2013). The instrument asked respondents to answer the survey instrument questions evaluated on a five-point Likert scale as 1 being "strongly disagree" to 5 being "strongly agreed". The higher the mean scores, the higher will be the expectations to customer loyalty.

The average customer loyalty total score was 10.96 with a possible range of 5-25, similarly, the average item score of the whole of customer loyalty scale was 2.19. It is important to mention that customer satisfaction scale consisted of five items and the highest mean score of all the items was for "I will recommend the online banking to other people" with Mean=2.36 and standard deviation 1.17. The lowest mean score item was "I would recommend online banking to someone who seeks advice" and "I intend to continue using the online banking" with mean score 2.13 for each with a standard deviation of 1.12 and 1.07 respectively. The details of descriptive analysis for customer loyalty are given below Table 4.5.

Table 4.5 Descriptive Analysis of Customer Loyalty Items (N=591)

Indicators	**Items**	**Mean**	**Std. Deviation**
CL1	I will recommend the online banking to other people	2.36	1.17
CL2	Loyalty I prefer online banking above others	2.18	1.15
CL3	I would like to say positive things about online banking to other people	2.16	1.09
CL4	I would recommend online banking to someone who seeks advice	2.13	1.12
CL5	I intend to continue using online banking	2.13	1.07
Customer Satisfaction Dimension score (possible range 5-25)		10.96	
Average item score for the Customer Satisfaction scale		2.19	

Note: The instrument for customer loyalty consists of 5 items measured on a 5-point Likert scale ranging from 1 being "strongly disagree" to 5 being "strongly agreed".

4.3 Factor Analysis

Factor Analysis has two subtypes as Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) which are the techniques to classify and detect data structure and construct validity. The most appropriate technique is confirmatory factor analysis because the study has adopted all three instruments from other research with no modifications. However, those questionnaires were used in different context i.e. countries, banking system, and cultures. Therefore, the study will apply exploratory and

confirmatory factor analysis to ensure the data patterns and ensure what factors should be included in the model.

Furthermore, the value of factor loadings for each item should be greater than 0.5. Thus, the instrument items that score higher than the threshold value of 0.5 will become part of final model testing because all the latent variables in the study are reflective. Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity are recommended to check whether factor analysis is suitable or not. The KMO and Bartlett's Test results are shown in Table 4.6.

Table 4.6 KMO and Bartlett's Test

KMO Measure of Sampling Adequacy	**Bartlett's Test of Sphericity**		
	Approx. Chi-Square	df	P-value
0.877	4569.12	406	0.000

The value of KMO is 0.877 which greater than 0.60, it means that sample size is sufficient to use factor analysis. Bartlett's Test used to test that correlation matrix is identity matrix or not, a small p-value (<0.05) indicates matrix was not identity which is suitable for structure detection and factor analysis when applicable. Therefore, indicators exhibited favorable results to proceed further with factor analysis.

The factor loadings of all the items and there rotated matrix are shown in Table 4.7 and results suggested that on the basis of *factor loading* and *rotated component matrix* in exploratory factor analysis, it is useful to apply confirmatory factor analysis (PCA with rotation of varimax) on all items to determine item preservation (Kessler, Coyle-Shapiro & Purcell, 2004). As per the threshold level of 0.5 for factor loading, Table 4.4 indicates that all the items are above 0.5 and the instrument is suitable for final analysis. The rotated matrix shows 7 sub-dimensions created by EFA from overall questionnaires and each item was it's on the dimension, no overlapping found. Thus, exploratory factor analysis indicated that survey instruments were well constructed.

Table 4.7 Exploratory Factor Analysis

Sr#	Item	Factor Loading	Rotated Component Matrix							
			1	2	3	4	5	6	7	8
1	EQ_ER1	0.548		0.694						
2	EQ_ER2	0.552		0.661						
3	EQ_ER3	0.515		0.619						
4	EQ_ER4	0.666		0.762						
5	EQ_ST1	0.63						0.722		
6	EQ_ST2	0.523						0.661		
7	EQ_ST3	0.696						0.786		
8	EQ_RC1	0.733					0.814			
9	EQ_RC2	0.505					0.599			
10	EQ_RC3	0.751					0.819			
11	EQ_F1	0.565				0.68				
12	EQ_F2	0.531				0.699				
13	EQ_F3	0.523				0.69				
14	EQ_F4	0.497				0.693				
15	EQ_SA1	0.746								0.853
16	EQ_SA2	0.724								0.824
17	EQ_EU1	0.611							0.714	
18	EQ_EU2	0.604							0.738	
19	EQ_EU3	0.648							0.755	
20	CS1	0.448			0.516					
21	CS2	0.511			0.623					
22	CS3	0.465			0.572					
23	CS4	0.536			0.664					
24	CS5	0.528			0.697					
25	CL1	0.538	0.607							
26	CL2	0.600	0.725							
27	CL3	0.503	0.653							
28	CL4	0.491	0.633							
29	CL5	0.62	0.715							

4.4 Measurement Model

Figure 4.1 illustrated three latent variables and 24 indicators. Moreover, the latent construct of eservice quality further contains six dimensions that make it a second-order latent variable.

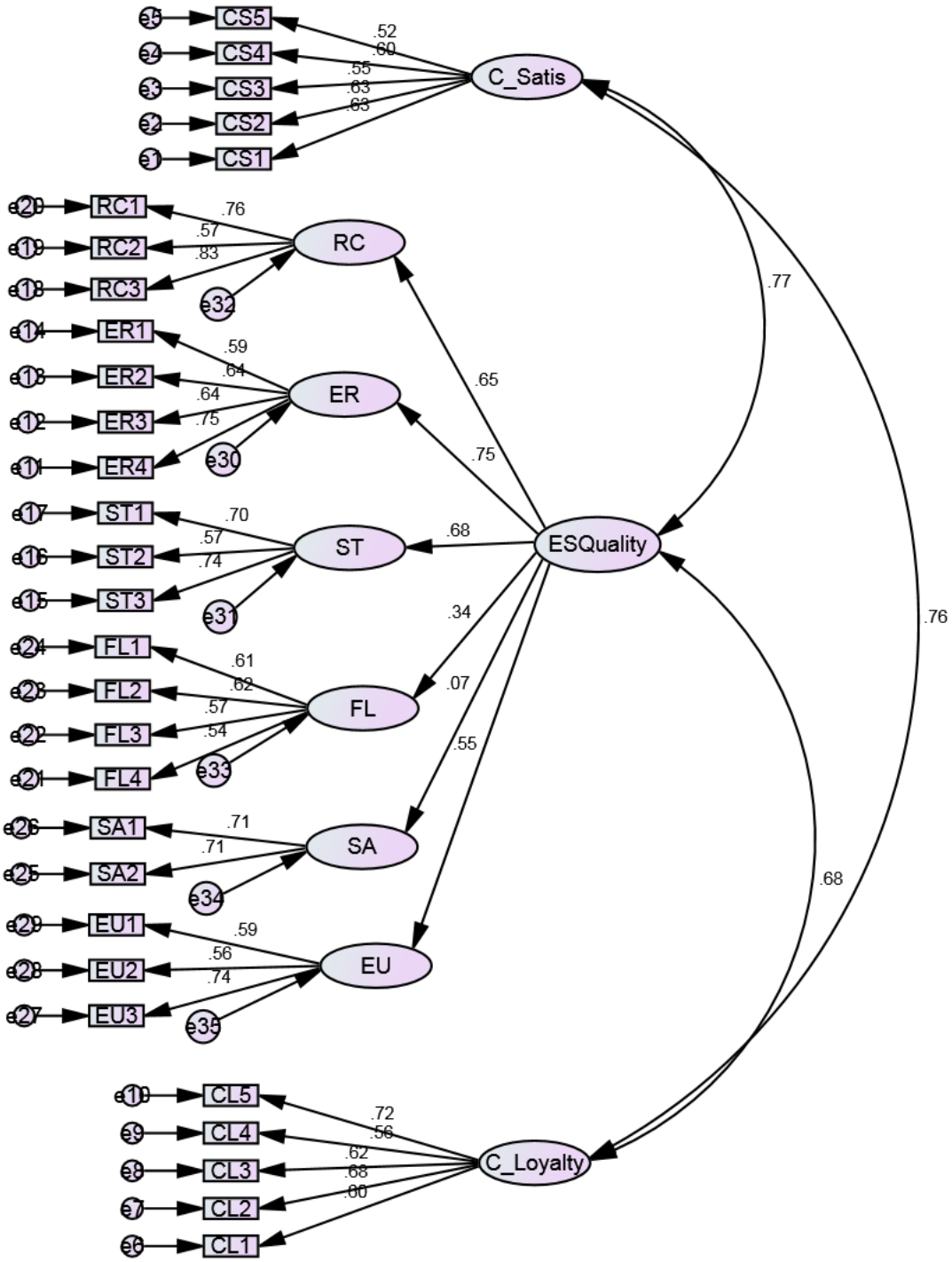

Figure 4.1: Confirmatory Factor Analysis (Measurement Model)

The results of the estimation of the CFA model of eservice quality, customer satisfaction, and customer loyalty indicated a good fit to the sample data based on the results presented below table 4.8 and table 4.9.

Table 4.8 The Goodness of Fit Results of 29-Indicator CFA Model (N=591)

The goodness of fit statistics		Values	Desired range for good fit
Absolute fit measures			
Chi-square test	$\chi 2$	607.98 (p<0.00)	P>0.05
Degrees of freedom	df	368	>=0
Chi-square	$\chi 2/df$	1.652	2 to 5
The goodness of fit index	GFI	0.934	0.90
Root mean square error of approximation	RMSEA	0.033	<0.08
Incremental fit measures			
Adjusted good-of-fit index	AGFI	0.922	>0.90
Trucker-Lewis index	TLI	0.938	>0.90
Normed fit index	NFI	0.869	>0.90
Comparative fit index	CFI	0.943	>0.95
Parsimonious fit measures			
Parsimonious normed fit index	PNFI	0.788	>0.50
Parsimonious goodness-of-fit index	PGFI	0.790	>0.50

The Table 4.8 demonstrate that 29 items of eservice quality, customer satisfaction, and customer loyalty satisfy the recommended thresholds (df=368, GFI=0.934, RMSEA=0.033, AGFI=0.922, TLI=0.938, NFI=0.869, CFI=0.943, PNFI=0.788, PGFI=0.790). However, the value of NFI=0.869 and $\chi 2/df = 1.652$ have problems with minimum values but these most of are very close to the threshold. Moreover, Table 4.9 indicated the standardized regression weights to further confirm

the measurement model and will be useful in testing group 1 of hypotheses. Moreover, the estimates of standardized factor loadings are useful to determine the convergent validity of 29 indicators. Table 4.9 indicates that all factor loadings range between 0.52 and 0.82.

Table 4.9 Standardized Regression Weights: (Group number 1 - Default model)

		Factor/Item	Factor loading
ER	<---	ESQuality	.753
ST	<---	ESQuality	.684
RC	<---	ESQuality	.645
FL	<---	ESQuality	.337
SA	<---	ESQuality	.067
EU	<---	ESQuality	.547
Customer Satisfaction (Cronbach's Alpha = .72)			
CS1	<---	C_Satis	.625
CS2	<---	C_Satis	.629
CS3	<---	C_Satis	.549
CS4	<---	C_Satis	.599
CS5	<---	C_Satis	.522
Customer Loyalty (Cronbach's Alpha = .77)			
CL1	<---	C_Loyalty	.603
CL2	<---	C_Loyalty	.682
CL3	<---	C_Loyalty	.621
CL4	<---	C_Loyalty	.565
CL5	<---	C_Loyalty	.716
Overall E-Service Quality Instrument (Cronbach's Alpha = .78)			
Efficient and Reliable Service Dimension (Cronbach's Alpha = .74)			
ER4	<---	ER	.755
ER3	<---	ER	.640
ER2	<---	ER	.644
ER1	<---	ER	.589
Security/Trust Dimension (Cronbach's Alpha = .70)			
ST3	<---	ST	.738
ST2	<---	ST	.569
ST1	<---	ST	.696
Responsiveness/Contact Dimension (Cronbach's Alpha = .75)			
RC3	<---	RC	.826
RC2	<---	RC	.570
RC1	<---	RC	.758
Fulfilment Dimension (Cronbach's Alpha = .67)			
FL4	<---	FL	.536
FL3	<---	FL	.571
FL2	<---	FL	.621
FL1	<---	FL	.607
Site Aesthetics Dimension (Cronbach's Alpha = .67)			
SA2	<---	SA	.706
SA1	<---	SA	.714
Ease of use Dimension (Cronbach's Alpha = .66)			
EU3	<---	EU	.738
EU2	<---	EU	.564
EU1	<---	EU	.588

It is pertinent to note that the 'Site Aesthetic (SA)' contribute poorly to the eservice construct with the value of only 0.07. Therefore, it is necessary to modify the eservice construct by removing the site aesthetic dimension because it will not impact the overall construct of eservice quality. Therefore, the modified CFA is presented in Figure 4.2.

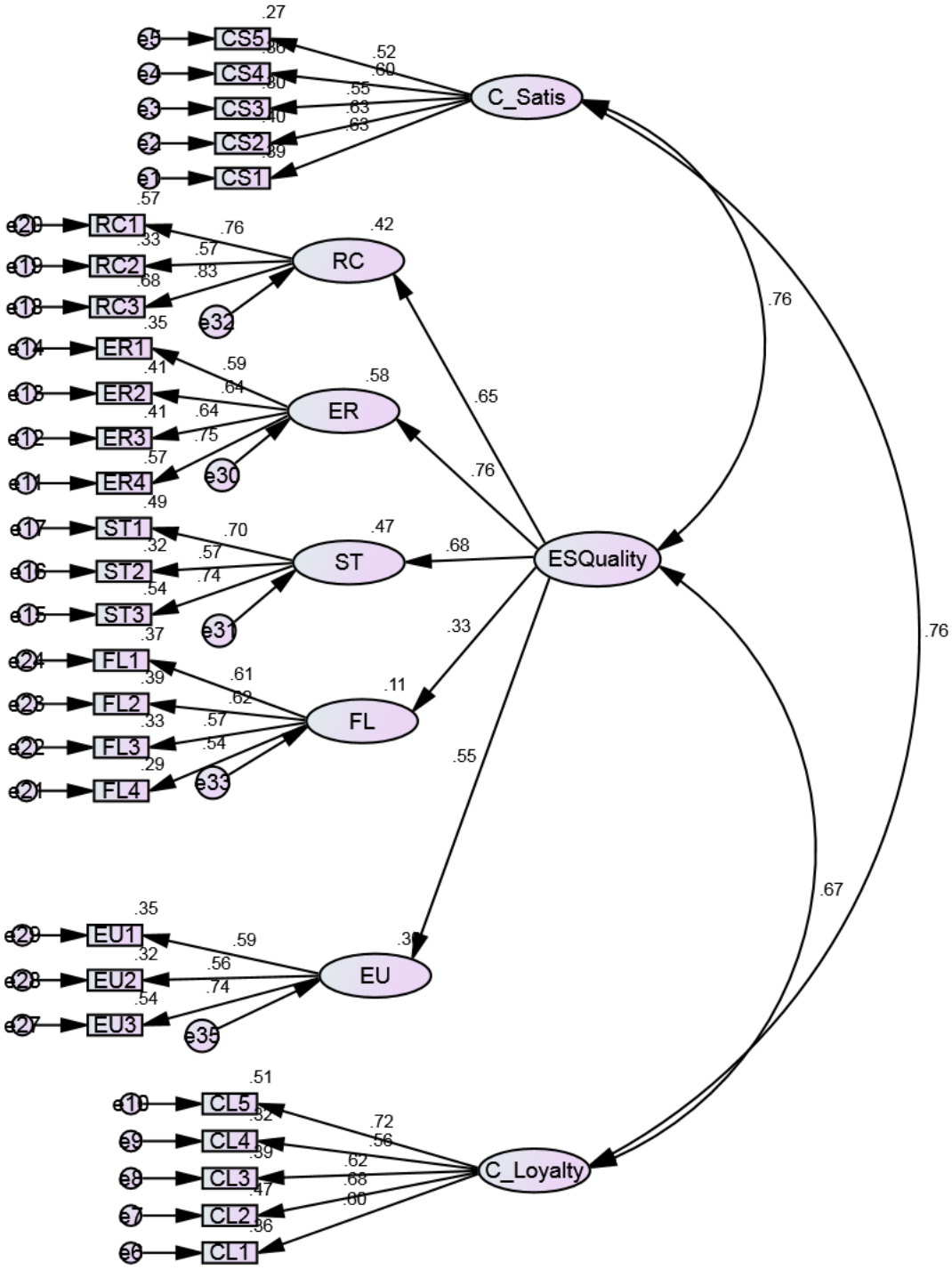

Figure 4.2: Modified Confirmatory Factor Analysis (Measurement Model)

The results of the modified estimation of CFA model of eservice quality, customer satisfaction, and customer loyalty indicated a good fit to the sample data based on the results presented below Table 4.10. It is appropriate to mention that there is no significant change in the estimates and the goodness-of-fit.

Table 4.10 The Goodness of Fit Results of 29-Indicator Modified CFA Model (N=591)

The goodness of fit statistics		Values	Desired range for good fit
Absolute fit measures			
Chi-square test	$\chi 2$	507.93 (p<0.00)	P>0.05
Degrees of freedom	df	316	>=0
Chi-square	$\chi 2$/df	1.607	2 to 5
The goodness of fit index	GFI	0.941	0.90
Root mean square error of approximation	RMSEA	0.032	<0.08
Incremental fit measures			
Adjusted good-of-fit index	AGFI	0.922	>0.90
Trucker-Lewis index	TLI	0.930	>0.90
Normed fit index	NFI	0.884	>0.90
Comparative fit index	CFI	0.952	>0.95
Parsimonious fit measures			
Parsimonious normed fit index	PNFI	0.796	>0.50
Parsimonious goodness-of-fit index	PGFI	0.787	>0.50

Table 4.10 demonstrates 29 items of eservice quality, customer satisfaction, and customer loyalty satisfies the values. However, the value of NFI=0.884 and $\chi 2$/df = 1.607 have problems with minimum values but these values are very close to the

threshold. Moreover, Table 4.10 indicated the standardized regression weights to further confirm the measurement model and will be useful in testing group 1 of hypotheses.

4.4.1 Reliability and Validity of All Scales

The reliability of the 19-indicator scale of eservice quality has Cronbach's Alpha for eservice quality 0.78, Cronbach's Alpha customer satisfaction for 0.72, Cronbach's Alpha for customer loyalty 0.77. The value exceeds the threshold of 0.7 and provides a good estimate for internal consistency reliability (Nunnally & Bernstein, 1994).

Moreover, the values of coefficient alpha values given in the Table 4.10 for eservice quality, customer satisfaction, and customer loyalty indicate the all three constructs obtained an acceptable level of coefficient alpha above 0.7 (Nunnally & Berstein, 1994). However, the values of coefficient alpha for three dimensions of eservice quality are close to the threshold of 0.7 but remained below. Still, the values for the latent construct of eservice quality are acceptable. It is pertinent to note that most of the measures for goodness-of-fit qualified the threshold of a good fit and the due to the limited number of items—the study will carry on without deleting any indicators. Moreover, the context of Libya and the banking system is different from the context in which these instruments were developing, even though, the factor loading for indicators were above the threshold. The reliability coefficients of all the factors are given in Table 4.11.

Table 4.11 Reliability Analysis

Factor	Items	CA	CR	AVE	MSV	ASV
ER	4	0.747	0.779	0.470	0.426	0.1921
ST	3	0.702	0.767	0.525	0.390	0.1686
RC	3	0.751	0.792	0.564	0.516	0.1774
F	4	0.673	0.784	0.476	0.244	0.0775
SA	2	0.670	0.825	0.703	0.080	0.0229
EU	3	0.66	0.779	0.541	0.311	0.1228
CS	5	0.722	0.753	0.381	0.332	0.1997
CL	5	0.771	0.801	0.446	0.332	0.1781

Thresholds**:** Reliability: CR > 0.7; Convergent Validity: CR>AVE; AVE>0.5; Discriminant Validity: MSV<AVE; ASV<AVE

4.5 Hypotheses (Group 1)

The first group of hypotheses states the relationship between antecedents of eservice quality and customer's perception of the overall eservice quality of banks.

H1: Each dimension of E-Service Quality significantly contributes to the customer's perception of eservice quality.

$H1_a$: An efficient and reliable service is a significant driver of customer's perception of eservice quality.

$H1_b$: Fulfillment is a significant driver of customer's perception of eservice quality.

$H1_c$: Security/trust is a significant driver of customer's perception of eservice quality.

$H1_d$: Site aesthetic is a significant driver of customer's perception of eservice quality.

$H1_e$: Responsiveness/contact is a significant driver of customer's perception of eservice quality.

$H1_f$: Ease of use is a significant driver of customer's perception of eservice quality.

The model fit results of the measurement model (CFA) indicate the sample is fit. These results are similar to the modified confirmatory factor analysis besides insignificant factor of 'site aesthetics' that has been removed at this stage—so that it is not more the part of the structural casual model. Therefore, the estimates given in Table 4.6 indicate that results partially support the group1 of hypotheses. All the hypotheses in group1 are true except 'site aesthetic is a significant driver of customer's perception of eservice quality' as it only contributes 0.06.

Further, the hypothesis $H1_a$ that is 'an efficient and reliable service is a significant driver of customer's perception of eservice quality' is supported by regression weight of 0.75. The hypothesis $H1_b$ 'fulfillment is a significant driver of customer's perception of eservice quality' is accepted based on the regression weight of 0.33. The hypothesis $H1_c$ that is 'security/trust is a significant driver of customer's perception of eservice quality' has regression weight to eservice quality construct with 0.68. Moreover, $H1_e$ 'responsiveness/contact is a significant driver of customer's perception of eservice quality' is accepted based on the regression weight of 0.64. Finally, the hypothesis of $H1_f$ that stated 'ease of use is a significant driver of customer's perception of eservice quality' is also accepted as regression weight to eservice quality is 0.54.

4.6 Structural Causal Model

The hypothesized model presented in Figure 2.9 in chapter two was designed to test the interrelationships between eservice quality, customer satisfaction, and customer loyalty. The causal structural model tests the hypotheses that eservice quality and customer satisfaction positively influence customer loyalty. The causal structural model is presented as Amos output in Figure 4.3. Moreover, the estimates of goodness-of-fit for the causal structural model are presented in Table 4.12. The results of model fit are satisfactory with the majority of the goodness-of-fit indices meet the recommended thresholds similar to the hypothesized CFA measurement model. The Table 4.12 demonstrate that most of the goodness-of-fit indices for casual structural model eservice quality, customer satisfaction, and customer loyalty satisfy the recommended thresholds (df=368, GFI=0.934, RMSEA=0.033, AGFI=0.922, TLI=0.938, NFI=0.869, CFI=0.943, PNFI=0.788, PGFI=0.790).

Table 4.12 The Goodness of Fit Results Causal Structural Model

The goodness of fit statistics		Values	Desired range for good fit
Absolute fit measures			
Chi-square test	$\chi 2$	507.93 (p<0.00)	P>0.05
Degrees of freedom	df	316	>=0
Chi-square	$\chi 2$/df	1.607	2 to 5
The goodness of fit index	GFI	0.941	0.90
Root mean square error of approximation	RMSEA	0.032	<0.08
Incremental fit measures			
Adjusted good-of-fit index	AGFI	0.922	>0.90
Trucker-Lewis index	TLI	0.930	>0.90
Normed fit index	NFI	0.884	>0.90
Comparative fit index	CFI	0.952	>0.95
Parsimonious fit measures			
Parsimonious normed fit index	PNFI	0.796	>0.50
Parsimonious goodness-of-fit index	PGFI	0.787	>0.50

Moreover, Table 4.12 presented regression weights of the causal structural model.

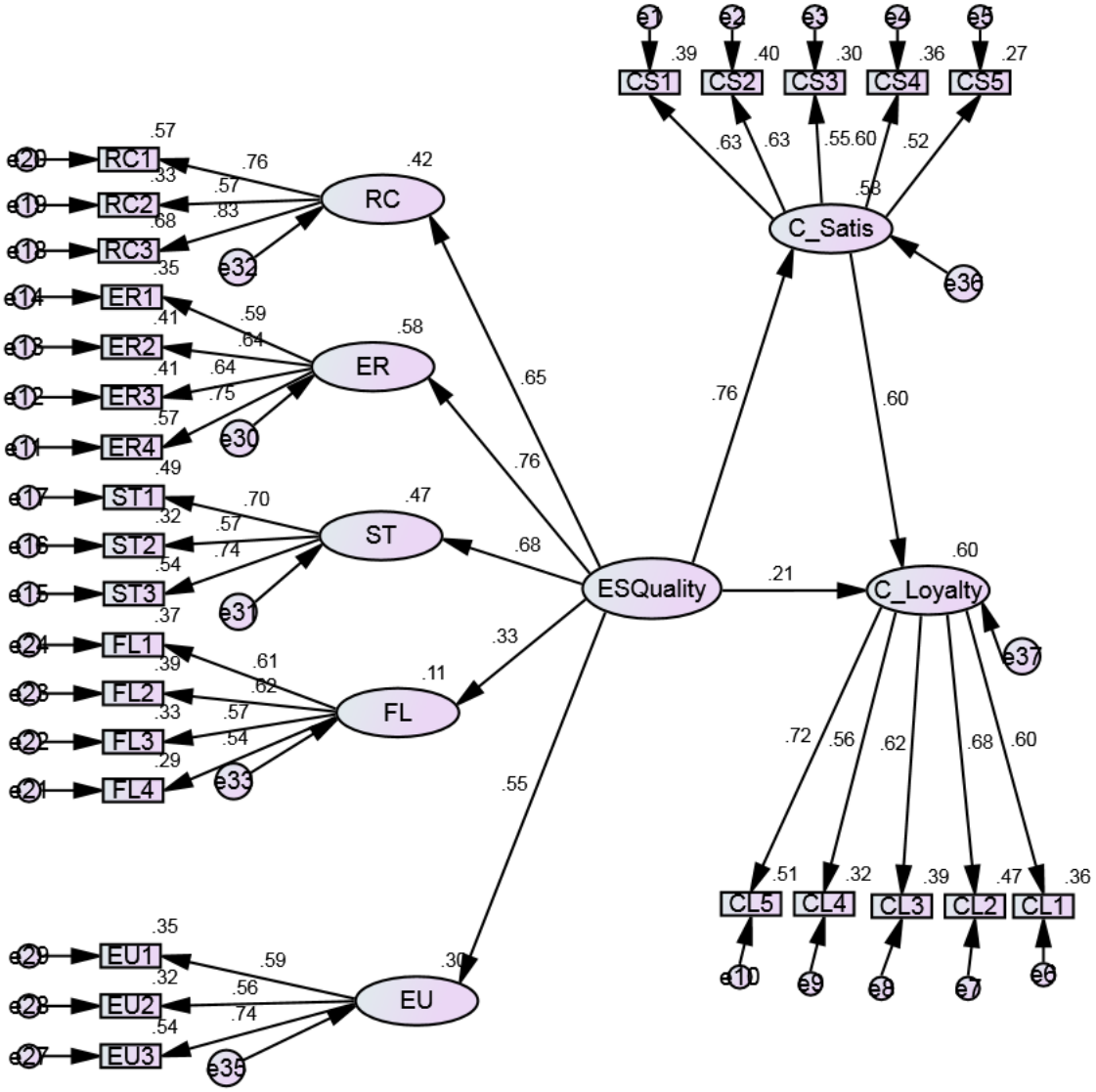

Figure 4.3 Causal Structural Model

The standardized regression weight from eservice quality to customer satisfaction is 0.76, $p < 0.05$ (unstandardized regression weight= 0.71) and *t value* = 9.01 indicated highly significant positive relationship. Moreover, the standardized direct

effect using two-tailed (BC) also indicates a highly significant positive relationship between eservice quality and customer satisfaction. Thus, hypothesis *H3* 'customer's perception of eservice quality has a positive and direct influence on customer satisfaction' is true. Moreover, there are substantial evidences available in the literature of service quality and eservice quality that indicated the positive relationship between eservice quality and customer satisfaction (Caruana, 2002; Cronin & Taylor, 1992; Gera, 2011; Jayawardhena & Foley, 2000; Zeithaml et al., 1996).

Table 4.13 Regression Weights of Causal Structure Model

	Unstandardized B Coefficient	**SE**	**Standardized B Coefficient**	***t*-value**
Customer satisfaction <--- E-Service Quality	0.710	0.079	0.764	9.014 ***
Customer loyalty <--- E-Service quality	0.224	0.111	0.214	2.193
Customer loyalty <--- Customer satisfaction	0.735	0.128	0.598	5.719 ***

***=p<0.001

Similarly, for *H2*, the standardized regression weight from eservice quality to customer loyalty is 0.214, p= 0.184 (unstandardized regression weight= 0.224), *t value*= 2.193, and standardize direct effect using two-tailed (BC) indicate that eservice is not significant with customer loyalty. However, indices of regression weights do indicate a week relationship. It is interesting to note that online banking customers in Libya indicated that eservice quality does not strongly predict customer loyalty. However, Customer loyalty, basically, is an outcome and behavioral intention after the evaluation of a service in terms of the perceptions of the customer (Rust & Zahorik, 1993), customer satisfaction and dissatisfaction (Crosby & Stephens, 1987), and service interaction (Kelley & Davis, 1994). The interaction of customers with the website and subsequent experience is critical to influencing the decisions of customers to revisit the website and make the positive word of mouth (Gera, 2011). In the same way, online customers most likely develop an attitude towards purchase behavior on the basis of their past experiences (Caruana, 2002).

The standardized regression weight for customer satisfaction to customer loyalty is 0.598, $p < 0.05$ (unstandardized regression weight= 0.735), *t value*= 5.719 in Table 4.13 and standardize direct effect using two-tailed (BC) presented in Table 4.14 indicate a significant positive effect of customer satisfaction on customer loyalty (*H5*).

Table 4.14 Standardized Direct Effects- Two-Tailed Significance (BC)

Hypothesis	**Direct effect**	***p-value***	**Result**
ESQuality→C_Loyalty	0.214	.184	Not significant
ESQuality→C_Satis	0.764***	.000	Significant
C_Satis→C_Loyalty	0.598*	.002	Significant

***=p<0.001; *=p<0.05

The *H4* that stated that 'customer's perception of eservice quality has a positive and indirect influence on customer loyalty, mediated by customer satisfaction' is measured through the indirect effect of eservice quality on customer satisfaction as Table 4.15 indicates the full mediation on and the standardized indirect (mediated) effect of eservice quality on customer loyalty is 0.457. That is, due to the indirect mediation effect of eservice quality on customer loyalty, when eservice quality goes up by 1 standard deviation, customer loyalty goes up by 0.457 standard deviations. This is in addition to any direct (unmediated) effect that eservice quality may have on customer loyalty (Kline, 1998).

Table 4.15 in the next page illustrate the indirect effect that is calculated as the product of the two effects eservice quality effect on customer satisfaction and customer satisfaction effect on customer loyalty—that is the direct effect of eservice quality on customer satisfaction is 0.764 multiplied by the direct effect of customer satisfaction on customer loyalty that is 0.598. Therefore, the indirect effect of eservice quality on customer loyalty is 0.764*0.598=0.457.

Table 4.15 Standardized Indirect Effects- Two-Tailed Significance (BC)

Hypothesis	Indirect effect	Result
ESQuality→C_Satis→C_Loyalty	0.457***	Full Mediation

***=p<0.001; ns= "not significant

4.7 Discussion

The interrelationship between eservice quality, customer satisfaction, and customer loyalty has been previously tested in various studies using e-SQ (Parasuraman et al., 2005), customer satisfaction internet banking (e.g. Herington & Weaven, 2009; Ribbink et al., 2004), and customer loyalty (Amin et al., 2013). However, this study has applied these scales to a unique context (Libya) to explore the interrelationships among eservice quality, customer satisfaction, and customer loyalty for internet banking customers in private banking sector of Libya. This correlational and non-experimental study using structural equation modeling validated the dimensions of eservice service quality in internet banking customers and to further validate the casual model in relationship with customer satisfaction and customer loyalty. The study tested a total of five main hypotheses with six sub-hypotheses of the group1.

In the Libyan private banking context, this research aimed at the measurement of the perceptions of the eservice quality and its subsequent effect on customer satisfaction and customer loyalty. The regression weights of the eservice quality and respective five dimensions i.e. "efficient and reliable services, fulfillment, security/trust, responsiveness/contact, and ease of use" has been successfully established for Libyan internet banking—however, the dimension of site aesthetics is disapproved. The regression weights of efficient and reliable services (0.73) indicate that this dimension contributes greatest to eservice quality dimension followed by security/trust (0.68). Moreover, the perceptions about the dimension of responsiveness/contact (0.65), fulfillment (0.33), and ease of use (0.55) are also significant, however, the dimension of site aesthetics (0.06) found insignificant. The results are better in the context of Libya comparatively to Zavareh et al., (2012)—that showed only "three dimensions of eservice quality significant that were security/trust, site aesthetics, and ease of use".

Therefore, the results of the study indicate that the private banking sector in Libya showed emphasize on the five main dimensions of eservice quality to maintain and improve the quality of eservices.

Efficient and reliable online banking services is found the key driver for internet banking service quality that indicates that customers of online banking services look for reliability and efficiency (Amin, 2016). Thus, the dimensions of efficient and reliable services, security/trust, responsiveness/contact, fulfillment, and ease of use are key dimensions to establish a good relationship with customers—and banks have to strategically focus on increasing the awareness and use of new technologies to gain the competitive advantage (Amin, 2016). The findings of this study are also consistent with the previous studies that indicated the efficiency is the major factor that contributes to the customer's evaluation of internet banking service quality (Herington & Weaven, 2009).

The findings of this study are also being supported by Thaichon, Lobo, Prentice, and Quach (2014) that suggested an enhanced service quality help organizations to affect customer satisfaction, value, commitment, and trust—subsequently, the achievement of meeting the exceptions of customers by fulfilling the dimensions of customer satisfaction leads to gain long term sustainability. Moreover, it is important for the private banking sector of Libya to provide efficient and reliable online service experience so that customers make good quality judgments—and banks should also incorporate handsome resources to maintain their online platforms with updated technology development (Chemingui & Ben lallouna, 2013; Collier & Bienstock, 2006; Herington & Weaven, 2009; Jayawardhena, 2004).

The *H3* indicating that eservice quality of internet banking has a positive and direct relationship with customer satisfaction—consequently, the findings supports that a higher level of eservice quality in the Libyan banking sector will significantly effect to have the high level of customer satisfaction. From the five constructs of eservice quality in this study, efficient and reliable services are the major predictor of eservice quality and customer satisfaction. Previous research also suggested a positive relationship between eservice quality and customer satisfaction (Carlson & O'Cass, 2011; Herington & Weaven, 2009; Kaura et al., 2015). For instance, Herington and Weaven (2009) have particularly tested and endorsed that relationship of efficient and reliable services with customer satisfaction. Furthermore, the aspects of the usability of online platforms with

an extreme focus on security/privacy are emphasized to maintain a good customer relationship.

H2 and *H5* indicate a positive relationship between eservice quality and customer loyalty, and customer satisfaction with customer loyalty. However, the *H2* with a low *t-value* and *p-value* indicate an insignificant relationship. However, the results of the casual structural model with direct and indirect effects indicated that the direct relationship of eservice quality with customer loyalty is not significant; however, the indirect relationship of eservice quality through the mediation of customer satisfaction is positive with customer loyalty. This is an interesting finding that is also consistent with the literature (Alhawari, 2014; Casalo, Flavian, Guinalie, 2008; Levy, 2014). The finding indicates that customers of online banking services in Libyan private banking sector might not feel loyal even in the presence of excellent eservice quality. However, the indirect effect of service quality on customer loyalty indicated that customers' loyalty intentions are good with better eservice quality. Thus, the finding is similar with the study of Amin (2015) from the Malaysian banking sector in which the internet banking service quality was insignificant with customer loyalty but the mediating effect of customer satisfaction generated an indirect positive relationship of internet service quality with customer loyalty. Thus, the manageability of eservice quality will enhance customer satisfaction and customer loyalty (Casalo et al., 2008). Further, if the quality of eservices in terms of delivery and evaluation is good then it will result in customer satisfaction (Carlson & O'Cass, 2011). Additionally, the previous positive experiences of eservice quality with online platforms of banks will positively affect customer loyalty along with a positive word of mouth (Casalo et al., 2008). In the same lines, the satisfied customers with a particular bank and services will recommend the bank to others (Baumann, Burton, Elliot, & Kehr, 2007). Therefore, it can be concluded that if the customers are satisfied with their banks then they produce positive emotions that lead to customer loyalty. However, the dissatisfied customers are more willing to switch to other banks (Amin et al., 2013; Collier & Bienstock, 2006).

This study suggests that the higher level of eservice quality will lead to higher level of customer satisfaction which leads to reduce the intentions to leave and potentially increase the customer loyalty, however, the customers' intentions to maintain or switch a relationship is mainly dependent on the level of satisfaction and dissatisfaction with their particular service provider. Therefore, the improvements in

eservice quality help to maintain a good relationship between banks and customers. Further, it is interesting to note that if there is an increase in risk perception of then the correlation between customer satisfaction and customer loyalty become less important. For instance, the study by Jarvinen (2014) indicated that managers of banks should actively take actions to reduce the perceived risk in complex banking services and prioritize customer service. Similarly, if the banks are successful in maintaining a perception of the low-risk image, the highly risk-averse customers will also stay loyal—so, "the relationship between customer satisfaction and customer loyalty will be stronger in the context of low-risk perceptions" (Dahlstrom et al., 2014). Consequently, the customers of the online banking system convey a feeling that internet banking operations are secure and legitimate backed by Libyan Central Bank. The findings are endorsed by previous studies that indicated that customers emphasize on security and trust aspects and customers will hesitate to perform transactions if there is any lack of trust (Kshetri, 2013). If a bank has successfully gained the trust of the customers then it is more likely that customers will make more online transactions (McNeish, 2015).

Due of the general security issues with internet transactions and frauds, the customers of online banking usually hesitate to perform online transactions, though, the secure banking services increase the trust of customers and reduce the fear of losing possible transaction compared to the traditional banking transactions (Mukherjee & Nath, 2007). Therefore, the role of trust is paramount in the enhancement of the relationship between internet banking and customers (Hurley, Gong, & Waqar, 2014; Zhao, Casu, & Ferrari, 2010). Additionally, it is important for banks to proactively inform the customers that their personal data is confidential and will only be used for official purposes. Moreover, there are numerous methods to facilitate the customers to contact the online banking support to improve eservice quality operations. Besides, it is also important for banks to provide guidelines for online transaction procedures, dealing with security problems, and secure use of online banking services.

5 CONCLUSIONS, LIMITATIONS, AND FUTURE RESEARCH DIRECTIONS

This chapter discusses the conclusion, recommendations, and limitations. It is important that the previous chapter has comprehensively discussed the findings, results, and discussion.

5.1 Conclusions

The available literature on eservice quality, customer satisfaction, and customer loyalty is abundant (Sheng & Liu, 2010). However, the studies in Libyan context are scarce that measure eservice quality in relation with customer satisfaction and loyalty (Abukhzam & Lee, 2010), and the literature took a deep dip after the start of Libyan civil war in 2014. Therefore, it was worthy to explore the interrelationship between eservice quality, customer satisfaction, and customer loyalty in the Libyan context—that is a war trodden country since 2011. Further, the study has solely focused on the banking sector in Libya. The study has specifically addressed these research questions:

1. What are the eservice quality dimensions in electronic banking in Libya?
2. How eservice quality dimensions affect customer satisfaction in electronic banking in Libya?
3. How eservice dimensions affect customer loyalty in electronic banking in Libya?
4. How eservice dimensions, customer satisfaction, and customer loyalty are related to electronic banking in Libya?

The quality of eservices is the paramount perquisite attaining satisfaction for the customer and the subsequent loyalty in the banking sector. Zeithaml et al. (1996) clarified that eservice quality is related to satisfied customers that are significantly linked to the willingness of customers to recommend the services of a company, complaints reduction, and greater chances of customer loyalty (Zeithaml et al., 1996). There are several dimensions and characteristics of eservice quality that customers ponder in order to judge the quality—for instance; it is possible that efficiency might be important for some customers while some might prefer to emphasize on security and privacy issues. Therefore, the expectations and requirements of customers vary from the eservice process and delivery.

The eservice quality, customer satisfaction, and customer loyalty literature are abundant—although, these relationships are directly contingent on the context and setting of eservice, time, and needs of different segments. Therefore, the nature of the product or service determines the eservice that will be offered in the different contexts and thus the measurement of eservice quality depends on different product and services offered in the different contexts. The conclusions are as follows:

Five eservice quality dimensions of this study are significantly related to eservice quality for online banking customers in the private banking sector of Libya. The results are supported with the previous research. The research has used ESQUAL specifically designed to measure eservice quality in the online banking sector.

One dimension of eservice quality (site aesthetics) was not significant with eservice quality for online banking customers in the private banking sector of Libya. The reason for the insignificant relationship of 'site aesthetics' and eservice quality might be the least interest of online banking users in the design, colors, presentation of the content, structure of website, or usability etc.—the finding seems true in the context of banking sector because users of banking platform significantly prefer the security, efficiency, and reliability, and ease of use etc. over the design of the website.

The findings indicated a significant positive relationship between eservice quality and customer satisfaction using several measures (details in the finding section). There are substantial evidences available in the literature of service quality and eservice quality that indicated the positive relationship between eservice quality and customer satisfaction (Caruana & Malta, 2002; Caruana & Malta, 2002; Cronin & Taylor, 1992; Gera, 2011; Jayawardhena & Foley, 2000; Zeithaml, Berry, & Parasuraman, 1996).

The H4 that stated that 'customer's perception of eservice quality has a positive and indirect influence on customer loyalty, mediated by customer satisfaction' is measured through the indirect effect of eservice quality on customer satisfaction and indicated the full mediation on and the standardized indirect (mediated) effect of eservice quality on customer loyalty is 0.457. That is, due to the indirect mediation effect of eservice quality on customer loyalty, when eservice quality goes up by1 standard deviation, customer loyalty goes up by 0.457 standard deviations. This is in addition to any direct (unmediated) effect that eservice quality may have on customer loyalty (Kline, 1998).

The results of the casual structural model with direct and indirect effects indicated that the direct relationship of eservice quality with customer loyalty is not significant; however, the indirect relationship of eservice quality through the mediation of customer satisfaction is positive with customer loyalty. This is an interesting finding that is also consistent with the literature (Alhawari, 2014, 2015; Casalo et al., 2008; Ganguli & Roy, 2011; Kashif et al., 2015; Levy, 2014; Ranjan et al., 2015). The finding indicates that customers of online banking services in Libyan private banking sector might not feel loyal even in the presence of excellent eservice quality. However, the indirect effect of service quality on customer loyalty indicated that customers' loyalty intentions are good with better eservice quality. Thus, the finding is similar with the study of Amin (2015) from the Malaysian banking sector in which the internet banking service quality was insignificant with customer loyalty but the mediating effect of customer satisfaction generated an indirect positive relationship of internet service quality with customer loyalty.

Moreover, the goodness-of-fit measures used to assess the results are not always consistent because a variable sample size and complexity of the research model could influence the values of measures.

5.2 Limitations

- The study has only surveyed the customers of private banks in Libya.
- The study is cross-sectional and primarily studied a "one time survey" due to limited time and cost.
- Generalization of this study in other online service providers is not recommended and careful consideration is recommended to generalize in other contexts in the same industry.
- The study has adopted the survey instruments that were used in similar context and industry, though, the current socio-political situation in Libya may demand a specific survey instrument to measure the eservice quality, customer satisfaction, and customer loyalty.

5.3 Future Research Directions

- This study was limited to explore the causal interrelationship between eservice quality, customer satisfaction, and customer loyalty. In any future study, other significant dimensions of eservice quality can be used or some other variables such as commitment and retention.
- The E-S-QUAL and other eservice quality instruments need to be examined for validity and reliability based on the type of e-business and context.
- The future studies are recommended to use a large sample size with the same variables to see any expected change.
- The future studies must try new mediating and moderating variables, for example, a future study can collect data from public commercial banks to compare the results with private commercial banks.
- The customer satisfaction variable might be enhanced based on the addition of dimensions of product quality and price.
- Future studies might use a different sampling method.

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