The Influence of Online Service Quality on Customer Satisfaction, Loyalty and Preferences: A Study of the Banking Sector in Saudi Arabia

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Abstract

Advances in technology and innovation have expanded global online banking services. The banking industry continues to develop to be less geared towards physical retail banking. The continued transformation of online banking services is integral in offering innovative financial solutions to customers. Understanding the effects of online banking service quality on customers assists bank executives in developing appropriate strategies to improve financial service provision. Although numerous studies have investigated the relationships between the quality dimensions of online banking services and its influence on customer satisfaction and attitude in different regions, further investigation of online service quality in emerging markets, such as Saudi Arabia, is needed. This market is the largest economy in the Middle East and having a reputable banking system represents a necessary core competency for the country.

Therefore, this research investigated the influence of online service quality on customer satisfaction, attitudinal loyalty and preferences as regards Saudi banks. The present investigation extends the related literature that has mainly utilised the service quality (SERVQUAL) model by employing both the Electronic Service Quality (E-S-QUAL) and Electronic Recovery Service Quality (E-RECS-QUAL) scales. The E-S-QUAL scale comprises four dimensions—fulfilment, system availability, efficiency and privacy—and the E-RECS-QUAL scale consists of three dimensions—compensation, responsiveness and contact.

A mixed methods approach was adopted to address the hypotheses and achieve the study's objectives. Data were collected through an online survey from a sample of 430 respondents and through post hoc qualitative semi-structured interviews with 11 chief digital banking officers (CDBOs). Covariance-based structural equation modelling was employed to test the posited relationships. Then, a thematic analysis was applied to organise and code the qualitative data.

The main findings indicate that online service quality dimensions significantly affect customer satisfaction, attitudinal loyalty and preferences. Further, customer satisfaction is a mediating construct that positively and significantly influences customer attitudinal loyalty. Moreover, customer satisfaction has a negative, non-significant impact on

customer preferences. In addition, albeit with a very small sample, the results revealed that gender has a moderating effect on customers' perceived quality of online banking services. Last, bigger brands might engender more loyalty, a finding that is in line with double jeopardy principles (McPhee 1963).

The post hoc qualitative results revealed that Saudi banks have established mechanisms to evaluate online banking service quality. Furthermore, banks have adequate digital communication channels, such as kiosk services, to support customers who access financial platforms. In addition, nearly all banks administer online surveys to measure customer satisfaction about online banking service quality and conduct commercial campaigns to nurture brand image via digital media. Moreover, most CDBOs agreed that brand size is a vital factor in shaping customer loyalty.

Hence, bank executives should establish various key performance indicators for digital online services, such as the number of successful transactions, number of active users and demand for services, to enhance customer experience. Last, the study suggests that future research should explore the relationship between online service quality and customer purchase behaviour using the present conceptual framework in the Saudi banking industry.

Student Declaration

I, Abdullah Ali Albinalsheikh, declare that the DBA thesis entitled 'The Influence of Online Service Quality on Customer Satisfaction, Loyalty, and Preferences: A Study of the Banking Sector in Saudi Arabia' is no more than 65,000 words, including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

I have conducted my research in alignment with the Australian Code for the Responsible Conduct of Research and Victoria University's Higher Degree by Research Policy and Procedures.

Signature: 

Date: 18 December 2022

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List of Abbreviations

AGFI	Adjusted Goodness-of-Fit Index
ATM	Automated Teller Machine
AVE	Average Variance Extracted
CB-SEM	Covariance-Based Structural Equation Modelling
CDBO	Chief Digital Banking Officer
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CMB	Common Method Bias
e-Commerce	Electronic Commerce
E-CRM	Electronic Customer Relationship Management
EFA	Exploratory Factor Analysis
E-RECS-QUAL	Electronic Recovery Service Quality
E-S-QUAL	Electronic Service Quality
e-Service	Electronic Service
FDI	Foreign Direct Investment
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GFI	Goodness-of-Fit Index
IFI	Incremental Fit Index
IoT	Internet of Things
KMO	Kaiser–Meyer–Olkin
NFI	Normed Fit Index
PLS-SEM	Partial Least Squares Structural Equation Modelling
RMSEA	Root Mean Square Error of Approximation
SAMA	Saudi Arabian Monetary Authority
SEM	Structural Equation Modelling
SERVQUAL	Service Quality
SPSS	Statistical Package for Social Sciences
TLI	Tucker–Lewis Index
X^2	Chi-square
X^2/df	Normed Chi-square

Chapter 1: Introduction

1.1 Study Background

This research aims to investigate the influence of online service quality on customer satisfaction, attitudinal loyalty and preferences in the Saudi banking sector. Technological advances and the internet have profoundly affected all industries worldwide. Many Saudi banks have offered various banking services, such as telebanking and electronic banking, and also online banking, to meet customers' needs (Bhatnagar 2013). Banks must set necessary strategies to enhance customer experiences with online banking services. Online banking services are dependent on technology and online accessibility. Success is linked to paying more attention to quality drivers for online financial services (Yu, Balaji & Khong 2015).

Financial institutions and banks are currently approaching the peak of their maturity stage regarding online banking services because financial services are now pervasive globally (Rawwash et al. 2020). Most banks have their own online banking service platforms and attempt to differentiate their products and services by enhancing performance or offering them at highly competitive prices. Banks should have strong relationships with customers to improve their brand image (Ndubisi 2007). Rapid developments in innovative online platforms dedicated to service delivery have established a borderless business environment by eliminating geographical, regulatory and industrial barriers.

These robust changes have introduced a revolution in the banking industry that aims to establish a payment system consistent with the demands of the internet marketplace (Assegaff 2016). Consequently, the four most common electronic commerce (e-commerce) activities of online users are shopping, investing, banking and payment (Laudon & Traver 2016). These major activities of bank users have transformed customer and bank interactions from a traditional physical retail model to one facilitated by the internet, commonly known as online banking services (Sayani 2015).

Most financial institutions and banks employ online banking services as a perfect distribution channel (Daneshgadeh & Yıldırım 2014). According to some researchers, online banking services are currently the preferred technology and channel for business (Sanli & Hobikoglu 2015). Banks are in a favourable position to offer superior services

to their customers because banks have more opportunities to interact and contact their customers (Dinh, Le & Le 2015).

Mols (1999) stated that the online banking services distribution channel is very convenient and attractive for customers for several reasons, such as reduced waiting times and virtual availability of services. Significant advantages in online banking services are customisation, data mining and increased interactions with the customer. With less contact, banks can curtail their operating expenses and enhance performance by implementing at scale their online financial services (Joseph, McClure & Joseph 1999). Digital banking platforms require fewer staff than traditional banks do and do not need to establish more physical branches; therefore, online financial services help banks reduce their operational costs (Chong et al. 2010).

Online banking services are vital to the success of the banking industry, which has become increasingly competitive (Jayawardhena & Foley 2000). In addition, these services aim to build strong customer relationships through offering better financial products and services (Bazini 2015). The quality of online banking services should be maintained so that banks' customers benefit from all the financial facilities in a problem-free and low-cost way. From a marketing perspective, it is essential to satisfy banks' customers because banks' success depends on giving their customers what they want. Higher customer satisfaction will result in more clients, a good reputation, customer confidence and higher profits (Rod et al. 2009).

Numerous studies have examined the influence of quality dimensions on customer satisfaction and loyalty in the context of online banking services in different regions (e.g., Alhawary & Alsmeran 2017; Amin 2016; Ariff et al. 2013; Bloemer, De Ruyter & Peeters 1998; Herington & Weaven 2009; Kheng et al. 2010; Özer, Argan & Argan 2013; Taleghani, Ganjinia & Sadatmahaleh 2013). They asserted that these dimensions have a significant and positive effect on customer satisfaction and attitudinal loyalty.

Muhammad and Rana (2012) examined the factors affecting the adoption of internet banking in Saudi Arabia. They revealed that Saudi banks should improve the quality of online banking services, and in particular, the communication, privacy and security dimensions. Banks could increase their customer base by using effective strategies to attract more customers to adapt online services. Further, Almansour, Alhajla and

Almansour (2015) investigated factors that influence customer satisfaction and attitudinal loyalty in Saudi Arabia. They found that customer satisfaction and perceived quality have a significant effect on attitudinal loyalty.

In addition, Almotairi, Almeshal and Alam (2013) examined the influence of service quality on customer satisfaction in Saudi Arabia, using the service quality (SERVQUAL) model to analyse the relationship between variables. Their results showed that all the SERVQUAL dimensions were important for customers and that reliability and tangibility were the most critical. Banks could achieve higher customer satisfaction by offering online banking services without technical glitches and by providing updated information through their websites. Albarq (2013) investigated the impact of service quality on attitudinal loyalty in Saudi Arabia, specifically within local banks. They recommended that to enhance attitudinal loyalty, Saudi banks should improve the quality of their financial services.

Similarly, in the context of online banking services in Saudi Arabia, scholars have highlighted the issue of information security. Alhaliq and Almuhirat (2016) suggested that users of such services are concerned about error-free and continuous availability of services, information security and continuous updating of information on bank websites. They revealed that Saudi banks had devoted significant efforts towards solving website maintenance and access issues and ensuring the smooth functioning of online banking services. Moreover, Aljasser and Sasidhar (2016) used the SERVQUAL model to examine the influence of service quality on customer satisfaction and indicated that all five dimensions have a significant effect.

A review of the literature about Saudi Arabia shows that most previous studies have adopted the SERVQUAL model (e.g., Albarq 2013; Alhaliq & Almuhirat 2016; Aljasser & Sasidhar 2016; Almotairi, Almeshal & Alam 2013). However, this model is more suited to a traditional service application than to the online context. Therefore, it is important to develop a conceptual model to measure and evaluate online service quality, particularly that of online banking services.

1.2 Research Motivation

Recently, the number of internet users in Saudi Arabia has grown rapidly, encouraging companies and banks to invest in digital platforms for facilitating customers to conduct

their transactions conveniently. According to the Saudi Communications and Information Technology Commission (2017), internet users rose from 64% in 2014 to about 82% by 2017. In 2017, the country had more than 26 million internet users. In addition, its economic growth has made this developing nation an attractive market for foreign direct investment (FDI), which means foreign banks have been operating and increasing their investment in the Saudi market (Alkhathlan 2014). These factors prompted Saudi banks to emphasise performance issues and maintain customer intention towards their financial services, particularly online banking services.

Currently, the Saudi banking sector is in a highly competitive phase, in that it has 13 Saudi banks (Saudi Arabian Monetary Authority [SAMA] 2019d). Recently, the Saudi market was penetrated by 14 foreign banks (SAMA 2019b). Therefore, banks aim to differentiate their financial services through enhancing numerous aspects, such as their service quality and brand image (Levesque & McDougall 1996).

Quality has become an essential feature of online services, primarily financial services via the internet (Shanmugam et al. 2015). Saudi banks face challenges in meeting customer expectations. Bhatnagar (2013) stated that Saudi banks still viewed financial services with a transactional, product-focused orientation rather than a customer-focused orientation. Therefore, Saudi banks must re-evaluate their services and identify essential dimensions that influence customer satisfaction and attitude. These techniques will assist banks in recognising customers' perceptions and, in particular, their perceptions about the quality of financial services, mainly those offered through the internet.

Researchers have valid reasons for being interested in the quality of online banking services. The banking industry has unique features, which distinguish it from other sectors, and it significantly affects a country's economy. An inferior online banking service has a direct impact on institutions' revenues and profits. Moreover, substandard online banking services, such as malfunctioning mobile banking services, ongoing network problems and slow web servers, result in customers being unable to complete their financial transactions efficiently (Jun & Cai 2001). In this regard, Jayawardhena and Foley (2000) emphasised the importance of a robust regulatory framework for establishing and maintaining a high-quality online banking service in the United Kingdom (UK).

The Saudi banking sector has witnessed a major change in policies, procedures and financial regulations in recent years. According to Sohail and Shaikh (2008), Saudi banks have shifted most of their financial services from physical retail banking to digital platforms to fulfil the increasing demand for online banking services. Meanwhile, banks strive to improve their performance, maximise profit, create competitive advantage, maintain customers' intention and expand customer segments constantly. They could achieve these objectives through various actions, such as offering high-quality services that meet customer perceptions, building long-term relationships with customers and enhancing the brand image (Abuzid & Abbas 2017).

The Saudi economy has experienced major changes that have affected many businesses and sectors across the country. The banking industry, which is considered an important sector, continues to contribute significantly to the economy. Given that this sector is considered a market that attracts foreign banks to invest in Saudi Arabia, decision-makers should understand customer behaviour and the effects of the banks' brand size on customer loyalty. In this regard, the applicability of the double jeopardy law has been well established across industries (including banking) and many countries (Winchester & Winchester 2020). However, it has not been extended to Saudi Arabia; therefore, this study will explore whether this law applies to the Saudi banking sector.

To this end, the current study intends to develop a framework for guiding bank executives in setting efficient strategies to improve online banking services in the Gulf Cooperation Council (GCC) countries, specifically in Saudi Arabia. Moreover, the study opens avenues for future research that would extend the understanding of the important role of quality dimensions on customer satisfaction and attitude towards online financial services.

1.3 Research Problem

The knowledge gap identified in the literature yields the research problem that this thesis aims to address:

> *To understand the influence of online service quality on customer behaviour in the Saudi banking sector.*

1.4 Research Questions

Four main research questions arise from the identified research problem:

What is the influence of online service quality on customer satisfaction, attitudinal loyalty and preferences in the Saudi banking sector?
What is the mediating effect of customer satisfaction on attitudinal loyalty and preferences regarding the quality of online banking services?
How does gender affect perceived quality in terms of online banking services in Saudi Arabia?
How might the double jeopardy law affect customer behavioural loyalty related to online banking services in Saudi Arabia?

The main objective of this study is to empirically examine the effect of online service quality on customer satisfaction, loyalty and preferences in the Saudi banking sector. The specific research objectives are:

1. To determine the significant quality dimensions in online banking services that influence customer satisfaction, attitudinal loyalty and preferences.
2. To explain the effects of customer satisfaction on customer attitudinal loyalty and customer preferences regarding online banking services.
3. To examine the perceived quality of online banking services based on gender in the Saudi banking sector.
4. To investigate the impact of the double jeopardy law on customer behavioural loyalty to online banking services in Saudi banks.

1.5 Definition of Key Terms

Next, definitions of key terms that are common in the financial or banking system are presented in Table 1.1.

Table 1.1: Definitions of Key Terms

Term	Definition	Reference
Efficiency	'The ease and speed of accessing and using the electronic service over a particular platform.'	(Parasuraman, Zeithaml & Malhotra 2005, p. 220)
System Availability	'A correct technical functioning and operating for service in the platform over the internet'.	
Fulfilment	'A scope to which the provider promises about service availability and delivery in the correctly form'.	
Privacy	'The extent to which the platform is safe and protects users' personal information'	
Compensation	The actions taken by service providers to compensate customers for any problems that emerge.	
Responsiveness	The efficient and quick handling of any problem customers face and resolution over a variety of communication routes.	
Contact	Assistance availability over numerous communication channels, such as the telephone or internet.	
Service Quality	The degree and direction of a discrepancy between consumer's perceptions and expectations.	(Parasuraman, Zeithaml & Berry 1985, p. 46)
Online Service Quality	'The extent to which a website facilitates efficient and effective shopping, purchasing, and delivering of products and services'.	(Zeithaml, Parasuraman & Malhotra 2002, p. 358)
Online Banking Service	A novel approach designed by financial institutions or banks to allow customers to conduct transactions through distinctive platforms over the internet.	(Chavan 2013, p. 19)
Customer Satisfaction	An overall evaluation based on the total purchase and consumption experience with a good or service over time.	(Anderson, E, Fornell & Lehmann 1994, p. 54)
Behavioural Loyalty	'A customer's commitment to do business with a particular organisation, purchasing their goods and services repeatedly, and recommending the services and products to friends and associates.'	(McIlroy & Barnett 2000, p. 348)
Attitudinal Loyalty	Customers' feeling towards products or services, and their word-of-mouth about it.	(Reichheld 2003, p. 3)

Term	Definition	Reference
Customer Preferences	A consumer's attitude towards a particular brand is hypothesised to be a function of the relative importance of each of the product attributes and the beliefs about the brand on each attribute.	(Bass & Talarzyk 1972, p. 93)
Double Jeopardy Law	An empirical law in marketing, which states, that with a few exceptions, brands with less market share in a particular industry or sector have both far fewer buyers in a specific period and less brand loyalty.	(Ehrenberg & Goodhardt 2002, p. 40)

Table 1.1 illustrates the definitions of constructs used in the current study. These concepts shaped the research model for examining the influence of online service quality on customer satisfaction, attitudinal loyalty and preferences in Saudi Arabia.

1.6 Overview of the Research Methods

The current study aims to extend the existing knowledge and understanding about customers' attitudes towards online service quality. In addition, it explores the moderating effect of gender on the perceived quality of online banking services as well as whether the double jeopardy law influences behavioural loyalty among Saudi online users.

The current study employs the mixed methods approach to test hypotheses and achieve the research objectives. A convenience sampling design was selected, and an online questionnaire was distributed to Saudi banks' customers for collecting quantitative data. Meanwhile, qualitative data were obtained by conducting semi-structured interviews with chief digital banking officers (CDBOs) in Saudi banks. Structural equation modelling (SEM) via SPSS 26 and AMOS 26 software was used to analyse the survey data for identifying the relationships between research variables. Data collected through the semi-structured interviews were organised and coded via NVivo 12 software for thematic analysis.

1.7 Contribution and Significance of the Research

The literature on the quality of online banking services has typically employed the SERVQUAL model, which is more suitable for examining traditional services. However, the Electronic Service Quality (E-S-QUAL) and Electronic Recovery Service Quality (E-

RECS-QUAL) scales are more suitable to explaining online service quality, especially the quality parameters of electronic services (Parasuraman, Zeithaml & Malhotra 2005). The aim is to enhance the operations of online banking services. This approach will extend existing knowledge concerning the quality parameters of online service quality in the Saudi banking sector and provide more profound knowledge about the existing level of quality of various aspects of online banking services: performance, features, serviceability, aesthetics and durability.

The conceptual model developed for this research aims to extend the understanding of the effects of quality dimensions on customer behaviour. Thus, the present study contributes to the literature by employing this model to evaluate online banking service quality for facilitating the enhancement of the quality of financial services in the Middle East. Therefore, the E-S-QUAL and E-RECS-QUAL scales are applied since these scales are very relevant to tapping the relevant quality dimensions. Moreover, given that the study covers local Saudi banks, it could clarify the issues and implications regarding online service quality. Thus, this research extends current knowledge about perceived quality based on gender in terms of online banking services in Saudi Arabia.

In addition, the present research examines whether the double jeopardy law is applicable to online banking services. This investigation will help banks to understand the ways in which customers interact with various brands as well as customer behaviours related to financial services, which will help banks in developing appropriate strategies to increase market penetration.

1.8 Organisation of the Thesis

This thesis is organised into six chapters, as follows:

Chapter 1: This chapter presents an outline of why the research is being undertaken and discusses the research motivations and the theoretical and practical findings. In addition, it presents the aims of the study and the research questions. Further, banking terminology is defined, the research techniques are explained and an overview of all chapters is presented.

Chapter 2: This chapter provides an overview of the Saudi banking sector and the economy. In addition, it presents the structure of the Saudi banking sector, financial

regulations, the types of banking accounts and retail banking service approaches. It also provides statistical information about Saudi banks.

Chapter 3: This chapter commences by defining service quality and describes the significance of online service quality. Then, it critically reviews the common service quality models and justifies the selection of specific quality dimensions. Furthermore, this chapter provides a review of the related literature on online service quality, customer satisfaction, attitudinal loyalty, preferences and the double jeopardy law. Moreover, it identifies the conceptual study model and outlines the research hypotheses.

Chapter 4: This chapter presents the methodological research techniques employed to achieve the study's objectives and answer the research questions. It explains the mixed methods research strategy and study design. Moreover, it describes the procedures of data collection and analysis for each approach. The chapter also provides information about the ethical approval granted by the Victoria University ethics committee.

Chapter 5: This chapter presents the data analysis approach and analysis results. In the first phase, quantitative data were gathered via a questionnaire and were analysed. SEM was performed through AMOS software to test the conceptual model relationships between the research constructs. The qualitative data, which comprise participants' comments, statements, beliefs, opinions and experiences, were analysed via NVivo software.

Chapter 6: This chapter discusses the results reported in Chapter 5 and presents implications for the banking industry in Saudi Arabia. Moreover, it discusses and reviews the outcomes in line with the literature review in Chapter 3. In addition, this chapter presents a summary of the study findings and reveals whether the hypotheses are supported. Furthermore, it outlines the theoretical and methodological contributions of this study. It also suggests managerial implications that may help decision-makers in setting strategies to improve online service quality, discusses the limitations of this study and presents future research directions. Last, conclusions are provided, including a summary of significant findings. Figure 1.1 summarises the thesis structure.

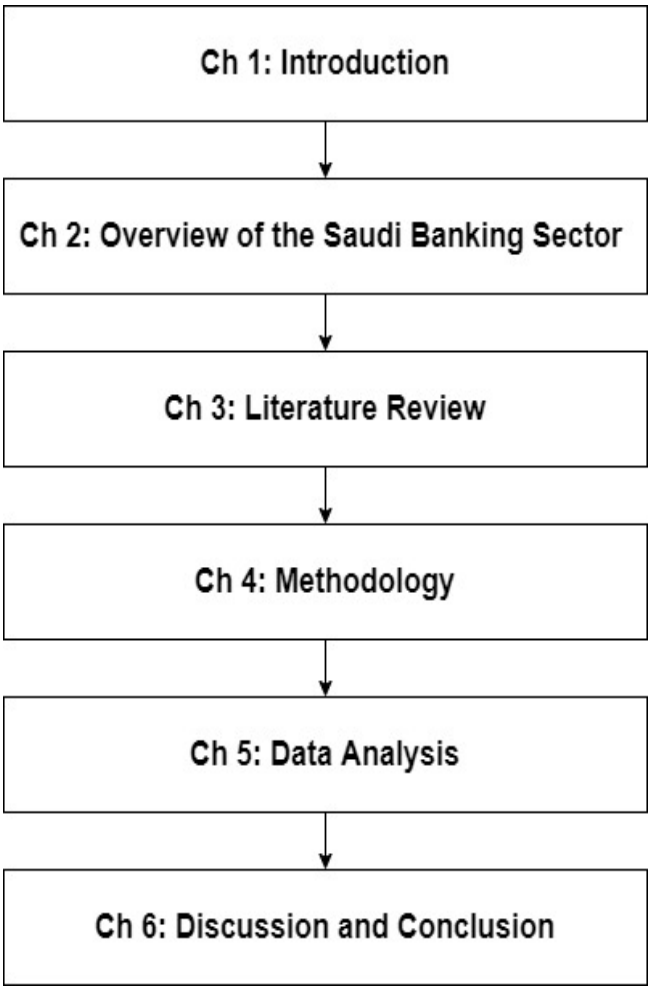


Figure 1.1: Thesis Structure

Source: *Developed for this Research.*

Chapter 2: Overview of the Saudi Banking Sector

2.1 Introduction

Since its establishment in 1932, the Kingdom of Saudi Arabia has largely experienced positive economic growth and is now considered one of the wealthiest nations in the world. The country's tremendous economic development is generally attributable to its oil and gas resources, which are estimated to be worth USD34 trillion (John 2019). Approximately 20% of the world's known oil reserves are under the jurisdiction of Saudi Arabia. The country is also endowed with other types of natural resources, such as copper, silver and phosphate. Some of the most profitable businesses in the world operate in Saudi Arabia (John 2019). According to the Saudi Arabian Oil Company's (2018) annual report, it earned profit amounting to USD111 billion in 2018 with a net income exceeding those of Amazon.com, Inc., Apple Inc. and Alphabet Inc. combined.

Recently, given the Saudi Government's increased attention to e-Government and digital applications, technology has been identified as a means to bridge social divisions, with the government committed to making substantial investments in information and communications technology. According to the Saudi Communications and Information Technology Commission's (2017) annual report, spending on information and communications technology grew in 2017 by an average of 4.6% compared with that in 2016. The report stated that by end-2017, internet penetration had exceeded 93.5% and mobile services had 40 million subscribers.

This chapter is organised as follows. Section 2.2. provides an overview of the Saudi economy, and Section 2.3 presents a review of the Saudi banking sector. Section 2.4 profiles Saudi banks' retail service approaches. Last, Section 2.6 summarises the chapter.

2.2 Overview of Saudi Arabian Economy

Saudi Arabia's economy is still largely based on oil since it generates approximately 65% of budget revenues from oil and gas exports, which constitute 25% of the country's gross domestic product (GDP) (SAMA 2019a). Hence, the Saudi economy is mainly dependent on international oil prices, given that the country is the world's largest exporter of crude oil. The economy's over-reliance on oil means that Saudi Arabia is at the mercy of

fluctuating global oil prices. To mitigate this problem, the Saudi Government has been trying to diversify the economy by expanding its financial, agriculture, and tourism sectors (Alkhateeb et al. 2017).

In 2019, Saudi Arabia's GDP was about USD792.9 billion, the 18th highest of all nations (SAMA 2019a). However, its GDP per capita was lower than that of some of its neighbours—it was ranked fourth after Qatar, the United Arab Emirates (UAE) and Kuwait. In 2019, Qatar had the highest average per capita among the GCC countries at USD62,008 per year, whereas that of Saudi Arabia was USD23,140 (The World Bank Group 2021). Consequently, although Saudi Arabia has a strong economy, some of its sectors need urgent improvement (Muye, Kaita & Hassan 2017).

Further, the Saudi labour market relies heavily on foreigners; in 2019, the private sector employed 6.5 million foreign workers, who comprised 79% of its workforce (SAMA 2019a). Expatriate workers are primarily found in the energy and service sectors, whereas nationals mostly work in the public sector. Saudi Arabia's local unemployment rate is quite high and reached 12% in 2019 (SAMA 2019a). Hence, the Saudi Government has invested heavily in higher education to equip locals with the necessary knowledge and skills to fill the gap in the private sector (Alasfour & Khan 2014).

After a few years of economic contraction due to falling oil prices in the global market, Saudi Arabia's economy recovered in 2018 and grew by 2.21% after the prices rose. In 2017, the economy declined for the first time in a decade by 0.74%. The sectors that contributed to the growth in 2018 included petroleum, which expanded by 2.85% and non-oil sectors, which grew by 2.05%. The country's GDP grew by 4% in the fourth quarter of 2018, while the private sector increased by about 3.2% in the same period (Azhar 2019).

In 2019, the government increased spending in the non-oil sectors because the country has embarked on diversifying its economy. For example, the 2019 budget increased allocations for investments and bonuses for employees in the public sector to revive the private sector. However, economic growth in 2019 was modest considering that the Organization of the Petroleum Exporting Countries agreed to reduce oil supplies to the global market in order to increase the price (Azhar 2019).

Investors' confidence in Saudi Arabia's economy has increased substantially since the launch of Vision 2030. This long-term plan has been developed by the Saudi Government to enhance all life aspects through numerous intense strategic programs, such as programs to improve quality of life, financial sector development, education, housing and privatisation (Nurunnabi 2017). Global companies, including Google LLC, Blackstone Inc. and HSBC, are already undertaking mega projects in the country. The government has implemented several programs to attract FDI into the country, and government-owned companies, such as the Saudi Arabian Oil Company, plan to sell bonds. FDI growth in the recent past has been helped by the country's stable stock market and bond issues (Mogielnicki 2019).

In addition, the government has demonstrated its commitment to boost FDI by investing in transformative projects, such as the privatisation of public sector corporations. Moreover, the country's leadership has vowed to strengthen its justice system and fight corruption in line with Vision 2030. Numerous changes have been made in government agencies to consolidate and improve their governance processes and promote professionalism in government institutions' management (Rashad & Kalin 2018).

The Saudi administration recognises that transparency is critical to transforming the country's economy. Consequently, it has improved most commercial processes, such as the registration of businesses, and has enhanced the public's access to information and services. Business regulations have also been reviewed to make them more transparent and consistent for enterprises. Fundamentally, the government wants to limit its involvement in the mainstream economy by allowing the private sector, such as the banking sector, to take over most of the business and revenue-generating activities (Mogielnicki 2019).

2.3 Banking Sector in Saudi Arabia

This section briefly reviews the essential characteristics of the Saudi banking sector and its development during the past decade. In doing so, the history of the banking sector, its structure and the nature of financial regulations in Saudi Arabia are outlined. This section also reviews Saudi banks' share market, distribution and support channels. Last, it describes the financial services offered by Saudi Arabian banks.

2.3.1 Brief History of Banking Sector in Saudi Arabia

The history of the Saudi banking sector can be traced to the beginning of the 20th century when foreign trading houses provided financial services to the trading community and pilgrims. One of the most notable players at the time was Algemene Bank of Nederland (The Netherlands). The sector was primarily dominated by money changers who served as the economy's sources of finance. The discovery of oil in the 1930s created a source of revenue for the Saudi Government. As revenues from the sale of oil increased, government spending also expanded rapidly and attracted foreign banks to establish branches in the country. The French Banque de L'Indochine and Arab Bank were the first banks to enter the country in 1948 (SAMA 2016), and local money changers were still operating.

The finance industry did not have a regulator until 1952 when the government created the Saudi Arabian Monetary Authority (SAMA) to stabilise the country's monetary system and currency. SAMA opened offices in all the major cities, but the money changers continued to provide the government with payment services. The leading money changers of the time included Al-Kaki and Bin Mahfouz Company. They served as agents for the government and would later form the first local commercial bank, the National Commercial Bank. The following years were characterised by significant growth in the sector as more foreign banks entered the market (SAMA 2020b).

However, the sector experienced its first set of problems in the 1960s when some banks encountered serious liquidity challenges mainly due to poor management and nonperforming loans. SAMA reorganised the struggling financial institutions and helped them to recover; During the 1970s, the sector experienced rapid growth and restructuring as some banks merged and foreign banks converted to joint-stock entities (SAMA 2020b). Since the 1980s, the sector has faced challenges and has alternated between periods of growth and of decline. Nonetheless, it has managed to overcome numerous challenges since its inception in the 1940s to become one of the strongest service sectors in the country (SAMA 2016).

2.3.2 Structure of the Saudi Banking Sector

The SAMA regulates the financial sector in the country and also serves as the central bank. Other partners in the Saudi Arabian financial system include retail banks, private

investment firms, specialised lenders and the stock exchange. SAMA's role is generally to oversee the country's banking industry (Rehman 2018). An institution that wants to provide financial services in Saudi Arabia must first obtain a license from the Council of Ministers based on a recommendation of the Finance Minister and reviewed by the SAMA (Saif-Alyousfi, Saha & Md-Rus 2017). Saudi Arabia currently has 13 local banks, the largest being the National Commercial Bank, followed by Alrajhi Bank (Aljazira Capital 2018). Table 2.1 presents the market shares of these Saudi banks in 2018.

Table 2.1: Market Share of Saudi Banks

No.	Bank Name	Market Share (%)
1	National Commercial Bank	20
2	Alrajhi Banking	16
3	Riyadh Bank	11
4	Saudi British Bank	10
5	Samba	8
6	Bank Saudi Fransi	8
7	Arab National Bank	8
8	Alinma Bank	5
9	Saudi Investment Bank	4
10	Alawwal Bank	4
11	Bank Aljazira	3
12	Bank Albilad	3
13	Gulf International Bank	< 1

Source: Aljazira Capital (2018, p. 1).

As shown in Table 2.1, among the local banks, the National Commercial Bank had the largest market share of 20% of the total market. The bank began operating in 1953 and has been an integral part of the evolution of Saudi Arabia's finance system. It was employed more than 8,000 people through 401 branches throughout the country. Its head offices were situated in Jeddah. The National Commercial Bank's assets were valued at about USD107 billion, which was more than the USD90 billion valuations of its closest rival, AlRajhi bank. However, Alrajhi Bank has 9,000 employees and 551 branches, which were more than that of the National Commercial Bank, and its headquarters were in Riyadh. Samba Bank was the third biggest bank in Saudi Arabia with 11% of the banking market and to date has 72 branches. The Gulf International Bank was recently

established in Saudi Arabia as the thirteenth bank but has opened only three branches in the major cities (SAMA 2019d).

Currently, there are 13 Saudi banks operating across the Saudi market, and there are 14 foreign banks operating in the country are as follows: Emirates NBD, BNP Paribas French, National Bank of Kuwait, Deutsche Bank, Bank Muscat, National Bank of Bahrain, J.P. Morgan Chase Bank NA, National Bank of Pakistan, First Abu Dhabi Bank, Credit Suisse Bank, MUFG Bank, Ltd., TC ZIRAAT BANKASI AS, Industrial and Commercial Bank of China and Qatar National Bank (SAMA 2019b). These foreign banks are large financial institutions and possess sophisticated technologies.

Table 2.2: Overview of Saudi Banks' Distribution and Support Channels

No.	Bank Name	Branches	Telebanking	Internet Banking	Call Centre	Social Media
1	Alrajhi Banking	544	√	√	√	√
2	National Commercial Bank	434	√	√	√	√
3	Riyadh Bank	310	√	√	√	√
4	Arab National Bank	138	√	√	√	√
5	Saudi British Bank	132	√	√	√	√
6	Bank Albilad	110	√	√	√	√
7	Alinma Bank	95	√	√	√	√
8	Bank Saudi Fransi	87	√	√	√	√
9	Bank Aljazira	78	√	√	√	√
10	Samba	73	√	√	√	√
11	Alawwal Bank	N/A	√	√	√	√
12	Saudi Investment Bank	52	√	√	√	√
13	Gulf International Bank	3	√	√	√	√
Total		2056				

Note: N/A = data unavailable.

Source: Saudi Arabian Monetary Authority (2019a, p. 21).

Recently, most Saudi banks have focused on developing various strategies to service customers. This is demonstrated by the fact that Saudi banks now employ social media

applications to retain and assist customers, resolve any transaction problems they have and respond to inquiries immediately (Askool & Nakata 2012). According to the SAMA (2019a), Saudi banks have 2,056 branches across the country: Alrajhi Bank has 544 branches, followed by National Commercial Bank with 434 branches and Riyadh Bank with 310 branches. As Table 2.2 demonstrates, all bank branches utilise telebanking, internet banking, call centres and social media as channels for service distribution and support.

2.3.3 Financial Regulation in Saudi Arabia

Financial regulation in Saudi Arabia is overseen by the SAMA, which, as stated in the previous section, is also the country's central bank. The agency was established under the SAMA Charter through Royal Decree Number M/23 on 16 December 1957. The three primary objectives of SAMA are issuing and consolidating the domestic currency; serving as the central bank for the government; and supervising banking institutions and money changers. The SAMA Charter has guidelines on regulating the banking sector, including about the imposition of penalties for violations of various banking rules and regulations. For example, failure by banks and money changers to submit monthly reports of their financial position to SAMA can attract heavy fines. In addition, financial institutions are required to maintain certain minimum deposits with the central bank. As the principal banker of the government, SAMA is not supposed to charge or pay interest (SAMA 2019c)

The Saudi Riyal is the official currency of Saudi Arabia as enshrined in Royal Decree Number M/6 on 31 December 1959. The principal regulation for banks is known as the Banking Control Regulation, which was issued under Royal Decree Number M/5 on 12 June 1966 (SAMA 2019c). Thus, any entity that wants to operate a bank in the country must comply with the requirements of this particular regulation. However, money changers are exempted from this regulation if they do not conduct other banking activities apart from money changing. Banking activities are described as a group of financial services that involve managing money through opening accounts, issuing letters of credit, issuing guarantee letters, checks services and managing investment funds (Alkhaldi 2016). Therefore, the Saudi banking sector is highly structured and controlled by SAMA.

2.3.4 Types of Banking Services

Banks in Saudi Arabia offers a wide range of services to their customers, including retail banking, business or corporate banking, investment banking and specialised private banking. Retail banking services are designed to meet the needs of households and small and medium-sized enterprises. They mostly include basic financial services, such as providing cheque and savings accounts, personal loans, mortgages and vehicle loans. Retail banking also covers cashier's checks, automated teller machines (ATMs), credit cards and safe deposit boxes. Individual customers can also invest in certificates of deposit and money market funds. Almost every bank in Saudi Arabia engage in retail banking, with most of them delivering their services through digital platforms on the internet and mobile banking (Baabdullah et al. 2019).

Business banking or corporate banking is another common type of banking among Saudi banks. It essentially involves providing complex financial solutions to large organisations, such as institutions and private companies, and the government's ministries and agencies. Some of the services provided under corporate banking include cash management, secured and unsecured loans and special financing arrangements. A bank may agree with a private sector corporation to finance its acquisition of another business (De Laurentis 2005). Thus, Saudi banks mostly engage in retail and corporate banking (Assaf, Barros & Matousek 2011).

Investment banking is a distinct type of banking where a bank works in the capital market to help investors buy securities of companies and governments. They also work with companies to find investors who can provide them with the funds they need in order to expand. Some of the common solutions offered by investment banks include corporate underwriting, consultancy, strategic management, facilitation of mergers and acquisitions, asset sales and business reorganisation. Investment banks also provide brokerage services and asset management to their clients (Iannotta 2014). The other type of banking practised by Saudi banks is specialised private banking, which is tailored for wealthy customers. Some of the common services provided to this group of clients include wealth management, financial advice and support, estate planning, retirement planning and trust management. Therefore, it is reasonable to conclude that the banking sector in Saudi Arabia is mature because it provides its customers with access to even sophisticated financial services (Maude 2006).

2.3.5 Types of Bank Accounts

Saudi banks provide different types of accounts to meet customers' distinct needs. Customers can choose the bank account best suited to serve their individual goals. The key types of accounts available in most Saudi banks are current accounts, saving accounts and deposit accounts. Next, these are explained in more detail:

- Current Account: It can be considered the most popular type of account. It is also referred to as a cheque account because it allows the account holder to write a cheque for cash withdrawals and deposits. However, cheques are no longer common with current accounts, given that customers can withdraw money using ATM cards. An ATM card is basically a pre-paid card that customers use to withdraw cash from a cash dispensing machine. The penetration of digital technology into the banking sector has made it possible for customers to access their accounts through the internet. Current accounts allow customers to make large transactions on a regular basis, but they do not earn interest on their deposits in such accounts. However, the number of transactions allowed is usually not restricted. Customers can deposit or withdraw money into their accounts from any branch, and there is no minimum balance limit. Nonetheless, the account is costly to maintain since most transactions require payment of service charges (SAMA 2018).
- Savings Account: It allows individuals to retain their money safely in a bank and withdraw it whenever they need it. The difference from a current account is that deposits in savings accounts earn interest. All banks that have current accounts also have savings accounts. However, interest rates for the latter are considerably lower than for deposit accounts. Unlike deposit accounts, savings accounts offer customers the flexibility of withdrawing their money at any time. Thus, it can be used for automatic checking-off against bill payments at relatively low fees. Saving accounts are usually insured, and customers will not lose money even if the particular bank collapses. The returns on savings accounts are usually lower than that on long-term investments. Customers are also required to maintain a certain minimum amount of money in their accounts (SAMA 2018).
- Deposit Account: It is a form of savings account that restricts customers from accessing their funds for a certain period. Unlike a current account that does not

earn interest, deposit accounts generate interest. The requirements for opening a fixed deposit account tend to be more stringent; for instance, the minimum amount for opening an account is high. The account targets conservative investors who may find investing in stocks and bonds risky. However, the interest earned depends on the prevailing interest regime in the country. Nonetheless, the account offers customers a guaranteed return on their money as well as safe custody of their savings. Moreover, the maturity date is highly flexible since one can invest weekly, monthly or annually. Accordingly, this account has several names, including fixed deposit, time deposit and investment deposit (SAMA 2018).

2.3.6 Types of Retail Banking Services

Retail banking involves offering financial services to private individuals and not corporate entities. It implies that the customer obtains the service for their personal use, such as a loan or the facilitation of payments through cheques. The most common retail banking services in Saudi Arabia are personal accounts, personal loans, mortgages, credit cards, bill payment, certificates of deposits and special private banking (Ishfaq, Alhajieh & Alharthi 2020).

Table 2.3: Retail Banking Services

Retail Service	Description
Personal Accounts	Allow customers to deposit and withdraw money whenever they want through various means. Customers are able to manage their accounts and use various financial services.
Loans	Offered for a relatively short-term repayment period and can be secured or unsecured. Unsecured loans usually attract higher interest rates than the secured ones.
Mortgages	Offered to customers to buy residential or commercial property and are long-term loans. Most banks generate their retail banking profits from mortgages.
Credit Cards	Allow customers to borrow a certain amount of money from a bank to buy items or withdraw cash.
Bill Payment	Allows customers to pay utility bills and government fees through various methods, such as traditional banking, phone banking and internet banking.
Cheque	Given to customers who can use them to make payments against the money deposited in their current accounts.

Money Transfers	Enable customers to transfer money locally or globally from accounts to individual or corporation accounts. This service's fee depends on several conditions, such as time, destination and exchange rate.
Private Services	Offers banking services to individuals, and hence a part of retail banking, although it is more geared to wealthy clients' needs.
Currency Exchange	Allows retail customers to obtain foreign currencies. This service is increasingly offered by banks in Saudi Arabia to individuals as cross-border transactions have increased.

Source: (SAMA 2020a).

The types of retail banking services offered, as described in Table 2.3, highlight the maturity of the Saudi banks' financial service offerings that provide them with a profitable business. Saudi banks have diversified into other types of financial services, such as stock brokerage, insurance and wealth management (SAMA 2020a).

2.4 Retail Service Approaches of Saudi Banks

The Saudi banking sector is very competitive, comprising the biggest market in the GCC region. For this reason, Saudi banks employ technology to create banking services that will allow them to retain current customers and attract new ones. This section describes the banking approaches of the Saudi banks and their level of innovation. Although banks implement advanced technologies to offer more efficient financial solutions, they also continue to conduct traditional banking services.

2.4.1 Traditional Banking Services

Traditional banking services require customers to attend personally at the bank branch for obtaining cash, transferring money and paying bills and for financial consultations (Skvarciany & Jurevičienė 2017). Some customers believe that they must visit banks to obtain the services they need. In fact, some customers still prefer traditional banking to online banking services. Consequently, most banks operating globally have a physical presence—they have established their headquarters in major cities and have opened branches throughout the country. Having local branches closer to customers has enhanced customer convenience and enabled face-to-face interactions with bank staff. Numerous customers prefer visiting bank branches to talk to a person before deciding on purchasing a financial product or seeking advice. It is arguably easier to build trust with a new

customer through a traditional banking approach because of the in-person service offered (Skvarciany & Jurevičienė 2017). However, traditional banking has challenges regarding access to information since customers must wait until the banks are open during business hours (Yap et al. 2010).

2.4.2 Telebanking Services

Telebanking involves offering customers financial solutions over the telephone. The customer, via a telephone call, can access their account details, such as the account balance, and make a transfer (Alashban & Burney 2001). The bank's support staff must first confirm the customer's identity by asking the customer to provide the identification number and answer a few security questions, and they must ask for any other information they feel is necessary to verify that the person calling is the real account holder. In Saudi Arabia, telebanking is popular among corporate staff and customers. This service has become popular since customers need not visit the bank to access details of their accounts. All Saudi banks provide telebanking services to customers through self-service portals on a 24/7 basis (SAMA 2020a). This service was developed because it reduces the waiting time in bank branches. It enables customers to access their accounts more easily and use various services, such as checking the account balance, transferring money and paying bills by following voice instructions. Furthermore, banks have installed SMS messaging in their services as the verification method to identify the user (SAMA 2020a).

2.4.3 Electronic Banking Services (Self-Service)

Electronic banking is the movement of funds between bank accounts through electronic methods. It is also called electronic funds transfer, and it has eliminated the need for paper money in conducting banking transactions. The high rate of adoption of electronic banking services by banks is attributable to the convenience, security and cost reductions associated with electronic banking (Akhisar, Tunay & Tunay 2015). An increasing number of users in the country make payments electronically by transferring funds across accounts. The key aspects of electronic banking services in Saudi Arabia are ATMs, sales points, direct deposits and self-service machines (SAMA 2020a). The ATM service is the most common form of electronic banking service throughout Saudi Arabia, with 18,882 machines located across the country (SAMA 2019a). These machines are used for withdrawing and depositing cash without the need of going to a cashier in a bank. Thus,

they provide account holders with the flexibility of accessing their funds at any time of the day. Direct deposits are also popular in Saudi Arabia, whereby customers authorise their banks to pay for their mortgages and insurance through a check-off system. Self-service machines allow customers to renew their cards, update personal information and issue cheques. Subsequently, electronic banking is now a common practice in the Saudi banking sector with many customers using at least one aspect of it (SAMA 2020a).

2.4.4 Online Banking Services

Online banking is still developing in Saudi Arabia, and 53% of account holders use it (Baabdullah et al. 2019). Even though most customers are aware of the presence of this mode of banking, some are still reluctant to use it. All Saudi banks have integrated online banking services with their traditional banking services (SAMA 2019a). However, they need to strive to convince customers to embrace this technology for accessing their banking accounts via the internet or smartphones. Online banking allows account holders to execute transactions through the internet using online portals. One can check account balances, transfer money, open an account and apply for a personal loan or mortgage (Dharmavaram & Nittala 2018). The main advantage of online banking is that it allows the account holder to access their accounts any time as long as they have an internet connection and a relevant device, such as a computer or smartphone. Furthermore, customers can interact with a bank's support staff through email, chat or social media applications (Baabdullah et al. 2019).

The penetration of the internet in the Saudi Arabian financial sector is comparatively less than in developed economies, such as the United States (US) and the UK. While the US has more customers who have opted for online banking services, only 53% of Saudi banks' customers have done so (Baabdullah et al. 2019). Some customers still prefer the traditional modes of banking service for they consider it to be safer than digital banking. Saudi banks' customers have been reluctant to adopt the technology owing to concerns about privacy and cybersecurity issues (Jehan & Ansari 2018). Despite the slow pace of adoption of internet services in Saudi Arabia, online service is the future for the population is still young and education attainment is improving significantly. Moreover, internet usage is also growing rapidly, which will help change customers' attitudes about online banking. Thus, a shifting customer profile is contributing to positive perceptions about online services (Basahel & Yamin 2017).

In contrast, Saudi banks tend to be focused on exploiting the capabilities of contemporary digital technologies, which enable them to drive financial services to the customer with high quality, accuracy and speed (Alotaibi & Asutay 2015; Rabbani 2020). The Internet of Things (IoT) is increasingly becoming part of modern retail and manufacturing industries (Del Giudice, Campanella & Dezi 2016). For this reason, the Saudi finance sector can leverage the power of IoT in gathering valuable information about customers so that they can deliver more personalised or customised services and improve efficiency in the delivery process and channels. Some of the possible applications of IoT in retail banking services include wearables, payment services, and innovative blockchain solutions (Chouk & Mani 2019). For instance, wearable devices have found their way into the banking system, where they are utilised to host applications that customers can use to access their accounts. A few banks in developed countries have already launched their wearable payment solutions (Borowski-Beszta & Polasik 2020). Therefore, IoT has the potential to overhaul the way banking services are delivered to customers in Saudi Arabia and globally. Consequently, the banking sector in Saudi Arabia and other countries should embrace IoT as a new service approach for the internet in future and enhance performance and profitability.

2.5 Chapter Summary

This chapter elucidated that Saudi Arabia has a strong economy, but some of its areas still need improvement. The country's technology market is still developing, and it provides a valuable opportunity for financial institutions to improve their services. Further, the banking sector in Saudi Arabia is mature because customers can access advanced financial services. The penetration of digital technology into the banking sector has made it possible for customers to access their accounts through the internet. In addition, Saudi banks have provided their customers with various types of banking services to satisfy a variety of financial service needs. The Saudi banking industry has faced numerous challenges since its inception in the 1940s to become one of the strongest service sectors. Financial regulation in the country is governed by the SAMA, which also serves as the central bank. The Saudi banking sector is highly structured and regulated and is closely overseen by the government's agencies.

The next chapter will present definitions of service quality and describe the significance of quality in online banking services. It will feature a review of the key models related to

service quality. Then, the chapter will reconcile the previous research on online service quality in different regions. Last, the chapter concludes by developing a conceptual model and with respective research hypotheses.

Chapter 3: Literature Review

3.1 Introduction

The previous chapter provided an overview of the Saudi banking sector and described Saudi banks' retail service approaches. This chapter provides a critical discussion of the most significant and relevant studies that cover the key constructs related to this study: customer satisfaction, attitudinal loyalty, customer preferences, perceived quality based on gender and the operations of the double jeopardy law. It is organised into 16 sections, commencing with a review of definitions of service quality (Section 3.2) followed by an overview of online service quality (Section 3.3). It also describes the significance of online service quality (Section 3.4). Further, it reviews relevant service quality models (Section 3.5), online service quality dimensions (Section 3.6) and some thinking about the service-dominant (S-D) logic perspective (Section 3.7). In addition, this chapter highlights the relationships between the main research constructs, these being the relevant quality dimensions of online banking services, customer satisfaction (Section 3.8), attitudinal loyalty (Section 3.9) and preferences (Section 3.10). This chapter also reviews perceived quality based on gender (Section 3.11) and double jeopardy law in the banking sector (Section 3.12). A research gap is identified (Section 3.13), and a research model is presented (Section 3.14). Last, research questions and hypotheses are proposed (Section 3.15). The final section presents a chapter summary (Section 3.16).

3.2 Definition of Service Quality

Over the past four decades, various theories and models have been developed to measure and evaluate quality aspects in different industries (Prakash & Mohanty 2013). However, despite these numerous approaches, quality is still considered an emerging concept, especially in online services (Akinci, Atilgan-Inan & Aksoy 2010).

Parasuraman, Zeithaml and Berry (1985) developed the SERVQUAL model, which comprises five gaps and involves 10 evaluative determinants of perceived service quality: access, communication, competence, courtesy, credibility, reliability, responsiveness, security, tangibles and understanding. Hence, they defined service quality as 'the degree and direction of a discrepancy between consumer's perceptions and expectations' (Parasuraman, Zeithaml & Berry 1985, p. 46). Alternatively, Bitner and Hubbert (1994,

p. 74) defined service quality as ‘customer’s impression of the relative superiority or inferiority of a service provider and its services’. In comparison, several authors described service quality as the overall customer attitude towards the firm (Bitner 1990; Parasuraman, Zeithaml & Berry 1988; Zeithaml 1988). Furthermore, numerous studies asserted that service quality and customer behaviour are linked (e.g., Berry, Parasuraman & Zeithaml 1988; Dabholkar, Shepherd & Thorpe 2000; Haywood-Farmer 1988; Oh 1999; Oliver 1993; Spreng & Mackoy 1996; Sweeney, Soutar & Johnson 1997).

3.3 Overview of Online Service Quality

Online services are a key facilitating driver for successful e-commerce ventures (Barhatov, Campa & Pletnev 2018). Hence, online service quality has been identified as a vital factor that affects customer satisfaction and attitude towards the reliability and features of service delivered in a virtual environment (Choi, Greenwell & Lee 2018). Online service quality has also been defined ‘as involving all levels of interaction between a customer and the cyber platform’ (Blasco-Arcas, Hernandez-Ortega & Jimenez-Martinez 2014, p. 394). It encompasses the level at which a website is used to facilitate effective, efficient online transactions.

Thus, the concept of online service quality is broadly the way that customers perceive the results of service and responses from the provider when problems occur (Ladhari 2010; Parasuraman, Zeithaml & Malhotra 2005; Santos 2003). Nonetheless, online service quality is derived from information technology and its ability to provide information to customers and the business to support efficient service delivery (Ganguli & Roy 2011). Zeithaml, Parasuraman and Malhotra (2002, p. 358) also defined online service quality as ‘the extent to which a website facilitates efficient and effective shopping, purchasing, and delivering products and services’.

Thus, technology has significantly improved the way that banks deliver services to their consumers. In addition, internet banking has made it easy for financial institutions to exchange information and interact with their customers. It has eliminated the need for account holders to interact with bank staff to perform transactions physically. Numerous studies have endeavoured to determine whether the quality of online banking services affects marketing concepts, such as customer satisfaction, attitudinal loyalty, perceived quality, value, brand image and brand equity. Internet banking services have included

several quality dimensions that affect the level of customer satisfaction and attitudinal loyalty in different ways. Therefore, it is essential to investigate service aspects in various industries, such as the financial sector (Brown, Fisk & Bitner 1994).

3.4 Significance of Online Service Quality

Quality is an essential concept that affects both companies and their customers (Yang, Z & Peterson 2004). Furthermore, the provision of online services is crucial for financial institutions (Kim, J, Kim & Kandampully 2009). Quality is considered a key to differentiating services from one another (Seth, Deshmukh & Vrat 2005). Several studies have provided evidence that customer satisfaction and service quality significantly influence customer attitudinal loyalty (Bolton 1998; Cronin & Taylor 1992; Marimon, Petnji Yaya & Casadesus Fa 2012). Sousa (2012) stated that quality is crucial in an internet-oriented process centred on content and driven by customers to consolidate and retain customer service and customer attitudinal loyalty.

Quality has become an essential concept in business and has been a critical factor that affects customer satisfaction and attitude towards services (Cronin & Taylor 1992; Grönroos 1984). Thus, financial institutions can improve their performance by offering prompt, high-quality online banking services that meet customers' expectations (Chang, T & Chen 1998). In addition, providing higher quality services leads to enhanced firms' performance and profitability (Portela & Thanassoulis 2005). Hence, banks significantly invest in increasing the quality aspects of all retailing banking services, specifically online banking services (Stamenkov & Dika 2015).

Muhammad and Rana (2012) investigated factors that affect the adoption of internet banking services in Saudi Arabia. Their study embraced a theoretical framework based on the extended technology acceptance model that includes six dimensions. They used a convenience sampling technique and gathered 150 questionnaires from university students. Their analysis results indicated that ease of use, perceived usefulness, compatibility, innovativeness and perceived credibility positively and significantly affected customers' shift to online banking services. They suggested several recommendations for banks, such as creating effective advertising strategies to motivate new customers to switch to digital financial platforms.

3.5 Review of Service Quality Models

Many models have been developed to evaluate online service quality in different contexts. Thus, the following sections will review the most significant models that emphasise service quality.

3.5.1 Gap Model

The service quality gap model was developed by Parasuraman, Zeithaml and Berry (1985). It describes service quality as the difference between customers' expectations and performance. The model is anchored on what is known as gap analysis, envisaging discrepancies between expectations and perceptions of customers and management. The model comprises five gaps to measure service quality.

Gap 1 is the difference between consumers' expectations and the management's perceptions of those expectations; the management may not know exactly what the users want. Gap 2 is the variance between what the management perceives the expectations of the consumers to be and the specifications of service quality. Gap 3 represents the variance between these specifications and the service delivery. Gap 4 is the variance between the services delivered, and the communication to consumers about these services (Jain & Aggarval 2015).

Last, Gap 5 is the variance between how consumers perceive the service and how they expect it to be delivered. The fifth gap is also influenced by the size and direction of the other four gaps related to service delivery. Moreover, the gap model reflects service quality as the function of customers' perceptions and expectations (Yarimoglu 2014). However, the gap model has focused on service delivery post hoc, and it does not determine the outcome of the encounter of service from customers' perspectives. The model is ambiguous or not explicit on the connection between service quality and customer satisfaction. Some researchers are not in consensus with the assumption that customers use or formulate their expectations to assess services owing to the lack of a reasonable tool for measuring expectations (Jain & Aggarval 2015). Assessing expectations at the outset is questionable. Figure 3.1 illustrates the service quality gap model.

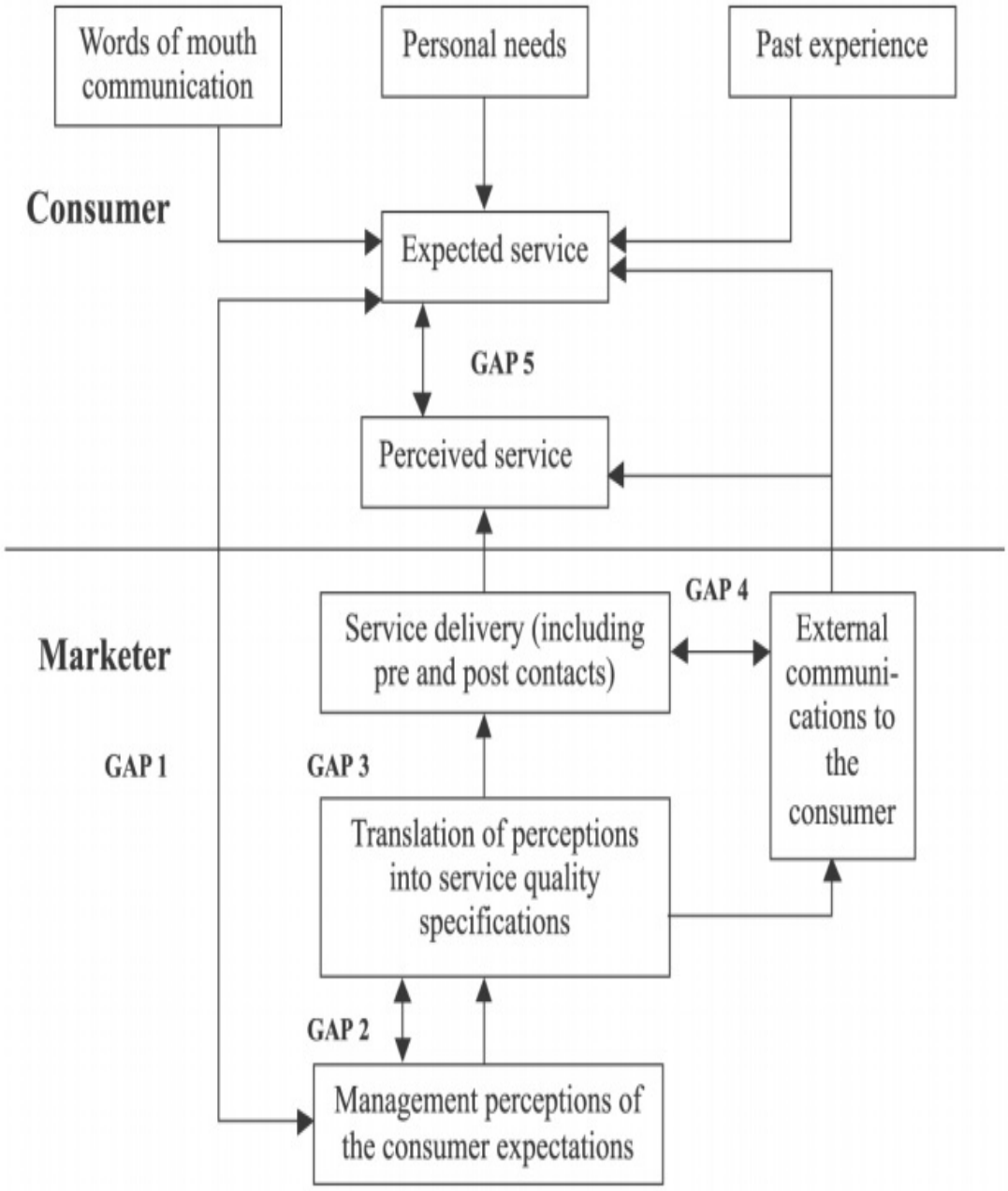


Figure 3.1: Gap Model

Source: *Parasuraman, Zeithaml & Berry (1985, p. 44).*

3.5.2 SERVQUAL Model

The original gap model consisted of 10 dimensions of service quality that were later reduced to five and renamed SERVQUAL to assist in measuring customer perceptions of service quality. Figure 3.2 illustrates this later model of service quality.

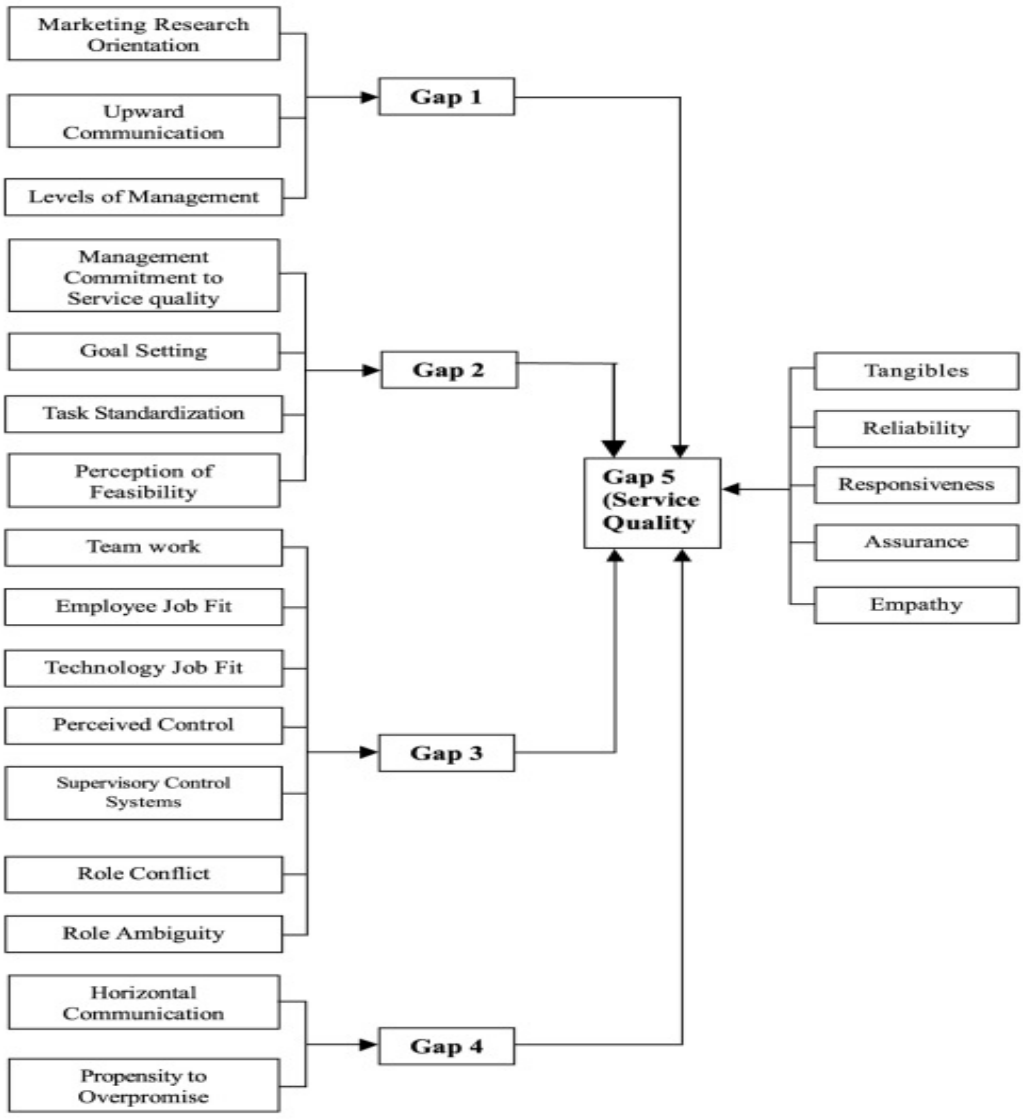


Figure 3.2: SERVQUAL Model

Source: *Zeithaml, Berry & Parasuraman (1988, p. 46).*

This model has been employed widely by researchers to measure the quality of service (e.g., Albarq 2013; Aljasser & Sasidhar 2016; Almotairi, Almeshal & Alam 2013; Hamzah, Lee & Moghavvemi 2017; Lau et al. 2013). The dimensions of the SERVQUAL model are reliability, receptiveness, tangibles, assurance and empathy. Empathy was included because it is concerned with understanding customers (Zeithaml, Berry & Parasuraman 1988).

The number of items was reduced from 34 to 22 to operationalise the model, and it did retain its five-dimensional structure. Another change was that the four gaps were described and delineated to capture the importance of communication and control

processes in managing employees (Zeithaml, Berry & Parasuraman 1988). The SERVQUAL model captures the essential elements of the gap service quality model, but it has some limitations, given that it is focused on a particular functional service quality that is applicable for specific industries, such as the banking industry (Yarimoglu 2014). The ability of this model to measure the quality of online services has been questioned because customers interact with digital platforms and systems rather than with or through physical staff (Parasuraman, Zeithaml & Malhotra 2005).

2005).

3.5.3 SERVPERF Model

Cronin and Taylor (1992) sought to establish how service quality was conceptualised and assessed and how it was associated with customer satisfaction and purchase intentions. They concluded that perceptions could predict service quality, and hence, they developed a model (see Figure 3.3) to illustrate that service quality represents consumers' attitudes. They also suggested that performance measurement was more effective in defining the level of service quality.

The model captured both the satisfaction and the attitude of the consumer regarding the service. It was assumed that service quality could be replaced with attitude and operationalised through the application of an adequacy-importance model. Thus, service quality is directly associated with perceptions but not expectations and importance weights, as Parasuraman, Zeithaml and Berry (1985) suggested.

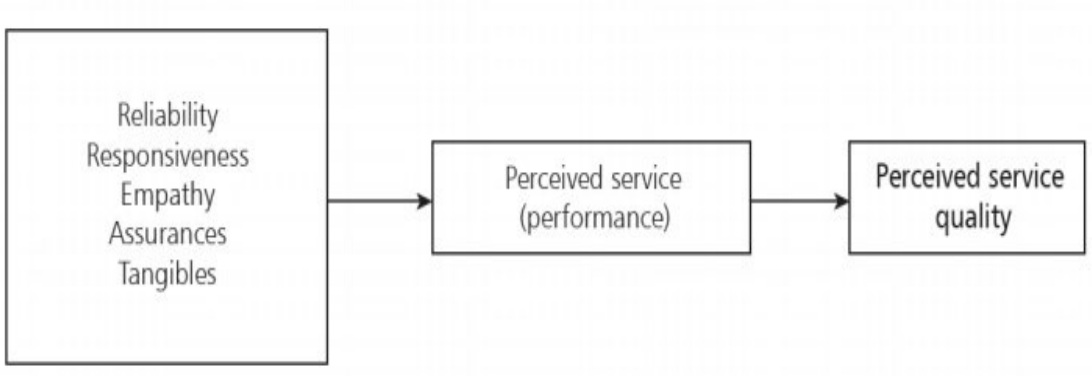


Figure 3.3: SERVPERF Model

Source: *Cronin & Taylor (1992, p. 58).*

The Jain and Aggarval (2015) model has been criticised as not being a valid measure of service quality in various industries. This model has many limitations; for example, it does not distinguish how both human and physical resources tap service quality. This model could be modified to evaluate service quality in a different context. Ultimately, this model's results need to be replicated further in many contexts to ensure its validity.

3.5.4 SITEQUAL Model

The Yoo and Donthu (2001) model evaluates the quality of internet shopping. They used a 9-item scale to tap four dimensions to measure overall site quality: visual design, ease of use, speed processing and security. Websites that recorded higher quality features had higher ratings consequentially in terms of consumer attitudes and behaviours. Thus, the SITEQUAL model was shown to measure site quality in relation to its performance. The model can also be used to measure the impact of website performance on customers' virtual behaviours (Yoo & Donthu 2001). Figure 3.4 illustrates the profiles of particular online stores with the SITEQUAL scores for the US.

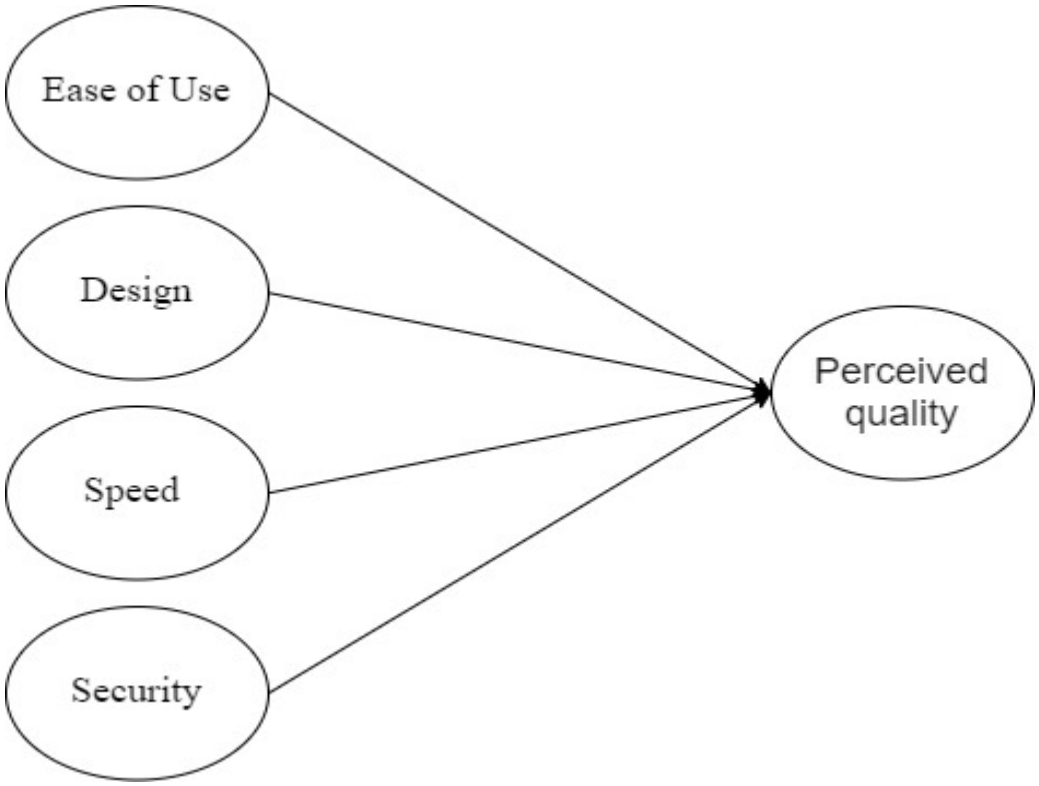


Figure 3.4: SITEQUAL Model

Source: *Yoo & Donthu (2001, p. 43).*

Although the SITEQAUL model can measure the performance of internet site activities, it is limited in that it cannot be applied for measuring all aspects of the purchasing process through a website. Furthermore, it has a narrow focus on functional service quality since it excludes the customer's perspective (Santouridis, Trivellas & Tsimonis 2012).

3.5.5 Electronic Service Quality Model

The electronic service quality (e-SQ) model combines a customer assessment of electronic service quality and its influence as well as organisational performance (see Figure 3.5). The model reveals possible deficiencies of the service provider in terms of design, information and communication gaps. These gaps usually emerge when designing, running and marketing websites. The gaps also work together to fill the fulfilment gap on the customer's side, generating other negative effects on perceived electronic service quality, value and buying behaviour (Zeithaml, Parasuraman & Malhotra 2002).

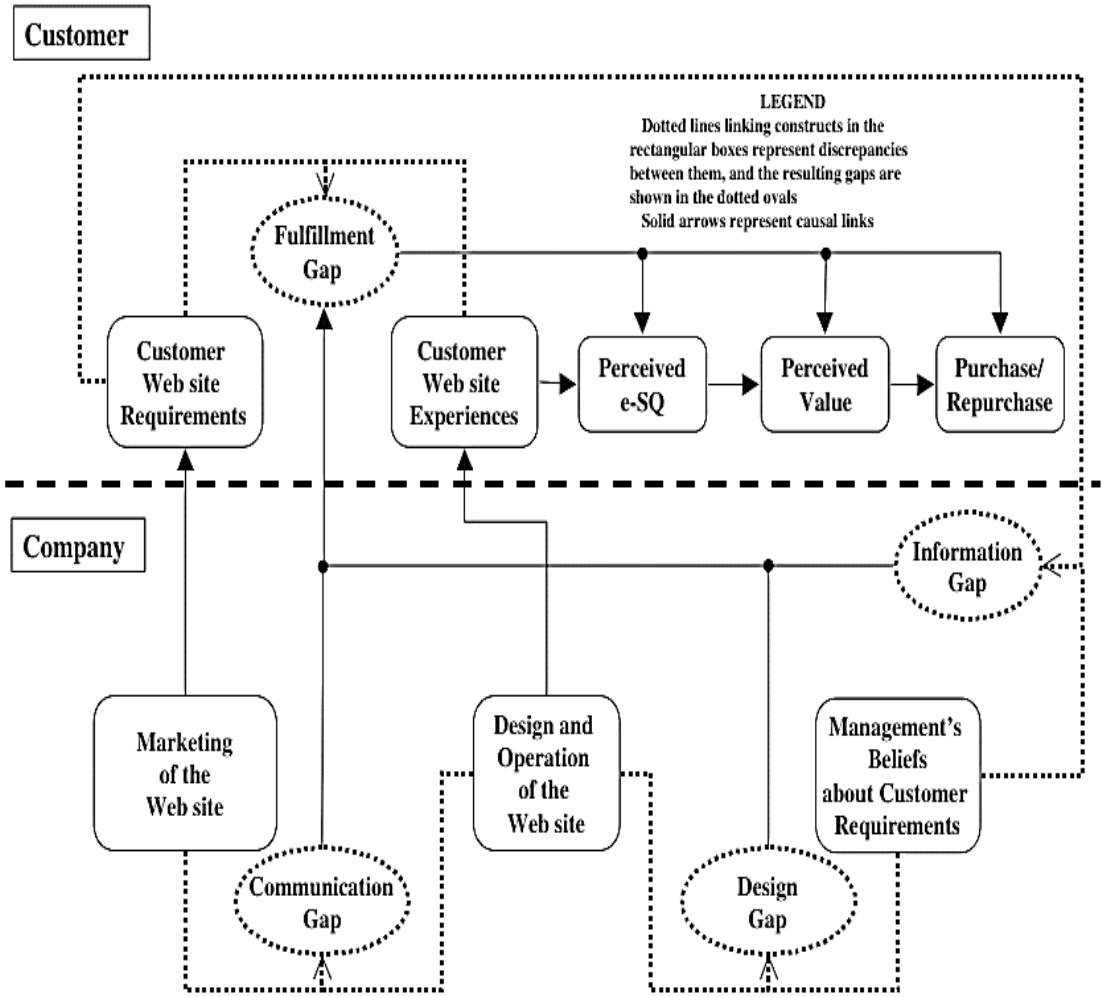


Figure 3.5: Electronic Service Quality Model

Source: *Zeithaml, Parasuraman & Malhotra (2002, p. 365).*

This model includes a gap about information that depicts the incongruity between what the customer needs from a website and what the management believes they need. The design gap refers to the inability to include all the required knowledge about the website's customers' needs. A communication gap is an inaccurate or ambiguous interpretation of what the website is trying to sell. The fulfilment gap occurs on the customer's side, and this is the total difference between what is required and what is experienced by the users of the website (Zeithaml, Parasuraman & Malhotra 2002).

The e-SQ model was developed to measure online service quality, which involves customers' interactions with website features instead of with a human. However, it was designed to evaluate technology efficiency (Hartwig & Billert 2018). Thus, the model did

not include perceived risk issues for customers while accessing digital platforms, such as privacy and security via the internet (Blut et al. 2015).

3.5.6 E-S-QUAL and E-RECS-QUAL Model

Parasuraman, Zeithaml and Malhotra (2005) developed a model based on the means–end theory. The model consists of electronic service quality (E-S-QUAL) and electronic recovery service quality (E-RECS-QUAL). The model has been used to evaluate two popular websites (Amazon.com and Walmart.com) and to measure the effects of the quality of online shopping websites on customer behaviour. Figure 3.6 illustrates the quality dimensions of online services.

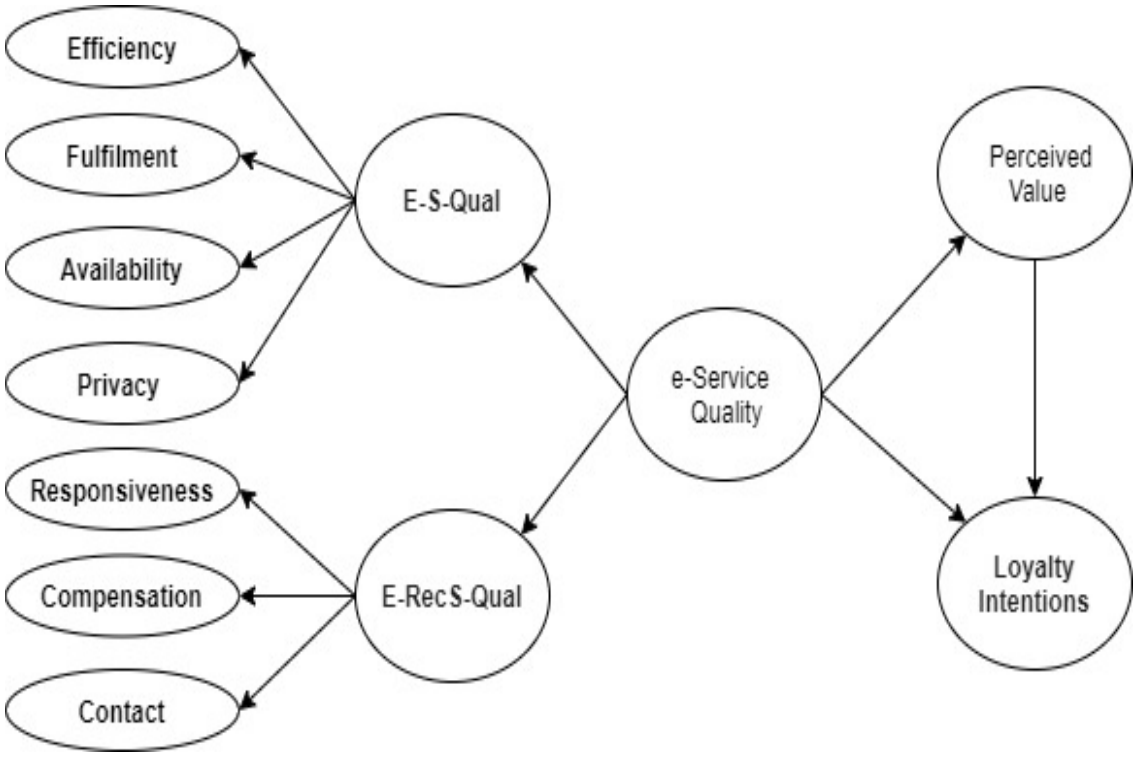


Figure 3.6: E-S-QUAL and E-RECS-QUAL Model

Source: *Parasuraman, Zeithaml & Malhotra (2005).*

The E-S-QUAL model includes four dimensions—efficiency, fulfilment, system availability and privacy—whereas the E-RECS-QUAL has three components regarding the electronic recovery service quality of websites—compensation, contact and responsiveness—for assessing whether the websites actually provide service quality. The model suggests that efficiency and fulfilment dimensions are very important in website service quality. Customers tend to assess these two dimensions when formulating their

overall quality perceptions as well as perceived value and intentions to repurchase. Nonetheless, every dimension included in the model influences how customers perceive the overall quality of websites (Parasuraman, Zeithaml & Malhotra 2005).

The E-S-QUAL and E-RECS-QUAL scales have quite stable dimensions, which are replicated in numerous studies to evaluate the quality in different industries (Akinci, Atilgan-Inan & Aksoy 2010; Rafiq, Lu & Fulford 2012; Santouridis, Trivellas & Tsimonis 2012). In addition, these scales have seven dimensions that cover customers' interactions with platforms to generate efficient experiences during the online service delivery process and beyond (Kim, M, Kim & Lennon 2006). Therefore, the E-S-QUAL and E-RECS-QUAL scales involve more induce and fit dimensions for evaluating the online service quality in different industries, such as the banking sector (Akinci, Atilgan-Inan & Aksoy 2010).

3.5.7 WEBQUAL Model

Loiacono, Watson and Goodhue (2007) developed a WEBQUAL model to evaluate websites in a more rigorous manner than preceding models. They also designed the model to reveal how the dimensions varied from each other. It was able to capture how consumers evaluated a website.

The model also seeks to show how the technology acceptance model and the theory of reasoned action can be integrated and applied to additional technology contexts, which is important when incorporating new information technologies that may emerge in the future (Loiacono, Watson & Goodhue 2007). The model comprises 12 dimensions: informational fit-to-task, tailored information, online completeness, ease of understanding, intuitive operations, visual appeal, innovativeness, emotional appeal, consistent image, relative advantage, trust and response time (see Figure 3.7).

Figure 3.7: WEBQUAL Model

Source: *Loiacono, Watson and Goodhue 2007, p. 69).*

The WEBQUAL model includes various dimensions to measure website quality, which are classified into three groups: usefulness, ease of use and entertainment. However, the model has been employed to focus on the technical features of websites. Therefore, these dimensions are more suitable for explaining the effectiveness of information technology when evaluating website quality (Santouridis, Trivellas & Tsimonis 2012).

Table 3.1 summarises the specific attributes and aspects employed in each model.

Table 3.1: Summary of Service Quality Models

Model	Author/Year	Key Features	Criticism
GAP	Parasuraman, Zeithaml and Berry (1985)	The service quality gap model is also known as the gap model. It is anchored on gap analysis, envisaging various gaps in customer interactions, which help identify variations in service quality.	The model is ambiguous about the connection between service quality and customer satisfaction. Some researchers do not agree with the assumption that customers use their expectations to examine services (Jain & Aggarval 2015).
SERVQUAL	Zeithaml, Berry and Parasuraman (1988)	This model was extended from the original gap model, and its dimensions were reduced to five—reliability, tangibles, assurance, empathy and receptiveness. The model, renamed as SERVQUAL, is widely employed to evaluate service quality.	The model captures essential elements of service quality, but it has some limitations, given that it is based on a particular context and may not be applicable to other industries (Yarimoglu 2014).
SERVPERF	Cronin and Taylor (1992)	This model illustrates that service quality does reflect consumer attitude towards quality, and it suggested that performance measurement was more effective and efficient in determining the service quality level.	The model needs to explain further how to combine human and physical resources to measure service quality. It is essential to replicate this model across different industries to increase its validity (Jain & Aggarval 2015).
SITEQUAL	Yoo and Donthu (2001)	This model measures the quality of the site in relation to its performance. It can be used to assess the impact of site quality on customer behaviours.	The model helps measure website performance but may not be applicable in other settings (Santouridis, Trivellas & Tsimonis 2012).

Model	Author/Year	Key Features	Criticism
e-SQ	Zeithaml, Parasuraman and Malhotra (2002)	This model combines customer evaluation of electronic service quality and its impact as well as organisational inadequacies, and it includes deficiencies in terms of design, information and communication gaps.	The model focuses on measuring technology efficiency, but it has limitations regarding perceived risk issues for customers, such as privacy and security via the internet (Blut et al. 2015).
E-S-QUAL & E-RECS-QUAL	Parasuraman, Zeithaml and Malhotra (2005)	This model includes seven dimensions: efficiency, system availability, fulfilment, privacy, responsiveness, compensation and contact. It is better suited to measuring website quality. It is employed in various industries.	The model has suitable dimensions to measure online service quality. Further, it is able to measure customers' viewpoints once the desired service is completed (Kim, M, Kim & Lennon 2006).
WEBQUAL	Loiacono, Watson and Goodhue (2007)	It was designed to reveal more types of dimensions than other models. It captures how consumers evaluate a website and also seeks to show how theory can be applied to additional technology contexts.	The model is effective in explaining the effect of information technology on online service quality. However, it may not be useful for offline transactions (Santouridis, Trivellas & Tsimonis 2012).

This review of service quality models has revealed certain limitations in some models. The gap model is focused on service delivery and cannot be used to determine the outcome of a service encounter from customers' perspectives. In comparison, the SERVQUAL model has challenges in measuring quality in the online service context because customers' interactions shift to interact with digital platforms instead of staff. Further, the SERVPERF model was developed to evaluate organisational performance and was designed to measure the gap between perceived performance and the ideal amount of a features rather than customers' expectations (Abdullah 2006). The SITEQUAL and WEBQUAL models were focused explicitly on the measurement features of the website rather than the core quality of online service as a comprehensive process (Santouridis, Trivellas & Tsimonis 2012). In addition, these models measure service quality during the delivery process and ignore the post-purchase process (Hartwig & Billert 2018).

Hence, the present research has adapted the E-S-QUAL and E-RECS-QUAL scales developed by Parasuraman, Zeithaml and Malhotra (2005) to investigate the influence of online service quality on customer satisfaction, attitudinal loyalty and preferences in the Saudi banking sector. There are many reasons to select these scales. First, these scales have been found to be valid and applicable for measuring online service quality in various industries in different regions (Santouridis, Trivellas & Tsimonis 2012). Second, these scales were developed based on the means–end theory; therefore, they include more suitable dimensions to measure the quality of online banking services and customer interactions with digital financial services. Last, these scales measure quality as an integrative, comprehensive process during the service delivery and post-purchase stages (Kim, M, Kim & Lennon 2006).

3.6 Online Service Quality Dimensions

The quality dimensions in the E-S-QUAL and E-RECS-QUAL scales assert that consumers often make choices about a given product or service based on four elements, attributes, benefits, emotions and personal values (Zeithaml 1988). The subsections that follow elucidate these service quality dimensions.

3.6.1 Efficiency

The most significant dimension of the E-S-QUAL model is efficiency, which refers to the speed with which customers can access information on business websites. A website can be accessed and used easily if it provides reliable applications and allows customers to read the required information easily. Moreover, upgrading information regularly and ensuring it is of high quality are important. In this way, customers have the latest information available regarding aspects such as their account, bank transactions and changes in bank policies (Jayawardhena 2004). The efficient digital platforms enable customers to access their accounts and do financial transactions faster and easier at any time. It is a critical factor that may affect customer satisfaction and attitude toward banking services (Kordnaeij, Askaripoor & Imani 2013). Moreover, a well-structured website that is simple to use enhances customer satisfaction and encourages them to use it more often.

3.6.2 Fulfilment

Furthermore, one of the most important fundamental dimensions in online service quality is fulfilment. Parasuraman, Zeithaml and Malhotra (2005, p. 220) defined 'fulfilment as the level to which the platforms have met their commitments on requests accomplished and products availability'. Fulfilment is considered a core quality dimension that affects customer satisfaction. This particular dimension of online banking provides all the necessary information. Order delivery and item availability are relevant for those websites that offer physical products; however, banks must ensure their information services are provided and acted on in a timely manner (George, A & Kumar 2014; Parasuraman, Zeithaml & Malhotra 2005).

3.6.3 System Availability

Another dimension is system availability, which contributes to customers' perceptions of value and loyalty intentions. However, banks cannot manage and control this dimension entirely because the equipment and the internet connection of customers will affect the service quality level. Nonetheless, an innovative bank would proactively identify those aspects of system availability beyond their control and devise communication channels that can easily handle customers' queries and requirements. This dimension also refers to

the scenario in which a website does not crash or freeze when customers use it to request for information online (Parasuraman, Zeithaml & Malhotra 2005).

3.6.4 Privacy

Privacy and security in online banking services refer to maintaining the confidentiality of information that banks collect from customers and ensuring that they can safely access their accounts. Information security means that customers can access their information and conduct transactions in a safe virtual environment, which prevents unauthorised access to their personal and financial information and blocks any threats, frauds and misuse of online services (Belanger, Hiller & Smith 2002). Information security consists of three concepts: confidentiality, integrity and availability.

Confidentiality is defined 'as the limitation of access, protecting users' information, and preventing unauthorised access to the platforms', whereas integrity refers to 'trust with information resources and availability refers to information services accessible' (Parker 2014, p. 32). It is also important that the online services always provide confidentiality to the system and transactions. Equally critical is providing a system free from hacking or cyberattacks. Well-maintained privacy and a security system in online banking transactions will build trust between the business and its customers, which means that the latter believe that online banking transactions are safe and secure. Thus, enhancing privacy and security matters may help to increase demand for online financial transactions (Kordnaeij, Askaripoor & Imani 2013).

3.6.5 Responsiveness

The E-RECS-QUAL model includes three dimensions related to online service quality. The dimension of responsiveness of e-services or customer support is critical in online banking services. Banks must resolve in a timely way any difficulty or query that a customer may have while using the institution's online services. To respond to customers' queries quickly, banks are usually equipped with what is generally referred to as a 'customer care centre', from which customers can obtain assistance and advice. Banks usually provide a link on their websites that enables customers to communicate with the service representative and receive a timely response. Hence, banks should set efficient procedures to ensure the response process for customer inquiries are quick and timely,

which would affect the customer attitude towards digital financial services (Ayyash 2015).

3.6.6 Compensation

Compensation is a major dimension in electronic recovery service quality, particularly in internet transactions. In this context, banks compensate customers on those occasions when a serious problem occurs regarding transactions or for discrepancies between stated policies and what the customer rightfully believed to be the case (Collier & Bienstock 2006; Parasuraman, Zeithaml & Malhotra 2005).

3.6.7 Contact

Contact with customers is another vital dimension of the quality of electronic recovery services. Although online banking services provide the best services where there is little or even no human contact, excellent customer services still require 'the human touch'. For this reason, banks usually provide call centres to their customers. These places need to respond quickly to customer queries, avoid putting customers 'on hold', listen closely to their statements, complaints or other concerns and ensure that the problem is dealt with immediately or as quickly as possible. (Parasuraman, Zeithaml & Malhotra 2005).

3.7 Service-Dominant Logic and e-Service Quality

During the initial stages of electronic channel implementation in service delivery, business managers generally believe that online presence and low operational costs will lead to a competitive advantage (Warrington, Abgrab & Caldwell 2000). However, service quality has now emerged as a vital factor for business survival and proper use of technologies (Lee, G & Lin 2005). Overall, to ensure electronic service quality on websites, businesses need to use web technology for measuring the quality of services offered (Qureshi, Zafar & Khan 2008). Online service providers could create high value for customers by offering valuable information as well as services that are different from those of their rivals (Hernández, Jiménez and Martín 2010).

Recently, internet platforms have emerged as communication lines for offering and delivering a firm's products and services (Kopalle, Kumar & Subramaniam 2020). Consequently, online service providers design platforms that lead customers to engage

actively if their perception of better service quality turns out to be true (Zhang et al. 2018). According to Zeithaml, Parasuraman and Malhotra (2002), electronic service quality involves websites facilitating effective and efficient purchase and delivery processes. Thus, these definitions reveal that electronic service quality should be ensured both in the pre-purchase and post-purchase phases. The process comprises various forms of communication between website service providers and consumers, including operations generated through communications systems. Online services require customers' evaluation during the delivery process, which subsequently guides their perception of the service's quality (Collier & Bienstock 2006). Customer experience has evolved from a singular focus on service quality dimensions to interaction (Schau & Akaka 2020).

Although the S-D logic elaborates that firms not only offer services but also afford additional solutions and benefits for customers, customers will be unable to assess the value of these benefits unless they are able to extract value from them (Woodruff & Flint 2014). In S-D logic, customers should participate with the service provider to co-create value for the service, and all stakeholders would share the created value (Vargo & Lusch 2004, 2008). The goods-dominant (G-D) logic considers output units to be the essential elements of exchange. This view emerged from the normative work about creating national wealth by producing and exporting surplus tangible goods. Conversely, the S-D logic involves the provision of a service or benefits to the units of output or products (Lusch, Vargo & O'Brien 2007).

S-D logic deems that the customer is the central operant resource that can act with all other resources (Hollebeek, Srivastava & Chen 2019). It assumes that the consumer is a joint stakeholder whose primary responsibility is co-creating firm value. Such customers could share their ideas and become involved in the process of brand development (Merz, He & Vargo 2009). Vargo and Lusch (2010) asserted that the S-D logic perspective is one in which transcending relationship views are contrasted with traditional marketing relationship views. This is referred to as the perspective of service dominance.

The role of customers, in terms of shaping the service experience and determining the service outcome, has changed from passive users and purchasers to participants who help create value. Hence, the value to customers is derived from co-created experience in connection with the firm's interactions instead of being simply at the 'end' of the company's service (Ramaswamy 2011). The consumer's engagement theoretically

creates a relationship between marketing and the client. Ashley et al. (2011) proposed that the relationship marketing theory deals with the broader conceptual view about customer engagement.

Now that mass customisation has taken over much of the business world, corporations continue to struggle to obtain many customers. Engagement and deep customer interactions are among the most important differentiators that firms need for enhancing their profitability (Brodie et al. 2013). The transcending relational perspective considers that customer behaviour is critical during the interactive experience of the various business stakeholders (Jaakkola & Alexander 2014). However, S-D logic extends the notion of co-creation by identifying how value co-creation occurs inside systems of service exchange (Akaka, Vargo & Schau 2015). Accordingly, the activities related to online co-creation can widen the scope of cost-effective approaches that make possible much closer ties and customer engagement (Greer, Lusch & Vargo 2016). Akaka, Vargo and Wieland (2017, p. 44) stated that 'a service ecosystem has several levels of interactions and dynamic networks of service exchange, which can co-create a value while also supporting several types of innovative outcomes'.

Gummesson (2008) suggested that improved service quality would positively influence company income and expenses as well as staff. Since service quality dimensions influence customer behaviour, it is important to continuously observe customers' experiences and service's performance (Troisi et al. 2019). However, information and communications technology and the internet have changed the interaction between service providers and customers (i.e., customers were shifted to virtual interactivity rather than direct interaction with staff); thereby, online service recovery would be a helpful frame for providers to convey customers' engagement with the digital platforms (Islam, Rahman & Hollebeek 2019).

The dimensions related to electronic service quality cover customer reactions and attitudes concerning the service channel. The E-S-QUAL and E-RECS-QUAL scales involve various dimensions, including efficiency, system availability, fulfilment, privacy, compensation, responsiveness and contact (Parasuraman, Zeithaml & Malhotra 2005). Elsharnouby and Mahrous (2015) reported that three dimensions of online service quality, namely, privacy, responsiveness and system availability, significantly affect the co-creation behaviours of customers in emerging economies. Notably, these dimensions

enhance the quality of service inherent in business operations, allowing firms to connect with customers on secure online platforms while offering reliable, efficient and trusted customer services. Consequently, the selected model might help to extend knowledge about customers' interaction with online banking services through applying the E-S-QUAL and E-RECS-QUAL scales.

3.8 Customer Satisfaction

Nearly all companies believe that customer satisfaction is strongly associated with business success (Nuseir & Madanat 2017). Customer satisfaction is simply 'a customer's feeling that a product or service has fulfilled its purpose according to expectations' (Kasiri et al. 2017, p. 92). Marketers cannot reliably measure the degree of satisfaction for each consumer of a given product. Fernandes and Pedroso (2017, p. 79) described satisfaction 'as a positive feeling produced during consumption of a particular product or service'. Customers can only judge whether they are satisfied with a service after they have used it for a period. In contrast, they can make rapid decisions on whether they are satisfied with certain types of products and services (Alanazi & Bach 2016).

According to the expectation confirmation theory (Oliver 1980), customer satisfaction is shaped by evaluating how well a given product or service performs in comparison to customer expectations. When expectations are met or exceeded, a positive confirmation is generated, and the customer is satisfied. In contrast, customers are dissatisfied if their perceptions of the performance delivered are lower than their expectations, which establishes a negative confirmation. Numerous factors could influence customer satisfaction, such as the reliability of services and service providers' fulfilment of their promises to customers (Peng & Moghavvemi 2015). Thus, customer satisfaction is crucial for all types of businesses because it affects their profitability and sustainability (Sheth, Sethia & Srinivas 2011).

Customer satisfaction is a concept associated with a variety of situations involving goods and services. E Anderson, Fornell and Lehmann (1994, p. 54) defined customer satisfaction as 'an overall evaluation based on the total purchase and consumption experience with a good or service over time'. When customers decide to buy products or services, they have certain expectations about how well these should function (Gilaninia, Taleghani & Talemi 2013). However, there may be a gap between their expectations and

their actual experience after using the product or service. The difference between the actual and expected performance of a product or service is customer satisfaction (Anderson, R 1973). In the next subsections, the concept is explored further and a review of studies on the relationship between the quality of online banking services and customer satisfaction is also undertaken.

3.8.1 Customer Satisfaction Overview

Ilieska (2013) explored the concept of customer satisfaction as an essential component of strategic marketing management. The specific context of the analysis was Macedonia and the representative samples comprised users of the country's public transport system. Further, the definition of customer satisfaction adopted was that it is the sense of preference or dislike that is produced when the consumer of a product or service compares its expected performance with its actual performance. It is positively influenced by a wide range of factors, such as expectation, perceived quality and perceived value. Customer expectation measures what the users of a service anticipate its quality will be before they consume it or, more likely, according to their experience from using competing brands. Their expectations are influenced by what these potential customers may have learned through advertising, word-of-mouth and predictions of the firm's ability to provide that level of quality in the future. Customer expectations and other indexes that affect customer satisfaction help to determine the drivers of satisfaction, which may improve customer experiences with a particular service or product.

Alghwery and Bach (2014) developed a model to extend the knowledge about customer satisfaction. They employed a descriptive qualitative approach to discover the significant factors that influence customer satisfaction. The outcome of the study was a customer satisfaction model that hypothesised pricing and service quality as factors that strongly influence customer satisfaction. They suggested that marketing managers should focus on improving the quality of services or products that meet customer expectations by ensuring that these are designed and delivered to impress the customer.

Matin and Kibria (2014) scrutinised the influence of customer satisfaction on businesses. The setting of their study was the UK's telecom operators, namely Vodafone, T-Mobile, O2 and Orange. They collected data through focus groups conducted with users of the four companies' mobile phone services. Matin and Kibria were motivated by the fact that

every business entity has certain unique features that make it competitive in its respective market space. They discovered that customer satisfaction has a significant influence on the level of success of businesses. They recommended that firms should understand customers' needs in order to produce high-quality services that meet customer expectations and maintain firms' performance.

In addition, Özer, Argan and Argan (2013) examined the influence of mobile service quality on customer satisfaction in Turkey and used a questionnaire to collect primary data from 1,000 respondents. The results showed that entertainment services provision, mobile device compatibility, ease of use, perceived risk and availability positively and significantly influenced customer satisfaction.

Santouridis, Trivellas and Tsimonis (2012) evaluated online service quality in Greece via the E-S-QUAL scale using data collected from 227 participants through a questionnaire. They employed multiple regression analyses to examine the relationships between research variables. The results revealed that all four dimensions of this scale affect customers in the e-commerce context in Greece. Perceived quality, value and loyalty are all significantly influenced by efficiency. However, privacy has a positive and statistically significant impact on perceived quality and value. In addition, their study contributed to verifying the E-S-QUAL scale in a different context.

H Yang and Tsai (2007) employed the E-S-QUAL and E-RECS-QUAL scales to assess service quality in e-commerce in Taiwan. They gathered primary data through an online survey from 278 participants and used SEM for model testing. The results showed that all quality dimensions have a positive effect on customer satisfaction and loyalty. Further, Rafiq, Lu and Fulford (2012) evaluated online service quality by applying the E-S-QUAL scale in the context of the UK. They used a questionnaire to collect data from 491 participants and employed SEM to analyse the relationships between constructs. The findings indicated that all four quality dimensions have a significant and positive impact on perceived quality. They considered efficiency, fulfilment and systems availability as core dimensions for online service quality, and privacy as an order-qualifying criterion for service protection. This result is attributable to the fact that customers may have more trust in providers' security systems before deciding to access their accounts.

In a comparative study, Kassim and Abdullah (2010) investigated the relationship between perceived service quality, satisfaction, trust and loyalty in the context of e-commerce. They collected primary data from 357 Malaysian and Qatari individuals through a convenience sampling technique and used SEM to measure the relationship between research constructs. They found that that perceived service quality significantly affected customer satisfaction and loyalty in both countries.

Hammoud, Bizri and El-Baba (2018) examined the quality impact of electronic banking services on customer satisfaction in Lebanon. They used a survey to gather evidence from the country's banking sector and received 258 valid responses. Their data analysis through SEM revealed that the quality dimensions of electronic banking service—efficiency, ease of use, reliability, responsiveness and communication process, system privacy and security—have a significant and positive effect on customer satisfaction.

3.8.2 Customer Satisfaction in Banking Industry

This section reviews the related literature on online banking services in different global regions to demonstrate the significant association between the quality dimensions of online service and customer satisfaction.

Mbama and Ezepue (2018) examined the relationship between customer perceptions, satisfaction and loyalty, and the performance of banks in the UK. Their web-based questionnaire yielded 206 valid responses. Their analysis results confirmed that customer experience with digital banking services was influenced by service quality, perceived value, engagement and assumed usability. They also noted that customer experience, satisfaction and loyalty strongly influenced the banks' financial performance.

Amin (2016) investigated how the quality dimensions of internet banking services influence customer satisfaction and loyalty in Malaysia. They aimed to understand customer attitudes to online service and help banks to establish effective strategies to build long-term with customers. They collected empirical data from 520 participants through a survey. Their findings indicated that the quality dimensions of internet banking services (i.e., website efficiency, user-friendliness, site organisation and personal need) significantly and positively influence customer satisfaction and loyalty.

Jham (2016) analysed the role of customer satisfaction in internet banking services in the UAE banking sector. Of particular interest were the factors that affect customer adoption of these services. A random sampling design was used, and 441 questionnaires were collected from six local banks. The results showed that the factors that positively influence customer satisfaction in an online banking environment were reliability, efficiency, comfort, security, dependence and confidence. In addition, the level of trust is a mediating factor between customer satisfaction and online banking services. Therefore, bank managers should take more actions to increase customer satisfaction by ensuring that the bank website is safe, efficient and reliable.

Paschaloudis and Tsourela (2015) applied the E-S-QUAL and E-RECS-QUAL scales to evaluate the quality of online banking services in Greece. They gathered data from 487 questionnaires and employed multiple regression analysis to measure the relationship between study constructs. Their findings indicated a significant and positive correlation between all seven quality dimensions and the overall perception of online banking services. Their study extended the understanding of methods to determine the strengths and weaknesses of financial services provided via the internet in terms of quality and to help handle any shortage.

Furthermore, Almotairi, Almeshal and Alam (2013) used the SERVQUAL model to investigate the influence of online service quality on customer satisfaction in selected banks in Riyadh. A purposive sampling technique was applied to collect data from 100 participants through a questionnaire. The findings revealed that tangibles, reliability, responsiveness and empathy positively and significantly affected customer satisfaction. Moreover, tangibles and reliability were the most significant dimensions that influence overall customer satisfaction.

Rod et al. (2009) scrutinised the relationship between online service quality dimensions and customer satisfaction in New Zealand. They collected data from 300 participants through a survey and used SEM to measure the relationship between study variables. The findings indicated that there is a strong association between overall online service quality and customer satisfaction. Rod et al. suggested that banks could maintain customer satisfaction by offering a high-quality online service and facilitating digital financial solutions conveniently and cost-effectively.

Kheng et al. (2010) examined the influence of service quality on customer satisfaction and attitudinal loyalty by applying the SERVQUAL model. A questionnaire was used to collect data from 238 participants in Penang, Malaysia, and regression analysis was applied to explore the relationship between variables. The study demonstrated that reliability, empathy and assurance positively and significantly influence customer attitudinal loyalty. In addition, customer satisfaction has a mediating effect on customer attitudinal loyalty. However, since the study focused on Penang, it needs to be replicated across the country to facilitate generalisation of its results.

Alhaliq and Almuhirat (2016) scrutinised the influence of online banking quality on customer satisfaction in the Saudi banking sector. Data collected from 100 survey respondents were used to test hypotheses via the *t*-test. The findings demonstrated that ease of use, trustworthiness and security positively and significantly affect customer satisfaction. The study concentrated on one region in Saudi Arabia; hence the results cannot be generalised. In addition, Aljasser and Sasidhar (2016) examined the impact of service quality on customers' perceptions and satisfaction in Saudi Arabia. They used six dimensions of the SERVQUAL model: access, communication, competence, tangibility, empathy and reliability. A total of 613 responses were analysed via statistical tests such as the *t*-test, coefficient correlation and chi-square. The results showed that all six quality dimensions positively and significantly affect customers' perceived quality as well as customer satisfaction.

Furthermore, Ankit (2011) examined the factors that influence customer satisfaction related to online banking services in India. They used a questionnaire to collect primary data from 250 participants who use internet banking services. They found that banking needs, core services, responsiveness, cost-saving, convenience and privacy positively influenced the overall customer satisfaction with online banking. They also considered the effects of other factors, such as the availability of basic features and the certainty of service continuation, in ensuring customer satisfaction. Banks could increase customer satisfaction by focusing on most of the factors identified in this study.

Lau et al. (2013) employed the SERVQUAL model to assess the quality of online banking in Hong Kong and the impact on customer satisfaction. They found that all the SERVQUAL model dimensions were important to Hong Kong banks; however, responsiveness, assurance, reliability and tangibility were paramount because customers

in Hong Kong sought high-quality and confidential financial services. Moreover, Ariff et al. (2013) examined the impact of quality on customer satisfaction and attitudinal loyalty in the context of internet banking in Malaysia. They modified the e-SQ model to test the relationship between study constructs and used a random sampling design to gather data from 265 respondents. Their results showed that all model constructs strongly affected the perceived quality of online banking services. In addition, Taleghani, Ganjinia and Sadatmahaleh (2013) investigated the influence of the quality of online banking services on customer satisfaction in Iran. They employed the SERVQUAL scale to examine the relationship between variables and revealed that the accountability and empathy dimensions had the greatest positive influence on customer satisfaction, followed by assurance and reliability. Although these studies were conducted in different regions, such as India, Malaysia and Iran, and the culture of those countries varies, the results of all studies showed that the quality dimensions of banking services have a positive and significant effect on customer satisfaction.

Jun and Palacios (2016) examined the influence of the quality dimensions of mobile banking services on customer satisfaction in the US. They used a qualitative approach and collected 803 individual comments about the quality of these services of 13 financial institutions. They applied the critical incident method to identify the aspects of mobile banking considered by customers. A list of 17 dimensions was generated and classified into two groups: mobile banking service quality and mobile banking application quality. The results demonstrated that accuracy, convenience, ease of use, diversity and improvement are the most significant factors influencing customer satisfaction or dissatisfaction. These results need to be replicated by conducting empirical research to ensure the validity of the effects of quality dimensions in the context of mobile banking services.

Herington and Weaven (2007) explored the influence of online service quality on customer relationships in the Australian banking sector. They employed a convenience sampling design to gather data from 200 online banking users. The findings indicated no association between online service quality, delight, e-trust and customer relationships. The study also found that banks cannot create a strong relationship with customers through online service quality alone. Simultaneously, customer attitude towards banking services can have greater effects on other factors. This study opened up room for further investigation into how service quality influences customer satisfaction in the banking

industry. In a subsequent study, Herington and Weaven (2009) examined the influence of service quality on customer satisfaction with online banking services in Australia. They used a convenience sampling design to collect data from 200 respondents. They showed that personal needs, site organisation and user-friendliness have a significant and positive impact on customer satisfaction with online service quality. In contrast, the efficiency dimension has a non-significant effect on customer satisfaction. This study needs to be replicated across most regions in Australia for generalisation of these results.

Alhawary and Alsmeran (2017) investigated the influence of internet service quality on customer satisfaction with Islamic retail banks in Jordan. They selected various dimensions to measure internet service quality: reliability, ease of use, efficiency, website design, privacy and responsiveness. Analysis of data from 208 respondents who use online banking services showed that ease of use, website design, responsiveness and privacy positively and significantly influence customer satisfaction, whereas the reliability and efficiency dimensions have a non-significant influence. Further, the study provided some managerial recommendations regarding improving the quality of online banking services to practitioners in these banks.

A George and Kumar (2014) explored the impact of quality dimensions on customer satisfaction with online banking services in India. A survey was administered to 406 valid responses. The constructs measured in their study were reliability, website attributes, fulfilment, efficiency, responsiveness, privacy and security. The results showed that all the quality dimensions, except website attributes and efficiency, influenced customer satisfaction. In an earlier study, Yoon (2010) found that the quality dimensions strongly affected customer satisfaction regarding commercial banks in China. The study employed a random sampling design to collect 224 questionnaires from university students. The research model comprised the antecedents of design, speed, security, content and support. Nonetheless, the findings of the two studies were in agreement with the assertion that the quality dimensions of online banking services are directly related to customer satisfaction.

Notably, the review presented thus far about the literature on the quality of online banking services includes studies on different regions, such as Malaysia, India, Hong Kong, Greece, Australia, Saudi Arabia, the UAE, the UK and the US. Most studies were in agreement about the importance of quality in the context of online banking services and have emphasised various dimensions. For example, Herington and Weaven (2009) found

that the personal needs, site organisation, user-friendliness and storage dimensions affected customer satisfaction in Australia. Rod et al. (2009), Almotairi, Almeshal and Alam (2013) and Amin (2016) confirmed that the quality dimensions of online banking services have a direct effect on customer satisfaction.

A review of the literature about online banking services provided evidence that quality dimensions affect customer satisfaction (e.g., Alhawary & Alsmeran 2017; Aljasser & Sasidhar 2016; Almansour, Alhajla & Almansour 2015; George, A & Kumar 2014). This finding is supported by the findings of Z Yang and Peterson (2004), who asserted that customer satisfaction drives attitudinal loyalty whereas quality dimensions affect customer satisfaction. Therefore, service providers should offer an adequate level of quality, especially in a competitive marketplace such as Hong Kong. Hence, the present study proposes that there is a strong association between online service quality dimensions and customer satisfaction in the Saudi banking sector.

3.9 Customer Loyalty

Customer loyalty denotes the tendency of customers to make repeated purchases (Oliver 1999). Furthermore, customer loyalty is an essential marketing concept that is given high attention by managers because it has a strong positive effect on firms' performance (Anisimova 2007; Kumar, V & Shah 2004). According to J Lee, Lee and Feick (2001) customer loyalty is a crucial factor that leads to stable long-term performance of firms. Chochoľáková et al. (2015) stated that customer loyalty is a significant factor in customers' repurchase decision to order more financial services from their current bank.

Hence, marketing scholars have classified customer loyalty into two types: attitudinal and behavioural (Baldinger & Rubinson 1996; Bowen & Chen 2001; Chaudhuri & Holbrook 2001; Cheng 2011; Dick & Basu 1994). Attitudinal loyalty has been defined as 'the consumer's predisposition towards a brand as a function of psychological processes, and this includes attitudinal preference and commitment towards the brand' (Jacoby & Chestnut 1978, p. 80). In addition, attitudinal loyalty has been identified as customers' feelings towards products and services and their word-of-mouth about a particular product or service (Reichheld 2003, p. 3). Meanwhile, Chaudhuri and Holbrook (2001, p. 83) defined behavioural loyalty 'as the customers' intention to repurchase and patronise the product or services'. Next, the following subsections present a detailed discussion on

customer attitudinal and behavioural patterns related to the quality of online banking services.

3.9.1 Attitudinal and Behavioural Loyalty

The Katz (1960) functional theory of attitudes posits that attitudes execute four different functions: utilitarian, knowledge, value-expressiveness and ego-defensiveness. Different authors have defined the term in various ways, and no consensus has been reached on a general definition. Beerli, Martin and Quintana (2004) described the concept of customer attitudinal loyalty as the fundamental philosophies of relationship marketing on the basis of the understanding that interactions between the firm and customers have the potential to attract and retain customers.

Russell-Bennett, Härtel and Worthington's (2013) research based on Katz's theory explored how each function was related to the dimensions of attitudinal loyalty in Australia. A consumer focus group was the source of primary evidence for this study. The focus group technique was applied to gather in-depth information from four participant groups. Each group had six participants. Two groups had both male and female participants, and the third and fourth groups had only males and only females, respectively. The purpose of conducting four different focus groups was to identify gender interaction. The results revealed that the function of ego-defensiveness basically concerned what customers think and feel about a particular brand. Specifically, attitudinal loyalty towards a brand influences people to share their thoughts with others.

Further, Sayani (2015) sought to determine the drivers of attitudinal loyalty in the UAE. Data collected from 300 respondents were analysed through stepwise regression to measure the relationships between research constructs. The results showed that the respondents mentioned customer satisfaction, convenience and efficiency as the top-ranked factors. Meanwhile, service quality, customer satisfaction, convenience and efficiency were also found to significantly influence customer attitudinal loyalty. The findings provided evidence that higher customer satisfaction established customer retention and positive word-of-mouth about bank services. The study has two limitations: it relied on cross-sectional data and collected a small sample from the target population.

Hong and Cho (2011) attempted to determine whether consumer trust affected attitudinal loyalty in the business-to-consumer marketplace. Their empirical research involved

administering a questionnaire to 222 active online shoppers in South Korea. The key finding was that trust emerged as a strong intermediating factor between itself and attitudinal loyalty. The implication is that people will not recommend brands to others if they do not trust the institutions offering them. Further, Thaichon, Lobo and Mitsis (2014) evaluated the antecedents to attitudinal loyalty in the case of internet service providers. They applied a qualitative approach by reviewing and scrutinising the most relevant articles and identifying aspects that customers consider when evaluating the service providers' quality. This investigation also involved determining how attitudinal loyalty is formed through cognitive and affective evaluations. The key analysis outcome was that attitudinal loyalty is formed through trust, customer satisfaction and value. Consequently, customer trust is very important in building attitudinal loyalty towards a brand.

Thakur (2014) explored factors that influence customer satisfaction and loyalty in the context of mobile banking services in India. The study was motivated by the growing number of people using smartphones to execute banking transactions. A questionnaire was designed to measure the relationship between research constructs and 433 valid responses were obtained. Partial least squares structural equation modelling (PLS-SEM) was employed to evaluate the relationship between the research constructs: usability, customer satisfaction, customer service and attitudinal loyalty in mobile banking services. The findings indicated that customer satisfaction had a positive and significant influence on customer attitudinal loyalty. Moreover, usability and service quality had an indirect impact on attitudinal loyalty.

Zehir and Narcıkara (2016) investigated the effect of online service quality on perceived value and attitudinal loyalty in the context of e-retailing in Turkey. They employed the E-S-QUAL and E-RECS-QUAL scales to measure customer perspectives about e-retailing quality. They collected primary data from 645 participants through a questionnaire. The results indicated that there is a strong relationship between e-service quality and loyalty intentions. Moreover, perceived value affects the relationship between e-service quality and loyalty intentions and acts as a mediator variable.

Butt and Aftab (2013) scrutinised how consumer attitudes towards Islamic financial solutions and electronic service quality impact customer satisfaction and loyalty. The context of their analysis was Islamic banking services. Out of the 350 questionnaires distributed, 292 completed questionnaires were received. They found that perceived

electronic service quality enhanced customer satisfaction through the high quality of internet banking services. Furthermore, the attitude towards Islamic banks' financial solutions positively affected the perceived electronic service quality and customer satisfaction through internet banking services.

Veloutsou (2015) sought to determine whether brand evaluation, satisfaction and trust influenced attitudinal loyalty with brand relationships as the mediating factor. The context of the study was Glasgow in Scotland, and the participants were 189 female consumers of lipsticks. Primary data were collected through a questionnaire. A key finding was that brand relationship has a strong impact on attitudinal loyalty towards particular brands of lipsticks. However, brand relationship was not found to play a moderating role between brand trust, customer satisfaction and attitudinal loyalty. Nonetheless, consumer engagement is critical to creating positive connections that will encourage customers to share their experiences with others.

The present study's literature review on attitudinal loyalty revealed that attitudinal loyalty is affected by numerous factors, such as customer satisfaction, value and service quality. Hence, it is essential to investigate the influence of online service quality on attitudinal loyalty in the Saudi banking sector. Examining this concept can contribute further knowledge regarding customer behaviour in relation to online service quality.

The theory of post-purchase behaviour suggests that consumers consider many factors while making a purchase decision (Chang, K et al. 2010; Sharifi & Esfidani 2014). Some of these factors include the maximisation of precision, the minimisation of effort, the minimisation of negative emotions and the maximisation of the ease of justification. In addition, consumers might have to rely on the limited information they have about a particular product or service in their decision-making (Bettman, Luce & Payne 1998).

While numerous definitions of behavioural loyalty have been suggested, all tend to agree that a loyal customer is one who might buy products or services repeatedly from a particular organisation (e.g., Grewal, Levy & Lehmann 2004; Jacoby & Kyner 1973; Jones & Sasser 1995; Sweeney & Swait 2008; Zeithaml, Berry & Parasuraman 1996). In this regard, McIlroy and Barnett (2000, p. 348) defined customer loyalty as 'a customer's commitment to do business with a particular organisation, purchasing their goods and services repeatedly, and recommending the services and products to friends and

associates'. Hence, behavioural loyalty towards a brand is partially influenced by the amount of information that consumers possess (Macdonald & Sharp 2000).

Piha and Avlonitis (2015) established that service quality in retail banking in Greece influences attitudinal loyalty. They collected 989 questionnaires from customers who defected from retail banks and employed SEM to test hypotheses. The results indicated that a lack of service quality level results in a negative customer attitude, which may lead to adverse effects on behavioural intention as well. Consequently, account holders are most likely to switch their accounts to a competitive bank if they are not satisfied with the service quality level they have received. Although the study had a large sample size, it still had some limitations; namely, it collected quantitative data and applied a cross-sectional research design instead of a longitudinal design to measure behavioural loyalty. Therefore, the study has not provided accurate predictions about behavioural loyalty in this area.

Quach, Thaichon and Jebarajakirthy (2016) probed how the dimensions of an internet service provider's service quality affected behavioural loyalty to high-technology services in Thailand. They collected data from 1,231 internet users, and categorised customers into groups based on their usage patterns. They found that the dimensions of service quality influenced behavioural loyalty to high-technology services. Their evaluation of internet service quality perceptions showed that the effects differed between groups of customers.

K Chang et al. (2010) examined the relationships between service quality dimensions, customer satisfaction and attitudinal loyalty in China. The dimensions assessed were perceived service value, service convenience, perceived service guarantee strength, customer satisfaction and attitudinal loyalty. A structured questionnaire was used to collect responses from 498 participants, which were analysed through statistical approaches. They used a 7-item Likert scale to measure the research constructs. The results showed that customer satisfaction had a significant and positive impact on attitudinal loyalty and was indirectly affected by service convenience and perceived service value. Therefore, it would be reasonable to state that customer perceptions of service value and service guarantee strength act as mediating factors in the relationship between customer satisfaction and loyalty. The instrument in this study was developed to measure attitudinal loyalty instead of behavioural loyalty.

The present study investigates the influence of online service quality on customer satisfaction, attitudinal loyalty and preferences. Hence, it is essential to distinguish between attitudinal and behavioural loyalty. Thus, the literature review reveals that attitudinal loyalty has been found to be affected by various factors: customer satisfaction, service quality, service value and service convenience. In contrast, behavioural loyalty has been found to be affected by brand size. Therefore, it is necessary to scrutinise the 'attitudinal loyalty' domain and determine its effect on customer behaviour towards online banking services in the Saudi banking sector.

3.9.2 Attitudinal Loyalty within Banking Industry Context

Ensuring attitudinal loyalty has become an essential strategy for financial institutions and banks owing to the ever-increasing rivalry between financial organisations in the banking industry. Nevertheless, attitudinal loyalty to online banking services does depend on various factors, such as satisfaction and service quality (Almansour, Alhajla & Almansour 2015; Amin 2016; Beerli, Martin & Quintana 2004; Peng & Moghavvemi 2015; Sayani 2015; Veloutsou 2015; Yang, Z & Peterson 2004). Numerous studies have been undertaken to determine the relationship between attitudinal loyalty and online service quality (e.g., Albarq 2013; Ariff et al. 2013; Kaura, Prasad & Sharma 2015; Quach, Thaichon & Jebarajakirthy 2016; Thaichon, Lobo & Mitsis 2014).

Chocholáková et al. (2015) attempted to quantify the extent to which additional purchases of banking solutions influenced attitudinal loyalty in the Czech Republic. Data collected from 459 customers were analysed through statistical tests. The study sought to establish the relationship between customer satisfaction and loyalty. The evaluation involved dividing customers into two groups: satisfied and dissatisfied respondents. The attitudes of account holders were compared with reference to their tendency to be loyal to the bank. A main result of the analysis was that satisfied customers were most likely to recommend their bank to their friends. In addition, satisfied customers were most likely to continue using their bank in future as well as to decline offers from other financial institutions. Moreover, loyal customers believed their banks would meet their personal needs, such as investments, savings and mortgage loans.

Boonlertvanich (2019) provided an overview of service quality and satisfaction dimensions as the features that create a bank's wealth in Thailand. A structured

questionnaire was developed to gather data from 400 participants and SEM was used to measure the study variables. The results showed that customers' perceptions of service quality are influenced by customer satisfaction, attitudes and behavioural loyalty. The study was limited by its inability to find causality. The study provided an analysis of customer interaction with the online banking system from the perspective of loyalty and the bank's effort to enhance the effects of these value propositions for improving business. The study focused on factors that motivate and drive individuals to seek online banking services.

A similar study by Akinci, Atilgan-Inan and Aksoy (2010) employed the E-S-QUAL and E-RECS-QUAL scales to examine the relationship between online service quality and attitudinal loyalty in the Turkish banking industry. They used a questionnaire to collect primary data from 2,017 online banking users across 13 banks. Their findings indicated that all quality dimensions other than contact (i.e., efficiency, fulfilment, system availability, privacy, responsiveness and compensation) positively and significantly affected attitudinal loyalty. These results were somewhat expected since online users might prefer to use digital communication channels to address any inquiries related to their experiences.

In the context of Iran, Ghane, Fathian and Gholamian (2011) sought to understand how e-satisfaction and e-service quality influence e-loyalty through an empirical study. They collected data from 835 participants and employed SEM to examine the relationship between research constructs. The findings indicated that e-service quality and e-satisfaction have positively and significantly affected e-loyalty. Also, the results showed that e-satisfaction has a mediating effect on e-loyalty through quality dimensions in the context of online banking services.

Additionally, Amin (2016) found that internet banking service quality strongly affected customer satisfaction and loyalty in Malaysia. Empirical data were collected through a survey, which returned 520 completed questionnaires. The dimensions of online banking quality that were tested were individual need, site design, user-friendliness and website efficacy. Each of these dimensions was noted to positively affect the quality of online banking services, which was vital in ensuring attitudinal loyalty. Thus, attitudinal loyalty and online banking quality influence each other through their cardinal dimensions. The study applied a cross-sectional design; therefore, it could not address behavioural loyalty.

Albarq (2013) investigated the impact of service quality on attitudinal loyalty in Saudi Arabia, specifically within local banks. The study collected 422 valid questionnaires from local Saudi banks' customers. The findings indicated that to enhance attitudinal loyalty, banks should improve the quality level of their services. The study has provided evidence that the significant dimensions of service quality are empathy, assurance and reliability. Furthermore, the study concluded that although customers are satisfied with banks' services and evaluate the services positively, banks must still enhance and improve quality levels to protect their market share. Therefore, service quality is becoming a very important aspect of online banking services because it enables banks to go beyond the traditional banking services and customer anticipations.

Marimon, Petnji Yaya and Casadesus Fa (2012) examined the impact of online service quality on attitudinal loyalty in Spain. They collected 428 responses through an online survey that they developed by adjusting the E-S-QUAL and E-RECS-QUAL scales. They identified three dimensions of the E-S-QUAL scale in the internet banking services, and two of the E-RECS-QUAL scale. They concluded that the adjusted versions of the e-service model scale were valid tools for assessing electronic quality and electronic recovery. The results showed that the efficiency and receptiveness of websites directly affected customer attitudinal loyalty.

Furthermore, Shankar and Jebarajakirthy (2019) examined the factors that affect customer attitudinal loyalty towards internet banking services in India. Their structured survey collected data from 1,028 respondents with Indian retail bank accounts. They used SEM to analyse the relationships between research constructs and indicated that service reliability, security and privacy significantly affected attitudinal loyalty to online banking services. Therefore, they recommended that Indian banks employ moderated mediated mechanisms to enhance brand loyalty, which might increase customer attitudinal loyalty to internet banking services.

Levy (2014) examined whether the usage of online banking services influenced attitudinal loyalty. A questionnaire was used to collect data from 260 respondents and SEM was performed to analyse the relationship between variables. Levy asserted that there is a negative correlation between the usage level of online services and attitudinal loyalty. Conversely, there is a positive relationship between customer satisfaction and

attitudinal loyalty, perhaps due to the elimination of human contact in executing transactions.

Peng and Moghavvemi (2015) explored the influence of service quality on customer satisfaction and attitudinal loyalty in the Malaysian banking sector. They considered 15 banks across the country and collected 748 valid questionnaires. They used SEM to analyse the study constructs and showed that attitudinal loyalty in online banking services depends on service quality dimensions and other factors, such as customer satisfaction and bank image. In measuring service quality by applying the six dimensions of online banking, they examined the relationship of attitudinal loyalty with other variables. They concluded that online banking service quality had a significant impact on attitudinal loyalty.

Bloemer, De Ruyter and Peeters (1998) investigated the relationships between banking service quality, image, customer satisfaction and attitudinal loyalty in the Netherlands. They designed their questionnaire as an instrument to collect primary data and obtained 2,500 responses. They employed a variety of statistical tests to scrutinise the relationship between research variables. The findings indicated that image had an indirect effect on attitudinal loyalty through perceived quality. In comparison, service quality and customer satisfaction had a positive and significant impact on attitudinal loyalty.

In summary, customer loyalty can simply be described as a phenomenon whereby customers tend to make repeated purchases of a product or a service (Beerli, Martin & Quintana 2004; Chang, K et al. 2010; Peng & Moghavvemi 2015). It has been categorised into attitudinal and behavioural loyalty (Chang, K et al. 2010; Veloutsou 2015). Attitudinal loyalty refers to a person's positive feeling about a brand that drives them to tell others about it (Albert, Merunka & Valette-Florence 2013, p. 905). Previous studies have found that attitudinal loyalty may be influenced by customer satisfaction, brand image and commitment. Konuk (2018) stated that attitudinal loyalty is mostly influenced by brand awareness, image, perceived quality and price of the product or service. Conversely, behavioural loyalty is the habit of buying items from a specific company (Quach, Thaichon & Jebarajakirthy 2016; Veloutsou 2015). Interestingly, a person can be behaviourally loyal to a brand but not attitudinally loyal, and vice versa (Beerli, Martin & Quintana 2004; Chang, K et al. 2010).

3.10 Customer Preferences

The increased penetration of internet users throughout the world has changed how banks and financial institutions operate and offer their services. With great advances being made in technology, customers have a chance to perform most of their service needs online (Alhusein & Sadi 2015). Understanding consumer preferences is vital in mapping the target customers of a commodity and developing an effective contact or communication strategy (Pitta, Franzak & Fowler 2006). Online banking services are considered a technology suitable for a large segment of customers worldwide; therefore, understanding customers preferences will help banks develop appropriate strategies (Sohail & Shanmugham 2003).

Further, brand equity is a concept that has gained notable recognition in the past three decades because of its role in promoting business performance. It has been categorised as an intangible asset that influences brand loyalty and the financial value of an organisation. Marketers exploit the value of brand equity in their marketing strategies. Even though the concept has been defined and described by many scholars, it basically refers to the additional value attached to a particular brand in comparison to others in the same markets. It encompasses the consciousness, perception and loyalty that customers collectively have towards the brand (Castañeda, Galindo & Suárez 2018).

Hence, understanding customer preferences is essential for retail managers because it enables them to identify and target those customers who are most likely to purchase. Retailers can focus on explaining retail support with respect to various elements, such as the store's location, the frequency of customers visiting the store and the store choice preference. The success of organised retail stores depends on how retailers create and deliver value to customers through their distinct retail formats. In this regard, Bass and Talarzyk (1972) defined consumer preferences as 'a consumer's attitude toward a particular brand is hypothesised to be a function of the relative importance of each of the product attributes and the beliefs about the brand on each attribute'.

In relation to online banking services, various scholars have attempted to identify the factors that individuals consider when evaluating banking facilities. Maulana, Wiryono and Purwanegara (2019) analysed consumer preferences for banking services and hypothesised that consumers prefer online banking services. They described consumer

preferences as the inclination of individuals to choose online banking services based on network location, geographical convenience, waiting time, operational hours and automatic notifications. Notably, access to bank transactions anywhere and anytime has become quite convenient for numerous consumers. Online banking services offer the greatest utility for most consumers, in which they are willing to trade-off personal information to acquire services.

These findings confirm those of Clemes, Gan and Du (2012), who studied the factors that influence customer decisions to adopt internet banking in New Zealand. They concluded that consumer preferences are modelled by convenience, user-friendliness, perceived risks, self-image, price and demographics. These studies emphasised that factors that influence online banking adoption are independent of the consumer's income but are, nevertheless, influential in consumer choice.

3.10.1 Customer Preferences Overview

Identifying the various drivers of customer preferences for online banking services is critical to discerning the intersection between consumer preferences and service quality. Ananda, Devesh and Allawati (2020), Decker and Trusov (2010) and Namahoot and Laohavichien (2018) considered this topic in their respective studies on online banking, which is now a global phenomenon. Ananda, Devesh and Allawati (2020) examined the various factors that drive the gains made by online banking services in Oman. They used a questionnaire to collect primary data from 200 customers of Omani retail banks and employed multiple linear regression to examine the relationship between variables. They identified the main drivers of online banking as perceived usefulness by consumers, website features and other useful features and awareness.

Decker and Trusov (2010) found similar results on estimating aggregate consumer preferences in Germany based on online consumer reviews. They applied a qualitative approach by gathering about 20,000 individual reviews regarding four big brands that sell mobile phones in the German market. They posited that the attendant consumer preferences for online services and products are derived from review-based results and the perceptions of such products. Moreover, Namahoot and Laohavichien (2018) introduced the aspect of consumer intention in Thailand to employ internet banking based on the quality of service. They employed a questionnaire to collect primary data from 505

participants who accessed online banking services and utilised SEM to analyse the data. The results revealed that the concept of service quality is a major driver of consumer preference for using online banking services. Further, perceived risk is the fundamental mediating factor in customers' decision to embrace online banking services.

Lin, Wang and Hung (2020) and Sołtysiak and Suraj (2014) examined the determinants of customer preferences for online banking services, by focusing on the quality of service. Lin, Wang and Hung (2020) scrutinised the factors that drive the acceptance of internet banking services in Taiwan. They analysed primary data collected from customers as well as service providers. The results revealed that all factors identified, namely, perceived usefulness, ease of use, perceived risk and satisfaction, have a positive and significant influence on Taiwan banks' customers tendency to accept and use online banking services. Similar results were found by Sołtysiak and Suraj (2014), who investigated preferences regarding online banking services of young customers in Poland. They designed a survey to collect primary data from 897 respondents. The results showed that young customers were more aware and preferences of internet banking services. They estimated the level of public interest in internet banking services and identified factors that influence the choice of these services. They also focused on particular customers, an approach that helps banks to determine current and future targets.

Moreover, a few studies proposed that customer satisfaction and customer preferences are linked (Ayo et al. 2016; Maulana, Wiryono & Purwanegara 2019; Ramseook-Munhurrun & Naidoo 2011). Next, a review of the main studies on the relationship between customer satisfaction and customer preferences is presented.

Gbadeyan and Akinyosoye-Qbonda (2011) examined the quality impact of internet banking services on customer preferences in Sierra Leone. Their statistical tests on data collected from 360 respondents through a questionnaire revealed that the quality dimensions of internet banking services offered by banks significantly affect customer satisfaction and preferences. Hence, they strongly recommended that decision-makers should take measures to enhance security and privacy to ensure banks provide the highest level of online banking services.

Ayo et al. (2016) primarily focused on electronic banking users' behaviour that drives their attendant banking preferences, ranging from electronic service quality and customer

satisfaction and attitudes in Nigeria. They collected 254 valid questionnaires and employed SEM to analyse data. Their findings revealed that the various customer perceptions about electronic banking service quality can enhance customer satisfaction and preferences for using online banking platforms. They identified the significant quality dimensions that influenced customers' perceptions: the efficiency of the support team, system availability, reliability and responsiveness.

Maulana, Wiryono and Purwanegara (2019) investigated the factors underlying consumer preferences for banking services in Indonesia. They predicted that services and features are important aspects for customers and influence customer preferences, particularly in the banking sector. Their online survey yielded 655 valid responses from customers of Indonesian banks. They demonstrated that convenience and service quality are major drivers of customers' banking service preferences. Customers are ready to trade-off the inclusion of mandatory banking features, such as notifications and information, to access online banking services.

A similar study by Ramseook-Munhurrun and Naidoo (2011) discussed the issue of the quality of internet banking service and its attendant impact on customer satisfaction and customer preferences in Mauritius. The authors employed the SERVQUAL model to conduct this study and collected primary data from 242 customers who accessed online banking services. They identified four important dimensions that affect customer behaviour towards internet banking services: accessibility, ease of use, responsiveness and security. They also identified security as a critical component that drives customers to embrace internet banking services.

3.10.2 Customer Preferences in the Banking Industry

Clemes, Gan and Du (2012) revealed various factors that influence a customer's decision to embrace internet banking services in the New Zealand banking sector. They obtained primary data from 462 questionnaires. They hypothesised that a typical customer's decision to accept and utilise internet banking service is a function of convenience, internet access, user-friendly websites, price, marketing communication, perceived risks, self-image, demographic characteristics and word-of-mouth. They found that customers typically decide to adopt internet banking service owing to the desire to derive some level of utility, chiefly, excellent quality and consistent services. They also noted that the

customer preference to adopt online banking services is anchored on the attendant quality. Further, the various derivatives that underpin customer preferences to embrace online banking services are anchored on the attendant quality of service. Nevertheless, they also revealed that although internet banking service is customers' preferred mode of transaction, it is generally hamstrung by a lack of reliable internet access.

In this regard, Dauda and Lee (2015) and Harris et al. (2016) outlined similar findings on the relationship between the quality of online banking services and customer preferences as the overarching factor of the growth in online banking services. Dauda and Lee (2015) attributed consumer preferences for online banking services to the pervasive nature of information technology platforms, which have greatly improved in terms of convenience, features and service quality. They further posited that while strong online banking services are a major imperative for increasing traction among individuals' be an acceptable change seeking convenience, these are critical drivers of improved customer service delivery as an outcome of service quality.

Harris et al. (2016) examined the assumption that younger customers are more interested than mature customers in the US in using online banking services. They employed a survey to evaluate various banking services among multiple age groups to ascertain their preferences. Their findings indicated that although most customers are interested in using new technologies, such as internet banking services, younger customers are better able to adapt to emerging technologies. The study suggested that age is not actually an absolute barrier to accepting new technology.

This review of literature on customer preferences regarding the quality of online banking service revealed that customer preferences is an essential component of customer attitudes to online banking quality (Ayo et al. 2016; Dauda & Lee 2015; Gbadeyan & Akinyosoye-Qbonda 2011; Harris et al. 2016). However, the concept of customer preferences requires further exploration in the online service context. In addition, examining this term will contribute valuable knowledge to enhance understanding of customers' attitudes towards online service quality. To fill this knowledge gap, the present study examines the influence of online service quality on customers' preferences in the Saudi banking sector. Further, the study explores whether customer satisfaction mediates customer preferences through the quality dimensions of online banking services.

3.11 Perceived Quality Based on Gender

Gender role influences individuals to adopt online services and this influence significantly extends to how quality affects customers' perceptions of these services. Males have often been known to be culturally more likely than females to be influenced to adopt new technologies. However, numerous studies have asserted that there is a difference among consumers based on gender once they adopt and use technology (Park et al. 2019). Eagly and Wood (1999) developed the social role theory and suggested that males and females have different roles depending on their social role, which affects their behaviour.

Therefore, gender has emerged as a main factor affecting consumer satisfaction, thereby further influencing the loyalty of customers in financial services (Belás, Chocholáková & Gabčová 2015). A variety of literature supports the idea that gender is a critical factor that affects how customers perceive the quality of online services (Jeon & Jeong 2017; Sebastianelli, Tamimi & Rajan 2008; Shi et al. 2018). Thus, the subsequent subsections will review the effect of gender on customer perceptions of quality, and specifically on online services.

3.11.1 Perceived Quality Based on Gender in Service Context

Zeithaml (1988, p. 3) identified perceived service quality as 'customer's assessment of the overall superiority or excellence of the service'. However, Parasuraman, Zeithaml and Berry (1985, p. 42) explained that 'customer's evaluation of overall service quality depends on the gap between expectations and perceptions of actual performance levels'. Hence, the perceived service quality is the difference between customers' expectations and perceptions about a particular service that they have already received (Coulthard 2004).

Numerous scholars have examined the moderating effect of gender on perceived service quality in different industries. Kwok, Jusoh and Khalifah (2016) investigated the influence of service quality on customer satisfaction as well as the gender effect on customers' perceived service quality in the tourism industry in Malaysia. They employed SEM to analyse 301 questionnaires and reported that the quality dimensions positively influence customer satisfaction, with females more satisfied than males.

Another study, by Bendall-Lyon and Powers (2002), examined the gender effect on satisfaction and loyalty towards the healthcare services in the US. They used a questionnaire to collect primary data from 283 patients and analysed pooled cross-sectional data. Their findings showed that there was a significant difference between genders over the perceived quality of healthcare service. Males were more satisfied than females in numerous quality dimensions.

Furthermore, Richard et al. (2010) examined customer behaviour towards US pharmacy websites. They administered a questionnaire to collect data from 261 respondents. The findings indicated that the effectiveness of information, entertainment and internet experience were significant factors influencing customer attitudes. In addition, there are differences between male and female attitudes regarding web navigation behaviour. The study supported that sharing previous customers' feedback would affect potential customers' attitudes and pre-purchase evaluations for both genders.

A review of the literature identified that gender affects how customers perceive service quality across various industries.

3.11.2 Perceived Quality Based on Gender in Banking Context

Karatepe (2011) studied the gender effect as a moderator variable between service quality and customer satisfaction. A systematic sampling technique was used to collect data from customers of 14 retail banks operating in North Cyprus. A total of 855 valid questionnaires were returned and hierarchical multiple regression analysis was used to analyse the data. The study revealed that all quality dimensions have a significant impact on customer satisfaction. Further, males and females differ in terms of their perceptions and evaluation of financial service quality. The empathy and reliability dimensions have more impact on females than on males with reference to customer satisfaction. This difference in perceptions arises owing to the different orientations and emphasis of the two genders.

Sanchez-Franco, Ramos and Velicia (2009) analysed the role of gender and its effect on the relationship between online service quality and attitudinal loyalty in Spain. They revealed that gender has a moderating effect on customers' perceptions about online service quality. In addition, there are differences in perceptions among male and female groups. Females were affected more than males through the relationship between trust

and commitment, whereas males were more influenced through satisfaction and commitment relationships. Thus, managers should redirect marketing efforts and use an appropriate strategy to meet customer expectations depending on consumer segments.

Aljasser and Sasidhar (2015) examined gender-based customer perceptions about various retail banking services in Saudi Arabia. They collected 499 valid questionnaires (from 220 males and 279 females). They employed chi-square analysis of the data to identify the difference between the two groups under investigation. The findings showed a significant difference between males' and females' perceptions of banking services; males were more satisfied than females about different service methods.

Teeroovengadum (2020) investigated the role of gender between the quality dimensions of online banking service and customer satisfaction and loyalty in Mauritius. Data were collected from 282 customers of retail banks across the country through a questionnaire. SEM was employed to measure the relationships between study variables. The analysis results revealed that gender has a moderating effect on customer satisfaction through some quality dimensions of online banking services. The study asserted that there was a difference between males and females regarding perceived environment quality. While the environment service quality dimension had a positive and significant impact on males, it was insignificant for females. Hence, the study noted that banks should design appropriate strategies for each target segment to maintain customer satisfaction and loyalty towards online banking services.

In contrast, Ladhari and Leclerc (2013) scrutinised the impact of online financial services on attitudinal loyalty and assessed the role of gender as a moderator. They conducted a survey to collect data from 376 customers of various banks in Canada. The outcomes indicated that there was a significant association between the study's constructs, including online service quality, satisfaction and loyalty. However, the results indeed did not support gender as a moderator variable in their proposed model.

Overall, many studies showed a significant difference in perceived quality among males and females towards online banking services (Belás, Chochoľáková & Gabčová 2015; Karatepe 2011; Sanchez-Franco, Ramos & Velicia 2009; Teeroovengadum 2020). Therefore, the present study should take into account gender as a moderating variable that

affects the relationship between online service quality and customer satisfaction, loyalty and preferences in the context of the Saudi banking sector.

3.12 Double Jeopardy Law

Double jeopardy is a concept first introduced in the 1960s by McPhee (1963) to explain the observed patterns of consumers' purchase behaviours. The term was initially used for a long time in the justice system to prevent the state from using multiple forms of prosecution. McPhee was a social scientist who applied the term double jeopardy to explain amiability and trends towards particular behaviours (Sharp, B & Riebe 2005). The term was later used by a marketing statistician, Andrew Ehrenberg. The concept of double jeopardy is described as a phenomenon or empirical law that causes brands with smaller market shares to experience low purchases and low brand loyalty (Ehrenberg, Goodhardt & Barwise 1990). This law posits that the number of buyers and loyal customers for a particular brand depends on its popularity (Bandyopadhyay, Gupta & Dube 2005; Ehrenberg & Goodhardt 2002; Wright & Riebe 2010).

3.12.1 Overview of Double Jeopardy Law

A popular brand holds a greater proportion of the market share. It need not be the oldest in the particular market space or the most traditional product or service. In fact, a newcomer can be the most popular brand if it is the most dominant (Sharp, B & Riebe 2005). When a brand has the double jeopardy advantage, it becomes difficult for less popular brands to encourage customers to buy from them repeatedly and become less loyal to this brand. The reason could be the notion among many people that most products or services are bought because these are the best quality. However, this belief is not always true since many factors influence consumers' purchase decisions. Therefore, the concept claims that the high level of loyalty to, and purchases from, large brands is self-evident when compared with smaller ones (Baldinger, Blair & Echambadi 2002). However, this phenomenon does require more research, specifically in the context of online services in the Saudi banking sector.

Further, although banks pay more attention to creating competitive advantages or employing advanced technologies to differentiate their financial services to achieve high performance and maximum profit, they should consider their brand size as an essential instrument to attract customers (Jahanzeb, Fatima & Mohsin Butt 2013).

The following section reviews many studies that have scrutinised the impact of this concept on customer loyalty in repertoire and subscription markets.

3.12.2 Double Jeopardy Law in Repertoire and Subscription Markets

Greenacre et al. (2015) addressed the challenge of measuring double jeopardy in what is known as the repertoire market, where customers purchase multiple offerings in a product category consistently. They proposed a new method that would not require large samples of data. Specifically, they tested the new method in the instant coffee market in the US. The outcomes of the experiment were proximate measures for detecting consumer buying behaviour in the market. Wright and Riebe (2010) conducted a test on whether brand defection had any impact on double jeopardy. They also examined the impact of the Scholastic model on the probable brand defection rates. In fact, most of the brand defection in all the markets tested was significantly influenced by the class evaluated and the market share of the principal brand.

In addition, Heiens and Pleshko (2014) sought to determine the presence of double jeopardy in the retail services market. They examined coffee shops in Kuwait and collected data through surveys answered by 618 customers. Customer loyalty and market share were positively related among the retailers whose establishments varied in size. The concept of double jeopardy was applicable to coffee shops in Kuwait. Furthermore, double jeopardy was evident in the overall retail coffee shops even after distribution intensity was treated as a moderating factor. Nevertheless, distribution was not the only factor that influenced the phenomenon of double jeopardy.

B Sharp et al. (2002) sought to identify the presence of double jeopardy in subscription markets. They found that less popular brands had a less stable customer base, probably since larger brands have more customers and repeat patronage because they are more available. The churn rate for small brands was also high because they had fewer customers and were more likely to lose them. Subscription markets, such as telecommunications, insurance and banking, are likely to have established jeopardy patterns owing to their stable repertoires (Sharp, B, Wright & Goodhardt 2002). The study noted that the pattern of double jeopardy was present within stable repertoire buying, especially in relation to customer defection and retention rates. A further investigation revealed that double jeopardy is caused by asymmetries in familiarity and distribution, which implies that

some brands are bigger than others. Subsequently, unpopular brands have fewer clients, who purchase less often than do customers of larger brands (Ehrenberg, Uncles & Goodhardt 2004).

Pantouvakis and Lymperopoulos (2008) conducted a study to discover the relationships of physical dimensions and interactivity of services on customer satisfaction in the Greek transport sector. The data gathered from 388 respondents found that the physical element is more important for customers evaluating the services. The study found that customer satisfaction is not guaranteed to influence service customer loyalty. Also, McDonald (2010) examined factors that influence the churn rates of season ticket holders for football clubs in Australia. The study employed survey and actual behaviour to collect data from 4,500 season ticket holders. The findings indicated the length of relationship and the number of matches attended were the key variables influencing on churn rates. The study concluded the reward schemes were not enough to ensure loyalty and management should concentrate their efforts to focus on intangible features which might reduce churn rates.

Bandyopadhyay, Gupta and Dube (2005) investigated the double jeopardy effect on the relationship between consumer choice experience and buying behaviour. Their study was triggered by the findings of a previous analysis that small brands are disadvantaged as regards personal-level choice experiences of either loyal or switching consumers. Small bank brands are even exposed to brand-switching owing to a weaker attitude-choice relationship. The study did not find a double jeopardy effect on small brands that was so strong that it would be impossible to reverse the problem. Thus, it would require a deeper understanding of these consumer experiences to formulate strategies that can respond to the needs and expectations of loyal and switching customers. Therefore, the study suggested several managerial implications for a small brand, whereby they could develop innovative strategies for a particular segment (loyal and switching consumers) instead of directing all resources for targeting all customers in the market.

Pleshko and Alwugayan (2009) scrutinised the impact of the double jeopardy law on customer loyalty in Kuwait, focusing on mutual funds in the banking sector. They developed a self-administered questionnaire to collect data from investors across the country. The sample size of this study was 300 respondents with mutual fund accounts. Pleshko and Alwugayan applied the correlation coefficient test to measure the relationship between three market share indicators. They found that the double jeopardy

law affected investor loyalty when banks offer mutual funds. However, smaller banks may possibly encounter a long-term challenge in increasing market share and customer loyalty in the current market. Moreover, banks that have a high market share might increase their share through customer switches from the rival banks or through newcomers.

Therefore, it is reasonable to conclude that the double jeopardy law in the subscription markets can be described as a mathematical selection effect that characterises the switching between brands within customers' stable repertoires and can help explain why churn occurs. Numerous studies have examined the law in different industries, and it has also been tested in financial services extensively (Winchester & Winchester 2020). Hence, the present study extends it to Saudi Arabia as an emerging market and thus extends the knowledge about double jeopardy law, which has not been adequately developed in the Saudi banking industry. To this end, this study investigates the double jeopardy law in the context of online banking services and attempts to provide evidence whether market share drives loyalty, just as has been the case in so many other markets where this law has been established.

3.13 Research Gap

The extensive literature review has established that most studies have employed the SERVQUAL model to examine the quality of online banking services globally. In contrast, only a few studies have applied the E-S-QUAL and E-RECS-QUAL scales to analyse customer satisfaction and attitudes towards online service quality. In addition, very few studies have examined this issue with respect to the Saudi banking sector. Consequently, more studies in this area need to be conducted for contributing more knowledge about Saudi bank customers' behaviours and perceptions about the quality of online banking services. Therefore, this research applies the E-S-QUAL and E-RECS-QUAL scales together to scrutinise the influence of online service quality on customer behaviour in the Saudi banking sector.

The present study attempts to address the literature gap about the quality of online banking services by investigating the influence of online service quality on customer satisfaction, loyalty and preferences in the Saudi banking sector. In addition, the proposed model examines the direct and indirect effects of customer satisfaction on other customer

behaviour patterns, such as attitudinal loyalty and customer preferences in relation to the quality of online service. Furthermore, the current study explores the impact of gender as a moderator variable on customers' perceptions about the quality of online banking services. It also performs some tests to determine the possible impact of the double jeopardy law on Saudi banks' customers.

3.14 Conceptual Framework

This section demonstrates the development of the conceptual framework substantiating the key linkage to customer satisfaction, attitudinal loyalty and preferences resulting from customer perceptions of online service quality. The section comprises three subsections. The first describes the means–end theory, the second presents the theoretical framework and the third illustrates the posited research model.

3.14.1 Means–End Theory

The means–end chain model developed by Gutman (1982) premises that values are dominant factors in the pattern of customers' purchases, that they consider products or services based on the role of satisfying values, that all acts have consequences, and that ultimately, the consequences and the attributes of the product or service are correlated. The main aspect of the model is consumer decision-making that achieves the desired outcomes and minimises unintended consequences on purchasing a particular product or service.

The means–end theory posits that customers follow the route related to products or services in the hierarchical model that includes three levels: product attributes, consequences of use and personal values (Dibley & Baker 2001; Grunert et al. 1995; Reynolds & Gutman 1984). The theoretical approach is based on the proposition that consumers see products or services as a means to important ends and that they define and attempt to demonstrate how the selection of a particular product or service promotes the achievement of desired end states (Bagozzi & Lee 1999; Mulvey et al. 1994).

This model compares consumer perceptions that a product or service shares its own features, which makes it possible to examine and interpret how consumers view products or services related to their lives (Walker & Olson 1991). The theory also attempts to

understand how these go beyond the functional properties and create personal value for consumers (Perkins & Reynolds 1988).

3.14.2 Theoretical Framework

Zeithaml, Parasuraman and Malhotra (2000) asserted that customers' evaluations of online service quality were comprehensive activities that extend to involve assessment during interaction and beyond with service. Moreover, the quality dimensions of internet services have various factors that influence customers' perceptions, such as efficiency as well as delivery and post-delivery facilities (e.g., fulfilment, system availability, support and responsiveness).

The present research employed this theoretical framework because it has suitable constructs to assess online service features (Akinci, Atilgan-Inan & Aksoy 2010). The theoretical framework contains perceptual attributes that customers can recognise during service delivery and beyond. Further, this framework established and considered customers' attitudes during online service use that started with specific functions, specifically from concrete cues (e.g., tab structuring, search engines and one-click ordering) to perceptual attributes (i.e., easy-to-find information and transaction fulfilment speed). From this, the attitude construct was developed via the dimensions of service, for instance, ease of navigation and efficient responsiveness. In addition, the features evolved into higher-order abstractions, such as overall perceived quality and value (Parasuraman, Zeithaml & Malhotra 2005).

Therefore, the current theoretical framework helps to understand consumers' perceptions of online service quality. This approach assumes that customers have experience and information about the service that they receive at respective multiple levels of abstraction (Olson & Reynolds 1983). Figure 3.8 illustrates the theoretical framework.

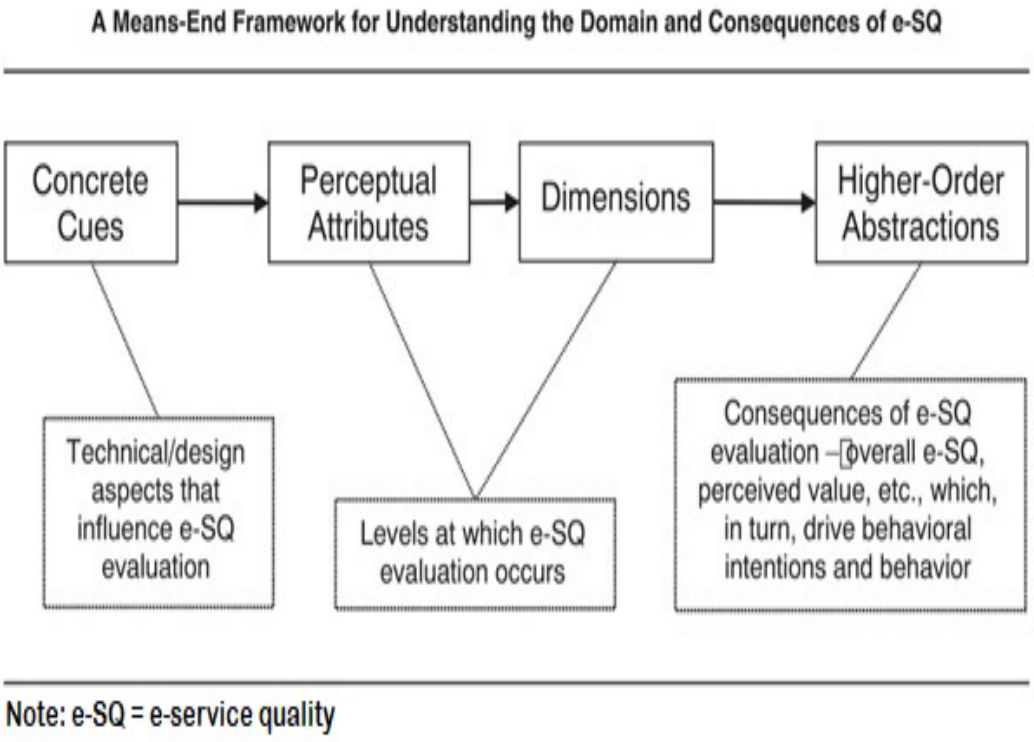


Figure 3.8: Theoretical Framework

Source: *Parasuraman, Zeithaml & Malhotra (2005, p. 218).*

The assessment process of online service quality in the current framework included perceptual and dimensional levels. In addition, the concrete cues influence the assessment process, and higher-order abstractions are the outcomes of this process (Zeithaml, Parasuraman & Malhotra 2002). Consequently, the online service quality evaluation depends on the subsequence process through four levels in this framework, which are measured by customer experience. This process is supported by prior studies (e.g., Akinci, Atilgan-Inan & Aksoy 2010; Rafiq, Lu & Fulford 2012).

According to Parasuraman, Zeithaml and Malhotra (2005), several reasons can motivate the utilisation of this theoretical framework to evaluate online service quality. First, this framework includes perceptual attributes, which are more stable than concrete cues during the evaluation process. There are concrete cues associated with online service features and they are changing rapidly owing to technology development, whereas the abstract perceptual attributes are seldom adjusted. Second, the concrete cues associated with online service features are typical of a technical attribute, such as one-click ordering and e-commerce trust symbols that represent complex assessments. Thus, most customers

do not become aware of these features or are unable to evaluate the effectiveness of these. However, perceptual attributes are more experiential than technical; therefore, customers can assess these more clearly. Furthermore, perceptual attributes are arguably easier to measure than concrete cues in that these can be evaluated along a scale. Third, the dimension level and perceptual attribute facilitate more precise assessment of online service features. However, when dimension-level tapping of online service evaluations is required, it can be obtained simply by combining the suitable perceptual-attribute evaluations. Fourth, the theoretical framework posits linkages between online service evaluative procedures; for instance, it links the perceptual evaluation and outcomes (higher-order abstractions). The 'nomological network' for testing an online service's construct validity comprises perceptual-attribute level items.

Therefore, the current study will test a research model that is based on the E-S-QUAL and E-RECS-QUAL scales. Further, the theoretical framework is established from extant theories. Thus, the model is suitable to scrutinise the influence of online service quality on customer satisfaction, attitudinal loyalty and preferences in the Saudi banking sector.

3.14.3 Research Model

The Parasuraman, Zeithaml and Malhotra (2005) E-S-QUAL and E-RECS-QUAL scales have been adopted and modified to examine the quality of online banking service and to understand how the quality dimensions affect customer satisfaction, attitudinal loyalty and preferences in the Saudi banking sector. While the E-S-QUAL has four dimensions—fulfilment, efficiency, system availability and privacy—the E-RECS-QUAL has three—responsiveness, compensation and contact. Figure 3.9 presents the research model.

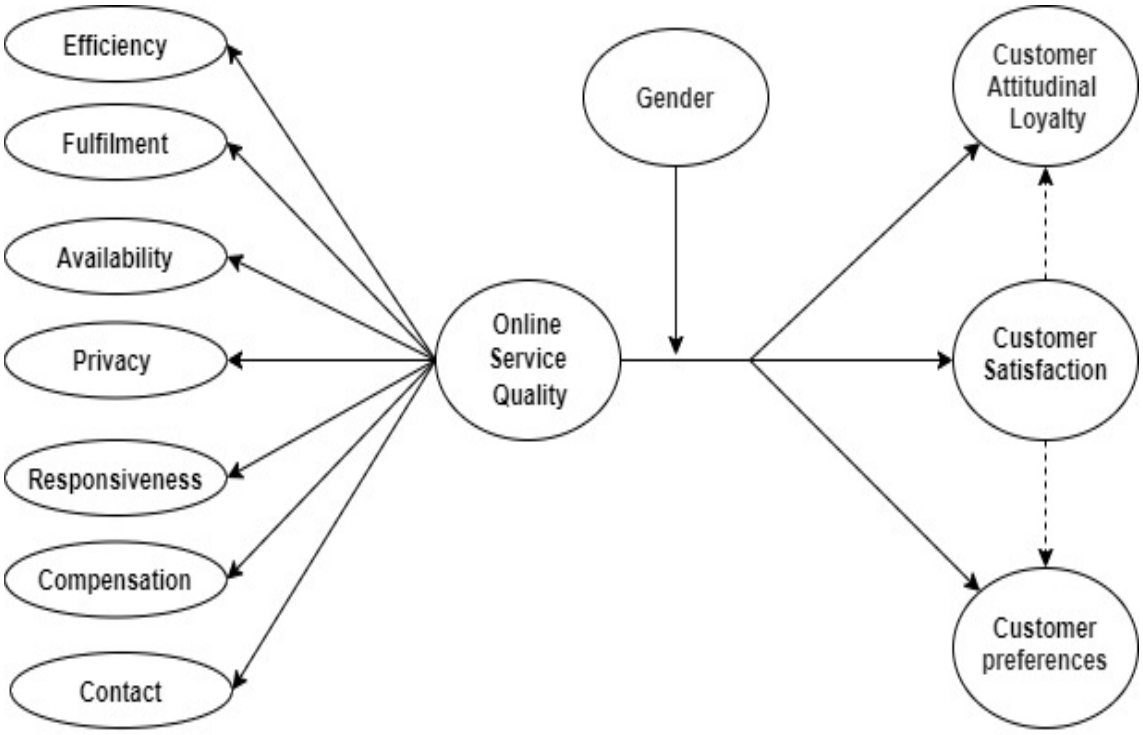


Figure 3.9: Research Model

Source: *Developed for this Research.*

Furthermore, the current model examines the mediating effect of customer satisfaction through online banking quality on attitudinal loyalty and preferences. An exploration of the effect of gender as a moderating variable on customers' perceptions towards the quality of online banking services is also introduced. The research model depicts the key variables and the presumed relationships, which will be explored in the current study.

3.15 Research Questions and Hypotheses

The main research question is: What are the effects of online banking quality on customer behaviour in Saudi Arabia? The sub-questions and related hypotheses are as follows:

1. What is the influence of online service quality on customer satisfaction, attitudinal loyalty and preferences in the Saudi banking sector?

   H_1 The quality of online banking services positively affects customer satisfaction.

   H_2 The quality of online banking services positively affects customer attitudinal loyalty.

H_3 The quality of online banking services positively affects customer preferences.

2. What is the mediating effect of customer satisfaction on attitudinal loyalty and preferences regarding the quality of online banking services?

   H_4 Customer satisfaction has a mediating effect on the relationship between online service quality and customer attitudinal loyalty.

   H_5 Customer satisfaction has a mediating effect on the relationship between online service quality and customer preferences.

3. How does gender affect the perceived quality of online banking services in Saudi Arabia?

   H_6 Gender has a moderating effect on the perceived quality of online banking services in Saudi banks.

4. How might the double jeopardy law affect customer behavioural loyalty related to online banking services in Saudi Arabia?

   H_7 There is an association between market share and customer behavioural loyalty in Saudi banks towards online banking services.

3.16 Chapter Summary

Quality is an essential concept that affects companies and their customers. Moreover, quality is vital in an internet-oriented process centred on content. There is agreement in the literature that quality directly affects customer satisfaction and attitudinal loyalty. In comparison, customer satisfaction tends to be a consequence of expectation, perceived quality and value related to a particular product or service. It is evident that customer attitudinal loyalty is an antecedent to satisfaction. Customer attitudinal loyalty is believed to be influenced by other factors in a banking environment, such as perceived quality, customer satisfaction and brand image. According to the social role theory, males and females have different roles depending on their positions. Hence, it is essential to examine the moderating effect of gender on the perceived quality of online banking services. The literature review in relation to the double jeopardy law revealed that the law has been well established across industries worldwide. Therefore, the present research will scrutinise this law and discover whether it is applicable to online banking services in Saudi Arabia.

The literature review revealed a gap in knowledge about the impact of online service quality on customer satisfaction, attitudinal loyalty and preferences with specific

reference to Saudi Arabia. Hence, this thesis has established seven hypotheses to examine the direct effect of online service quality and the mediating impact of customer satisfaction. Further, the hypotheses are posited to test the moderating effect of gender on perceived quality and determine whether the double jeopardy law is applicable in the context of online banking services.

The next chapter will elucidate the research methodology, design, paradigm, construct measurements, data collection and analysis procedures selected to achieve the stated research objectives.

Chapter 4: Methodology

4.1 Introduction

The previous chapters discussed the research background and posited and advanced a theoretical framework related to online service quality and its influence on customer satisfaction, attitudinal loyalty and preferences. In addition, the research aims to explore the difference in the perception of online service quality between males and females. Furthermore, the investigation includes testing whether the double jeopardy law extends to online banking services in Saudi Arabia. Consequently, this chapter presents the methodology with reference to the research design, research paradigm, data collection procedures and ethical considerations.

Subsequently, a discussion of the rationale for selecting a mixed methodological research approach is presented, which examines the relevance and applicability of combining quantitative and qualitative procedures to acquire data. This is followed by a discussion of the research instruments used, the choice of sampling techniques employed for collecting data and the chosen analysis approach for both quantitative and qualitative analysis. Last, the ethical considerations are considered.

4.2 Research Paradigm

This section focuses on the various philosophies that underlie research procedures. According to R Kumar (2019), discussions involving different research paradigms offer an analysis of the way research is conducted based on different schools of thought, helping to advance a philosophical approach for the study. The research paradigms are noted here, with comments on the foundational methodologies and epistemologies relevant and applicable for each research paradigm. The paradigms for research-based exercises are usually five in number: positivism, interpretivism, critical realism, postmodernism and pragmatism. The current number of research paradigms is attributed to changes that have occurred owing to the increasing number and complexity of different researchable phenomena (Saunders, Lewis & Thornhill 2016; Saunders et al. 2015).

Positivism was the main school of thought utilised for much of the 20th century, covering data collection based on theoretical assessments, deduction, induction, immutably

appearing statement/claims, generalisation and verification of research findings (Halfpenny 2015). According to Copleston (2002) and Wilson (2014), changes in research undertakings forced positivism to shift to interpretivism, a paradigm devised to understand more about new social phenomena. Cupchik (2001) asserted that the interpretivism paradigm accentuated how the social world is constructed by people, associating it with social constructs, such as feminism, critical theory and postmodernism.

The third paradigm, critical realism, was developed long after interpretivism, and it was motivated by critical theory. Cupchik (2001) stated that this particular school of thought possesses some aspects of positivism and articulates that there is a colossal disparity between what is termed as the 'real world' and the existing 'observable world', in which the real world means elements existing independent of human assumptions, theories and perceptions.

Critical realism's developers deemed constructivism and positivism too anthropocentric, unrealistic and superficial (Howell 2012). Critical realists contend that ultimately, there is only a single reality that can be interpreted and analysed differently. Hence, the epistemology of critical realists differs from that of the positivism and social constructivist schools of thought (Saunders, Lewis & Thornhill 2016).

The pragmatism paradigm was developed to refute the philosophical underpinnings of positivism—it asserts that any researchable phenomena should be approached on 'what works' and not tied to what is considered objectively and absolutely 'real' and 'true' (Frey 2018). Therefore, since this research is oriented towards solving a practical problem in the real world, pragmatism is best suited for this thesis. Pragmatism allows the researcher room to focus on the practices, problems and relevant intricacies without using a specific perspective. For instance, positivism's deduction and induction research perspectives limit the inclusion of other forms of pragmatic research approaches regarding certain social constructs (Frey 2018).

As a chosen framework, the pragmatism paradigm seeks to offer a practical solution to a problem that can effectively direct future practices (Saunders, Lewis & Thornhill 2016, pp. 142–4). Furthermore, the philosophical approach offers researchers room to pursue quantitative information and allows them to analyse data objectively to deduce factual knowledge through observation and measurement. In addition, pragmatism is a paradigm

that incorporates qualitative data, which facilitates the use of a mixed methodology to interpret and analyse collected data. The interpretation of both datasets (quantitative and qualitative) can result in meaningful research conclusions that possess a balanced view (Creswell 2014; Saunders, Lewis & Thornhill 2016).

4.3 Methodologies Applied in Previous Studies

This section identifies the methodology that is appropriate for the present research. Table 4.1 features the methodologies of previous studies on the influence of online service quality on customer satisfaction, loyalty and preferences in the context of online banking services.

Table 4.1: Summary of Methodologies Used in Previous Studies

Author (s)	Quantitative	Qualitative	Instrument
Rod et al. (2009)	√		Survey
Ghane, Fathian and Gholamian (2011)	√		Survey
Karatepe (2011)	√		Survey
Clemes, Gan and Du (2012)	√		Survey
Almotairi, Almeshal and Alam (2013)	√		Survey
Ladhari and Leclerc (2013)	√		Survey
Chochoľáková et al. (2015)	√		Survey
Gianvechio (2015)	√	√	Survey/Interview
Stamenkov and Dika (2015)	√	√	Survey/Interview
Jun and Palacios (2016)		√	Observation
Yacob, Ting and Ali (2016)	√	√	Survey/Focus group
Alhawary and Alsmeran (2017)	√		Survey
Hussein (2017)	√	√	Survey/Interview
Mbama and Ezepue (2018)	√		Survey
Shankar and Jebarajakirthy (2019)	√		Survey
Ananda, Devesh and Allawati (2020)	√		Survey

The literature review reveals that most studies have employed quantitative methods and used surveys to collect primary data. Of the studies reviewed in this thesis, only one study applied a qualitative approach by employing in-depth interviews which added to the insights about the study foci. Nevertheless, few studies have employed a mixed methods approach in the context of online service quality in different regions. Some of these include work with a focus on Ireland (Gianvechio 2015), Egypt (Hussein 2017), the Republic of Macedonia (Stamenkov & Dika 2015) and Malaysia (Yacob, Ting & Ali 2016). Therefore, there is a need to conduct further research that applies a mixed methods approach to extend the narrow scope of the current literature. This will aid knowledge creation in the discipline within the Middle East for online service quality (Warsame & Ireri 2018).

Hence, the current study employs a mixed methods approach similar to that of Quach, Jebarajakirthy and Thaichon (2016). This approach involves collecting quantitative data from Saudi banks' customers through online surveys, followed by collecting qualitative data through semi-structured interviews with CDBOs. A mixed methods approach helps to enhance the reliability and validity of findings (Creswell 2014). Hence, this investigation both embraces customers' perceptions of quality and identifies banks' managerial practices in online banking services.

4.4 Research Design

The mixed methodological approach is a process that employs qualitative and quantitative research approaches to analyse a given problem. It can be used in the natural as well as social sciences (Creswell 2014; Creswell & Clark 2007). The process is useful since it enables the researcher to draw and focus on the strengths of qualitative and quantitative research methods together. Currently, mixed research methods are very popular in business-oriented research, a field in which issues are complex and corporate/business information has to be categorised and explained in various ways (Sekaran & Bougie 2016).

Therefore, selecting an appropriate research design is important to conducting a mixed methods approach for the current investigation. Creswell and Clark (2007) identified four designs for a mixed methodological procedure (see Figure 4.1).

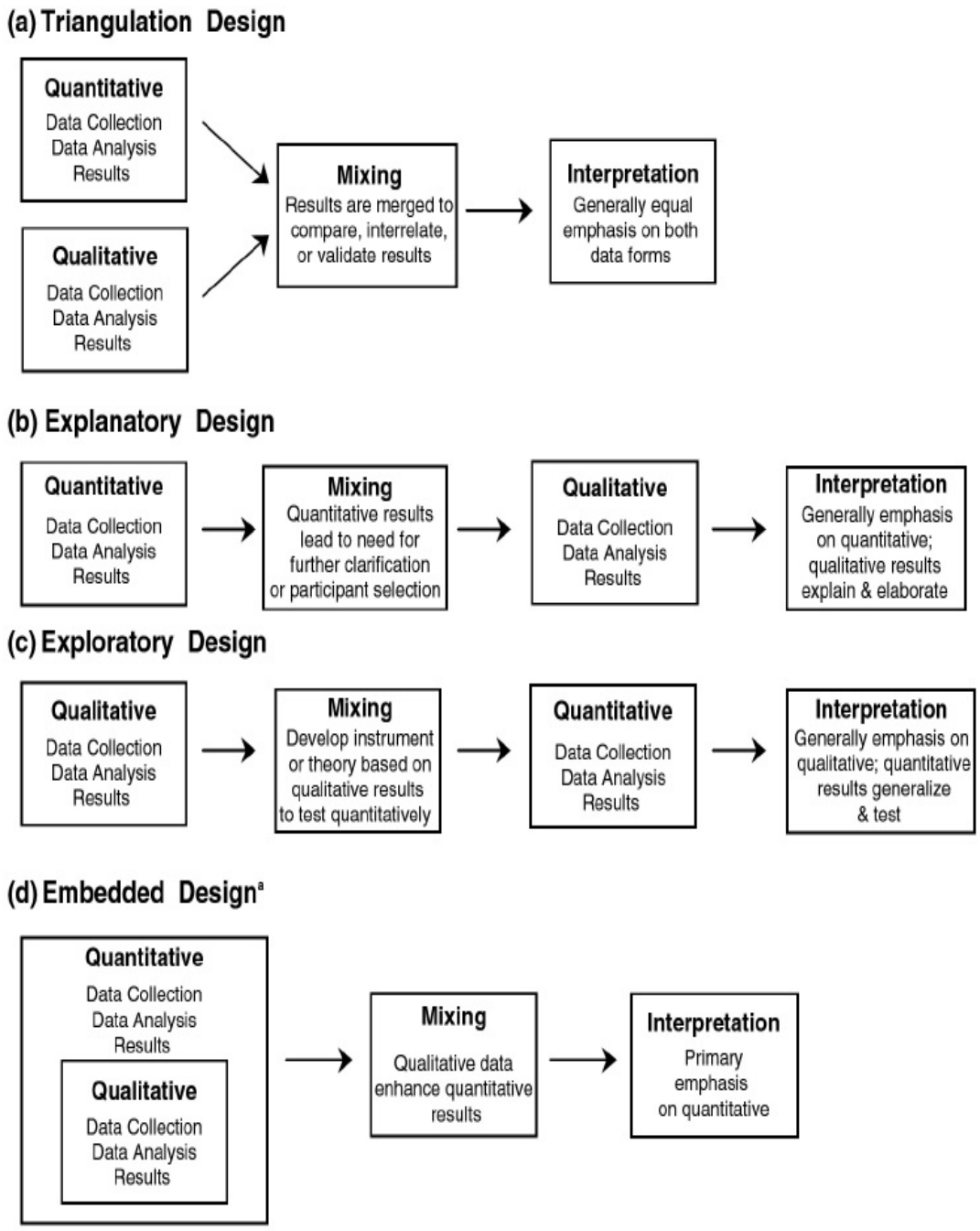


Figure 4.1: Design Approaches for Mixed Methods

Source: *Creswell & Clark (2007, pp. 58–88).*

Creswell and Clarke's mixed methodology designs are useful for testing hypotheses and answering research questions. The triangulation design is useful and applicable since the two independent data collection processes need to be combined. Meanwhile, the explanatory and exploratory designs both mean that there is a subsequent connection between the data types. This design applies one data form to build on the other, as in the

case of a qualitatively directed pilot study that collects research results that are tested by quantitative means (also applies vice versa). The fourth design is the embedded design in which one dataset is integrated into the other, which enables the second dataset to support antecedent results (Creswell & Clark 2007).

In this way, using a mixed methodological approach maximises research reliability and strength, which cannot be realised on using only one approach (Creswell 2014). Hence, the current study uses an embedded design. This design allows the researcher to gather data separately and then combine them to support the findings established (Harrison & Reilly 2011).

The online banking quality dimensions explored in this research are research variables that will help assess the relationships between Saudi Arabian online banking and customers' loyalty and satisfaction levels. Thus, the present study applies an embedded design by incorporating qualitative and quantitative data in an integrated data analysis and interpreting the results (Creswell & Clark 2007). The model is appropriate for exploring relationships between research variables since it commences with a theoretical concept that is already established (Creswell & Clark 2007). Hence, the effects and extent of how customer satisfaction, attitudinal loyalty and preferences are affected by the quality of Saudi Arabian banks can be measured through both numerical and non-numerical data. The next sections describe mixed methods and their implementation in this study in detail.

4.4.1 Quantitative Approach

The quantitative approach focuses on using numerical data collected through the survey method. According to Creswell (2014), the gathered data are systematically coded during the analysis process, mostly by utilising statistics, tables etc. Correspondingly, probability sampling methods are applied for collecting quantitative data. All the research subjects derived from the population have equal chances of being selected, which offers an evenly distributed sample size (Saunders, Lewis & Thornhill 2016, p. 276).

The quantitative approach employed in this thesis is divided into two separate procedures. The study used SPSS software to conduct statistical analyses, such as descriptive analysis for demographics and scale response frequencies in the first step. The descriptive analysis includes correlation and Cronbach's alpha tests for the collected data. In the second stage,

covariance-based structural equation modelling (CB-SEM) was used to test the model validity. This stage also involved interrogation through CB-SEM, which is a technique that searches for specific covariance between variables (Hair et al. 2012). Ultimately, the data obtained were refined and coded further by using AMOS software.

In relation to these procedures, the CB-SEM tool comprises two phases. The first covers data cleaning, exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and primary information preparation. This particular phase prepares the data for SEM analysis. The subsequent phase covers complex procedures, comprising model specification and re-specification, identification and estimation, as well as model fit. The second phase also involves interpreting and presenting research results (Suhr 2006). The SEM tool is efficient in analysing directional patterns among latent and variables holistically (Hoyle 1995; MacCallum 1995).

This research employed CB-SEM because it has the ability to study certain phenomena and depict the relationships between variants (Igbaria, Guimaraes & Davis 1995). SEM is an advanced statistical tool that allows to test multiple mediating and moderating variables in one model owing to its flexibility and comprehensiveness (Kline 2016). In relation to this study, using SEM as a statistical tool facilitated the comprehensive testing of models, accentuating the deduction of verifiable and valid research results (Bollen & Long 1993).

4.4.1.1 Questionnaire Design

As stated previously, this research seeks to determine the effects of online service quality on customer satisfaction, loyalty and preferences in the Saudi banking sector. The questionnaire was adapted based on the research questions, as well as the study's hypotheses, in order to collect meaningful and appropriate information. This section explains the questionnaire design, which should include relevant questions to measure research constructs.

According to Nargundkar (2008), a conclusive research design usually uses research findings for decision-making purposes. Furthermore, Creswell (2014, p. 6) asserted that 'pragmatism as a research paradigm delineates that research should be oriented to real-world matters'. Such a consideration applies in the case of Saudi Arabia's online banking services. Ultimately, the quantitative approach is required for assessing the quality of

Saudi Arabia's online banking services since it will aid in determining how to improve customer satisfaction, loyalty and preferences, based on the ways in which the dimensions of online banking quality affect Saudi banking customers.

In research, the Likert scale system is best suited as a questionnaire design because of its ability to acquire quantitative responses efficiently (Likert 1932). Although a 5-point Likert scale has fewer options than does a 7-point Likert scale, it still offers enough choice for questions in most studies (Johns 2010). According to Joshi et al. (2015), the construction and formulation of any Likert scale is usually rooted in the research aim, and its validity is accentuated by its applicability to the subject under investigation.

The current study explores customers' perspectives about online service quality; hence, a 5-point Likert scale makes it easy for customers to understand the difference between the five scaling points. The questionnaire used in this study has 25 items aiming to evaluate the quality of online services (see Appendix 2). These items are in keeping with the study conducted by Parasuraman, Zeithaml and Malhotra (2005). Further, it includes four statements to measure customer satisfaction with online banking services that were developed based on investigations conducted by Özer, Argan and Argan (2013), Seiler, Rudolf and Krume (2013) and Z Yang and Peterson (2004). Four items were developed based on studies by Boonlertvanich (2019), Hellier et al. (2003), Parasuraman, Zeithaml and Malhotra (2005) and Seiler, Rudolf and Krume (2013) to assess customer attitudinal loyalty in the context of online banking services. The last four items were developed based on studies by Alhusein and Sadi (2015), Hellier et al. (2003), Jamal and Goode (2001) and Sirgy et al. (1997) to measure customer preferences towards online banking services. The items are presented in Table 4.2.

Table 4.2: Questionnaire Measurement

Construct	Code	Statement	Reference
Efficiency	EFF1	This bank provides simple and easy online banking services.	(Parasuraman, Zeithaml & Malhotra 2005)
	EFF2	This bank provides relevant information in online banking services.	
	EFF3	This bank enables me to get on with online banking services quickly.	
	EFF4	The online banking services by this bank are well organised.	
System Availability	SYS1	The online banking services in this bank are always available for me.	
	SYS2	The online banking services in this bank launch and run straight away.	
	SYS3	The online banking services in this bank do not crash.	
	SYS4	The online transactions in this bank do not freeze while I run my information.	
Fulfilment	FUL1	This bank completes online banking transactions when promised.	
	FUL2	This bank has a suitable timeframe to achieve online banking transactions.	
	FUL3	This bank enables me to accomplish online banking transactions quickly.	
	FUL4	This bank processes online banking transactions immediately.	
Privacy	PRI1	This bank protects my personal and financial information.	
	PRI2	This bank protects information about my online banking activities.	
	PRI3	This bank does not share my personal information with third parties.	
	PRI4	This bank uses a secure portal to protect information on online transactions.	
Responsiveness	RES1	This bank tells me what to do if my transaction is not processed.	
	RES2	This bank resolves problems promptly and efficiently.	

Construct	Code	Statement	Reference
	RES3	This bank notifies me immediately about online banking transactions.	
Compensation	COM1	This bank compensates me for any problems it creates.	(Parasuraman, Zeithaml & Malhotra 2005)
	COM2	This bank compensates me if the transaction was not completed on time.	
	COM3	This bank compensates me if online fraud occurs.	
Contact	CON1	This bank provides a 24/7 call centre for customers.	
	CON2	This bank has customer service representatives available online.	
	CON3	This bank offers the opportunity to speak to a real person if there is a problem.	
Customer Satisfaction	CS1	I am satisfied with the transaction processing via online banking services in this bank.	(Özer, Argan & Argan 2013; Seiler, Rudolf & Krume 2013; Yang, Z & Peterson 2004)
	CS2	I think I made the correct decision to use the online banking services of this bank.	
	CS3	The quality of this bank's online banking services exceeds my expectations.	
	CS4	Overall, I am satisfied with the quality of online banking services in this bank.	
Customer Attitudinal Loyalty	AL1	I will choose this bank the next time if I would be doing online banking services.	(Boonlertvanich 2019; Hellier et al. 2003; Parasuraman, Zeithaml & Malhotra 2005; Seiler, Rudolf & Krume 2013)
	AL2	I have used this bank's online banking services during the past 12 months.	
	AL3	In the next 12 months, I will use this bank's online banking services.	
	AL4	I would like to continue using this bank's online banking services.	
Customer Preferences	PC1	I have a strong preference for conducting online banking with this bank.	(Alhusein & Sadi 2015; Hellier et al. 2003; Jamal & Goode
	PC2	This bank meets my requirements for online banking services better than other banks.	

Construct	Code	Statement	Reference
	PC3	The financial brand is very important in defining my choice of online banking services.	2001; Sirgy et al. 1997)
	PC4	My preference for this bank would not change even if its online banking fees were higher than that of other banks.	

4.4.1.2 Questionnaire Translation

The questionnaire was developed to collect primary data from customers in Saudi Arabia where the official language is Arabic. Therefore, the questionnaire was translated from English into Arabic language. According to N Malhotra, Nunan and Birks (2017, p. 402), if the questionnaire is administered in a different culture, it needs to be translated to ensure that the questionnaires have equivalent words across languages. A certified translator translated the questionnaire via the National Accreditation Authority for Translators and Interpreters (see Appendix 3). Pretesting the questionnaire included a review of the draft questionnaire by the supervisory team in the first instance. In the second stage, the translated questionnaire was reviewed by a panel of experts who are familiar with Arabic and English. There was consensus that the translated version was a true representation so the study could proceed and be administered. Hence, the research questionnaire was conducted in Arabic so that the Saudi banks' customers could better understand the questions (see Appendix 4).

4.4.1.3 Study Sample

It is essential to select the appropriate sampling technique to conduct research. Hence, the sample size necessary is determined by many factors, including the availability to a sampling frame, financial support and the suggested data analysis technique (Malhotra, N, Agarwal & Peterson 1996). Two sampling techniques are widely used: probability and non-probability sampling (Uprichard 2013). The former involves selecting a sample randomly from a large population, and in the latter, the probability of each case being selected from the target population is unknown (Saunders, Lewis & Thornhill 2016). There are four non-probability sampling types: quota, purposive, volunteer and convenience sampling (Saunders, Lewis & Thornhill 2016).

The current research employed the convenience sampling technique because of the lack of a sampling frame in Saudi Arabia (Malhotra, N, Agarwal & Peterson 1996). Convenience sampling is one of the most widely used non-probability sampling techniques (Taherdoost 2016). Convenience sampling, 'also known as availability sampling', involves selecting cases because they are easily available or most convenient to obtain for analysis (Zikmund, Carr & Griffin 2013, p. 392). It is particularly commonly used in social science research; consequently, Hammoud, Bizri and El-Baba (2018),

Kassim and Abdullah (2010), Peng and Moghavvemi (2015) and Warsame and Ireri (2018) all applied this technique.

The convenience sampling technique seems to be suited for collecting quantitative data from separate participants. Moreover, this technique was appropriate because it enabled control of the limited research resources (Cooper & Schindler 2014). Moreover, the researcher lacked permission to access customers' information owing to the Saudi banks' confidentiality policy. Recently, the SAMA (2020c) emphasised that banks that operate in Saudi Arabia must protect customers' personal and financial information and not share it with third parties. However, a convenience sampling design is an adequate technique to easily gather data from participants who are relevant to the research topic (Bornstein, Jager & Putnick 2013). Convenience samples are frequently referred to as 'accidental samples, because respondents may be chosen in the sample merely because they are available' (Etikan, Musa & Alkassim 2016, p. 2). Most studies use sampling approaches such as convenience sampling for this reason.

According to Saunders, Lewis and Thornhill (2016), there are no specific rules and formulas for determining the appropriate sample size for a non-probability sampling technique. The final sample size is considered based on the logical relationship between the sample selection technique and the purpose and focus of the research (Adams, Khan & Raeside 2014). An adequate sample size is essential to estimate an appropriate analysis model. According to Jackson (2003), if the hypotheses are tested with an inadequate sample size, it may negatively affect the analysis model and goodness-of-fit indictors. Since this research employed CB-SEM to test the hypotheses, it was necessary to determine an adequate sample size to run the analysis. Kline (2016) recommended collecting 200 cases as a minimum sample size to run CB-SEM. Tabachnick and Fidell (2019) stated that 300 participants is an adequate sample size for CB-SEM, but 500 participants is much better to achieve precise convergent results.

4.4.1.4 Data Collection

Notably, research resources usually determine the type of method used by researchers to administer survey questions to study respondents. In most cases when research constraints are vast, self-administered questionnaires become the best survey choice. Research that

quantitatively collects data often has constraints in terms of time and money owing to the large population samples used (Fowler 2013).

However, as Wilson (2014) stated, this is not always the case, especially when research is well planned and resources are sought and acquired early. Research planning minimises such constraints and resolves research-based challenges or problems to a significant extent (Bryman & Bell 2015). The survey method was selected for this study because it assists in collecting quantitative data efficiently and effectively.

In this study, the Qualtrics platform was used to design and implement an online survey. Then, the link was shared through social media networks. This technique is appropriate when the population is substantial and spilt over various regions, and it makes possible the effective selection of research participants through social media networks, such as Twitter, LinkedIn, Telegram and WhatsApp (Hair, Page & Brunsveld 2020). The data were gathered from retail banking customers in Saudi Arabia between December 2019 and February 2020. The survey was designed to collect customers' experiences and attitudes about online banking services on using their existing main bank account.

The response rate to a survey is calculated by counting the proportion of answered and returned questionnaires to the total issued. There is no cut-off criterion for the ideal optimal response rate in the social sciences (Saunders, Lewis & Thornhill 2016). Although some researchers have supported the notion of having at least a 30% response rate, Sekaran and Bougie (2016) have argued that the higher the response rate, the better and that the burden of increasing it should be borne by the researcher in order to recruit as many study participants as possible. The current study used the convenience sampling technique, which is a non-probability sample; therefore, the response rate could not be calculated. Hence, the total sample size of this research was 430 participants, consisting of 368 males (86%) and 62 females (14%).

4.4.1.5 Missing Data

When using CB-SEM, missing data should be handled carefully. Hair et al. (2014) stated that missing data are a significant challenge in research. If missing data are limited to a small selection of variables or if the missing values are substantially linked with other complete variables, the data are discarded (Tabachnick & Fidell 2019). A common statistical method to handle missing data is listwise deletion (Hawthorne, Hawthorne &

Elliott 2005). However, in studies with small samples, listwise deletion may not be applicable since it eliminates entire cases with missing values and may restrict existing data as well as generalisability to the population (Allison 2003). However, the missing cases were removed using a listwise method since the present study used CB-SEM to estimate the relationship between research constructs.

4.4.1.6 Data Analysis

Data were analysed using the SPSS computer program. According to Bryman (2006), most statistical techniques often comprise testing research hypotheses through items, with the most common being regression and correlation analyses. However, this study first employed SPSS for descriptive statistics as well as for correlation and Cronbach's alpha to determine the data accuracy and validity. In addition, it used SPSS AMOS to perform the SEM for hypotheses testing. The following subsections explain the statistical analyses used in this study in detail.

4.4.1.6.1 Descriptive Statistics

Descriptive statistics, such as the mean, standard deviation and frequency, were summarised and organised in an understandable way (Saunders, Lewis & Thornhill 2016). Descriptive statistics results are presented in tables, and these statistics help to substantiate theoretical and hypothetical arguments. Hence, inferential analysis techniques can be broadly classified into parametric and non-parametric kinds (Saunders, Lewis & Thornhill 2016, p. 533). The descriptive analysis includes frequencies to illustrate respondents' profiles based on demographic factors. Simultaneously, Cronbach's alpha was calculated to determine the internal consistency of each construct. Furthermore, the correlation coefficient test was employed to measure the relationship between research constructs.

4.4.1.6.2 Exploratory Factor Analysis

EFA was performed to determine the new structure and evaluate construct validity (Henson & Roberts 2006). Prior to this, the Kaiser–Meyer–Olkin (KMO) test and Bartlett's test of sphericity were carried out to examine factorability. KMO measures sampling adequacy, and if its coefficient is greater than 0.5 and Bartlett's coefficient *p*-value is less than 0.05, EFA can be executed (Kaiser 1974). EFA was performed through

the maximum likelihood and varimax rotation methods. Factor extraction was determined through the scree plot, cumulative variance and the Kaiser criterion.

EFA was used to examine the content validity of research attributes adopted in the study. To examine the strength of item-to-item correlation, factor loadings were inspected. Floyd and Widaman (1995) argued that factor loadings need to be at least 0.50; otherwise, they should be excluded from subsequent analysis. This is because they would face challenges while loading with subsequent attributes in the formation of the pattern matrix. The factor matrix would show inter-correlations between variables. Any cross-loadings should be excluded since these will have implications for convergent and discriminant validity examination (Fabrigar et al. 1999).

Principal component analysis rotation is used to obtain rotated factor loadings (McDonald 2014). Rotation is the process in which eigenvectors are rotated to simplify their structure (Bryant & Yarnold 1995). The choice of rotation method is contingent on whether factors are correlated. If factors are correlated, orthogonal rotation should be used, and if uncorrelated, the oblique method should be adopted. The orthogonal rotation methods are equamax, quartimax and varimax (Blunch 2013).

In SPSS, the available rotation methods were varimax, quartimax and equamax, while the orthogonal methods and direct oblimin and promax served as oblique methods. If the correlation for factor loadings exceeds 0.32, then there is justification to employ orthogonal rotation, termed varimax (Tabachnick & Fidell 2019). Moreover, J Kim and Mueller (1978) argued that even in instances when factors are uncorrelated, the orthogonal rotation should be preferred. In support, Bryant and Yarnold (1995) noted that the choice of rotation methods should seek to achieve a simple factor structure.

4.4.1.6.3 Confirmatory Factor Analysis

CFA tests the measurement model structure. Model goodness-of-fit was examined through the Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Normed Fit Index (NFI), Tucker–Lewis Index (TLI), Comparative Fit Index (CFI) and root mean square error of approximation (RMSEA).

Several indicators can be used to evaluate the CFA model validity, including construct consistency and goodness-of-fit indicators. Consistency is achieved when a single

dimension can account for all non-random variance in the dataset. Therefore, the model validity should be measured by assessing absolute fit indicators and incremental fit indicators. According to Tabachnick and Fidell (2019) fitness indicators pave the way for examining path coefficients.

Absolute fit indices are adopted to examine how the prior model fits a dataset (McDonald & Ho 2002). The common tests for examining absolute fit are chi-square and GFI. Chi-square examines the magnitude of variation between the fitted covariance and sample matrices (Hu & Bentler 1999). RMSEA is based on non-centrality parameterisation, and it examines the amount of error approximation for each model's degree of freedom. Further, it considers the sample size. A RMSEA coefficient under .07 yields a good-fitting model, while those between .08 and .10 reveal mediocre fit (Barrett 2007).

Incremental indices are adopted to evaluate how well a model fits in comparison with the baseline model. These indices are based on the null hypothesis that there is no correlation among variables. Incremental indices adopted in the study include GFI, CFI and TLI. It is recommended that incremental fit indices should be at least .80 (McDonald & Ho 2002).

4.4.1.6.4 Structural Equation Modelling

SEM can be perceived as a collection of modelling procedures that comprise regression, factor, path and simultaneous analysis (Kline 2016). Through SEM, the confirmation of the study's survey findings derived from the regression modelling was carried out. SEM comprises the measurement model and the path model. CFA is used to assess the measurement models that aid in examining structures and the nature of their respective constructs. CFA modelling evaluates the relationship between the selected indicators of variables and their predictive power.

SEM uses a multivariate technique that combines different multiple regression analyses and factor assessments (Hoyle 1995). Suhr (2006) noted that the process is suitable for investigating the structural relationship between latent constructs and measured variables. In reality, SEM is the analytical approach that most researchers prefer because it can estimate interrelated and multiple dependence in a single assessment (MacCallum 1995). Such an assessment usually has two types of variables: exogenous and endogenous.

Comparatively, endogenous variables can be likened to dependent variables and are equally measured using statistics as much as independent variables (Hoyle 1995).

Further, reliability refers to the measurement of consistency or error term of the random measurement and can be evaluated through repeated administration of research instruments in similar conditions. CFA outputs can serve to examine convergent and discriminant validity. This will be evaluated by using standardised factor loadings for convergent validity, AVE and construct reliability. These analyses all complement each other in the evaluation of the convergent validity of a research instrument (Anderson, J & Gerbing 1988; Hair et al. 2014).

4.4.1.6.5 Multiple-Group Analysis

The present study developed a hypothesis to scrutinise the moderating effect of gender on perceived quality. Specifically, the study predicted the perceptions of males and females would differ, in line with the social role theory of Eagly and Wood (1999). For exploratory purposes, it examined the interaction between perceived quality and gender in predicting online banking services. Multiple-group SEM is useful for examining measurement invariance and comparing groups (Deng, L & Yuan 2015).

Hence, the multiple-group analysis intends to determine whether there is a difference between groups by employing a particular measuring instrument to examine age, gender and background (Byrne 2016, p. 227). Therefore, the present study applied multiple-group analysis to examine the moderating effect of gender on the perceived quality of online banking services. To this end, data were separated into two groups: the male group and the female group. Multiple-group analysis through SEM helped explore how each group of Saudi banks' customers perceived the quality of online banking services.

According to (Kline 2005), the minimum sample size to run multiple-group analysis is 100 responses for each group. Thus, an unequal sample size would be a concern in predicting the role of gender on customers' perceptions of online service quality. However, numerous social science studies have run multiple-group analyses by using small and unequal sample sizes to scrutinise gender as moderating effect. For example, Alkhaldi and Kharma (2019) examined the moderating effect of gender with an unbalanced sample of 325 males and 51 females. Alomari et al.'s (2020) study sample had 156 men and 37 women. In addition, Mohammadi (2014) included 142 males and 58

females. Warsame and Ireri (2018) ran a multiple-group analysis using a sample of 209 males and 111 females. The results of the present investigation must be viewed in this light.

Although the sample size of subgroups was unequal and the majority were men in this research, the results showed that gender had a moderating effect on customers' perceptions of financial service via the internet in Saudi Arabia. In this regard, this study responds to Aljazzazi and Sultan's (2014) call to conduct more investigations about customers' perceptions of banking service quality in Saudi Arabia based on gender.

4.4.1.6.6 Double Jeopardy Law Measurement

One hypothesis of this research posits an association between market share and customer loyalty in Saudi banks. Thus, this research tested this hypothesis by measuring the brand performance of Saudi banks to consider whether the double jeopardy law affects customer loyalty in the context of online banking services. Most studies have employed Dirichlet's model, which includes estimation values to measure brand performance, market share, penetration and purchase frequency (Ehrenberg, Uncles & Goodhardt 2004). This study used cross-sectional data and does not have a panel of customers who use online banking users in Saudi Arabia to run Dirichlet's model.

Hence, this research examined the double jeopardy law by analysing the relationship between market share and penetration percentages (Graham et al. 2017) related to online banking services in the Saudi banking sector. Moreover, the relationship affords insight on how market share affects customer behaviour regarding online banking services. In addition, the results provide evidence on whether the double jeopardy law in marketing can be extended to Saudi Arabia.

4.4.1.6.7 Reliability and Validity

Examining suitable validity and reliability for a research instrument is an important phase to ensure that a questionnaire and the respective scales are appropriate to use. Hence, researchers have to work towards establishing reliability, content validity, and construct validity (Boudreau, Gefen & Straub 2001). With respect to reliability, a Cronbach alpha test assesses construct reliability and composite reliability. Constructs are considered

reliable if the Cronbach alpha is measured at 0.70 or above (Kent 2015), while for construct reliability the value is higher than 0.50 (Byrne 2016; Hair et al. 2014).

For content validity, a qualitative approach is adopted to establish the reliability of the construct (Almanasreh, Moles & Chen 2019). Specifically, this approach assesses whether the questions have decent coverage of the investigated area (Saunders, Lewis & Thornhill 2016). That is, it must cover the domain or construct foci. Construct validity is assessed by testing the established constructs stated in the hypotheses with certain items attributed to specific constructs (Carmines & Zeller 1979). The scale or measurement model needs to inspect the loadings to determine if it is measuring what it is supposed to measure (Garver & Mentzer 1999). Construct validity is difficult to measure (Churchill & Iacobucci 2006). There are three steps applied to test construct validity including: (i) the concepts' relationships used in the study must be specified theoretically; (ii) the specific measure of construct validity must be verified by the items having strong relations with their respective constructs; and (iii) to undertake an empirical examination of the posited relationships between concepts' measures to determine if they are significant and meaningful (Carmines & Zeller 1979).

Although convergent validity is contingent on sample size, the lowest factor loading should be greater than 0.50, and preferably greater than 0.70 to be valid or retained for further analysis (Kline 2016). In the discriminant validity analysis, correlations and differences between factors can be inspected. Furthermore, it can be evaluated by examining the factor correlation matrix or construct by construct correlation matrix (Fornell & Larcker 1981). In this test, the average variance extracted (AVE) should be higher than the squared correlation between each factor to satisfactorily achieve discriminant validity (Hair et al. 2012).

4.4.2 Qualitative Approach

The qualitative approach is a method that seeks to acquire an in-depth comprehension of any social phenomena existing in its naturalistic state (Creswell 2014). The method developed from a departure from positivism due to its adherence to matters pertaining to research reliability and validity that were pursued rigorously. In the latter half of the 20th century, qualitative procedures included interpretive phenomenological designs, grounded theory, ethnographic methods, case studies and narrative research approaches

(Creswell 2014). Such designs were used mostly in the social sciences and social research, and not in physical and natural sciences that require numerical data assessments (Bryman & Bell 2015).

Notably, phenomenological designs can be defined as an interpretive procedure that endeavours to comprehend people's experiences and are an essential aspect of the social sciences systemic methodology that tries to construct theories based on methodical data collection and analysis procedures (Wilson 2014). Simply put, 'the grounded theory states that the theory is actually 'grounded' on the available data, which ascertains that theories can only exist after data have been gathered' (Creswell 2014, p. 14). Such a grounded theory provision easily became a research design that legitimised qualitative research methods and their rationale.

Conversely, ethnographic methods simply involve observing large social and cultural groups and their interactions and social practices. This is similar to case studies that have emerged as a popular qualitative research approach since it involves investigating a social research phenomenon within its actual (real-life) context (Wilson 2014). Citing another example, Bryman and Bell (2015) asserted that narrative research has grown tremendously since researchers seek to explore the relationship between interest groups and organisations from emotive or behavioural perspectives, in either the corporate or the non-business world.

Furthermore, narrative as a qualitative procedure enables researchers to capture research participants' interests, navigating around their sincere feelings and emotions concerning the researched phenomena and at different contextual levels or circumstances. Cupchik (2001, p. 10) stated that 'a phenomenological qualitative research design, often based on one-on-one interview interactions, offers an interpretive approach that tries to comprehend people experiences. Qualitative approaches have expanded greatly in modern-day research endeavours because of their flexibility and relevance in relation to understanding and explaining the reasons why phenomena occur. Semi-structured Interviews were selected as banking executives are busy and best to canvass ideas individually (one on one).

Last, the thematic analysis serves to interpret qualitative data. It involves coding information gathered by identifying noticeable patterns within the data, which are later

arranged to form themes (Creswell 2014). The process follows a specific procedure that revolves around: (a) data familiarisation, (b) coding the collected data, (c) identifying relevant themes and recognising relationships based on research questions and (d) refining the themes identified and testing propositions (Saunders, Lewis & Thornhill 2016, pp. 580–586). Ultimately, such a method involves coding the qualitatively collected data. For this purpose, this research used NVivo, a software package with superior computerised functions and features suitable for qualitative research (QSR International 2021).

4.4.2.1 Interview Instrument Design

The semi-structured interviews were designed to elicit in-depth responses. In all, 13 interviews were held with CDBOs who operate in different parts of Saudi Arabia. Demographic data were collected to identify their position title, experience and education level.

The following questions were asked to collect the data required for the qualitative study:

1. Does your bank apply any particular procedures to improve the quality of online banking services?
2. How does your bank evaluate the quality of online banking services?
3. From the customers' perspective, the results of this study showed that the most significant quality dimensions in the context of the online banking services were: (1) Fulfilment, (2) Efficiency, (3) System availability, (4) Privacy, (5) Responsiveness, (6) Compensation and (7) Contact. Do you think that these dimensions drive and affect customer satisfaction?
4. Does your bank have specific methods to assess customer satisfaction about online banking services?
5. What communication channels does your bank provide to obtain feedback from customers regarding its online banking services?
6. Does your bank have a specific timeframe to resolve customers' troubles with online banking services?
7. Do you think that the brand size of financial institutions affects customer loyalty in relation to online banking services?

8. Does your bank apply any particular procedures to enhance brand image, specifically in the online banking service context?
9. Do you think that the brand size of banks might influence customer preferences regarding the use of online banking services?
10. What are the other factors that might affect customer behaviour in the Saudi banking sector, not previously mentioned in this study?
11. Do you have any suggestions for Saudi banks to improve the efficiency and quality of online banking services?
12. What policies should the Saudi Arabian Monetary Authority implement that could improve the performance and quality of online services in the Saudi banking sector?

The instrument was designed to include a variety of questions (Longhurst 2010) that would encompass Saudi banks' perspectives about online banking services. CDBOs were asked whether their banks have their own strategy to evaluate the quality level of online banking services and about how they assess the quality of such services. They were given the opportunity to discuss their opinions regarding the quality dimensions addressed in this thesis. Further, CDBOs were asked about how their banks measure customer satisfaction and the level of detail involved (see Appendix 7).

4.4.2.2 Interview Instrument Translation

The semi-structured interviews were conducted in the Arabic language. All the questions as well as the interviews were translated by a certified translator via the National Accreditation Authority for Translators and Interpreters (see Appendices 8 and 9). The researcher then translated the transcripts into English for analysis and interpretation.

4.4.2.3 Study Sample

The present study applied the purposive sampling technique to collect qualitative data. This technique helps to select specific respondents who will enable researchers to answer research questions and meet study objectives simultaneously (Saunders, Lewis & Thornhill 2016, p. 301). Furthermore, Etikan, Musa and Alkassim (2016) stated that a purposive sampling technique helps gather data from particular respondents, given the specific research objectives or problems. The study sample comprised 13 CDBOs across different regions in Saudi Arabia, namely, Riyadh, Jeddah and Dammam, which are cities

with established bank officers, personnel and bank directors who also have contacts or networks of operations within these cities' regions. Conducting an interview with 13 CDBOs was deemed to be suitable, given the number of Saudi banks in the target market.

4.4.2.4 Data Collection

The qualitative approach of this study was realised by using semi-structured interviews conducted with 13 CDBOs in different regions in Saudi Arabia to gather information about the managerial practices related to online financial services. According to Bryman (2006), qualitative research is a method that assists the researcher to acquire findings through judging and interpreting subjective information. For this thesis, the cities of Riyadh, Jeddah and Dammam were chosen because these are the specific regions that have established bank directors since they are the largest, and in some ways the most corporate, cities in Saudi Arabia. Most of the questions in the semi-structured interviews were open-ended ones.

Face-to-face interviews were conducted with the CDBOs. First, the consent form (see Appendix 5) and participation information sheet (see Appendix 6) were sent directly to Saudi banks. Then, the researcher contacted the banks for an appointment to visit the banks and conduct the interview. Hence, the interviews involved open-ended questions prepared in advance, and notes from the participants were taken during the interview sessions. Last, the data were translated again to the English language for analysis purposes. From the original interviews requested, 11 were successfully conducted.

4.4.2.5 Data Analysis

The qualitative data were analysed using thematic analysis (Guest, MacQueen & Namey 2012). Thematic analysis is a process of qualitative coding of the information to aid in recognising noticeable patterns within the responses, which are then categorised into related themes (Creswell 2014). The process entails data familiarisation, a coding process, identifying the themes and recognising relationships where propositions can be tested (Saunders, Lewis & Thornhill 2016, pp. 580–586). K Collins, Onwuegbuzie and Jiao (2007) asserted that thematic analysis relies more on the patterns identified within the dataset, which have to be related to the main study objectives. The latter is crucial in ensuring that thematic analysis does not lead to the identification of themes that are 'exogenous' to the original research inquiry.

The NVivo software is suitable for organising qualitative data because it operates with multimedia and text-based information (QSR International 2021). In addition, it has advanced features to handle intricate levels of data as well as either large or small datasets. The software assists researchers to analyse unstructured data or non-numerical information (Uprichard 2013).

Figure 4.2. summarises all the data collection procedures and analysis processes implemented at each phase. The current study commenced with quantitative data collection, followed by qualitative data collection.

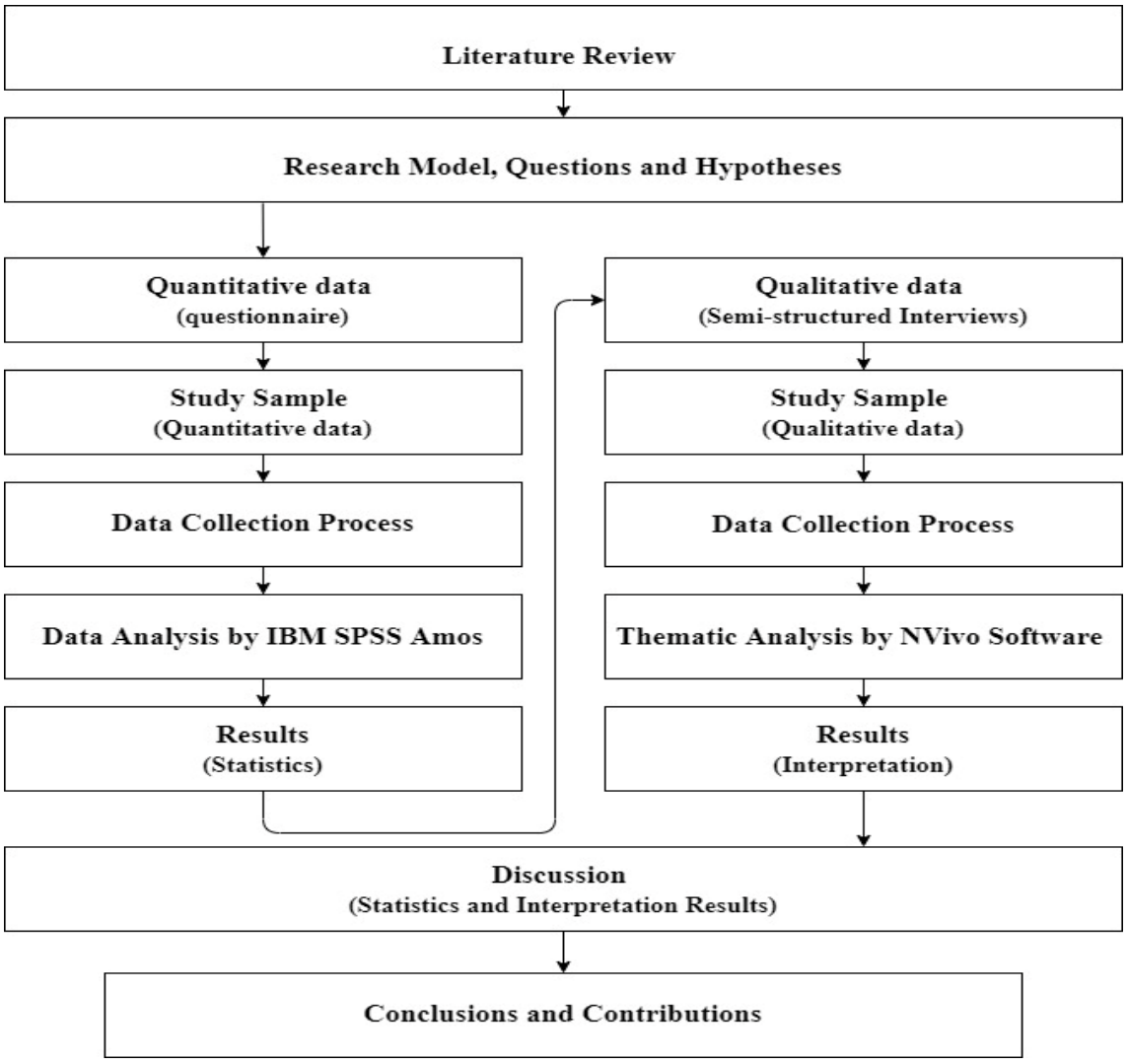


Figure 4.2: Research Design Structure

Source: *Developed for this Research.*

4.5 Ethical Procedures

The ethical considerations in this study revolve around respondents' willingness to be a part of the study. The agreement and willingness to accept the study's requirements and research conditions are enhanced by guaranteeing their privacy and confidentiality. Wilson (2014) stated that when research participants' identities are well protected, a study acquires honest data, which increases the validity and reliability of what they say. Research responses should be hidden for confidentiality purposes so that a certain claim, remark or opinion will not be traced back to a particular individual and create repercussions for that person (Creswell & Clark 2007).

The Human Research Ethics Committee at Victoria University granted approval on 22 September 2019 to conduct this study (HREC # 19-079). The research conducted adhered to the guidelines in the ethics approval (see Appendix 1).

4.6 Chapter Summary

This chapter has detailed the methodology adopted in this research. It discussed the philosophical underpinnings of the research and its adoption of the pragmatism paradigm. This was followed by an analysis of the research design—embedded research design—on which a detailed explanation was presented, including about its superiority to other methods. A review of the mixed methodology strategy was presented, and it was described how it combines quantitative and qualitative procedures. The mixed methodology approach was also justified.

Further, this chapter presented the chosen data analysis procedures for qualitative and quantitative methods, explaining the survey questionnaire and the semi-structured interviews. Quantitative data were analysed in this study via correlation analysis, Cronbach's alpha and CB-SEM using SPSS and AMOS software. For the qualitative data, a thematic analysis NVivo 12 software was employed. The chapter concludes with the ethical considerations required for this thesis. The next chapter will present the results of quantitative and qualitative approaches.

Chapter 5: Data Analysis

5.1 Introduction

This chapter presents the results of the quantitative and qualitative approaches whose design was explained in the previous chapter. This chapter comprises seven sections. Section 5.2 presents the statistical tests to analyse the quantitative data, including descriptive statistics to outline the respondents' demographics, reliability tests, correlation coefficients and EFA by using SPSS 26. This section also includes the CFA and CB-SEM conducted by utilising AMOS 26 to analyse the data collected from an online survey. CB-SEM was applied in this study to validate the performance and the hypotheses of the proposed model.

Furthermore, the section describes a multiple-group analysis that was run to explore the moderating effect of gender on customer perceptions. The operation of the double jeopardy law in the online banking service context is also scrutinised. Section 5.3 discusses the thematic analysis implemented to interpret the qualitative data gathered through interviews with CDBOs, and the descriptive approach used to organise and code data through NVivo 12. Section 5.4 presents the instrument validation for statistical tests, Section 5.5 describes the research framework with the final findings and Section 5.6 outlines the outcomes of the hypotheses tested in this research. Last, the summary section concludes the chapter.

5.2 Quantitative Analysis

This section presents the analysis of the quantitative empirical data. Hair et al. (2014) recommended taking several steps to secure data before running statistical tests, such as dealing with missing data. Based on the responses from the participants, 430 survey questionnaires were considered to have sufficient quality for data analysis. The quantitative data have two categories that include background information about the participants, which is measured via a nominal scale comprising dichotomous and categorical options. Meanwhile, a 5-point Likert scale was adopted to assess the research variables related to the impact of online banking service quality on customer satisfaction, loyalty and preferences in Saudi Arabia (Likert 1932). Collectively, 37 items represented 10 constructs examined in the study, as shown in Table 5.1.

Table 5.1: Study Constructs

Construct	Code	Statement	Reference
Efficiency	EFF1	This bank provides simple and easy online banking service.	(Parasuraman, Zeithaml & Malhotra 2005)
	EFF2	This bank provides relevant information in online banking services.	
	EFF3	This bank enables me to get on with online banking services quickly.	
	EFF4	The online banking services by this bank are well organised.	
System Availability	SYS1	The online banking services in this bank are always available for me.	
	SYS2	The online banking services in this bank launch and run straight away.	
	SYS3	The online banking services in this bank do not crash.	
	SYS4	The online transactions in this bank do not freeze while I run my information.	
Fulfilment	FUL1	This bank completes online banking transactions when promised.	
	FUL2	This bank has a suitable timeframe to achieve online banking transactions.	
	FUL3	This bank enables me to accomplish online banking transactions quickly.	
	FUL4	This bank processes online banking transactions immediately.	
Privacy	PRI1	This bank protects my personal and financial information.	
	PRI2	This bank protects information about my online banking activities.	
	PRI3	This bank does not share my personal information with third parties.	
	PRI4	This bank uses a secure portal to protect information of online transactions.	

Construct	Code	Statement	Reference
Responsiveness	RES1	This bank tells me what to do if my transaction is not processed.	(Parasuraman, Zeithaml & Malhotra 2005)
	RES2	This bank resolves problems promptly and efficiently.	
	RES3	This bank notifies me immediately about online banking transactions.	
Compensation	COM1	This bank compensates me for any problems it creates.	
	COM2	This bank compensates me if the transaction was not completed on time.	
	COM3	This bank compensates me if online fraud occurs.	
Contact	CON1	This bank provides a 24/7 call centre for customers.	
	CON2	This bank has customer service representatives available online.	
	CON3	This bank offers the opportunity to speak to a real person if there is a problem.	
Customer Satisfaction	CS1	I am satisfied with the transaction processing via online banking services in this bank.	(Özer, Argan & Argan 2013; Seiler, Rudolf & Krume 2013; Yang, Z & Peterson 2004)
	CS2	I think I made the correct decision to use the online banking services of this bank.	
	CS3	The quality of this bank's online banking services exceeds my expectations.	
	CS4	Overall, I am satisfied with the quality of online banking services in this bank.	
Customer Attitudinal Loyalty	AL1	I will choose this bank the next time if I would be doing online banking services.	(Boonlertvanich 2019; Hellier et al. 2003; Parasuraman, Zeithaml & Malhotra 2005; Seiler, Rudolf & Krume 2013)
	AL2	I have used this bank's online banking services during the past 12 months.	
	AL3	In the next 12 months, I will use this bank's online banking services.	
	AL4	I would like to continue using this bank's online banking services.	

Construct	Code	Statement	Reference
Customer Preferences	PC1	I have a strong preference for conducting online banking with this bank.	(Alhusein & Sadi 2015; Hellier et al. 2003; Jamal & Goode 2001; Sirgy et al. 1997)
	PC2	This bank meets my requirements for online banking services better than other banks.	
	PC3	The financial brand is very important in defining my choice of online banking services.	
	PC4	My preference for this bank would not change even if its online banking fees were higher than that of other banks.	

The quality of online banking service was examined through seven constructs: efficiency, fulfilment, system availability, privacy, responsiveness, compensation and contact. The seven constructs comprise the independent variables, whereas customer satisfaction, loyalty and preferences are dependent variables through CB-SEM.

5.2.1 Missing Data

Numerous approaches are recommended for handling missing data. One way to treat missing values is to simply drop affected cases from the dataset (Tabachnick & Fidell 2019). This study used an online survey to collect quantitative data and received 558 questionnaires. Data screening revealed that 83 questionnaires were incomplete and 45 respondents had selected the 'I don't use online banking service' answer. Hence, a total of 430 questionnaires were valid. This technique was applied given the use of CB-SEM in this study. Therefore, the missing data were dropped from the dataset before conducting the statistical tests, as recommended by several scholars (Field 2013; Hair et al. 2014; Tabachnick & Fidell 2019).

5.2.2 Respondents' Profiles

Respondents' profiles sought in the study included gender, age, education level and household income. Table 5.2 provides the sample distribution based on respondent gender, which shows that the majority were males, at 86%, whereas females comprised 14% of the sample. According to Saudi General Authority for Statistics (2021), the population who were above 18 years, around 59% were males and 41% were females.

Table 5.2: Summary of Sample by Gender

Gender	Frequency	Percentage (%)	Saudi Arabia Stat. Percentage (%)
Male	368	86	59
Female	62	14	41
Total	430	100	100

Referring to age distribution, the findings in Table 5.3 indicate that 33% of respondents were aged 36–45 years, followed by 31% aged 26–35 years, 19% aged 46–55 years, 13%, aged 18–25 years and 4% aged 56 years or above. Thus, most of those using online

banking services were aged 26 to 45 years. In contrast, the census showed that 30% of people were aged 36-45 years, followed by 27% aged 26-35 years, 19% aged 46-55 years, 14% aged 56 or above, and around 10% aged 18-25 years (General Authority for Statistics 2021).

Table 5.3: Summary of Sample by Age

Age Group	Frequency	Percentage (%)	Saudi Arabia Stat. Percentage (%)
18–25 years	56	13	10
26–35 years	133	31	27
36–45 years	142	33	30
46–55 years	81	19	19
56 years and above	18	4	14
Total	430	100	100

Concerning the highest level of education attained, the study results in Table 5.4 reveal that the majority, 42%, had a bachelor's degree, followed by 22% with a master's degree, and 19% with a diploma. Further, 11% were high school graduates and 6% were doctorate holders. As stated by the Saudi General Authority for Statistics (2017), 52% of educated people held high school, 9% held diploma, and 36% held bachelor degree. While less than 3% held master and doctoral degrees.

Table 5.4: Summary of Sample by Education Level

Education Level	Frequency	Percentage (%)	Saudi Arabia Stat. Percentage (%)
High school	45	11	52
Diploma	81	19	9
Bachelor	181	42	36
Master	96	22	2
Doctorate	27	6	1
Total	430	100	100

An examination of monthly household income for respondents indicated that the household income can be classified into five categories, which refer to the common classifications of such income in Saudi Arabia. Table 5.5 shows that most respondents

(33%) declared that they earned more than SAR15,000 monthly. Further, 16% said they earned between SAR12,001 and SAR15,000 monthly and 15% that they earned between SAR9,001 and SAR12,000. Meanwhile, 10% stated that they earned between SAR6,001 and SAR9,000, followed by 10% declaring that they were paid between SAR3,000 and SAR6,000. Last, 16% did not disclose their income. While monthly income average in Saudi Arabia was SAR 14,823 in 2018 (General Authority for Statistics 2018).

Table 5.5: Summary of Sample by Household Income

Income (SAR)	Frequency	Percentage (%)	Saudi Arabia Stat. Income Average
3,000–6,000	41	10	SAR 14,823
6,001–9,000	41	10	
9,001–12,000	64	15	
12,001–15,000	70	16	
More than 15,000	142	33	
I prefer not to comment	72	16	
Total	430	100	-

In summary, the sample comprised 430 respondents, and approximately 86% were male and 14% were female. In comparison, the Saudi Census highlights that males represent 59% with females being 41% of the population. The women's group was small in the current study owing to the inability to select participants intentionally. It may also be that many males still are the primary decision makers regarding banking decisions in the household. The society is more traditional around role portrayals. Further, the majority of respondents were in the 18–45 years age group, which comprised nearly 77% of the study sample. The Saudi population is actually quite young with the census stating it is 67% for the same range. With respect to education, the study sample revealed that the respondents who held a bachelor degree or above were 70% which is a higher percentage than exists nationally. This discrepancy might be because undergraduate and postgraduate participants were more familiar or interested to participate in online surveys (Laaksonen & Heiskanen 2014). The respondents' profiles demonstrated that close to 50% of the study sample earned more than SAR 12,000, while the average income was SAR 14,823. This is quite close. Although, the study sample is not entirely representative of the Saudi population, the sample does account for the key users of banking online services. The

typical user profile is those that are highly educated and earning an average to higher income. Given this, the study results can be generalised albeit they need to be interpreted with caution because the current study used a convenience sample.

5.2.3 Descriptive Statistics

This section describes the participants' perspectives on online banking services and the sample characteristics. Using descriptive analysis, it is easier to summarise and present data in methods that can be easily interpreted (Pallant 2013). It is easier to identify measures that ought to be implemented to enhance customer satisfaction, loyalty and preferences of online banking services through descriptive summaries. Measures of central tendency and dispersion were calculated, as shown in Table 5.6. These measures were implemented to examine the average rating on a 5-point Likert scale that ranged as follows: from strongly disagree (1), disagree (2), neither agree nor disagree (3), agree (4) and strongly agree (5) (Likert 1932). The descriptive analysis results showed the mean values for all the research variables exceed 3 and range between 3.38 and 4.48.

Table 5.6: Descriptive Analysis of Respondents' Responses

Factors	Code	Minimum	Maximum	Mean	Std. Deviation
Efficiency	EFF1	1	5	4.44	0.68
	EFF2	1	5	4.33	0.74
	EFF3	1	5	4.42	0.71
	EFF4	1	5	4.30	0.76
System Availability	SYS1	1	5	4.24	0.80
	SYS2	1	5	4.33	0.73
	SYS3	1	5	4.07	0.90
	SYS4	1	5	4.06	0.87
Fulfilment	FUL1	1	5	4.33	0.74
	FUL2	1	5	4.19	0.78
	FUL3	1	5	4.37	0.67
	FUL4	1	5	4.35	0.70
Privacy	PRI1	1	5	4.48	0.69
	PRI2	1	5	4.45	0.69
	PRI3	1	5	4.28	0.86
	PRI4	1	5	4.38	0.76

Factors	Code	Minimum	Maximum	Mean	Std. Deviation
Responsiveness	RES1	1	5	4.00	0.90
	RES2	1	5	4.15	0.92
	RES3	1	5	4.17	0.92
Compensation	COM1	1	5	4.30	0.77
	COM2	1	5	4.10	0.83
	COM3	1	5	4.18	0.76
Contact	CON1	1	5	4.21	0.81
	CON2	1	5	4.06	0.82
	CON3	1	5	4.10	0.79
Customer Satisfaction	CS1	1	5	4.13	0.73
	CS2	2	5	4.23	0.70
	CS3	1	5	4.20	0.74
	CS4	1	5	4.17	0.73
Attitudinal Loyalty	AL1	1	5	4.24	0.75
	AL2	2	5	4.46	0.67
	AL3	1	5	4.42	0.68
	AL4	1	5	4.42	0.69
Customer Preferences	CP1	1	5	3.90	0.92
	CP2	1	5	3.86	0.78
	CP3	1	5	3.84	0.81
	CP4	1	5	3.38	1.02

Note: A 5-point Likert scale was used. Respondents' scores range from 1 to 5 (1 = Strongly Disagree and 5 = Strongly Agree).

Furthermore, the study measured the period in which online banking services were used. Table 5.7 shows that 64% of the respondents had accessed online banking services for more than five years, followed by 15% for 1–3 years and 14% for 3–5 years. Last, 7% stated that they had accessed online banking services for less than a year.

Table 5.7: Summary of Length of Period of Accessing Internet Banking Services

Period of Accessing (Years)	Frequency	Percentage (%)
< 1	28	7
1–3	65	15
3–5	62	14
> 5	275	64
Total	430	100

The frequency distribution revealed that 51% of respondents were weekly users of online banking services, 31% were daily users and 13% were once per month users, whereas 5% seldom accessed such services. Table 5.8 outlines that the vast majority of respondents had accessed online banking services at least once per week (82%).

Table 5.8: Summary of the Number of Times Respondents Accessed Online Banking Services

Access Time	Frequency	Percentage (%)
Daily	131	31
Weekly	218	51
Once a month	57	13
Every 2 to 3 months	15	3
2 to 3 times per year	9	2
Total	430	100

As regards preferences about various banking services of Saudi retail banks, Table 5.9 shows that online banking services were accessed at 38%, followed by ATMs at 25%. Visits to the branch were at 14%, self-services were at 12% and, last, telephone banking was at 11%. In terms of Saudi banks' ranking based on market share, the National Commercial Bank at 18% had the highest overall banking services, followed by Alrajhi Bank with 13% and Samba Financial Group with 12%. Last, other banks amounted to 1%, the smallest proportion in the Saudi market.

Table 5.9: Summary of Respondents' Use of Banking Services in Saudi Arabia

No	Bank Name	Visit Branch	Self-services	ATM	Tele-banking	Online Banking	Total
1	National Commercial Bank	49	56	93	47	143	388
2	Alrajhi Bank	31	39	69	32	107	278
3	Samba Financial Group	34	31	58	32	105	260
4	Riyad Bank	43	22	65	28	95	253
5	The Saudi British Bank	32	22	53	25	72	204
6	Banque Saudi Fransi	30	21	48	19	67	185
7	Arab National Bank	26	16	42	15	54	153
8	Saudi Investment Bank	16	19	26	9	48	118
9	Alinma Bank	13	9	24	6	51	103
10	Alawwal Bank	11	6	24	9	33	83
11	Bank Aljazira	14	5	15	8	27	69
12	Bank Albilad	11	7	17	7	27	69
13	Gulf International Bank	3	5	5	4	9	26
14	Other	4	5	6	3	10	28
Total		317	263	545	244	848	2217

Note: Respondents were able to choose more than one option. Hence, the number for some options exceeds the sample size of 430.

As shown in Table 5.10, which summarises respondents' distribution in terms of the main bank account they held, National Commercial Bank registered a high percentage of 20%, followed by Alrajhi Bank with 15%. Meanwhile, the percentage of the other banks ranged between 1% and 11%.

Table 5.10: Summary of Respondents' Main Bank Accounts Held

No.	Bank name	Frequency	Percentage (%)
1	The National Commercial Bank	83	20
2	Alrajhi Bank	64	15
3	Riyad Bank	49	11
4	Samba Financial Group	45	10
5	The Saudi British Bank	44	10
6	Banque Saudi Fransi	36	8
7	Arab National Bank	23	5
8	Saudi Investment Bank	22	5
9	Alinma Bank	21	5
10	Alawwal Bank	13	3
11	Aljazira Bank	13	3
12	Albilad Bank	12	3
13	Gulf International Bank	3	1
14	Other*	2	1
Total		430	100

* Other: Foreign banks' branches operating in Saudi Arabia.

Table 5.11 illustrates the distribution of respondents according to their main motivation of using the online banking services of their main bank. The majority, 61%, had a traditional bank account with the same bank, followed by 33% who noted that the online banking service offered by their bank was excellent. In comparison, 4% chose other reasons to access online banking services, and meanwhile, the bank's brand name attracted 2%.

Table 5.11: Summary of Reasons for Holding Main Bank Account

Statement	Frequency	Percentage (%)
Holding a traditional bank account with the same bank	263	61
The excellent online banking service offered by this bank	139	33
The brand name of the bank	10	2
Other	18	4
Total	430	100

5.2.4 Correlation

Correlation analysis was performed to examine the strength of the association between the variables under analysis (Bryman 2012). Product moment correlation analysis served to scrutinise the strength of the relationship among independent and dependent variables. Table 5.12 provides the guidelines for checking correlation.

Table 5.12: Guidelines to Interpret the Values of Correlation Coefficients

Value of Pearson correlation	Correlation
r = 0.10 to 0.29 or r = −0.10 to −0.29	Weak
r = 0.30 to 0.49 or r = −0.30 to −0.49	Moderate
r = 0.50 to 1.00 or r = −0.50 to −1.00	Strong

Sources: (Cohen 1988, pp. 79–80)

The Pearson correlation coefficient, denoted as r, is adopted to show the strength of the effects of the variables under examination. It ranges from −1 to + 1. If r = +1, then there is a perfect relationship between the variables and if it is −1, then there is an inverse relationship; when r = 0, then there is no relationship. When the dependent variable and independent variables move in the same direction, then there is a positive correlation, but if they move in the opposite direction, then there is a negative correlation (Cohen 1988).

Table 5.13: Correlation Coefficients

Items	EFF	SYS	FUL	PRI	RES	COM	CON	CS	CL	CP
EFF	1.00	0.64**	0.65**	0.52**	0.51**	0.46**	0.39**	0.48**	0.53**	0.33**
SYS	0.64**	1.00	0.64**	0.50**	0.54**	0.51**	0.35**	0.45**	0.49**	0.28**
FUL	0.65**	0.64**	1.00	0.59**	0.62**	0.54**	0.47**	0.47**	0.49**	0.30**
PRI	0.52**	0.50**	0.59**	1.00	0.44**	0.47**	0.31**	0.37**	0.37**	0.29**
RES	0.51**	0.54**	0.62**	0.44**	1.00	0.42**	0.28**	0.32**	0.41**	0.27**
COM	0.46**	0.51**	0.54**	0.47**	0.42**	1.00	0.53**	0.39**	0.44**	0.22**
CON	0.39**	0.35**	0.47**	0.31**	0.28**	.53**	1.00	0.37**	0.35**	0.21**
CS	0.48**	0.45**	0.47**	0.37**	0.32**	0.39**	0.37**	1.00	0.65**	0.22**
CL	0.53**	0.49**	0.49**	0.37**	0.41**	0.44**	0.35**	0.65**	1.00	0.25**
CP	0.33**	0.28**	0.30**	0.29**	0.27**	0.22**	0.20**	0.22**	0.25**	1.00

** Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficients in Table 5.13 range between 0.20 and 0.65. This result revealed that almost all the relationships between the research variables were moderate and weak. Consequently, the correlation findings may indicate a positive linear relationship between the research variables.

5.2.5 Reliability

The internal consistency of a research instrument can be examined by employing reliability tests, such as Cronbach's alpha (Cronbach 1951; Hair et al. 2014; Wang, Ellinger & Wu 2013). The Cronbach's alpha coefficient ranges from 0 to 1. Any value greater than 0.70 is considered to indicate that the construct is stable and has internal consistency (Kent 2015).

Table 5.14: Results of Reliability and Constructs' Internal Consistency

Construct	Statement n	Cronbach's Alpha (α)
Efficiency	4	0.89
System Availability	4	0.83
Fulfilment	4	0.87
Privacy	4	0.87
Responsiveness	3	0.85
Compensation	3	0.81
Contact	3	0.77
Customer Satisfaction	4	0.84
Attitudinal Loyalty	4	0.86
Customer Preferences	4	0.71

The internal consistency of all expressions in the scale confirms the high reliability of data (Caruana & Pitt 1997). A summary of the results of stability analysis and self-validation of measurements is provided in Table 5.14, which demonstrates that all the variables are highly reliable and stable in measurement. To enhance the reliability of the research instruments, some items may be deleted or the sample size increased. The findings in Table 5.14 depict that the smallest Cronbach's coefficient was 0.71 for customer preferences, followed by 0.77 for contact, and the highest was 0.89 for efficiency. Since all were greater than 0.70, the research instrument was internally

consistent and stable. These findings agreed with those of other scholars who argued that a reliability coefficient greater than 0.70 indicates high reliability (Field 2013).

5.2.6 Common Method Bias

Common method bias (CMB) should be considered when conducting marketing research (Viswanathan & Kayande 2012). CMB could negatively affect the validity and reliability of research items and might affect covariation among the latent constructs (MacKenzie & Podsakoff 2012). CMB in this investigation was assessed by implementing Harman's one-factor test (Aguirre-Urreta & Hu 2019). This is the technique that researchers most commonly adopt. Harman's one-factor test was applied to demonstrate whether CMB is present in this study (Podsakoff et al. 2003). Although the total variance extracted on the single factor was 36.67%, this was less than the threshold value likely to cause a problem at the level of scale reliability produced in the research (Fuller et al. 2016). Thus, the evidence suggests that CMB was not an issue in this research (see Appendix 10).

5.2.7 Exploratory Factor Analysis

The current study modified the original scales (E-S-QUAL and E-RECS-QUAL) and applied them in different contexts, including the Saudi banking industry. Thus, exploratory factor analysis (EFA) will be applied to explore the likely underlying factor structure of a questionnaire comprising a set of observed variables with an inflexible structure (Suhr 2006). EFA is typically considered appropriate for large samples to provide information about the suitability of the elements of measured variables (de Winter, Dodou & Wieringa 2009). However, a crucial phase of EFA is to check the loading of factors before proceeding to subsequent phases such as confirmatory factor analysis. Hence, EFA will be used to determine the relationships between the items used to measure the variables in the research instrument.

EFA will be conducted on each component. A loading of > 0.50, which is above the cut-off, (Hair et al. 2019), will indicate the comprehension of responders. However, an extraction method will be used to create a rotational component matrix for principal component analysis to identify any cross-loadings between observed variables (Watkins 2018). Kaiser–Meyer–Olkin and Bartlett's tests will also be run to ensure that an adequate sample is obtained (Worthington & Whittaker 2006). The following subsections provide the findings of various tests: KMO to measure sampling adequacy, eigenvalues test and

EFA. Hence, the current study applies EFA and then CFA analysis. These tests are particularly commonly used in social science research; consequently, Abbott (2003) Awang et al. (2015), Khan et al. (2021), Prasojo et al. (2020) and Palvalin (2017) all applied these tests together to examine the hypotheses.

5.2.7.1 Kaiser–Meyer–Olkin Test

The results in Table 5.15 show that the KMO and Bartlett's test was significant, while $p < 0.001$ and a satisfactory value of 0.92 were recorded, indicating that the correlation matrix was different from the identity matrix (Field 2013; Hair et al. 2014). Since the Bartlett's test coefficient had a chi-square of 10087.81and a *p*-value of 0.00, it supported the application of EFA to the identity matrix.

Table 5.15: Results of Kaiser–Meyer–Olkin and Bartlett's Tests

Kaiser–Meyer–Olkin Measure of Sampling Adequacy.		**0.92**
Bartlett's Test of Sphericity	Approx. chi-square	10087.81
	Degree of Freedom	666
	Sig.	0.00

The adequacy of data for EFA was examined using KMO statistics. The KMO coefficient ranges from 0 to 1. It is deemed to be unacceptable if it is less than 0.50, if = 0.50, then it is measurable and if between 0.60 and 0.90, it is acceptable. If it is above 0.90, then it is excellent. Bartlett's test examines the presence of the identity matrix with the null hypothesis of diagonals of 1 against diagonals of 0. If its *p*-value is less than 0.05, then it is not appropriate to carry out EFA (Tabachnick & Fidell 2019).

5.2.7.2 Eigenvalues Test

The eigenvalue of a factor denotes the total amount of variance explained by that factor (Pallant 2013). As shown in Table 5.16, a cumulative total for the 10 factors explained 72.61% of the variance as compared with all factors examined. The initial eigenvalues are variances of factors. The total column of eigenvalues constitutes the variance for respective factors, and the first has the highest of 13.57, while the least was the tenth with 0.79. If the eigenvalue values are near to 1, it may be considered for inclusion (Hair et al. 2014). Therefore, all 10 constructs will be accepted because the eigenvalues were near or greater than 1. The cumulative percentage produces a variance that can be accounted for

by the current and all preceding factors. In this study, 10 factors accounted for 72.61%, and the first factor accounted for 36.67%.

The extraction sum of squared loadings provides variance loadings, which are calculated using a common, unique and error variance mixed into components (Tabachnick & Fidell 2019). The rotated sum of squared loadings gives a variance distribution after varimax rotations. The rotation operates to redistribute and maximise the variance between factors (Abbasi, Khan & Rashid 2011). For instance, in Table 5.16 the variance for the first factor is 10.11%, followed by 9.52%, and the smallest is 5.58% when compared with the two left-hand side matrices where the highest variance is 36.67%, followed by 7.05% and the least is 2.14%.

Table 5.16: Results of Eigenvalues Test

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	Percentage of Variance (%)	Cumulative Percentage (%)	Total	Percentage of Variance (%)	Cumulative Percentage (%)	Total	Percentage of Variance (%)	Cumulative Percentage (%)
1	13.57	36.67	36.67	13.57	36.67	36.67	3.74	10.11	10.11
2	2.61	7.05	43.73	2.61	7.05	43.73	3.52	9.52	19.63
3	1.94	5.25	48.98	1.94	5.25	48.98	3.20	8.64	28.28
4	1.87	5.04	54.02	1.87	5.04	54.02	2.56	6.93	35.21
5	1.61	4.35	58.37	1.61	4.35	58.37	2.49	6.74	41.95
6	1.36	3.69	62.06	1.36	3.69	62.06	2.45	6.61	48.56
7	1.19	3.21	65.27	1.19	3.21	65.27	2.38	6.43	54.99
8	1.07	2.89	68.15	1.07	2.89	68.15	2.32	6.26	61.25
9	0.86	2.31	70.47	0.86	2.31	70.47	2.14	5.77	67.02
10	0.79	2.14	72.61	0.79	2.14	72.61	2.07	5.58	72.61

Note: Extraction Method: Principal Component Analysis.

5.2.7.3 Exploratory Factor Analysis Matrix

Table 5.17 represents the rotated factor loadings for all constructs. The current study runs EFA with the cut off at 0.40 as suggested by Howard (2016). The majority of item loadings were above 0.50 and met the minimum recommended threshold in social science research (Pallant 2013).

Table 5.17: Exploratory Factor Analysis

Item	Component									
	1	2	3	4	5	6	7	8	9	10
EFF1	0.78									
EFF2	0.79									
EFF3	0.71									
EFF4	0.73									
SYS1						0.63				
SYS2	0.52					0.56				
SYS3						0.82				
SYS4						0.59				
FUL1							0.64			
FUL2							0.62			
FUL3							0.60			
FUL4							0.58			
PRI1			0.76							
PRI2			0.78							
PRI3			0.76							

Item	Component									
	1	2	3	4	5	6	7	8	9	10
PRI4			0.80							
RES1				0.77						
RES2				0.74						
RES3				0.79						
COM1					0.69					
COM2					0.77					
COM3					0.76					
CON1									0.65	
CON2									0.79	
CON3									0.80	
CS1		0.78								
CS2		0.78								
CS3		0.73								
CS4		0.74								
AL1		0.51								
AL2		0.46								0.69

Item	Component									
	1	2	3	4	5	6	7	8	9	10
AL3										0.76
AL4										0.65
CP1								0.62		
CP2								0.79		
CP3								0.71		
CP4								0.73		

Note: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser normalisation.

The highest factors loadings were 0.82 for SYS3, followed by 0.80 for PRI4 and CON3 then by 0.79 for EFF2, RES3, CON2, and CP2 and the smallest was 0.46 for AL2. There are 10 constructs in this study: efficiency with four items, fulfilment with four items, system availability with three items, privacy with four items, compensation with three items, responsiveness with three items and contact with three items. In contrast, the dependent variables consist of three constructs: customer satisfaction, attitudinal loyalty and customer preferences. Meanwhile, there are two items where cross-factor loadings were deleted: SYS2 and AL2. Also, one item AL1 was eliminated due to loading into another construct 'customer satisfaction' instead of attitudinal loyalty.

5.2.8 Confirmatory Factor Analysis

CFA is the first step in CB-SEM testing. CFA output has path coefficients that indicate the strength of the relationship between exogenous and endogenous variables. SEM path coefficients depict unstandardised regression coefficients.

5.2.8.1 Proposed Model for Confirmatory Factor Analysis

Designing the initial diagram for CFA in AMOS 26 software is important for several reasons. First, the initial diagram checks the correlation between the research variables. Second, this examination is essential to determine items that have low loading. Thus, these items will be deleted in the revised models to improve the goodness-of-fit indices of the CFA model (Blunch 2013; Byrne 2016; Kline 2016).

Results shown in Table 5.18 show a chi-square (X^2) of 1255.81 with 482 degrees of freedom with a *p*-value less than 0.05. Reliance on this test for examining absolute fit indices is subject to the sensitivity to the sample size (Kline 2005). Furthermore, a ratio of chi-square to the degree of freedom was calculated and its coefficient was 2.60. Since the ratio was within the recommended ratios of 1 to 3, the model met this fitness evaluation criterion (Schreiber et al. 2006). Model fitness statistics indicated were GFI = 0.86, AGFI = 0.83, NFI = 0.86, IFI = 0.91, TLI = 0.90 and CFI = 0.91.

Table 5.18: Model Fit Summary for Confirmatory Factor Analysis (Proposed Model)

Indicators	
Model chi-square X^2	1255.81
Degree of freedom	482
Probability level	0.00
X^2/df	2.60
Goodness-of-Fit Index (GFI)	0.86
Adjusted Goodness-of-Fit Index (AGFI)	0.83
Normed Fit Index (NFI)	0.86
Incremental Fit Index (IFI)	0.91
Tucker–Lewis Index (TLI)	0.90
Comparative Fit Index (CFI)	0.91
Root mean square error of approximation (RMSEA)	0.06

5.2.8.2 Revised Model for Confirmatory Factor Analysis

Some items were deleted in the revised CFA model, including SYS4, CS3, CP3 and CP4, owing to low loadings < 0.60. These items were deleted, as recommended by several scholars, to improve the quality of the model (Barrett 2007; Blunch 2013; Byrne 2016; Fornell & Larcker 1981; Kline 2016; McDonald & Ho 2002).

Table 5.19 documents the findings for the revised CFA, which had a chi-square of 977.64 with 360 degrees of freedom and a *p*-value < 0.05. Furthermore, a ratio of chi-square to the degree of freedom was calculated, and its coefficient was 2.71. Since the ratio was within the recommended ratio of 1 to 3, the model met this fitness evaluation criterion (Barrett 2007; Byrne 2016; Kline 2016). Meanwhile, the model fitness statistics indicate an acceptable model fit since GFI = 0.87, AGFI = 0.84, NFI = 0.88, IFI = 0.92, TLI = 0.90 and CFI = 0.92. The CFA results showed that the GFI and AGFI values had not exceeded 0.90 as the threshold. These indicators still met the goodness-of-fit for CFA requirement as proposed by Baumgartner and Homburg (1995) and Doll, Xia, and Torkzadeh (1994) if the values are above 0.80, the model can be acceptable.

Table 5.19: Model Fit Summary for Confirmatory Factor Analysis (Revised Model)

Indicators	
Model chi-square X^2	977.64
Degree of freedom	360
Probability level	0.00
X^2/df	2.71
Goodness-of-Fit Index (GFI)	0.87
Adjusted Goodness-of-Fit Index (AGFI)	0.84
Normed Fit Index (NFI)	0.88
Incremental Fit Index (IFI)	0.92
Tucker–Lewis Index (TLI)	0.90
Comparative Fit Index (CFI)	0.92
Root mean square error of approximation (RMSEA)	0.06

Standardised factor loadings derived from the measurement models were used to evaluate convergent validity (Fornell & Larcker 1981). These loadings examine the extent of convergence of indicators regarding a given construct. According to Hair et al. (2014), standardised factor loadings should be at least 0.50. There were adequate factor loadings since the standardised coefficients ranged from 0.64 to 0.94. The critical ratio (C.R.) was used to examine the significance of factor loadings, as presented in Table 5.20; the coefficients were deemed to be significant if their C.R. was ±1.96. This result indicates a significant association between variables. The highest C.R. was 21.85, while the lowest was 7.84.

Table 5.20: Regression Weights for Confirmatory Factor Analysis

			Estimate	S.E.	C.R.	P	Label
EFF	→	EFF1	0.81	0.04	20.40	***	
EFF	→	EFF2	0.85	0.04	21.85	***	
EFF	→	EFF3	0.80	0.04	20.22	***	
EFF	→	EFF4	0.85				
SYS	→	SYS1	0.87	0.09	12.77	***	
SYS	→	SYS3	0.68				
FUL	→	FUL1	0.84	0.07	17.34	***	

			Estimate	S.E.	C.R.	P	Label
FUL	→	FUL2	0.79	0.07	16.20	***	
FUL	→	FUL3	0.80	0.06	16.32	***	
FUL	→	FUL4	0.74				
PRI	→	PRI1	0.88	0.04	20.71	***	
PRI	→	PRI2	0.88	0.04	20.82	***	
PRI	→	PRI3	0.64	0.06	13.92	***	
PRI	→	PRI4	0.80				
RES	→	RES1	0.78	0.06	16.18	***	
RES	→	RES2	0.87	0.06	17.86	***	
RES	→	RES3	0.77				
COM	→	COM1	0.80	0.06	15.37	***	
COM	→	COM2	0.74	0.07	14.36	***	
COM	→	COM3	0.76				
CON	→	CON1	0.75	0.09	12.30	***	
CON	→	CON2	0.76	0.09	12.43	***	
CON	→	CON3	0.67				
CS	→	CS1	0.78	0.07	15.36	***	
CS	→	CS2	0.73				
CS	→	CS4	0.88	0.07	16.68	***	
AL	→	AL3	0.80	0.04	18.58	***	
AL	→	AL4	0.94				
CP	→	CP1	0.73	0.14	7.84	***	
CP	→	CP2	0.74				

*** significant *P*-value < 0.05

5.2.8.3 Convergent Validity

The reliability and validity of the measurement model were evaluated by calculating the composite reliability, which evaluates the internal consistency of construct scales in a research questionnaire (Hair et al. 2014). Moreover, Cronbach's alpha test was performed and compared with the composite reliability. The reliability results in Table 5.21 indicate that the composite reliability ranged from 0.70 to 0.89. The scores exceeded the threshold

of 0.70, as recommended by Hair et al. (2014). Consequently, it can be concluded that the scale reliability was adequate.

Table 5.21: Building the Model's Reliability

Construct	Cronbach's Alpha	Construct Reliability	AVE
Efficiency	0.89	0.87	0.63
System Availability	0.83	0.75	0.61
Fulfilment	0.87	0.90	0.69
Privacy	0.87	0.88	0.66
Responsiveness	0.85	0.85	0.66
Compensation	0.81	0.81	0.59
Contact	0.77	0.77	0.53
Customer Satisfaction	0.84	0.84	0.64
Attitudinal Loyalty	0.86	0.86	0.76
Customer Preferences	0.71	0.70	0.54

Discriminant validity was assessed to identify whether the constructs were distinct from each other by examining whether AVE was greater than the recommended threshold of 0.50 suggested by Byrne (2016). According to Fornell and Larcker (1981), AVE is used to measure the variance captured by respective constructs in relation to the variance due to measurement error. No discriminant issues emerged since the AVE ranged from 0.53 to 0.76, which exceeded the recommended threshold.

5.2.8.4 Discriminant Validity

Hair et al. (2014, p. 601) described discriminant validity as 'the extent to which a construct is truly distinct from other constructs both in terms of how much it correlates with other constructs and how distinctly measured variables represent only this single construct'. The correlation estimates for two constructs can be assessed by comparing the squared root of the average variation in the extracted values for any of the chosen two constructs. When the square root of the AVE is higher than the correlation estimates for the constructs, this demonstrates discriminant validity. The results shown in Table 5.22 indicated discriminant validity since the squared root of AVE is higher than the correlation estimate for all constructs.

Table 5.22: Discriminant Validity

	EFF	SYS	FUL	PRI	RES	COM	CON	CS	AL	CP
EFF	**0.79**									
SYS	0.70	**0.78**								
FUL	0.75	0.68	**0.83**							
PRI	0.68	0.53	0.62	**0.81**						
RES	0.75	0.61	0.59	0.50	**0.81**					
COM	0.66	0.58	0.55	0.53	0.51	**0.77**				
CON	0.58	0.37	0.47	0.39	0.34	0.67	**0.73**			
CS	0.55	0.52	0.57	0.43	0.41	0.48	0.44	**0.80**		
AL	0.59	0.55	0.61	0.44	0.51	0.53	0.43	0.72	**0.87**	
CP	0.44	0.40	0.46	0.36	0.41	0.31	0.21	0.31	0.39	**0.73**

Note: The diagonal line represents the square root of the average variance extracted in bold.

5.2.9 Structural Equation Modelling

SEM is an essential phase to establish the associations between the proposed research constructs. Hair et al. (2014) recommended that CB-SEM ought to employ several tests of model fit indices. Therefore, the current study depends on numerous goodness-of-fit indicators, such as chi-square (X^2) to the degree of freedom (*df*), GFI, AGFI, NFI, the Incremental Fit Index (IFI), TLI, CFI and RMSEA.

The present study preformed structural model to specifies the model to determine the relationship between research constructs (Byrne 2001). In this phase CB-SEM was run to explore the estimates and goodness fit model. The outcomes of the specification model are shown in Table 5.23.

Table 5.23: Model Fit Summary for Structural Model

Fit Index	Model	Model Fit
Model chi-square X^2	1090.21	-
Degree of freedom	393	-
Probability level	0.00	< 0.05
X^2/df	2.77	1–3
Goodness-of-Fit Index (GFI)	0.86	> 0.80
Adjusted Goodness-of-Fit Index (AGFI)	0.83	> 0.80
Normed Fit Index (NFI)	0.87	> 0.90
Incremental Fit Index (IFI)	0.91	> 0.90
Tucker–Lewis Index (TLI)	0.90	> 0.90
Comparative Fit Index (CFI)	0.91	> 0.90
Root mean square error of approximation (RMSEA)	0.06	< 0.08

As shown in Table 5.23, the goodness-of-fit indicators for CB-SEM revealed a CMIN/DF ratio of 2.77, which is within the recommended fitness ratio from 1 to 3. The results for GFI, AGFI, NFI, IFI, TLI and CFI were 0.86, 0.83, 0.87, 0.91, 0.90 and 0.91 respectively, and some of them below the suggested value of ≥ 0.90. At the same time, RMSEA likewise achieved the suggested requirement of < 0.08 and accomplished a satisfactory value of 0.06. Hence, while some indices values such as GFI and AGFI had not exceeded 0.90 as the threshold, the indicators still met the goodness-of-fit for the SEM model requirement. Baumgartner and Homburg (1995) and Doll, Xia, and Torkzadeh (1994) suggested that the SEM model could be acceptable when the indicators' values are above 0.80. Figure 5.1 demonstrates the design of the structural model diagram.

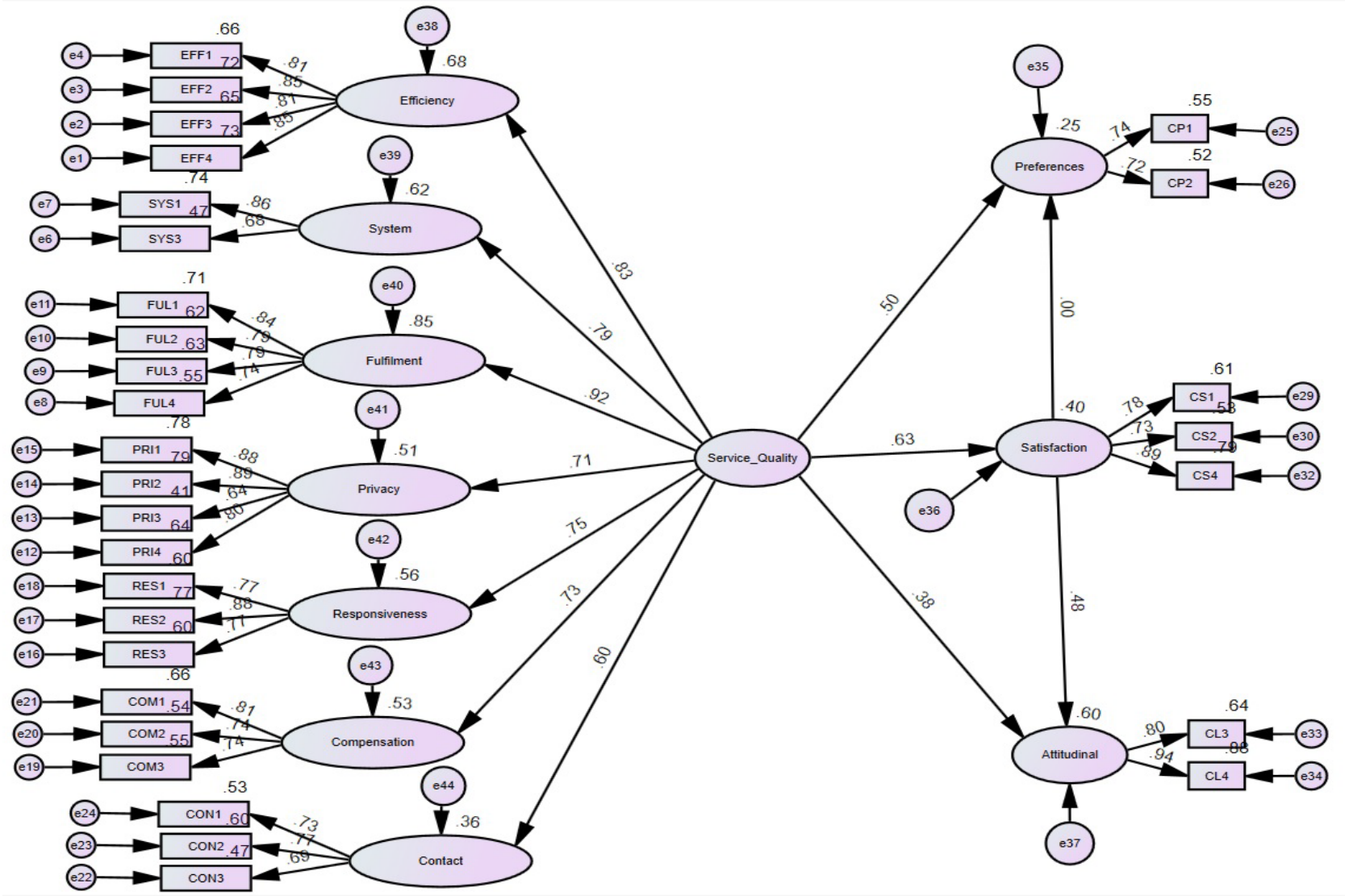


Figure 5.1: Structural Model Diagram

Based on the results depicted in Table 5.25, the standardised regression weight values for this research's constructs are presented. SEM assessed the influence of online service quality on customer satisfaction, attitudinal loyalty and preferences. The subsequent results reflected the impact of customer satisfaction as a mediating variable on both attitudinal loyalty and customer preferences through their relationship with online service quality.

Table 5.24: Standardised Regression Weight for Structural Equation Modelling

Path Analysis	Estimate	S.E.	C.R.	Sig.
Online Service Quality → Customer Satisfaction	0.63	0.03	11.43	0.000
Online Service Quality → Attitudinal Loyalty	0.38	0.03	6.68	0.000
Online Service Quality → Customer Preferences	0.50	0.05	5.86	0.000
Customer Satisfaction → Attitudinal Loyalty	0.48	0.05	7.86	0.000
Customer Satisfaction → Customer Preferences	-0.001	0.09	−0.01	0.992

The standardised regression weight results, as shown in Table 5.24, revealed that there was a positive and significant relationship between online service quality and customer satisfaction (R = 0.63, t-value = 11.43, $p < 0.05$); this finding supported (H_1). Furthermore, there was a positive and significant relationship between online service quality and attitudinal loyalty (R = 0.38, t-value = 6.68, $p < 0.05$), so (H_2) was supported. Moreover, there was a positive and significant relationship between online service quality and customer preferences (R = 0.50, t-value = 5.86, $p < 0.05$), and this result supported (H_3). With respect to customer satisfaction, it had a significant impact on the relationship between online service quality and attitudinal loyalty (R = 0.48, t-value = 7.86, $p < 0.05$). This result suggests that customer satisfaction is a mediating variable between the quality of online banking services and attitudinal loyalty in Saudi banks. This was proposed in (H_4), and it is accepted. Last, customer satisfaction did not have a significant relationship with customer preferences (R = −0.001, t-value = −0.010, p = 0.992). This suggests that customer satisfaction exerts no mediating effect on customer preferences in Saudi banks. Thus, (H_5) was rejected, and this unexpected result is discussed in Chapter 6.

5.2.10 Multiple-group Analysis (Gender)

A multiple-group SEM analysis was implemented to examine the posited moderating effect of gender on the relationship between online service quality and customer attitude

in Saudi banks. The multiple-group analysis in the current study follows an approach that implemented by Floh and Treiblmaier (2006), Gaskin (2016a), Moghavvemi, Lee and Lee (2018), and Trabelsi-Zoghlami, Berraies and Ben Yahia (2020). Even though the sample size cell splits were relatively low for the female cohort and disproportionate in cell size, the analysis was run as an initial exploratory evaluation. This analysis may give differential insights into how males and females perceive the quality of online financial services, respectively. Additionally, the result may provide guidance for future research that would aim to implement a larger and similarly proportioned new sample. Small sample size might be a contributing factor in model non-convergence in multi-group analysis (Garretson and Niedrich 2004). Deleting items in a multi-group may raise concerns when sample sizes are small. It is critical that the final set of items be meaningfully sound as well as meet the goodness-of- fit model criteria (Yuan and Chan 2016)[1]. Table 5.25 presents the model fit for the multiple-group analysis.

Table 5.25: Model Fit for Multiple-group Analysis

Model	X^2	df	p-value	GFI	NFI	CFI	RMSEA
Unconstrained	1429.95	676	0.000	0.82	0.82	0.90	0.051
Structural weights	1486.95	705	0.000	0.81	0.81	0.90	0.051

The unconstrained model fitness statistics indicate an acceptable model fit since X^2 = 1429.95, df = 676, p-value = 0.000, GFI = 0.82, NFI = 0.82, CFI = 0.90 and RMSEA = 0.051. While the structural weights model fitness statistics indicate an acceptable model fit also since X^2 = 1486.95, df = 705, p-value = 0.000, GFI = 0.81, NFI = 0.81, CFI = 0.90 and RMSEA = 0.051.

[1] Due to the full model experiencing estimation and convergence difficulties when implementing the multiple-group SEM gender analysis, two items FUL1 and FUL2 were subsequently deleted. These two items were identified as being problematic based on stepwise analysis and systematic procedure to identify the offending variables. The two deleted items were solely attributed to the sub-construct 'Fulfilment'. Removal of these two offending items allowed models convergence. These results were then reported. The reader should be aware that the results should be viewed as a first exploratory reporting only. The researcher followed the prevailing advice of Chen et al. (2001) and Dillon et al. (1987), which are the leading authorities in regard to dealing with such events. It is apparent that some authors have experienced the same convergence problems when they implemented multi-group analyses albeit with different models and data. The studies listed below also followed a process of eliminating dysfunctional items that misfit the model and led to non-convergence. Ali et al. (2021), Encantado et al. (2021) and Garrick (2012) applied this approach to gain model convergence. They removed the offending items to converge the models also resulted.

Table 5.26: Model Comparisons for Multiple-group Analysis

Model	*DF*	*CMIN*	*P*	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho-2
Structural weights	29	57.00	0.001	0.007	0.008	-0.001	-0.001

As shown in Table 5.26, the chi-square was 57.00, degree of freedom = 29 and p-value < 0.05. It can be concluded that there is a difference between males and females in their perceptions regarding the quality of online banking services at the model level (Gaskin 2016b). The path estimation for the male group is presented in Table 5.27. Also, the five hypotheses in the overall model are examined from the male group's perspective.

Table 5.27: Path Estimation Results for Male Model

Predicted Variables	Related Hypothesis in overall Model	Path	S.E.	C.R.	Sig.
OSQ → CS	H_1	0.61	0.08	9.27	0.000
OSQ → AL	H_2	0.44	0.07	6.50	0.000
OSQ → CP	H_3	0.53	0.14	5.80	0.000
CS → AL	H_4	0.41	0.06	6.33	0.000
CS → CP	H_5	-0.02	0.10	-0.30	0.767

According to the results presented in Table 5.27 and keeping in mind the sample size caveat mentioned previously, males appear less satisfied than females. The results showed that the quality dimensions of online banking services had a significant and positive influence on male satisfaction with the path estimate = 0.61, *t*-value = 9.27 and *p*-value = 0.000. The results also demonstrated that the quality dimensions had a positive and significant impact on attitudinal loyalty with the path estimate = 0.44, *t*-value = 6.50 and *p*-value = 0.000. Furthermore, customer preference was affected by online service quality with the path estimate = 0.53, *t*-value = 5.80 and *p*-value = 0.000, while customer satisfaction had a mediating effect on attitudinal loyalty with a path estimate = 0.41, *t*-value = 6.33 and *p*-value = 0.000. Overall, the results revealed that customer satisfaction had no effect on customer preferences. Figure 5.2 demonstrates the multiple-group SEM diagram for male group.

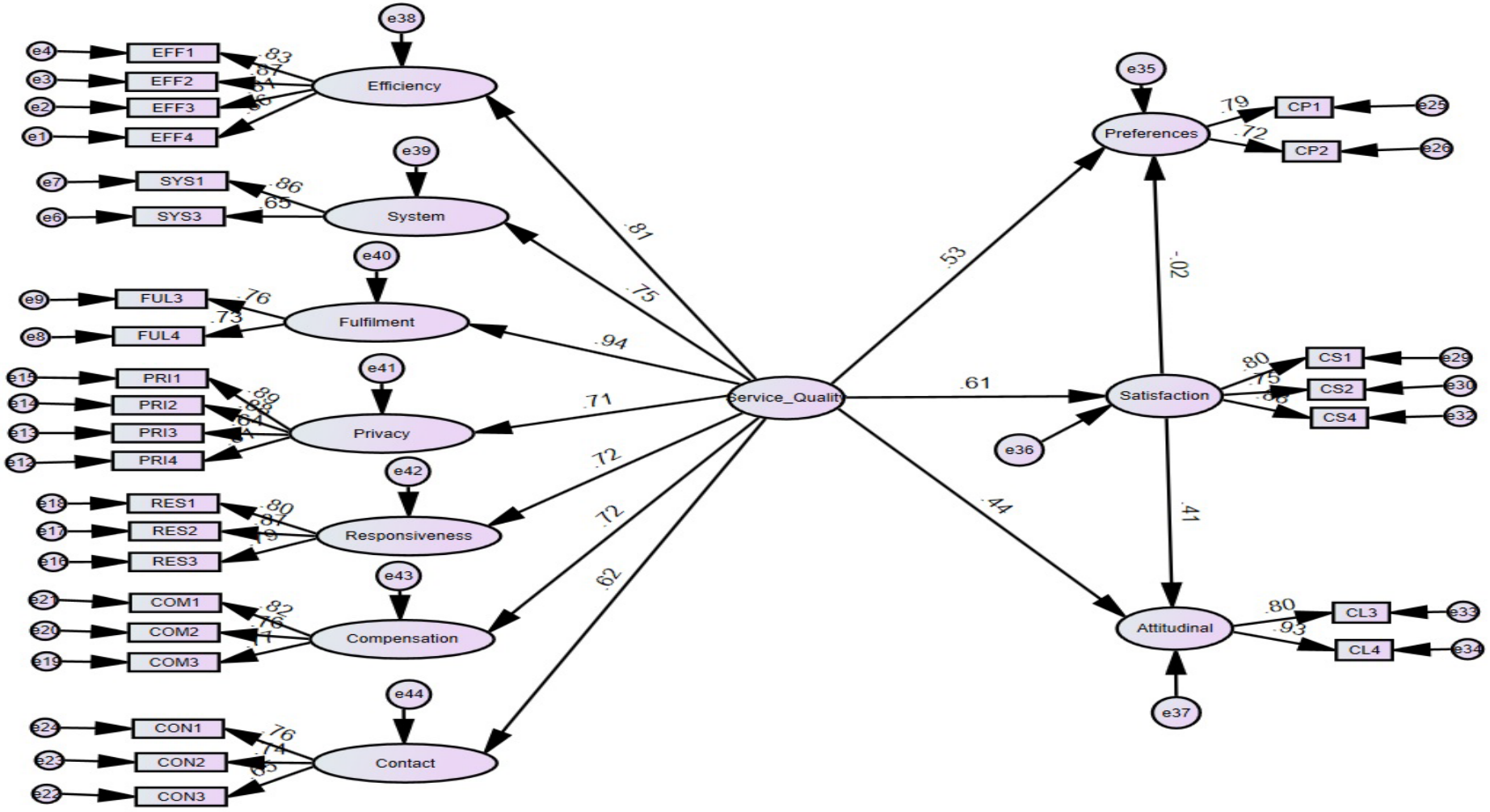


Figure 5.2: Multiple Group Analysis Diagram – Male

The path estimation for the female group is presented in Table 5.28. Furthermore, the five hypotheses in the overall model are examined from the female group's perspective.

Table 5.28: Path Estimation Results for **Female Model**

Predicted Variables	Related Hypothesis in overall Model	Path	S.E.	C.R.	Sig.
OSQ → CS	H_1	0.83	0.21	4.69	0.000
OSQ → AL	H_2	0.01	0.28	0.07	0.946
OSQ → CP	H_3	0.48	0.41	1.18	0.237
CS → AL	H_4	0.92	0.29	3.58	0.000
CS → CP	H_5	0.03	0.30	0.08	0.938

The path analysis for the relationship between the quality dimensions of online banking services and customer satisfaction for the female group the path estimate = 0.83, *t*-value = 4.69 and *p*-value = 0.000. Meanwhile, the path analysis for attitudinal loyalty and preference was non-significant with *p*-value > 0.05 in both. Customer satisfaction had a mediating effect on the relationship between online service quality and attitudinal loyalty with the path estimate = 0.92, *t*-value = 3.58 and *p*-value < 0.05. However, customer satisfaction did not significantly affect the relationship between the quality dimensions of online banking services and customer preferences. Figure 5.3 demonstrates the multiple-group SEM diagram for female group.

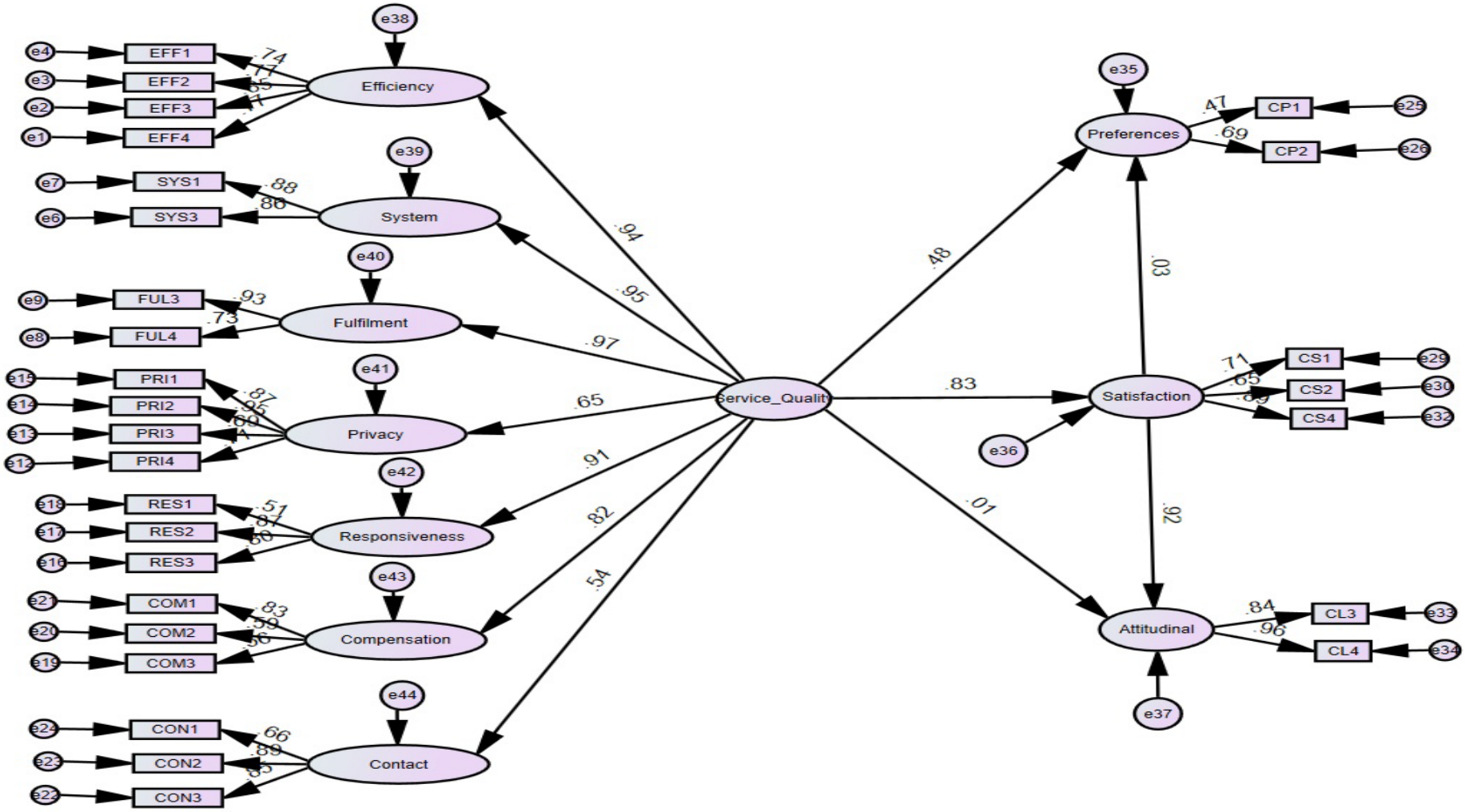


Figure 5.3: Multiple Group Analysis Diagram – Female

In the next stage of the analysis a t-test will be run to identify the pertinent differences between the two groups for each posited path relation. Table 5.29 presents the analysis results, which was performed using two-tailed t-tests (Gönen at el., 2019). Tests between the corresponding structural paths across the models with t-values greater than 1.96 at 0.05 were considered to be significantly different between males and females groups (Chin, 2000).

Table 5.29: Comparison of Path Coefficients via t-tests

Predicted Variables	Male		Female		T value	Results
	Path	S.E.	Path	S.E.		
OSQ → CS	0.61	0.08	0.83	0.21	1.04	No significant difference
OSQ → AL	0.44	0.07	0.01	0.28	2.12	Significant difference
OSQ → CP	0.53	0.14	0.48	0.41	0.13	No significant difference
CS → AL	0.41	0.06	0.92	0.29	2.72	Significant difference
CS → CP	-0.02	0.10	0.03	0.30	0.18	No significant difference

Despite the sample size being very low for the female cohort, the analysis suggests that the estimated standardised regression weights for males and females sometimes are different. In addition, the estimated standardised regression weights for males were consistent with the findings of with overall model, whereas the estimated values for females were slightly different. Furthermore, the model comparison demonstrated a chi-square of 57.00, degrees of freedom = 29 and p-value < 0.05, which considered a difference at the model level. Also, through t-test analysis, the results showed that some path analyses have significant differences between male and female groups. Therefore, H_6 was partially supported.

5.2.11 Double Jeopardy Law Analysis

The data for analysis were collected from a sample of customers who held bank accounts and used online banking services. There are 31 banks in Saudi Arabia that offer online banking services, most of which are handled by the 13 biggest banks. Hence, the Saudi banks are included as individual entities, while the remaining foreign institutions are grouped into the 'other' group owing to their small market share. Table 5.30 summarises

the market share (Aljazira Capital 2018), the number of main bank account holders and the number of multiple bank accounts held.

Table 5.30: Summary of Market Share and Bank Accounts Held

Bank Name	Market Share (%)	Main Bank Account [a]	Multiple Bank Accounts Held [b]
National Commercial Bank	20	83	143
Alrajhi Bank	16	64	107
Riyad Bank	11	49	95
Samba Financial Group	11	45	105
The Saudi British Bank	8	44	72
Banque Saudi Fransi	8	36	67
Arab National Bank	8	23	54
Alinma Bank	5	22	51
Saudi Investment Bank	4	21	48
Alawwal Bank	4	13	33
Aljazira Bank	3	13	27
Albilad Bank	2	12	27
Gulf International Bank	1	3	9
Other	1	2	10
Total	100	430	848

[a]. Refers to the main bank account held by an individual to access online banking services.

[b]. Refers to multiple accounts held by the individual and sometimes used to access online banking services.

The double jeopardy law has been scrutinised by analysing the relationship between market share and penetration percentages (Graham et al. 2017; Pleshko 2006) in Saudi banks, specifically, in online banking services. Thus, the current study attempts to investigate whether the double jeopardy law in marketing is applicable in the subscription market in Saudi Arabia. The aggregate market share and penetration indicators are revealed in Table 5.31 for each bank.

Table 5.31: Brand Performance of Saudi Banks

Bank Name	Market Share (%)	Penetration – Main Account (%)	Penetration – Multiple Accounts (%)
National Commercial Bank	20	19	17
Alrajhi Bank	16	15	13
Riyad Bank	11	11	11
The Saudi British Bank	11	10	12
Samba Financial Group	8	10	8
Banque Saudi Fransi	8	8	8
Arab National Bank	8	5	6
Alinma Bank	5	5	6
Saudi Investment Bank	4	5	6
Alawwal Bank	4	3	4
Aljazira Bank	3	3	3
Albilad Bank	2	3	3
Gulf International Bank	1	1	1
Other	1	1	1

The coefficient correlation was used to analyse the relationship between market share and penetration indicators. The statistical test 'Spearman', '*r*', was determined with the dataset from '*n*' pairs (Xi, Yi) of participants' responses to the same items, in this case, the bank brand. The construct values and rankings are displayed in Table 5.32. Thus, '*r*' ranges between −1 and + 1. If $r = +1$, the relationship between variables is perfect; if $r = -1$ then there is an inverse relationship; and if $r = 0$, there is no relationship (George, D & Mallery 2020).

Table 5.32: Coefficient Correlation

	Market Share	Main Account (%)	Multiple Account (%)
Market Share	1.00	0.97**	0.98**
Main Account (%)	0.97**	1.00	0.99**
Multiple Account (%)	0.98**	0.99**	1.00

** Correlation is significant at the 0.01 level (2-tailed).

The rank ordering of the market share indicator is significantly linked to the rank order for the penetration indicators. The results demonstrated a significant relationship between market share and penetration. The coefficient correlation analysis revealed that hypothesis (H_7) was supported, given that it assumed there is an association between the market share and customer behavioural loyalty in the Saudi banks when online banking services are offered. Hence, this result supports the existence of the double jeopardy law in Saudi banks, especially with reference to online banking services.

5.3 Interpretation of Qualitative Interviews

This section reconciles and interprets the data obtained during 11 interviews with CDBOs from the Saudi local banks. The purpose is to gain a deep view to demonstrate the current managerial practices in Saudi banks regarding online service quality and in reference to customer satisfaction, loyalty and preferences.

The interview instrument was divided into four sections. The first section covered how the Saudi banks evaluate the quality of online banking services. Then, each interviewee's opinion on the quality dimensions of online service was sought. Next, a group of questions about customer satisfaction, loyalty and preferences were asked in relation to the current situation of the Saudi bank industry and ways to enhance the quality of online banking services (see Appendix 7).

After obtaining ethics approval, face-to-face semi-structured interviews were conducted with CDBOs. Prior to the interviews, a consent form to participate in this research was completed by respondents. Contact was made with the banks in advance for their approval on the researcher's ability to visit their institutions. The interviews involved open-ended questions that were prepared in advance, and notes from the participants were taken during the interview sessions. Then, the data were translated again into the English language. The collected data were cleaned, organised and merged using NVivo 12 software.

5.3.1 Sample Background

In this section, the sample background of respondents, with an emphasis on their education levels and working years, is provided. Table 5.33 summarises the profile of respondents.

Table 5.33: Profile of Respondents

Respondents #	Education Level		Experience Years
	Undergraduate	Postgraduate	
Respondent 1	√		5
Respondent 2	√		6
Respondent 3	√		25
Respondent 4	√		8
Respondent 5	√		5
Respondent 6		√	7
Respondent 7	√		13
Respondent 8	√		16
Respondent 9	√		18
Respondent 10	√		10
Respondent 11		√	25

In relation to education level, nine respondents had a bachelor's degree whereas two had master's qualifications. Regarding years of work experience, although the responses varied, just over half (six of 11) had 10 years or more experience; the minimum work experience was five years, and the maximum was 25 years.

5.3.2 Thematic Analysis

A thematic analysis was applied to interpret the qualitative data, and the descriptive approach was adapted for coding and organising the data through NVivo 12 software, as stated in detail in Chapter 4. An in-depth interview technique was chosen to collect data (Creswell 2014) about how banks handle online financial service quality. Hence, when consent documents were received from 11 participants, interview questions were handed to them after these were carefully written and reviewed to confirm these meet the research purpose (Longhurst 2010). These questions help reveal deep information about managerial practices regarding the quality of online banking services. The interviews were conducted by taking notes and by providing questions to the participants on another sheet. Later, participants' notes about each question are reviewed carefully and compared with what was already collected by the interviewer.

After data collection was completed, the notes of the interviewer and the participants were proficiently translated to English; thereby, they can be interpreted to achieve the study's objectives. Hence, the researcher started the thematic analysis process, which includes sequenced procedures. First, the researcher read the data to be familiar with the texts. Second, the researcher entered the data into a computer for the coding process through NVivo 12 software. The data were categorised into 12 groups, where each group represents all participants' responses to a specific question of the 12. Third, the researcher identified relevant relationships among the questions to recognise themes. Last, the researcher tested these refined themes, which later would be the study's final report (Guest, MacQueen & Namey 2012). The following sections provide the data interpretation.

5.3.2.1 Online Service Quality Improvement

A review and analysis were conducted of participants' responses during the in-depth interviews on the issue of whether their banks had practices in place to improve the quality of online banking services. Evaluation procedures' function and implementation of continual assessment were installed to improve online service quality by Saudi banks, mostly, but each bank takes a different route to manage their improvement process strategy. A few banks have simulation procedures related to online banking services to ensure the quality aspects are retained, and in fact working, before releasing or enhancing a new service. In this regard, respondent 10 indicated:

> We adapted predictive techniques to improve the quality of online banking services.[10]

However, a few respondents did not provide or reveal in detail their banks' strategies for improving the quality of online banking services owing to the high competition in the banking industry. In contrast, some respondents seemed to believe that their plans were clear and had been implemented, and hence, they were very confident of the outcome of their methods and of customers' trust in their technologies. Respondents 3 and 4 chose to follow a clear and documented strategic plan to improve their online banking services continuously. In contrast, respondent 6 noted that the bank was investing in development projects to improve the quality of online banking services:

> The bank invests in and develops online banking services continuously, where there are six projects on average to add new services annually. [6]

Respondent 1 mentioned that the evaluation procedures were as follows:

> Yes, there are key performance indicators set annually, which track the usage of online banking platforms. Those indicators are evaluated throughout the year on a quarterly basis and based on enhancements, are implemented in order to meet business objectives. [1]

5.3.2.2 Evaluation of the Quality of Online Banking Services

The participants' responses on how their banks evaluate the quality of online banking services were diverse. Three respondents stated their bank uses more than one technique to evaluate the quality of online banking services. For example, respondent 3 noted that the bank evaluates service quality as follows:

> The bank .... evaluate the quality of online banking services through various methods: (1) the number of completed transactions via the internet, (2) the number of complaints received by customers. [3]

In addition, the responses illustrated that three of the Saudi banks mainly focus on evaluating and measuring the quality of online banking services by reviewing customer feedback and experiences through various communication channels followed by online surveys. Moreover, Saudi banks review customer feedback, analyse it and issue reports; then, they send these reports to the quality control department. Respondent 7 stated:

> We review daily and monthly customer complaint reports that are related to our online banking services and then create surveys to measure the quality. [7]

Furthermore, respondent 10 stated that the Saudi banks monitor the number of online banking transactions and marketing studies. The results of the monitoring from Saudi banks are then published in either annual or quarterly reports and compared with the outcomes of competitors' summaries. Most of the Saudi banks rely on customers' evaluations and complaints to evaluate their services. In contrast, respondent 5 identified a different route whereby the bank services undergo evaluation steps before being implemented into the software, whereas respondent 9 stated that the bank had several

procedures which differ from other banks' techniques for evaluating the quality of online banking services:

> The bank has specific steps to evaluate the quality of online banking services, and they are: (a) continuous monitoring from the information technology unit to ensure system availability all the time, (b) the ability to recover the system in case of a major system shutdown, (c) closely monitoring financial and non-financial procedures daily, and (d) additionally, providing surveys to customers to evaluate the services directly. [9]

5.3.2.3 Quality Dimensions to Evaluate Online Services

An investigation of participants' responses about customers' perceptions regarding the quality dimensions of online banking services was conducted. Four officers revealed that their banks complied with the current study's quality themes: efficiency, fulfilment, system availability, privacy, responsiveness, compensation and contact. While the rest of participants emphasised the value of the results of the quantitative analysis as applied to bank customers, stressing the importance of the quality dimensions of online banking services for achieving better customer satisfaction in the quantitative analysis. On the other hand, two officers stated that these dimensions were slightly changed to meet their customers' needs. Despite the fact that Saudi banks somehow agreed with these dimensions, respondent 2 had a different point of view on how these dimensions differ from one customer to another. Respondent 2, when asked about the quality dimensions, stated:

> The quality dimensions are slightly different from customer to customer, but mainly it simulates the modern model. [2]

Respondents 6 and 10 commented on the quality dimensions of online banking services as follows:

> I think these dimensions are very important and may directly affect customers' satisfaction and attitudes towards online financial services. [6]

> These dimensions are considered the most essential for the quality of online banking services, which might directly affect customer satisfaction. Definitely, the … bank will endeavour to cover these dimensions to enhance the quality level of online banking services. [10]

5.3.2.4 Customer Satisfaction Measurement

It seems that when measuring customers' satisfaction, Saudi banks place a high value on evaluating their implementation procedures, with marketing personnel routinely checking customer satisfaction issues, due to SAMA's strict policy. Notable among the issues checked by the Saudi banks were customer feedback, customers freely accessing customer care services and shared banking information through alternative platforms to make communication easier. Furthermore, the banks conducted quantitative assessments in the form of digital surveys, where SMSs are sent to customers to obtain feedback on the quality of online banking services. The following two statements on the issue were made by respondents 4 and 7, respectively:

> One of the significant methods that the bank adopted to measure customer satisfaction about the quality of banking services provided online is through surveys and then analysing them within several aspects to verify the satisfaction level of customers. [4]

> Bank highly depends on suggestions and complaints from customers, which in turn help the bank in measuring customer satisfaction in the context of online banking services. [7]

Nevertheless, most of the respondents agreed on the traditional methods, such as SMS surveys and clients' direct complaints. Respondent 1 came out different and specified in the response how they assess customers' satisfaction as follows:

> A model has been developed under which service quality dimensions are distilled down to a core subset using both analytical and empirical approaches to improve customer satisfaction. [1]

5.3.2.5 Communication Channels

Through asked participants about the communication channels provided by the Saudi banks to obtain customers' feedback regarding online banking services. The results showed that three officers thought that their banks provide convenient communication channels for customers when they want to give feedback and ensure its around-the-clock availability, as respondent 2 said:

> The bank is usually trying to cover all approaches that help in developing the quality level of online banking services. Thus, the bank made sure to provide various contact channels with customers 24/7. Such as telebanking, website and social media. [2]

Furthermore, eight banks' management sought feedback about the quality of online banking services received through apps, call centres, social media, official websites, branch visits, emails, online banking services and kiosk services. All banks are using modern conventional methods to communicate with customers, but notably, all responses had one method in common, which is social media, because of its importance in Saudi society, to ensure that they are connected with a wider section of the audience. According to respondent 5:

> All the available channels are always open in .... bank to receiving inquiries, adding a service or presenting a complaint. Our communication channels in .... bank is a variety for customers' convenience and include telebanking, official website, apps, social media and call centre. [5]

5.3.2.6 Responding to Customers' Inquiries

The CDBOs' responses about whether banks have specific timeframes to resolve customers' troubles or complaints were made with particular reference to online banking services. The CDBOs stated that banks had already set aside time to resolve customer complaints within a certain timeframe. It should be noted that setting a timeframe for handling complaints or queries was a regulation put in place and standardised by the SAMA. As a result of SAMA enforced regulations, Saudi banks have always sought to resolve and answer customers concerns as fast as possible. Respondent 2 answered that question as follows:

> Yes, the bank has its own specific timeframe to resolve customers' troubles with online banking services in a reasonable time, which is supervised by a trained team that has the ability to receive and respond to customer complaints. [2]

However, two respondents, 3 and 11 clearly stated that timeframes sometimes vary from one inquiry to another. Respondent 3 added that they have different levels for complaints where some are escalated and have to be contained and handled with extra care, and stated:

> The bank has its own criteria that depend on it in the matter of receiving complaints and responding to them in a period that does not exceed 3–5 business days, and the bank also has a trained team to solve customer complaints. Furthermore, the bank adopts escalation in the event of a delay in resolving customer complaints. [3]

5.3.2.7 Brand Size and Customer Loyalty

Respondents were asked to share their opinions about whether the brand size of financial institutions might influence customer loyalty, especially to online banking services. Most of the respondents (10) strongly believed that the brand size of banks does shape the level and longevity of customer loyalty. Mainly, it was a matter of agreeing or disagreeing; however, respondent 2 answered:

> Yes, I think the brand size of bank has a significant effect on customer loyalty. [2]

However, one CDBO denied that this was the case and claimed that customers might be affected by other issues, which are equally important from their perspective as the brand size of a financial institution. He thought that customers might be influenced by the quality of online banking services provided and the bank's e-reputation more than its traditional reputation generally or the fees that were offered. Furthermore, respondent 3 emphasised that the bank's reputation also might affect customer loyalty in Saudi Arabia.

> I think that the brand size of financial institutions will affect customer loyalty, but also, the bank's reputation and customer trust will affect customer loyalty too. [3]

5.3.2.8 Brand Image Enhancement

The CDBOs were asked whether banks had implemented particular procedures to enhance the brand image of online banking services. The participants suggested that almost all the Saudi banks had their own strategies to improve the brand image of their online banking services. While CDBOs' responses did vary, there was general agreement that these measures were achieved through better digital advertisements, promotions and improved digital communication channels. In contrast, several participants stated that the loyalty program is an important tool to enhance brand image, concurring with respondent 10 who said:

> In addition to commercial advertising and loyalty programs, the ... bank enhances brand image by providing attractive online banking services. [10]

Some respondents clearly highlighted that customer loyalty to their banks is a high bank priority and that their banks designed advertisement campaigns towards enhancing brand image. This is best reflected by respondent 11, who commented:

> Yes, our bank usually does special periodic commercial campaigns under the name of ……. bank, which is called public image campaigns. These campaigns are customised to enhance our bank brand image through the internet communities. [11]

5.3.2.9 Brand Size and Customer Preferences

When asked whether the brand size of banks affected customer preferences, eight respondents reported that the brand size of banks might influence customer preferences, but three stated that the brand image would not directly shape customer preferences. They supported their views by listing numerous factors other than the brand image that might attract customers to the respective Saudi banks. For instance, the bank's reputation was most cited, followed by customer experience, then offering excellent online banking services, and last, the efficiency of electronic customer relationship management (E-CRM). Respondent 4 supported the statement by saying:

> The brand image will attract customers to deal with a particular bank, but also there are other factors that will affect customers, such as (1) bank reputation, (2) efficiency of electronic customer relationship management (E-CRM) and (3) customers' experiences. [4]

Moreover, respondent 7 was the only one who disagreed and stated that some customers really care about the details but not the brand size:

> No, I do not think that the brand size of banks affects customers preferences to use online banking services. Customers prefer to deal with banks that are commonly available in their specific geographic area, specifically if they have problems with their online banking services. [7]

5.3.2.10 Other Factors Might Affect Customers' Behaviour

An investigation into other factors that may affect customer satisfaction, loyalty and preferences for online banking services in Saudi Arabia showed that each CDBOs had different perspective about the study's dimensions that help to assess online service quality. A summary of CDBOs' insights includes the efficiency of the E-CRM strategy,

charging reasonable fees for services, reputation, the provision of unique customer experience and, last, developing performance indicators for customer behaviour. They stated that these factors could lead to improved bank efficiency and enable them to compete with local and global banking institutions.

More specifically, respondent 2 implied that if a financial institute monitored their performance indicators closely, this would help build a healthy relationship between the two ends and give close insights into customer preferences or behaviour:

> I think the study has mentioned the most important dimensions of online banking services, and from my point of view, it's very useful for banks, especially in evaluating customers' needs. Furthermore, building a suitable online banking services standard and then setting performance indicators. [2]

Meanwhile, respondent 5 insisted that the only factor missing from the study is the idea of 'ease of use'. Respondent 5 said that:

> From my perspective, I think the only dimension that has not been mentioned is that 'Ease of use'. [5]

5.3.2.11 Online Banking Services Improvement

Participants' responses on the issue of enhancing the quality of online banking services led to numerous suggestions that banks should seriously develop and enhance the quality of their online banking services in several ways. First, banks should implement an open banking system and develop a platform that might be accessed through biometrics, as respondent 2 suggested:

> I suggest banks develop a secure platform of online banking services that can easily be accessed by customers' biometrics, that is, (1) fingerprint and (2) voice comments. [2]

Second, there is a need to customise online banking services features that would allow customers to open bank accounts without physically going to the banks. Third, there is a need to improve the performance quality aspect through evaluating online banking services systematically. Fourth, payment platforms should be devised to allow customers to track transfer transactions via the internet. Some respondents recommended acquiring the latest banking technologies and techniques, where each respondent tried to highlight their latest adaptive modern technology. On this issue, respondent 1 commented:

> Currently, the Saudi banks might have a worthy opportunity to enhance their online banking services by adopting 'open banking'. [1]

5.3.2.12 Regulatory Framework Suggestions

The interviewees were asked for their suggestions about policies that SAMA should implement to improve the performance and quality of online banking services in the Saudi banking sector. These suggestions are summarised as follows. First, it is necessary to eliminate financial restrictions and support financial liberalisation to enhance the ability of the Saudi banks to be competitive and improve the quality of online banking services. Second, internet payment procedures and systems should be put in place. Third, it will be fruitful to redesign and reset parallel standards between the Saudi banks and regulators to ensure that the principles comply with international financial regulations and standards. Despite the nature of the question, which is a question seeking opinions, there were some informative responses and suggestions, such as the possibility of national cooperation between banks in online banking services. This, according to respondent 11, would result in improved results. Respondents 2 and 8 also made similar comments on this issue:

> SAMA could update regulations regarding online banking services to be more flexible and let the Saudi banks merge artificial intelligence when they offer online financial services, which will be an essential contribution to the Saudi banking sector. [2]

> SAMA should review and update regulations regarding adding new features of online banking services. Also, they should update online service standards in general so the Saudi banks can meet the increasing demand for online financial services. [8]

In summary, the outcomes of interviews with CDBOs disclosed that the quality dimensions of online banking services were closely linked to customer satisfaction, attitudinal loyalty and preferences. The results showed that Saudi banks have their own policies and procedures to assess the quality of their online service quality. Correspondingly, the outcomes of interviews indicated that the banks provided customers with various communication channels and responded to inquiries within specific timeframes. Generally, participants were in agreement with the contention that the brand size of financial institutions does impact customer loyalty but said little more about this.

Ultimately, CDBOs suggested how the Saudi banks and SAMA could raise the quality of online services. They revealed that such a step might help eliminate financial restrictions

and backlogs and ensure that regulations reflect the technological changes in online banking services, improve payment procedures and systems through the internet and embrace global financial standards. The interviews with CDBOs provided a wide variety of views and demonstrated the current managerial practices in the Saudi banking sector. Furthermore, participants suggested what can be done to update the regulatory framework for offering online banking services in the future.

5.4 Instrument Validation

The survey tapped the quality dimensions of online services and their influence on customer satisfaction, loyalty and preferences. The analysis began by describing respondents' descriptions and descriptive statistics for the survey. To identify problematic answering patterns such as straight-lining, a visual inspection of the data occurred (Hair et al. 2016) in addition to undertaking a common method bias (CMB) test. The CMB test did not indicate any data problem (see Section 5.2.6). In addition, Cronbach's alpha will be calculated to assess the internal efficiency of the instruments. According to Sekaran and Bougie (2016, p. 290), if reliability values exceed 0.80, it means there is outstanding reliability, whereas if the values are in the 0.70 range, it means moderate reliability and if these are less than 0.60, it means weak reliability. The findings showed that all variables had reliability greater than 0.70. Therefore, for all variables, there is high reliability, which demonstrates the internal accuracy of the scales. The methods additionally demonstrated a high degree of internal reliability and validity.

Moreover, the EFA results indicated that almost all factor loadings exceeded 0.40, which is the minimum recommended in social sciences study. In addition, cross-loads for the above items amounted to 0.40. This analysis used principal component analysis with the varimax rotation method to validate the formulations since two factors, SYS2 and AL2, were deleted because they were loaded on more than one factor with a value greater than 0.40. The CFA results confirmed that the standardised values for all constructs were higher than 0.50.

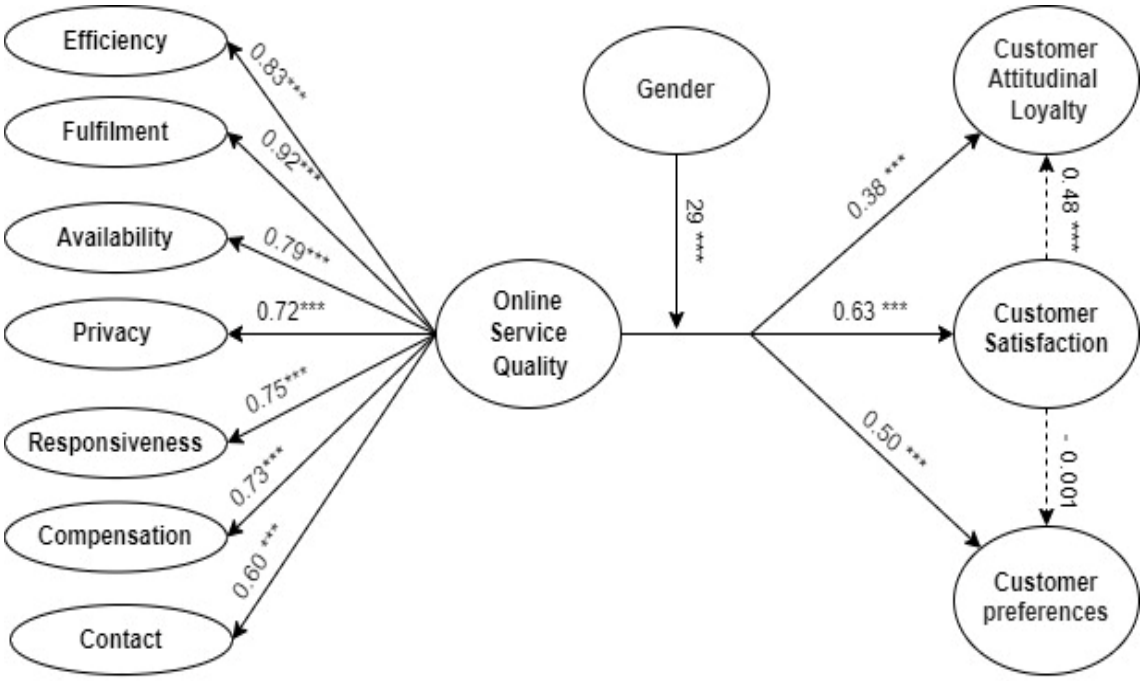
According to Hair et al. (2014), discriminant validity is measured by comparing the average difference values derived for the two constructs chosen with the square of the correlation calculation for such constructs. When the average variance derived is higher

than the squared correlation estimates for the variables, then discrimination is regarded as significant (Fornell & Larcker 1981).

The evidence is that they largely predict the influence of online service quality on customer satisfaction, attitudinal loyalty and preferences in the Saudi banking sector. Hence, the seven dimensions of quality in online services are significant, and the Saudi banks should improve those efficiently and continuously. Furthermore, customer satisfaction will be an intermediate variable among the quality of online banking services and attitudinal loyalty.

5.5 Research Framework

Figure 5.4 illustrates the empirical results about the effect of online service quality on customer satisfaction, attitudinal loyalty and preferences and perceived quality based on gender.



***** Significant at $p < 0.00$**

Figure 5.4: Research Model with Results

The empirical outcomes showed that all seven online service quality dimensions were important and significantly influenced customers in Saudi banks. The path analyses through CB-SEM showed that the standardised regression weights for the quality

dimensions were between 0.60 and 0.92. Consequently, they have a significant and positive influence on customer satisfaction, attitudinal loyalty and preferences. Customer satisfaction has a moderating effect on the relationship between service quality dimensions and customer attitudinal loyalty, while it did not affect customer preferences. Although the subgroups in this study were unbalanced and the female cell was very small, the multiple-group analysis indicated that males and females had somewhat different perceptions of online service quality in Saudi Arabia.

5.6 Hypotheses Outcomes

The following Table 5.34 illustrates the research hypotheses for this study. The current research proposed seven hypotheses, of which six were accepted and one was rejected based on the study findings.

Table 5.34: Hypotheses Outcomes

	Hypothesis	Overall Model Results n = 430	Male Model Results n = 368	Female Model Results n = 62
H_1	The quality of online banking services positively affects customer satisfaction.	Supported	Supported	Supported
H_2	The quality of online banking services positively affects customer attitudinal loyalty.	Supported	Supported	Not supported
H_3	The quality of online banking services positively affects customer preferences.	Supported	Supported	Not supported
H_4	Customer satisfaction has a mediating effect on the relationship between online service quality and customer attitudinal loyalty.	Supported	Supported	Supported
H_5	Customer satisfaction has a mediating effect on the relationship between online service quality and customer preferences.	Not supported	Not supported	Not supported
H_6	Gender has a moderating effect on the perceived quality of online banking services in Saudi banks.	Partially supported	-	-
H_7	There is an association between market share and customer behavioural loyalty in Saudi banks towards online banking services.	Supported	-	-

Thus, the results showed that quality dimensions significantly affect customer satisfaction, attitudinal loyalty and preferences (H_1, H_2 and H_3). In addition, customer satisfaction mediates the relationship between online service quality and customer attitudinal loyalty (H_4). In contrast, customer satisfaction has a negative impact on the relationship between online service quality and customer preferences (H_5). Despite the sample cell being very low for the female cohort, the results suggested that gender has a moderating effect on customers' perceptions of online service quality (H_6). Last, the double jeopardy law applies in the context of online banking services in Saudi Arabia (H_7). The results will be discussed in Chapter 6.

5.7 Chapter Summary

This chapter outlined the results of analyses using data collected in a mixed methods research design. A descriptive analysis was conducted to illustrate the range of demographics of the respondents, whereas CB-SEM served to assess the relationship between research constructs for quantitative data. Further, a multiple-group analysis was used to test the moderating effect of gender. In comparison, thematic analysis and a descriptive approach were implemented to interpret the qualitative data. The final outcomes supported six proposed hypotheses (H_1, H_2, H_3, H_4, H_6 and H_7) and rejected one (H_5).

The quantitative findings indicated that online banking service quality positively influences customer satisfaction, attitudinal loyalty and preferences. Customer satisfaction also exerts a positive and significant effect on the relationship between online service quality and customer attitudinal loyalty as a mediating variable but has non-significant effects on customer preferences. Even though the sample size for the female group was very small, the results showed that gender may possibly be operated as a moderating variable on perceived quality. In addition, the findings revealed that brand size is a significant driver of customer loyalty in Saudi Arabia. In contrast, the qualitative results showed that the Saudi banks have practices in place, particularly regarding the aspects of evaluating online banking services. The results also showed that nearly all banks have their own techniques to measure customer satisfaction and applied various strategies to enhance customer experiences with online banking services.

The next chapter will discuss the study's findings and link these with those in the literature on online service quality. Moreover, the chapter includes an outline of what this study contributes both academically and practically. Last, the study limitations, future research directions and thesis inferences are presented, thus concluding the chapter and this thesis.

Chapter 6: Discussion and Conclusion

6.1 Introduction

The previous chapter reported the study findings, and this chapter moves to discuss the outcomes and outlines the academic and practical contributions. It begins with an overview of the study's problem and objectives and then discusses the quality dimensions of online banking services against the frame provided by the related literature (Section 6.2). This is followed by a discussion of how online service quality affects customer satisfaction, attitudinal loyalty and preferences. Subsequently, a discussion about perceived quality based on gender and the effect of double jeopardy law in Saudi banks is presented (Section 6.3). Then, the theoretical contributions (Section 6.4) and the methodological contributions (Section 6.5) of this study are outlined. This is followed by suggested managerial implications for helping decision-makers to improve online service quality in the Saudi banking sector (Section 6.6). Furthermore, the limitations of the study are stated (Section 6.7), and directions provided for future studies on this topic (Section 6.8). Last, a conclusion that includes a summary of major findings is provided (Section 6.9).

6.2 Summary of Research Problem

The Saudi banking sector has witnessed a major change in policies, procedures and financial regulations in recent years. According to Sohail and Shaikh (2008), Saudi banks have shifted most of their financial services from traditional methods to digital platforms to fulfil the increasing demand for online banking services. Although online banking services have been adopted by most bank account holders worldwide, 'quality' is still considered an emerging concept in online services in particular (Akinci, Atilgan-Inan & Aksoy 2010). In this regard, the concept of online service quality broadly refers to the overall customer perceptions of service results and the responses from the provider when problems occur (Ladhari 2010; Parasuraman, Zeithaml & Malhotra 2005; Santos 2003). Consequently, internet banking services include several quality dimensions that affect customer satisfaction and attitudinal loyalty in different ways. Therefore, it is necessary to investigate how service quality affects customer satisfaction and attitude, particularly in the financial sector in the Middle East (Aljazzazi & Sultan 2014).

Hence, this research investigated the influence of online service quality on customer satisfaction, attitudinal loyalty and preferences in the Saudi banking sector. The knowledge gap identified in existing studies yields the fundamental research problem this thesis aims to address:

To understand the influence of online service quality on customer behaviour in the Saudi banking sector.

Four main research questions arise from the identified research problem:

1. What is the influence of online service quality on customer satisfaction, attitudinal loyalty and preferences in the Saudi banking sector?
2. What is the mediating effect of customer satisfaction on attitudinal loyalty and preferences regarding the quality of online banking services?
3. How does gender affect perceived quality in terms of online banking services in Saudi Arabia?
4. How might the double jeopardy law affect customer behavioural loyalty related to online banking services in Saudi Arabia?

The main objective of this study was to empirically examine the effect of online service quality on customer satisfaction, attitudinal loyalty and preferences in the Saudi banking sector. The specific research objectives were:

i. To determine the significant quality dimensions in online banking services that influence customer satisfaction, attitudinal loyalty and preferences.
ii. To explain the effects of customer satisfaction on customer attitudinal loyalty and customer preferences regarding online banking services.
iii. To examine the perceived quality of online banking services based on gender in the Saudi banking sector.
iv. To investigate the impact of the double jeopardy law on customer behavioural loyalty to online banking services in Saudi banks.

The conceptual framework developed is based on Parasuraman, Zeithaml and Malhotra's (2005) model to measure the relationship between online service quality and the following concepts: consumer satisfaction, attitudinal loyalty and preferences. Also explored here is the mediating effect of customer satisfaction on attitudinal loyalty and

preferences. Further, this model helps to examine the effect of gender on perceived quality. Since the current model scrutinises the relationship between these concepts without including behavioural loyalty, it is essential to explore the effect of the double jeopardy law on customer loyalty to identify how brand size affects customer loyalty in online banking services. Consequently, the current study develops seven hypotheses to address the research objectives.

The quality of service has been measured by predicting the difference between actual service delivered and customers' expectations (Beerli, Martin & Quintana 2004; Parasuraman, Zeithaml & Berry 1994). Consumers can evaluate the incompetence or efficiency of a firm's services by comparing this aspect with their expectations. Many industries now operate on the basis that customers have greater expectations of their service providers owing to the amount of information they are exposed to from many companies. Customers are more likely to switch to another service provider if they perceive the service that they receive is unsatisfactory (Malhotra, A & Malhotra 2013).

The research seeks to fill a significant knowledge gap by employing a comprehensive framework to explain how online service quality dimensions affect customer satisfaction, attitudinal loyalty and preferences. The means–end theoretical approach informed the creation of the online service quality framework that is applied to the Saudi banking sector to offer deeper insights into how service quality features affect these three variables. The dimensions considered here include fulfilment, contact, system availability, responsiveness, efficiency, compensation and privacy, which are examined empirically.

Parasuraman, Zeithaml and Malhotra (2005) evaluated the reliability of previous studies on hypothesised direct and indirect relationships between service quality and customer behaviour, and customer satisfaction following the introduction of online services and service recovery procedures**.** However, customers' cognitive judgements and affective reactions when receiving a service are directly linked to the quality of the service and sense of satisfaction (Oliver 1999).

Service quality perceptions influence customers positively (Ladhari 2010). Positive perceptions about online banking services will likely contribute to good outcomes regarding customer satisfaction, attitudinal loyalty and preferences (Ladhari, Souiden & Dufour 2017). It is noted that the evaluation of direct and indirect relationships between

study variables generates a deeper understanding of their structure and relationships. Although the current model has been developed based on the means–end theory, the evaluation will help to inform future studies, essentially to determine the additional factors and dimensions of service quality that potentially mediate between customer satisfaction, attitudinal loyalty and preferences.

The empirical results of this investigation guide the grouping of constructs in the theoretical framework, which helps to improve the comprehensive understanding of online service quality in the Saudi banking sector. Further, this framework makes it possible to examine gender as having a moderating effect on the relationship between online service quality, customer satisfaction, attitudinal loyalty and preferences. Also investigated here is the effect of double jeopardy law on customer loyalty, focusing on online banking services in Saudi Arabia.

6.3 Discussion of Findings

The following subsections illustrate the main findings and discussion outcomes and link the results of this research to those of prior research on online service quality.

6.3.1 Online Service Quality Dimensions

The results confirm the significant influence of online service quality on customer satisfaction, attitudinal loyalty and preferences in the Saudi banking industry. Further, the results provide evidence that fulfilment is the strongest dimension of the quality of online banking services while contact has less effect on customer attitudes. The following subsections consider each dimension of online service quality and its influence on customer satisfaction, attitudinal loyalty and preferences.

6.3.1.1 Efficiency

The current study developed the model to examine the efficiency effect on customers in Saudi banks. The path estimates results revealed the standardised regression weight for efficiency of 0.83, t-value = 16.74 and a significant p-value < 0.001. These results confirm that efficiency has a significant and positive effect on Saudi bank customers' satisfaction and attitude. The present study's findings are consistent with those of previous analyses

in the context of the UAE (Jham 2016), Greece (Santouridis, Trivellas & Tsimonis 2012) and Spain (Marimon, Petnji Yaya & Casadesus Fa 2012).

The present study's outcomes are also consistent with those of Hammoud, Bizri and El-Baba (2018), who confirmed that efficiency has a significant and positive connection with customer satisfaction in Lebanon. Several studies have noted that efficiency is a crucial dimension when evaluating the quality of online services (e.g., Amin 2016; Ariff et al. 2013; George, A & Kumar 2014; Herington & Weaven 2009). Hence, efficiency is an important dimension that affects customers' interactions with online services and whether they can access platforms simply and easily.

6.3.1.2 Fulfilment

The results of this research indicate that among the dimensions of electronic service quality, the dimension of fulfilment has the highest impact on customer satisfaction, attitudinal loyalty and preferences. In this regard, several studies have claimed that fulfilment is a vital dimension when evaluating online service quality and its effect on customers (George, A & Kumar 2014; Ganguli & Roy 2011). The path estimates result revealed the standardised regression weight for fulfilment of 0.92, *t*-value = 15.96 and a significant *p*-value of < 0.001. Thus, fulfilment is a significant quality dimension of online banking services. Furthermore, the current study results confirm that fulfilment is an important dimension, and this finding is consistent with that of Rafiq, Lu and Fulford (2012) who revealed that fulfilment has a significant and positive effect on perceived quality in the context of online shopping.

Moreover, Zehir and Narcıkara (2016) showed that fulfilment is a core dimension of online service quality and is strongly associated with perceived value and loyalty intention in e-business in Turkey. Further, A George and Kumar (2014) emphasised the importance of fulfilment in the overall online service quality outcome for internet banking customers. In contrast, Ariff et al. (2013) found that fulfilment does not significantly affect customer satisfaction and attitudinal loyalty in the context of commercial banks in Malaysia.

In addition, Ganguli and Roy (2011) suggested that banks could create value by being sensitive to customer fulfilment in terms of basic infrastructure, new technology and improved procedures for financial transactions. Thus, the current study results suggest

that the effect of fulfilment on customers is substantially more significant than the effect of other service quality dimensions on customer satisfaction, attitudinal loyalty and preferences in Saudi Arabia.

6.3.1.3 System Availability

System availability is a core component of online service quality and allows customers to access platforms 24/7. Akinci, Atilgan-Inan and Aksoy (2010) stressed the importance of delivering the expected service, and this reflects good insights into an institution's image for customers. The path estimate of system availability was 0.79, *t*-value = 11.48 and a significant *p*-value of < 0.05. However, several studies, such as Akinci, Atilgan-Inan and Aksoy's (2010) study on Turkey's online banking industry, have supported the contention that system availability significantly affects perceived quality. They also provided evidence these scales can be applied in a different service setting. Özer, Argan and Argan (2013) found that system availability in mobile banking service has a strong association with customer satisfaction.

The current study outcomes are consistent with those of prior studies on system availability (e.g., Ariff et al. 2013; Marimon, Petnji Yaya & Casadesus Fa 2012). Thus, it is confirmed that the Saudi banks' customers are affected by system availability and consider it an essential factor that affects their satisfaction, attitudinal loyalty and preferences. According to Kern (2002), system availability is a crucial requirement when offering online service.

6.3.1.4 Privacy

Privacy perception is an important dimension and is given the greatest attention by online service providers because of its effect on customers' trust (Nilashi et al. 2015). As regards the contribution to online service quality of perceptions of privacy, the results of this study showed a path estimate of 0.72, *t*-value = 13.54 and a significant *p*-value of < 0.05. These results are in line with those documented in the literature. For instance, Alhawary and Alsmeran (2017) examined the impact of e-service quality on customer satisfaction in Jordan's Islamic banks and indicated that privacy has a strong association with customer satisfaction. Similarly, A George and Kumar (2014) confirmed that privacy and security significantly influence customer satisfaction in Kerala, a state in India.

In addition, Hammoud, Bizri and El-Baba (2018) reported that online service users are affected positively by privacy and security in Lebanon's banking sector. Further, Shankar and Jebarajakirthy (2019), who investigated the impact of online banking service quality on attitudinal loyalty in India, showed that privacy and security significantly influence attitudinal loyalty. Hence, privacy and security are essential characteristics of online service quality, consequently shaping customers' satisfaction with providers and their ability to protect their personal information and financial details (George, A & Kumar 2014; Marimon, Petnji Yaya & Casadesus Fa 2012).

6.3.1.5 Responsiveness

The examination of responsiveness showed that it did affect customer satisfaction, attitudinal loyalty and preferences. In fact, responsiveness is a key component of electronic recovery service quality. Path estimate results revealed the standardised regression weight for responsiveness was 0.75, *t*-value = 13.40 and a significant *p*-value of < 0.001. The result is consistent with that of Alhawary and Alsmeran (2017), who found that responsiveness has a significant and positive effect on customer satisfaction in Islamic banks in Jordan.

Moreover, Akinci, Atilgan-Inan and Aksoy (2010) supported the view that the E-RECS-QUAL scale accurately measures recovery service quality in online banking services. According to Albarq (2013) and Almotairi, Almeshal and Alam (2013), responsiveness is an essential dimension of electronic recovery service quality for the Saudi banks' customers. This result is attributable to increased customer needs for quick handling of any problems faced and immediate resolution. Hence, responsiveness enhances customers' experiences with online service through improved communication channels, reduced waiting times and speedy resolution of their requests.

6.3.1.6 Compensation

The CB-SEM analysis revealed that compensation is an essential factor of electronic recovery service quality and positively influences customer behaviour if handled correctly. The result was as follows: path estimate of 0.73, *t*-value = 12.42 and significant *p*-value of < 0.001. This finding is consistent with that of Akinci, Atilgan-Inan and Aksoy (2010), who examined the influence of electronic recovery service quality scale on customer behaviour. They revealed that compensation has a significant effect on

attitudinal loyalty in Turkish banks. Similarly, Zehir and Narcıkara (2016) found that compensation has a positive and significant impact on loyalty intention, albeit in an e-business context. Moreover, Paschaloudis and Tsourela (2015) and H Yang and Tsai (2007) asserted that compensation has a significant and positive effect on customers' perceptions of online service quality.

Therefore, service providers must pay more attention to quality matters, especially in highly competitive industries such as banking (Hamzah, Lee & Moghavvemi 2017). Banks should update compensation policies to meet customers' expectations and should commit to compensate or refund them immediately if any failure occurs when customers use online financial platforms. These procedures might help to maintain customer satisfaction, which would strengthen customer attitudinal loyalty towards current online financial services.

6.3.1.7 Contact

The results showed that contact is a key performance factor of electronic recovery service quality and has a positive and significant effect on consumer behaviour. The path estimate result was 0.60, *t*-value = 9.60 and a significant *p*-value of < 0.001. This result is consistent with the findings of other studies; for example, Alhaliq and Almuhirat (2016) stated that the Saudi banks achieved effective communication with customers and helped build customer satisfaction. Aljasser and Sasidhar (2016) confirmed that customers have a significant and positive perception of the contact dimension in the Saudi banking sector. Further, Hammoud, Bizri and El-Baba (2018) found that the contact dimension significantly influences customer satisfaction in Lebanon's banking sector. Conversely, Marimon, Petnji Yaya and Casadesus Fa (2012) found that contact does not affect attitudinal loyalty in electronic banking in Spain.

The reason for this result might be that the Saudi banks have already been providing a variety of digital communication channels. All banks offer advanced channels to their customer base, but they could provide superior communication channels that help to enhance procedures and prompt responses. Therefore, Saudi banks should incorporate advanced digital communication tools to serve customers faster and improve online banking service performance.

In summary, this empirical study's results showed that all quality dimensions of the E-S-QUAL and E-RECS-QUAL scales have a positive and significant influence on customer satisfaction, attitudinal loyalty and preferences in the Saudi banking sector. The results of the in-depth interviews with CDBOs supported the empirical results. They were asked about the quality dimensions and whether these have a significant impact on customer satisfaction. Saudi banks' responses about the importance of these dimensions in online service quality and the implications for customer satisfaction vary, however they seemed to be in agreement with the core of these dimensions. Moreover, they suggested that other factors affect customer satisfaction regarding the quality of online services in the Saudi banking sector, such as the efficiency of E-CRM, the fees for online service and the bank's reputation.

Furthermore, the interviews with the CDBOs revealed that responsiveness is an essential quality dimension that affects customer satisfaction with online banking services. The Saudi banks have specific timeframes to resolve customers' inquiries and problems. The CDBOs also stated that the bank ought to create an accurate timeframe, which is a fundamental requirement mandated by SAMA. They indicated that the Saudi banks already employ advanced technology and digital systems to improve communication channels. These enhancements have reduced 'red tape' and waiting times and ensure that responses to customers' inquiries are dealt with promptly. Hence, the findings from these interviews supported the current study's empirical results and helped achieve the research objectives.

6.3.2 Online Service Quality and Customer Satisfaction

Butt and Aftab (2013) explained customer satisfaction as a feeling or attitude that a customer may have about a product or service. Gilaninia, Taleghani and Talemi (2013) defined customer satisfaction as certain expectations of customers about how well their purchased goods or services should function. However, customer satisfaction can also be described as the discrepancy between what customers expected and what they actually experienced. R Anderson (1973) asserted that a comparison of the actual and expected performance of services or products is the basis of determining customer satisfaction. The first hypothesis of the present study to assess the influence of online service quality dimensions on customer satisfaction in Saudi Arabia is as follows:

H_1 The quality of online banking services positively affects customer satisfaction.

The study findings suggest that online service quality dimensions positively and significantly influence customer satisfaction in the Saudi banking sector. The result was as follows: path estimate of 0.63, *t*-value = 11.43 and a significant *p*-value of < 0.001. Therefore, hypothesis (H1) is supported. This finding agrees with that of other studies. For instance, Alhawary and Alsmeran (2017) asserted that online banking services' quality dimensions have a positive and significant effect on customer satisfaction in Jordan's Islamic banks. Correspondingly, Almotairi, Almeshal and Alam (2013) revealed that the quality dimensions affect overall customer satisfaction with commercial banks in Saudi Arabia. Jham (2016) conducted a similar study in the UAE and found that customers are affected by the quality dimensions, which echoes Jun and Palacios's (2016) finding that the quality dimensions affect customer satisfaction with mobile banking services in the US. Further, Rod et al. (2009) asserted that online banking service quality widely influences customer satisfaction in New Zeeland. In addition, numerous studies confirmed that the quality dimensions of online banking services affect customer satisfaction in Saudi Arabia (Alhaliq & Almuhirat 2016), Malaysia (Amin 2016), India (George, A & Kumar 2014), Australia (Herington & Weaven 2009) and Hong Kong (Lau et al. 2013).

In the in-depth interviews with CDBOs regarding how banks measure customer satisfaction with online service quality, virtually every CDBO asserted that the banks endeavour to enhance the quality of online banking services through constant evaluation. The Saudi banks have specific procedures in place to measure customer satisfaction. Most officers agreed with the proposed quality dimensions and their high importance, but some of them highlighted that they have further procedures. Some CDBOs suggested other factors and believed these might influence customer satisfaction, namely, E-CRM, service fees and bank reputation. Consequently, these findings indicate that customer satisfaction is highly prioritised by executives in charge of the Saudi banks.

6.3.3 Online Service Quality and Customer Attitudinal Loyalty

The Katz (1960) functional theory of attitudes posits that attitude has four functions: utilitarian, knowledge, value-expressiveness and ego-defensiveness. Reichheld (2003) defined the term customer attitudinal loyalty as customers' feelings about products and

services and what word-of-mouth tells them. This term is vital to the banking sector; therefore, decision-makers should understand how customers feel about their products or services and how they talk about these with others. The second hypothesis developed to measure the impact of online service quality dimensions on customer attitudinal loyalty in the Saudi banking sector is:

> H_2 The quality of online banking services positively affects customer attitudinal loyalty.

The analysis demonstrated that the quality dimensions of online banking services have a positive and significant impact on customer attitudinal loyalty in the Saudi banking sector. The result was as follows: path estimate of 0.38, *t*-value of 6.68 and a significant *p*-value of < 0.001. Hence, hypothesis (H_2) is supported. This result is consistent with that of Albarq (2013), who found that the service quality dimensions have a positive and significant effect on Saudi banks' customers attitudinal loyalty. The result is also in agreement with that of studies on Spain, Malaysia and India, which asserted that attitudinal loyalty is shaped by the quality dimensions of internet banking services (Marimon, Petnji Yaya & Casadesus Fa 2012; Peng & Moghavvemi 2015; Shankar & Jebarajakirthy 2019). Likewise, Boonlertvanich (2019) found that service quality influences customer attitudinal loyalty in the context of the banking sector in Thailand.

Numerous studies have asserted that there is a strong link between online service quality and customer attitudinal loyalty (Amin 2016; Quach, Thaichon & Jebarajakirthy 2016). Consequently, banks should understand customers' attitudes and behaviour concerning online service quality. They should correct any discrepancy in the quality of online financial services and enhance their brand's image in the target market. Meanwhile, banks' executives could set effective strategies to improve online service quality in order to meet customer expectations and needs, which might positively affect customer attitude.

6.3.4 Online Service Quality and Customer Preferences

Bass and Talarzyk (1972, p. 93) defined consumer preferences as 'a consumer's attitude toward a particular brand hypothesised to be a function of the relative importance of each product attribute and the beliefs about the brand on each attribute'. For this reason, executives need to know customer preferences in order to understand their intentions of using particular services (i.e., online financial services). The third hypothesis of this study

to measure the impact of online service quality dimensions on customer preferences in the Saudi banking sector is:

H_3 The quality of online banking services positively affects customer preferences.

The analysis showed that the dimensions of online service quality exert a positive and significant influence on customer preferences in Saudi banking. The result was as follows: path estimate of 0.50, *t*-value of 5.86 and a significant *p*-value of < 0.001. Therefore, hypothesis (H3) is supported. The results suggest that the quality dimensions exert a vital impact on customer preferences. This finding is consistent with that of Ananda, Devesh and Allawati (2020), who confirmed that awareness, web features and perceived usefulness significantly and positively influenced customers to use digital banking in Oman. Similarly, Namahoot and Laohavichien (2018) suggested that service quality and perceived risk significantly influenced customers in Thailand who used banking services via the internet. In addition, Maulana, Wiryono and Purwanegara (2019) discovered other factors, such as convenience that affect consumer preferences for online banking services in Indonesia. This emerged as the major driver for banking services and shaped customers' preferences.

Furthermore, in the current research, the issue of brand size and its impact on customers' preferences emerged through the semi-structured interviews with CDBOs. Some of the CDBOs stated that individual customers might be influenced by the brand size. A few CDBOs spoke about other factors that might affect customer preferences, such as the bank's reputation, customer experience, excellent online services and the efficiency of E-CRM. Nevertheless, the CDBOs' responses about whether individual customers really care about the brand size or other factors varied. In contrast, the empirical results provide evidence that online service quality significantly affects customer preferences in Saudi Arabia.

6.3.5 Customer Satisfaction, Attitudinal Loyalty and Preferences

Examining customer behaviour patterns has become an essential strategy for banks owing to the ever-increasing competition, which is reflected in the retail division, specifically online banking services. Customer attitudinal loyalty to online banking services does depend on a variety of factors, such as satisfaction and service quality. Numerous scholars deemed customer satisfaction to be a major factor that might affect customer attitudinal

loyalty (e.g., Almansour, Alhajla & Almansour 2015; Beerli, Martin & Quintana 2004; Ganguli & Roy 2011; Nguyen, H et al. 2018). In line with these views, the fourth hypothesis to examine the mediating role of customer satisfaction between online service quality dimensions and customer attitudinal loyalty in the Saudi banking sector is as follows:

> H_4 Customer satisfaction has a mediating effect on the relationship between online service quality and customer attitudinal loyalty.

The results revealed that customer satisfaction positively and significantly influences customer attitudinal loyalty; the path estimate was 0.48, *t*-value of 7.86 and a significant *p*-value of < 0.001. Consequently, hypothesis (H4) is supported. This finding is consistent with that of Almansour, Alhajla and Almansour (2015), who found that customer satisfaction has a mediating effect on attitudinal loyalty in the context of financial service in Saudi Arabia. Peng and Moghavvemi (2015) also confirmed that customer satisfaction significantly affects attitudinal loyalty in the Malaysian banking sector.

Further, Chocholáková et al. (2015) asserted that customer satisfaction significantly influences customer attitudinal loyalty in the Czech Republic. Likewise, Amin (2016), who investigated the influence of internet service quality on customer satisfaction and loyalty in Malaysia, showed that customer satisfaction has a significant effect on customer attitudinal loyalty as a mediating variable. Moreover, Boonlertvanich (2019) found that customer satisfaction has a mediating effect on customer attitudinal loyalty in Thailand.

Furthermore, several studies have suggested that customer satisfaction may influence other customer concepts, for instance, the 'customer preferences' term as identified in the literature review chapter (Ayo et al. 2016; Maulana, Wiryono & Purwanegara 2019; Ramseook-Munhurrun & Naidoo 2011). Therefore, this study developed a hypothesis to explore whether customer satisfaction has a mediating effect on customer preferences through online service quality in the Saudi banking sector:

> H_5 Customer satisfaction has a mediating effect on the relationship between online service quality and customer preferences.

The analysis showed that customer satisfaction is not significant and has a negative effect on this relationship. The result was as follows: path estimate of −0.001, *t*-value of −0.010

and a non-significant *p*-value of > 0.05. Consequently, hypothesis (H5) is rejected, and this result is unexpected. However, Ayo et al. (2016) found that the quality dimensions affect customer attitude about online banking services in Nigeria and that customer satisfaction has a non-significant effect on the use of these services.

Thus, the result of this current investigation does not support this proposed path between customer satisfaction and customer preferences. This result may be attributable to the Saudi banks' customers misunderstanding about preference patterns and the fact that online banking services are still in nascent stages across emerging countries and, in particular, in GCC countries (Churchill 2013). Moreover, the interviews with CDBOs showed that Saudi banks' customers might be influenced by the bank's reputation, customer experience, excellent online services and the efficiency of E-CRM to prefer online banking services. Therefore, the relationship between customer satisfaction and customer preferences in Saudi Arabia is still ambiguous, and further investigation is needed.

6.3.6 Perceived Quality Based on Gender

Many studies stated that gender is a significant factor that affects customers' perceptions of online service quality (e.g., Belás, Chocholáková & Gabčová 2015; Kwok, Jusoh & Khalifah 2016; Richard et al. 2010). Coulthard (2004) defined 'perceived service quality' as the difference between customers' expectations and perceptions of a particular service. The sixth hypothesis measuring the effect of gender on the perceived quality of online banking services in the Saudi banking sector is:

> H_6 Gender has a moderating effect on the perceived quality of online banking services in Saudi banks.

A multiple-group analysis was employed to examine the moderating effect of gender (Byrne 2016) on the perceived quality of online banking services in Saudi banks. The chi-square for model comparison was 57.00, degrees of freedom = 29 and *p*-value < 0.05. Also, through t-test analysis, the results showed some path analyses have significant differences between male and female groups. Hence, the study outcomes showed that gender operates as a moderating effect on the perceived quality of online banking services. Thus, hypothesis (H6) is partially supported.

Subsequently, the multiple-group analysis findings about the moderating effect of gender on the perceived quality of online banking services in Saudi banking are consistent with that of Karatepe (2011), who stated that men and women have different opinions about service quality in Turkey. Likewise, Aljasser and Sasidhar (2015) confirmed that Saudi bank customers' perceptions of service quality differ according to gender. Sanchez-Franco, Ramos and Velicia (2009) examined the moderating effect of gender between online service quality and attitudinal loyalty in Spain. They also detected gender-based differences on the issue of quality. In contrast, Ladhari and Leclerc (2013) examined the role of gender in the relationship between online service quality, customer satisfaction and loyalty in the Canadian financial sector. They found that gender does not moderate the relationships between the studied constructs.

This result is expected because men and women view technical and customer service issues very differently (Karatepe 2011). According to the social role theory, the roles of males and females depending on their social position, which affects their behaviour (Eagly & Wood 1999).

6.3.7 Double Jeopardy Law in the Saudi Banking Sector

The double jeopardy law is defined as an empirical law in marketing, and it has been demonstrated to be applicable to many product and service categories. Brands with less market share suffer both from lower levels of purchases and equally lower brand loyalty (Ehrenberg, Goodhardt & Barwise 1990). Conversely, big brands have large levels of purchases and more brand loyalty. For the Saudi banking sector, this study proposed that there is an association between market share and customer loyalty, which highlighted the importance of brand size in the Saudi banking sector:

> H_7 There is an association between market share and customer behavioural loyalty in Saudi banks towards online banking services.

Hence, the double jeopardy law was evaluated in terms of the relationship between market share and penetration percentage (Graham et al. 2017; Pleshko 2006) of each provider of online banking services. The results for brand performance revealed a significant and positive relationship between market share and penetration indicators of Saudi banks. The results mean that hypothesis (H7) is supported. There is an association between market share and customer loyalty as regards online banking services in Saudi Arabia. The

findings are consistent with that of Pleshko and Alwugayan (2009), who examined the effect of the double jeopardy law on of mutual funds customers in Kuwait.

Furthermore, the current results are coherent with those of B Sharp, Wright and Goodhardt (2002), who found that the double jeopardy law is applicable in the subscription markets of the banking industry in New Zealand and Australia. Further, the results are consistent with those of previous studies on this law across different sectors (e.g., Bandyopadhyay, Gupta & Dube 2005; Ehrenberg, Uncles & Goodhardt 2004; Greenacre et al. 2015; Heiens & Pleshko 2014). Whilst few researchers stated that there is no guarantee that satisfied customers will remain loyal, which reflect a complex relationship between customer satisfaction and repurchase intention (McDonald 2010; Pantouvakis & Lymperopoulos 2008). Therefore, the current findings extend the knowledge about the double jeopardy law in emerging economies, such as the GCC countries.

The interviews with CDBOs covered the topic of the effect of brand size of financial institutions on customer loyalty. It emerged that the brand size influences Saudi banks' customers. The CDBOs supported the assertion that the double jeopardy law is evident in the Saudi banking sector. 10 out of 11 officers agreed that the brand size does influence customer loyalty. Further, the current study's results showed that attitudinal loyalty is affected by the quality dimensions of online banking services. Meanwhile, behavioural loyalty is driven by the brand size of the Saudi banks.

6.4 Theoretical Contribution

The findings frame various theoretical contributions regarding online service quality and customer satisfaction, attitudinal loyalty and preferences, as follows:

1. The presented theoretical framework leads to a better understanding of customer satisfaction, attitudinal loyalty and preferences regarding online service quality. The model merges all three concepts into one framework; the resultant findings help to enhance the current knowledge about customer attitudinal loyalty and reveal that the quality dimensions comprise important functions that significantly affect customers. Thus, the current model extends the knowledge about customer satisfaction and attitude regarding online service quality and confirms that customers compare their expectations with the actual performance delivered by a

particular product or service, according to the expectation confirmation theory developed by Oliver (1980).

2. The current model leads to a better understanding of the interaction between customers and service providers in the context of online banking services. The E-S-QUAL and E-RECS-QUAL scales include various quality dimensions that are in line with S-D logic. In comparison, this model involves the perceptual attributes of customers while interacting with services and beyond. Thereby, the current model is in agreement with the S-D logic that companies offer services and affordable solutions and benefits for customers. Meanwhile, customers interact with a service to co-create value (Vargo & Lusch 2004, 2008).
3. The current model highlights the actual utilities that customers could access through online services. The present study's outcomes are coherent with that of Akinci, Atilgan-Inan and Aksoy (2010), who found a significant effect of quality dimensions on perceived value and customer attitudinal loyalty to online banking services. Therefore, this model could be applicable in a different area for examining the perceived quality of online service and might help to provide more insights to extend the model validity to different industries. In this regard, Rafiq, Lu and Fulford (2012) employed a similar model to examine the perceived quality in the context of the internet grocery sector in the UK.
4. The presented model facilitates a comprehensive examination, given that no other study has employed the E-S-QUAL and E-RECS-QUAL scales to evaluate the effect of gender as a moderating variable on the relationship between online service and perceived quality. The current study's finding on gender-based perceptions of quality confirm that males and females have different perceptions of quality; therefore, this finding is in agreement with the social role theory. According to Eagly and Wood (1999), the social role theory suggests that there are differences and similarities in social behaviour depending on their social position. Moreover, the findings are consistent with that of Aljasser and Sasidhar (2015), who examined customer satisfaction and found different perceptions among men and women regarding banking services in Saudi Arabia.
5. The present study contributes to a better understanding of the effect of the double jeopardy law on customer behaviour in the Saudi banking sector. In comparison, this law has rarely been examined in the Saudi Arabian context. This study provided evidence that this law is applicable to online banking services in Saudi

Arabia and elsewhere in the GCC region. In fact, the outcomes are consistent with the findings reported by Pleshko and Alwugayan (2009), who examined the law and its effect on the loyalty of mutual fund customers in Kuwait. That is, big banks have both a larger customer base and more loyalty, whereas small banks face a significant challenge in increasing their market share owing to customers switching to other banks. Nevertheless, customer movement in this industry to fewer and larger banks might take more time than in other industries because of the peculiarities of this type of service.

Given these contributions, it can be stated that this study helps to understand the characteristics of the quality dimensions and the way that they shape customer satisfaction, attitudinal loyalty and preference in the Saudi banking sector and its online operations.

6.5 Methodological Contributions

The present study applied a mixed methods approach to examine the influence of online service quality on customer satisfaction, attitudinal loyalty and preferences in the Saudi banking sector. Its methodological contributions are as follows:

1. Similarly to the current study, a mixed methods approach has been used in numerous studies in different regions, for instance, Ireland, Egypt, the Republic of Macedonia and Malaysia (Gianvechio 2015; Hussein 2017; Stamenkov & Dika 2015; Yacob, Ting & Ali 2016). However, this study is the first to apply a mixed methods approach to investigate the influence of online service quality on customer satisfaction, attitudinal loyalty and preferences in the Saudi banking sector.
2. The current study utilised correlation coefficient analysis to measure the relationship between market share and penetration percentages as indicators to examine the effect of double jeopardy law as suggested by Pleshko (2006). Thus, the current study's findings support the construct validity of this measurement in the context of online banking services in Saudi Arabia.

6.6 Managerial Implications

The research outcomes have numerous managerial implications that would assist decision-makers in understanding issues about online service quality and brand size in the Saudi banking industry. These implications may help managers to direct resources efficiently and to establish effective strategies:

1. Saudi banks should enhance customers' experience with online banking services by applying leading edge standards to drive up internet service quality. Furthermore, banks need to develop various key performance indicators, such as benchmarking the number of successful transactions, number of active users and demand for services. These can be linked to customer expectations and requirements and enhance an institution's performance, profitability and managerial practices (Abdullah et al. 2011; Mbama & Ezepue 2018). For example, banks could enhance customer experience by improving the number of contact choices in the virtual environment. This would produce greater responsiveness to customers (employing sophisticated technology) when they are in the need of assistance and ensure accurate timely support.
2. Saudi banks should establish development strategies to increase investments for improving their financial services and move into a new generation of technology. They could employ IoT and artificial intelligence to gain many benefits and improve business procedures (Mohaghar et al. 2021). Simultaneously, banks could enhance customers' experiences with online financial services by offering unique financial solutions that are easier to access and launch fast by applying both IoT and artificial intelligence (Mogaji, Soetan & Kieu 2021). For example, banks can develop digital platforms with features that allow customers to complete financial transactions or to interact with a customer service representative or a chatbot on the service platform through voice. More importantly, banks might meet the level of excellence in their online services by offering a more engaging interactive experience. This would enhance the level of financial services to customers. For instance, banks could consider allowing customers to customise online banking services that meet their wants and needs optimally (Alhashem, Allaham, & Almasri, 2022).

3. Saudi banks could enhance customer value by adopting an 'open banking' system that allows banks to interact within an open financial ecosystem (Omarini 2018). This initiative by Saudi banks will allow customers to establish a network of tools to help clients manage their financial transactions easily. e.g., Saudi banks' customers are enabled to share their financial data with third party securely and which will help to design innovative financial services and products. This would improve the speed and options open to transact. Also, it is forecast that open banking will strengthen the partnership between banks and fintechs facilitating a multitude of new financial services (Omarini 2018).
4. Saudi bank executives should understand the role of the double jeopardy law in the banking industry and how their brand grows through online banking services. Thus, they should concentrate on retention and build customer base and that involves more aggressively understanding switching triggers and segments. It must through research get better at identifying or forecasting those open to shifting their business. Significant marketing budget should assess switching from rivals (Sharp, B et al. 2002). It should be acknowledged that customer movement between banks may be less frequent than in other industries because of the peculiarities of barriers to exit and entry for this type of service, it should still be monitored. In fact, small banks face challenges in increasing their market share in a highly competitive market such as the banking industry (Pleshko & Alwugayan 2009). Big banks have a large customer base placing smaller industry players in a more disadvantaged position. It is not just about new customers. There needs to be customer retention. Saudi banks should design strategies that focus on keeping their current customers rather than focus on increasing their share. Some studies stated that there is no guarantee that satisfied customers will remain loyal, therefore, the relationship between satisfaction and repeat purchase intention is clearly complex (McDonald 2010; Pantouvakis & Lymperopoulos 2008). Nevertheless, Saudi banks have sufficient financial, technological, and human resources; therefore, they have an excellent opportunity to extend their business in the GCC market (Bhatnagar 2013) to build a substantial global customer base.
5. The SAMA has the responsibility of improving the banking sector in Saudi Arabia. One of its key tasks is releasing the banking legislation and regulations concerning online banking services (SAMA 2020a). However, SAMA has robust financial regulations and frameworks that are consistent with global financial

benchmarks and standards. Therefore, SAMA should support the Saudi banks to employ advanced technologies and train employees to deliver sustainable, high-quality online banking services. In addition, there is a need to lead the way to launch new strategies, for instance, by adapting an open banking approach to extend the scope of retailing banking services in Saudi Arabia. Thus, banks could increase operational efficiency by introducing new technologies and offering creative financial solutions (Palmié et al. 2020).

6.7 Limitations of this Research

The limitations of this research relate to its model, data collection design, sample selection technique and inclusion of demographic factors as moderating variables. However, these limitations do point to some recommendations for future studies.

First, the research model developed in this study is comprehensive. Nevertheless, it does not comprise all the constructs linked with customer satisfaction, attitudinal loyalty and preferences regarding the scope of online banking services. For instance, there was no reference to the price of online services, trust, E-CRM, customer experiences and institutional reputation. Mujinga (2020) argued that the E-S-QUAL scale is limited in addressing customer needs and requires more constructs to enhance the knowledge and understanding of customers' attitudes towards online service quality issues. In line with this view, the present research suggests more constructs be addressed to improve the model and measurements about this topic.

Second, although the current model established a relationship between the measures of customer satisfaction and attitudinal loyalty towards the quality of online banking services in Saudi Arabia, it did not predict behavioural loyalty through this relationship. However, the empirical results demonstrated that the double jeopardy law affects customer behavioural loyalty in the context of online banking services, which means customer behavioural loyalty is driven more by brand size. Baldinger, Blair and Echambadi (2002) confirmed that a high level of loyalty is self-evident for large brands from their higher level of sales than that of smaller brands. Likewise, B Sharp et al. (2002) asserted that less popular brands had a less stable customer base in the context of subscription markets. Hence, managers should be more realistic about setting appropriate

strategies to retain customers and should understand that defection rates differ from one brand to another.

Third, cross-sectional data may be insufficient to draw generalisable findings about customer perspectives and the interrelationships between research variables related to this topic (Jeon & Jeong 2017). Consumers' attitudes and behaviour may change over time owing to various reasons, including experience from previous purchases (Hernández, Jiménez & Martín 2010). A Sharp, Sharp and Wright (2002) stated that people's attitudes are not temporally stable at an individual level but might appear to be constant at the aggregate level. N Nguyen, Kim-Duc and Freiburghaus (2021) examined the relationship between customer experience and banks' financial performance in relation to digital banking services in Vietnam. They gathered data through a pooled cross-sectional design (before and during the coronavirus disease [COVID-19] pandemic) and indicated there was a difference in perception regarding customer experience and banks' financial performance before and during the pandemic. Therefore, it would be very important to re-evaluate the current model at various points of time in order to examine customers' attitudes towards the quality of online banking services over time. To accomplish this objective, further studies could employ a longitudinal research method, which could help to identify whether the associations evaluated in the present study vary over time. Moreover, longitudinal research enables researchers to examine the relationship between attitudinal loyalty and actual behaviour.

Another limitation is that this research used a non-probability sampling technique via convenience sampling and employed CB-SEM to examine the relationship between constructs. According to Etikan, Musa and Alkassim (2016), a convenience sampling technique has some restrictions in that participants do not have an equal chance to be selected. Hence, the results cannot be generalised to a larger population. However, numerous studies have employed a convenience sampling design and SEM to scrutinise service quality. For instance, Hammoud, Bizri and El-Baba (2018) employed SEM and convenience sampling to investigate the impact of online service quality in Lebanon's banking sector. Likewise, Kassim and Abdullah (2010) compared two cultures (Malaysia and Qatar) to examine the perceived quality of online services and used the same method. In addition, Peng and Moghavvemi (2015) scrutinised the influence of service quality dimensions on customer satisfaction and loyalty through SEM in Malaysian banks. A weakness of the present study is its result that customer satisfaction as a mediation

variable has a negative and non-significant effect on customer preferences. Thereby, this relationship needs further investigation to extend current knowledge about Saudi banks' customers and help executives to set adequate strategies to conserve their institution's resources in a highly competitive market.

The study has constrained its scrutiny of the effect of gender as a moderating variable on customers' perceptions of online banking service quality. The sample size was disproportionate, and the male group was larger than the female group. Hence, the results from this study cannot be generalised to all online banking service users in Saudi Arabia. However, numerous studies that employed multiple-group analysis to examine the moderating effect of gender in different regions had small and unbalanced sample groups. These include Warsame and Ireri's (2018) study, which found that gender has a moderating role in the customer adoption of Islamic banking services in the UAE. Other examples are B Collins, Burrus and Meyer's (2014) study on the difference between the perceptions of men and women regarding leadership styles in the US and Alkhaldi and Kharma's (2019) study that attempted to determine the moderating effect of gender on customer intentions to adopt mobile banking in Saudi Arabia. Nevertheless, the current study is an initial attempt at using a multiple-group analysis to explore the difference between males' and females' perceptions of online banking service quality in Saudi Arabia. Hence, it would be interesting to investigate the moderating effect of demographic factors on customer perceptions of banking service quality (Kaura, Prasad & Sharma 2015).

Last, other socio-demographic factors, such as age, income and qualification level, have equally important characteristics and could generate significant results about customers' perceptions of online service quality. Moghavvemi, Lee and Lee (2018) recommended examining the effects of age and income, which might exert significant influence on customers' perception of service quality in the banking sector.

6.8 Opportunities for Future Research

This section identifies several opportunities for future research. It is important to apply this model and evaluate online service quality in different industries or other types of financial institutions. For instance, this study's model could be employed in the insurance sector, utility enterprises and e-Government services to examine the influence of online

service quality on customer behaviour. In this regard, Rafiq, Lu and Fulford (2012) suggested applying the E-S-QUAL scale in different industries to assess its scale and validity.

Since the conceptual framework does not include all factors that might influence customer behaviour, it is essential to include other constructs, such as customer trust and customer values. Doing so will help generate a more comprehensive analysis of consumer behaviour regarding online service quality. Alharbi (2018) suggested including customer trust and customer values in research constructs, which might enhance the model and extend the knowledge of customer behaviour and service quality. Further, these variables would provide different insights on customers' perspectives about the services offered at present.

The current study investigated the influence of online service quality on customer satisfaction, attitudinal loyalty and preferences in the Saudi banking sector. It revealed an unexpected result that customer satisfaction does not exert a mediating effect on customer preferences in Saudi banks. Therefore, future research needs to test the relationship between customer satisfaction and customer preferences to explore the nature of association among these constructs. Moreover, there are still many areas that can be explored, particularly regarding the effectiveness of E-CRM and the impact of social media on customers' attitudes in Saudi Arabia (Abdulfattah 2012). Considering that the Saudi banks have vast experience, robust financial regulations and advanced technologies to offer online banking services in the local market, more studies are needed to investigate the effectiveness of extension strategies to penetrate new markets, specifically in the GCC region.

Furthermore, the existing literature showed that more research is needed about the influence of online service quality on customer behaviour in the GCC. Hence, it is important to conduct more comparative studies in this area to deliver more data and detailed knowledge about customers' behaviour regarding online service quality. Kassim and Abdullah (2010) encouraged researchers to conduct further comparative studies to explore whether findings are different or the same across various economy. Another avenue for future research is to explore the factors that influence customers switching to other online financial services providers. Gaining more knowledge of switching behaviour is important as according to Ghamry and Shamma (2022) whilst investigating

how service convenience, service reliability, level of technology and compliance affected customers switching in Kuwait they also highlighted the need to look at switching propensity and reasons for shifting for banking customers.

The study incorporated unequal subgroups in its multiple-group analysis to test the moderating effect of gender on males' and females' perceptions of online banking service quality. However, SEM requires collecting a large sample size (Kline 2005, 2016) and a minimum of 100 cases for each group to run a multiple-group analysis (Deng, X et al. 2005). Therefore, it would be very important to replicate this study by gathering a large sample size and divide into somewhat equal subgroups to enhance the scope and validity of its results regarding how males and females perceive the quality of online financial services in Saudi Arabia. Additionally, other demographic factors such as age, income and education level could also be important for customers' perceptions of online service quality. Multiple Group Analysis or subgroup analysis needs to be undertaken with a larger data set in the future Although several studies have reported that age (Oertzen & Odekerken-Schröder 2019), income (Chawla & Joshi 2018) and education level (Rahi et al. 2018) affected customers' insights, future research should investigate these factors in the Saudi Arabian context to understand how demographic factors shape customers' perceptions toward online banking services.

In addition, the current study is limited in terms of its ability to investigate the impact of online service quality on customer behavioural loyalty. Hence, it is essential to investigate the impact of online service quality on purchasing behaviour using the current model. A longitudinal study could help trace customer perceptions and intentions to gauge the stability of these constructs (Ha 2012). Thereby, it may provide important insights into the enduring value of loyalty and evaluate the consistency of behavioural loyalty. It is also critical to consider the impact of situational factors that may affect customer consistency and the impact on actual future behaviour. Since this study's findings show that brand size is the biggest driver of loyalty, surely brand size would need to be considered in future research.

According to Gbongli, Xu and Amedjonekou (2019, p. 40) 'a plethora of studies have established that consumers with a positive attitude towards a technology are more inclined to use it'. However, despite the quality dimensions affecting customers' attitudes, there are other factors that may positively influence customers' attitudes toward particular banks, specifically online banking services, such as: commitment (Yuan, Lai, & Chu

2019) and perceived risk (Namahoot & Laohavichien 2018). Therefore, it is essential to conduct further investigation about the impact a long-standing bank relationship may have on customers' rating on attitudes toward banks.

Barnes (2020) mentioned that although customers' behaviours are changing because of rapid changes in technology and global circumstances, they might accept and adopt technology more than they have ever done owing to the current global COVID-19 pandemic and the resulting enforced lockdowns and social distancing. In addition, COVID-19 has positive and negative implications for businesses worldwide. For example, the pandemic has obliged people to use and adopt the internet extensively. Therefore, e-commerce has experienced exponential growth (Bhatti et al. 2020). Further, the pandemic has changed customers' behaviours towards technology and internet applications. It has compelled most banks to digitalise their entire operations, which was a big challenge. Digitalisation includes various benefits for institutions and customers, such as uninterrupted accessibility to information, easy and immediate communication and information sharing. Meanwhile, banks' operations are improved and more in accordance with advanced technology, enhancing customers' experiences with digital banking (Moşteanu, Faccia & Cavaliere 2020). Researching the impact of COVID-19 on customer behaviour and digitalisation would assist in generating a better understanding of customers' perceptions about online service quality in the Saudi banking industry and beyond.

6.9 Conclusion

The current study asserted that the quality dimensions of online service have significant effects on customer satisfaction, attitudinal loyalty and preferences in the Saudi banking sector. Further, its results showed that customer satisfaction is a mediating construct that positively and significantly affects customer attitudinal loyalty. However, it demonstrated that customer satisfaction has a negative and non-significant impact on customer preferences. The study also revealed that the perceived quality of online banking services differs between men and women even though the sample size cell splits were relatively low for the female group. Moreover, the study provided evidence that the double jeopardy law extends to online financial services in the Saudi banking sector.

In addition, the study contributed details about the Saudi banks' practices regarding online banking services. Consequently, its findings are important in that these would enable Saudi banks to gain better understanding of customers' perceptions of online service quality. Therefore, this study highlighted managerial implications to assist bank executives in designing effective strategies for improving service quality and thus enhancing customer experiences. Last, this study has provided a strong foundation by opening up the potential for a more in-depth analysis of this important area of academic research.

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Appendices

Appendix 1: Ethics Committee Approval

Dear DR LEANNE WHITE,

Your ethics application has been formally reviewed and finalised.

» Application ID: HRE19-079
» Chief Investigator: DR LEANNE WHITE
» Other Investigators: MR Abdullah Albinalsheikh, DR MAXWELL WINCHESTER
» Application Title: Online Banking Quality and its Influence on Customer Satisfaction and Loyalty in Saudi Arabia
» Form Version: 13-07

The application has been accepted and deemed to meet the requirements of the National Health and Medical Research Council (NHMRC) 'National Statement on Ethical Conduct in Human Research (2007)' by the Victoria University Human Research Ethics Committee. Approval has been granted for two (2) years from the approval date; 20/09/2019.

Continued approval of this research project by the Victoria University Human Research Ethics Committee (VUHREC) is conditional upon the provision of a report within 12 months of the above approval date or upon the completion of the project (if earlier). A report proforma may be downloaded from the Office for Research website at: http:// research.vu.edu.au/hrec.php.

Please note that the Human Research Ethics Committee must be informed of the following: any changes to the approved research protocol, project timelines, any serious events or adverse and/or unforeseen events that may affect continued ethical acceptability of the project. In these unlikely events, researchers must immediately cease all data collection until the Committee has approved the changes. Researchers are also reminded of the need to notify the approving HREC of changes to personnel in research projects via a request for a minor amendment. It should also be noted that it is the Chief Investigators' responsibility to ensure the research project is conducted in line with the recommendations outlined in the National Health and Medical Research Council (NHMRC) 'National Statement on Ethical Conduct in Human Research (2007).'

On behalf of the Committee, I wish you all the best for the conduct of the project.

Secretary, Human Research Ethics Committee
Phone: 9919 4781 or 9919 4461
Email: researchethics@vu.edu.au

Appendix 2: Questionnaire

VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

Dear Participant,

My name is Abdullah Albinalsheikh, a doctoral student at Victoria University, Australia. You are invited to participate in a survey involving customers' perceptions about the quality of online banking in Saudi Arabia.

The questions are concerned with the quality of online banking services and how it influences customer satisfaction and loyalty in the Saudi banking sector. The survey will take approximately 14 minutes to complete. Your participation in the survey is completely voluntary and your responses will be kept confidential. No personally identifiable information will be associated with your responses.

This project has been approved by the University's Human Research Ethics Committee, Approval No. [HRE19-079]. If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email Researchethics@vu.edu.au or phone +61 (3) 9919 4781.

By submitting the questionnaire, you certified that you are at least 18 years old and you are voluntarily giving your consent to participate in the study. If you are interested in participating in this study, please click on the following bottom, if you choose not to participate in the research, please close the browser window.

Thank you very much for considering this invitation.

Yours Sincerely,

Abdullah Albinalsheikh
Mobile: +966 555 896952
Email: abdullah.albinalsheikh@live.vu.edu.au
Victoria University, Business School
Melbourne, Australia

Section One: General Information

1) Do you use online banking services?
□ Yes
□ No

2) How long have been using online banking services?
□ Less than 1 year
□ 1 - 3 Years
□ 3 - 5 Years
□ More than 5 years

3) How often do you typically use online banking?
□ Daily
□ Weekly
□ Once a month
□ Every 2 - 3 months
□ 2 - 3 times per year

4) Please classify banking services with each bank account you held. (Select as many as you like)

Services	Alawwal	Alinma	Alrajhi	ANB	Albilad	Aljazira	Fransi	GIB	Riyadh	SAIB	Samba	NCB	SAAB)	Other
Visit branch	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Self-services	O	O	O	O	O	O	O	O	O	O	O	O	O	O
ATM	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Telephone banking	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Online banking	O	O	O	O	O	O	O	O	O	O	O	O	O	O

5) What is your main bank account do you use for online banking services?
□ Alawwal Bank
□ Alinma Bank
□ Alrajhi Bank
□ Arab National Bank
□ Bank Albilad
□ Bank Aljazira
□ Banque Saudi Fransi
□ Gulf International Bank
□ Riyad Bank
□ Saudi Investment Bank
□ Samba Financial Group (SAMBA)
□ The National Commercial Bank (Alahli)
□ The Saudi British Bank (SABB)
□ Other

6) What is a main reason for using online banking services with a particular bank?
□ I have a traditional bank account with the same bank
□ The excellent online banking service offered by this bank
□ The brand name of the bank
□ Other

Section Two: Questions related to your account in the main bank

A) The following statements aim at measuring satisfaction level about online banking quality. Over your experience with account in the main bank, tick the appropriate option:

Using the following Scale where: 5 = Strongly Agree, 4 = Agree, 3 = Neither Agree nor Disagree, 2 = Disagree, and 1 = Strongly Disagree.

Statement	5 Strongly agree	4 Agree	3 Neither Agree nor Disagree	2 Disagree	1 Strongly Disagree
Efficiency					
7 - This bank provides simple and easy online banking service.	o	o	o	o	o
8 - This bank provides relevant information in online banking services.	o	o	o	o	o
9 - This bank enables me to get on with online banking services quickly.	o	o	o	o	o
10 - The online banking services by this bank is well organized.	o	o	o	o	o
System Availability					
11 - The online banking services in this bank is always available for me.	o	o	o	o	o
12 - The online banking services in this bank launches and runs straight away.	o	o	o	o	o
13 - The online banking services in this bank does not crash.	o	o	o	o	o
14 - The online transactions in this bank do not freeze while I run my information.	o	o	o	o	o
Fulfillment					
15 - This bank completes online banking transactions when promised.	o	o	o	o	o
16 -This bank has suitable time frame to achieve online banking transactions.	o	o	o	o	o
17 - This bank enables me to accomplish online banking transactions quickly.	o	o	o	o	o
18- This bank processes online banking transactions immediately.	o	o	o	o	o
Privacy					
19 - This bank protects my personal and financial information.	o	o	o	o	o
20 - This bank protects information about my online banking activities.	o	o	o	o	o
21 - This bank does not share my personal information with third parties.	o	o	o	o	o
22 - This bank uses a secure portal to protect information of online transactions.	o	o	o	o	o
Responsiveness					
23 - This bank tells me what to do if my transaction is not processed.	o	o	o	o	o
24 - This bank resolves problems promptly and efficiently.	o	o	o	o	o
25 - This bank notifies me immediately about the online banking transactions.	o	o	o	o	o
Compensation					
26 - This bank compensates me for any problems it creates.	o	o	o	o	o
27 - This bank compensates me if the transaction was not completed on time.	o	o	o	o	o
28 - This bank compensates me if online fraud occurs.	o	o	o	o	o
Contact					
29 - This bank provides a 24/7 call center for customers.	o	o	o	o	o
30 - This bank has customer service representatives available online.	o	o	o	o	o
31 - This bank offers opportunity to speak to a real person if there is a problem.	o	o	o	o	o

B) The following statements aim at measuring overall satisfaction about online banking quality. Over your experience with account in the main bank, tick the appropriate option:

Using the following Scale where: 5 = Strongly Agree, 4 = Agree, 3 = Neither Agree nor Disagree, 2 = Disagree, and 1 = Strongly Disagree.

Statement	5 Strongly agree	4 Agree	3 Neither Agree nor Disagree	2 Disagree	1 Strongly Disagree
32 - I am satisfied with the transaction processing via online banking services in this bank.	o	o	o	o	o
33 - I think I made the correct decision to use online banking services with this bank.	o	o	o	o	o
34 - The quality of online banking services is better than my expectations in this bank.	o	o	o	o	o
35 - Overall, I am satisfied with the quality of online banking services in this bank.	o	o	o	o	o

C) The following statements aim at finding your intention toward online banking services in the future. Over your experience with account in the main bank, tick the appropriate option:

Using the following Scale where: 5 = Strongly Agree, 4 = Agree, 3 = Neither Agree nor Disagree, 2 = Disagree, and 1 = Strongly Disagree.

Statement	5 Strongly agree	4 Agree	3 Neither Agree nor Disagree	2 Disagree	1 Strongly Disagree
36 - I will choose this bank the next time if I would be doing online banking services.	o	o	o	o	o
37 - I had used online banking services that offered by this bank during last 12 months.	o	o	o	o	o
38 - In the next 12 months, I will use online banking services which offer by this bank.	o	o	o	o	o
39 - I would like to continue using online banking services with this bank.	o	o	o	o	o

D) The following statements aim at identifying customer preferences toward the financial brand. Over your experience with account in the main bank, tick the appropriate option:

Using the following Scale where: 5 = Strongly Agree, 4 = Agree, 3 = Neither Agree nor Disagree, 2 = Disagree, and 1 = Strongly Disagree.

Statement	5 Strongly agree	4 Agree	3 Neither Agree nor Disagree	2 Disagree	1 Strongly Disagree
40 - I have strong preference to doing an online banking service with this bank.	o	o	o	o	o
41 - This bank meets my requirements of online banking services better than other banks.	o	o	o	o	o
42 - The financial brand is very important to define my choice of online banking services.	o	o	o	o	o
43 - My preference for this bank would not be changed even an online banking fees are higher than other banks.	o	o	o	o	o

Section Three: Demographic Information

44) Gender:
□ Male
□ Female

45) Age:
□ 18 – 25 years
□ 26 – 35 years
□ 36 – 45 years
□ 46 – 55 years
□ +56 years

46) Education:
□ High School
□ Diploma
□ Bachelor
□ Master
□ Doctorate

47) Household income:
□ SAR 3,000 - SAR 6,000
□ SAR 6,001 - SAR 9,000
□ SAR 9,001 - SAR 12,000
□ SAR 12,001 - SAR 15,000
□ More than SAR 15,000
□ I prefer not to say

Thank you for taking the time to participate in this questionnaire.

Appendix 3: Translator's Certification

Jerusalem Translation
Mohamed El Saafen
Advanced Level (4) Translator
Mobile: (04) 2264 8655
Business Registration No: B1594777Z
Email: saafen1959@gmail.com

17 Hawkesbury Ct.
Thomastown, VIC. 3074
NAATI ID (CPN5LM20K)

TRANSLATOR'S STATEMENT

I, the undersigned Mohamed El Saafen, accredited NAATI Arabic-English, English-Arabic, advanced level (4) translator, hereby certify that the Arabic questionnaire attached hereto is, to the best of my ability, knowledge and belief, a true, complete and correct translation of the original English questionnaire.

Dated: 12 June 2019
Translator Name: Mohamed El Saafen
NAATI ID: (CPN5LM20K)

Appendix 4: Questionnaire (Arabic Version)

VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

عزيزي المشارك/المشاركة

هذا الإستبيان يتعلق بالجانب التطبيقي لإطروحة الدكتوراه التي أقوم بإعدادها حالياً بجامعة فكتوريا بمدينة ملبورن في استراليا. لقد تم تصميم هذا الإستبيان لاكتشاف أهم الأبعاد التي يعتقد أنها قد تؤثر على رضا وولاء العملاء فيما يتعلق بجودة الخدمات المصرفية المقدمة عبر الإنترنت في المملكة العربية السعودية.

كما يهدف هذا الإستبيان إلى أخذ وجهات نظر العملاء لتقييم مستوى جودة الخدمات المصرفية المقدمة عبر الإنترنت. قد يستغرق تعبئة هذا الإستبيان 12 دقيقة تقريباً. ومشاركتك في هذا الإستبيان إختيارية وسوف تكون إجاباتك سرية ولن تستخدم إلا لأغراض البحث العلمي فقط.

تم الحصول على موافقة لجنة أخلاقيات البحوث الإنسانية بجامعة فكتوريا رقم [HRE19-079] لإجراء هذه الدراسة. إذا كان لديك أي إستفسارات، يمكنك الاتصال بسكرتير لجنة أخلاقيات البحوث الإنسانية، مكتب البحوث، جامعة فيكتوريا، صندوق بريد 14428 ملبورن، فيكتوريا 8001، البريد الإلكتروني Researchethics@vu.edu.au أوعن طريق الهاتف +61 (03) 9919 4781

هذا الاستبيان يستهدف الفئة العمرية من 18 عاماً فما فوق، كما أن موافقتك على المشاركة في هذا الدراسة طوعية. للمشاركة في هذه الإستبيان يرجى الضغط على الرابط التالي:

شكرا لكم على تعاونكم

عبد الله آل بن الشيخ
رقم الإتصال: 896952 555 (966)+
البريد الإلكتروني: abdullah.albinalsheikh@live.vdu.eu.au
جامعة فيكتوريا، كلية إدارة الأعمال
ملبورن، أستراليا

القسم الأول: معلومات عامة

1) هل تستخدم الخدمات المصرفية عبر الإنترنت؟
   - o نعم
   - o لا

2) منذ متى وأنت تستخدم الخدمات المصرفية عبر الإنترنت؟
   - o أقل من سنة
   - o من 1 – 3 سنوات
   - o من 3-5 سنوات
   - o أكثر من 5 سنوات

3) كم مرة عادة تستخدم الخدمات المصرفية عبر الإنترنت ؟
   - o يوميا
   - o أسبوعيا
   - o مرة كل شهر
   - o كل 2 – 3 شهور
   - o 2 – 3 مرات في السنة

4) يرجى تحديد الخدمات المصرفية التي تستخدمها لكل حساب بنكي لديك؟ (بالإمكان تحديد أكثر من خيار)

الخدمات المصرفية	البنك الأول	بنك الإنماء	بنك الراجحي	البنك العربي	بنك البلاد	بنك الجزيرة	السعودي الفرنسي	الخليج الدولي	بنك الرياض	السعودي للاستثمار	ساميا	الأهلي	ساب	أخر
زيارة الفرع	o	o	o	o	o	o	o	o	o	o	o	o	o	o
الخدمات الذاتية	o	o	o	o	o	o	o	o	o	o	o	o	o	o
الصراف الآلي	o	o	o	o	o	o	o	o	o	o	o	o	o	o
خدمات الهاتف المصرفي	o	o	o	o	o	o	o	o	o	o	o	o	o	o
الخدمات المصرفية عبر الإنترنت	o	o	o	o	o	o	o	o	o	o	o	o	o	o

5) الرجاء تحديد البنك الرئيسي الذي تستخدمه للدخول على الخدمات المصرفية عبر الإنترنت؟
   - o البنك الأول
   - o بنك الإنماء
   - o بنك الراجحي
   - o البنك العربي الوطني
   - o بنك البلاد
   - o بنك الجزيرة
   - o البنك السعودي الفرنسي
   - o بنك الخليج الدولي
   - o بنك الرياض
   - o البنك السعودي للاستثمار
   - o مجموعة ساميا المالية (ساميا)
   - o البنك الأهلي التجاري (الأهلي)
   - o البنك السعودي البريطاني (ساب)
   - o آخر

6) ما هو الدافع الرئيسي لاستخدام الخدمات المصرفية عبر الإنترنت مع هذا البنك تحديدا؟
   - o لدي حساب مصرفي مع هذا البنك
   - o يقدم هذا البنك خدمات مصرفية جيدة
   - o اسم البنك وشهرته
   - o أخرى

القسم الثاني: اسئلة متعلقة بالبنك الرئيسي الذي تتعامل معه

أ) تهدف العبارات التالية إلى قياس مستوى رضاك عن جودة الخدمات المصرفية عبر الإنترنت في البنك الرئيسي الذي تتعامل معه.

استخدم المقياس التالي للاجابة: 5 = موافق بشدة، 4 = موافق، 3 = محايد، 2 = غير موافق، 1= غير موافق بشدة

العبارة	5 موافق بشدة	4 موافق	3 محايد	2 غير موافق	1 غير موافق بشدة
الكفاءة					
7. الخدمات المصرفية عبر الإنترنت سهلة الاستخدام في هذا البنك.	o	o	o	o	o
8. خصائص الخدمات المصرفية عبر الإنترنت واضحة في هذا البنك.	o	o	o	o	o
9. يمكنني هذا البنك من الوصول للخدمات المصرفية عبر الإنترنت سريعاً.	o	o	o	o	o
10. الخدمات المصرفية عبر الإنترنت منظمة بشكل جيد في هذا البنك.	o	o	o	o	o
توفر النظام					
11. الخدمات المصرفية عبر الإنترنت في هذا البنك متاحة دائماً.	o	o	o	o	o
12. الخدمات المصرفية عبر الإنترنت في هذا البنك تعمل بشكل صحيح.	o	o	o	o	o
13. الخدمات المصرفية عبر الإنترنت نادراً ما تتعطل في هذا البنك.	o	o	o	o	o
14. المعاملات المصرفية عبر الإنترنت في هذا البنك لا تتوقف عند إدخال معلوماتي.	o	o	o	o	o
الإنجاز					
15. ينهي هذا البنك المعاملات المصرفية عبر الإنترنت في الموعد المحدد.	o	o	o	o	o
16. لدى هذا البنك إطار زمني مناسب لإنجاز المعاملات المصرفية عبر الإنترنت.	o	o	o	o	o
17. يمكنني هذا البنك من إنجاز المعاملات المصرفية عبر الإنترنت سريعاً.	o	o	o	o	o
18. ينجز هذا البنك المعاملات المصرفية عبر الإنترنت فوراً.	o	o	o	o	o
الخصوصية					
19. يحمي هذا البنك معلوماتي الشخصية والمالية عبر الإنترنت.	o	o	o	o	o
20. يحمي هذا البنك المعلومات المتعلقة بأنشطتي المصرفية عبر الإنترنت.	o	o	o	o	o
21. لا يشارك هذا البنك معلوماتي الشخصية أو المالية مع طرف ثالث.	o	o	o	o	o
22. يستخدم هذا البنك منصة آمنة لحماية المعلومات عبر الإنترنت.	o	o	o	o	o
الإستجابة					
23. يخبرني البنك بما يجب القيام به إذا لم تنجز معاملتي في الوقت المحدد.	o	o	o	o	o
24. يقوم هذا البنك بمعالجة المشاكل بسرعة وكفاءة عالية.	o	o	o	o	o
25. يشعرني البنك فوراً عن أي عمليات مالية تمت على حسابي المصرفي.	o	o	o	o	o
التعويض					
26. يعوضني البنك عن أي مشكلة يتسبب بها.	o	o	o	o	o
27. يعوضني البنك إذا لم يتم إنجاز المعاملة المصرفية بوقتها المحدد.	o	o	o	o	o
28. يعوضني البنك في حالة حدوث عمليات وهمية على حسابي البنكي.	o	o	o	o	o
الإتصال					
29. يوفر هذا البنك مركز اتصال على مدار الساعة لخدمة العملاء.	o	o	o	o	o
30. البنك لديه موظفين لخدمة العملاء عبر الإنترنت ووسائل التواصل الاجتماعي.	o	o	o	o	o
31. يتيح لي البنك فرصة للتحدث مع ممثلي خدمة العملاء عند وجود مشكلة.	o	o	o	o	o

ب) تهدف العبارات التالية إلى قياس مدى رضاك بشكل عام عن جودة الخدمات البنكية عبر الإنترنت في البنك الرئيسي الذي تتعامل معه.

استخدم المقياس التالي للاجابة: 5 = موافق بشدة، 4 = موافق، 3 = محايد، 2 = غير موافق، 1= غير موافق بشدة

العبارة	5 موافق بشدة	4 موافق	3 محايد	2 غير موافق	1 غير موافق بشدة
32. أشعر بالرضا عن مستوى إنجاز المعاملات المصرفية عبر الإنترنت في هذا البنك.	○	○	○	○	○
33. أعتقد أنني قد اتخذت القرار الصحيح لاستخدام الخدمات المصرفية عبر الإنترنت التي يقدمها هذا البنك.	○	○	○	○	○
34. جودة الخدمات المصرفية عبر الإنترنت في هذا البنك ترتقي لمستوى تطلعاتي.	○	○	○	○	○
25. بشكل عام، أنا راض عن جودة الخدمات المصرفية عبر الإنترنت التي يقدمها هذا البنك.	○	○	○	○	○

ت) العبارات التالية تهدف لمعرفة توجهاتك لمعاودة استخدام الخدمات البنكية عبر الإنترنت في البنك الرئيسي الذي تتعامل معه.

استخدم المقياس التالي للاجابة: 5 = موافق بشدة، 4 = موافق، 3 = محايد، 2 = غير موافق، 1= غير موافق بشدة

العبارة	5 موافق بشدة	4 موافق	3 محايد	2 غير موافق	1 غير موافق بشدة
36. أعتبر هذا البنك إختياري الأول عندما أرغب في استخدام الخدمات المصرفية عبر الإنترنت في المرة القادمة.	○	○	○	○	○
37. استخدمت الخدمات المصرفية عبر الإنترنت لهذا البنك خلال 12 شهراً الماضية.	○	○	○	○	○
38. سوف استخدم الخدمات المصرفية عبر الإنترنت لهذا البنك خلال 12 شهر القادمة.	○	○	○	○	○
39. سوف أستمر في استخدام الخدمات المصرفية عبر الإنترنت التي يقدمها هذا البنك.	○	○	○	○	○

ث) تهدف العبارات التالية لمعرفة تفضيلاتك للعلامة التجارية المالية (حجم العلامة التجارية للبنك).

استخدم المقياس التالي للاجابة: 5 = موافق بشدة، 4 = موافق، 3 = محايد، 2 = غير موافق، 1= غير موافق بشدة

العبارة	5 موافق بشدة	4 موافق	3 محايد	2 غير موافق	1 غير موافق بشدة
40. أفضّل استخدام الخدمات المصرفية عبر الإنترنت التي يقدمها هذا البنك.	○	○	○	○	○
41. يلبي هذا البنك متطلباتي أكثر من البنوك الأخرى خاصة فيما يتعلق بالخدمات المصرفية عبر الإنترنت.	○	○	○	○	○
42. حجم المؤسسة المالية مهم بالنسبة لي لتحديد أختياري للبنك المناسب لاستخدام الخدمات المصرفية عبر الإنترنت.	○	○	○	○	○
43. أفضّل التعامل مع هذا البنك حتى وإن كانت رسوم الخدمات المصرفية عبر الإنترنت أعلى من البنوك الأخرى.	○	○	○	○	○

القسم الثالث: المعلومات الشخصية

44) الجنس
- ذكر
- أنثى

45) العمر
- من 18 – 25 سنة
- من 26 – 35 سنة
- من 36 – 45 سنة
- من 46 – 55 سنة
- أكبر من 56 سنة

46) المستوى التعليمي
- ثانوي
- دبلوم
- بكالوريوس
- ماجستير
- دكتوراه

47) الدخل الشهري
- من 3000 إلى 6000 ريال سعودي
- من 6001 إلى 9000 ريال سعودي
- من 9001 إلى 12000 ريال سعودي
- من 12001 إلى 15000 ريال سعودي
- أكثر من 15000 ريال سعودي
- أفضل عدم الإجابة

شكرا لمشاركتكم في هذا الإستبيان

Appendix 5: Information to Participants

VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

INFORMATION TO PARTICIPANTS INVOLVED IN RESEARCH

You are invited to participate

You are invited to participate in a research project titled: Online Banking Quality and its influence on Customer Satisfaction and Loyalty in Saudi Arabia. This thesis is being conducted by a student researcher, Abdullah Albinalsheikh, as part of a Doctor of Business Administration (DBA), at Victoria University under the supervision of Dr Leanne White from the Victoria University Business School.

Project explanation

This research will investigate and analyse the quality of online banking service and its impact on customer satisfaction and loyalty to banking institutions in Saudi Arabia. A contemporary model has been developed based on theories supporting a variety of dimensions that are concerned with the quality of online banking. This model corresponds with research questions that test the scope of this model. The aim is to understand and correlate the results which could be useful for the Gulf Cooperation Council (GCC) nations and other developing countries, utilising both quantitative and qualitative approaches to obtain more reliable findings.

What will I be asked to do?

The interviewer wishes to conduct face-to-face interviews with participants who meet the criteria. During the interview, you will be asked a series of questions about high-quality online banking and how it will affect customer behaviour, which will prompt you to respond based on your knowledge and experience. This research particularly interested in how eServices are deemed to be an example of quality services and how they affect customer behaviour. Questions will revolve around issues quality, online banking, customer satisfaction, and customer loyalty. The researcher will take notes during the interview and the researcher will transcribe these later. You will also have the opportunity to review the text of the interview and edit your contribution if you so wish. If you agree to participate in the study, please send the approved e-mail form to Abdullah Albinalsheikh, who will contact you to arrange the date and time for the interview.

What will I gain from participating?

The researchers cannot promise you any personal benefit from participating in this research, but It is hoped that your participation and contribution will potentially lead to improvements in understanding how the quality of online banking services will affect customer behaviour in Saudi Arabia.

How will the information I give be used?

The information collected will be presented in the form of a written thesis to be submitted as part of the researcher's DBA. You will not be identified in the written thesis. Also, the results of this research may be presented in academic journal or conference. If you decide to participate in this study, you will be able to review your contribution transcripts prior to release if required. You may also be provided with a summary of the findings once the study is completed if you choose the requested.

What are the potential risks of participating in this project?

There is a social risk might be associated with this research as interviewees could be received some risk from their banks, but the risk has mitigated in this research. Thereby, all participant data collected will be de-identified; therefore, there will be no link between their identifies and contributions. Also, the individual respondents will not be identified, hence there will be no link between individual respondents and bank's name. Moreover, the data collection will be stored on a secure server. Furthermore, all participants have a right to review their contributions and withdraw if

necessary. It is hoped participant contributions will lead to improvements in the understanding of how the quality of online banking services will affect customer behaviour in Saudi Arabia. Thereby, the research's recommendations might help the Saudi banks to improve the quality of online banking services.

How will this project be conducted?

In this research the validity of the study will be enhanced by applying a mixed methodology, which involves both qualitative, and quantitative techniques. Moreover, the testing of hypotheses will be achieved through employing a conclusive research design that considers a large sample size, i.e. nationwide Saudi Arabian banking customers. This will help to achieve more generalisable findings so that reliable results can be documented, which could then be applied to policymaking guidelines for Saudi Arabian Monetary Authority (SAMA). The conclusive research design chosen will be descriptive and entail both qualitative and quantitative methodologies. It is deemed to be the most appropriate strategy to use because it enables the researcher to obtain accurate results with less bias and error and through use of clearly defined objectives. A mixed methodology increases the reliability of a study. The survey questionnaire method will be used for the quantitative approach while the semi-structured interviews will serve as the qualitative approach. The research will utilise embedded data for the mixed methods approach; specifically, the qualitative data collection will be embedded in the overall collected quantitative.

Who is conducting the study?

Dr Leanne White	Dr Maxwell Winchester	Abdullah Albinalsheikh
Chief Investigator	Associate Investigator	Student
Office: (03) 9919 1980	Office: (03) 9919 4618	Office: (03) 9919 6100
Mobile: (04) 0936 3151	Mobile: (04) 0151 0200	Mobile:(04) 8176 8424
Email: leannek.white@vu.edu.au	Email: maxwell.winchester@vu.edu.au	Email: abdullah.albinalsheikh@live.vu.edu.au

Any queries about your participation in this project may be directed to the Chief Investigator listed above.

Thank you for considering this invitation

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.

Appendix 6 Consent Form for Participants

VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

CONSENT FORM FOR PARTICIPANTS INVOLVED IN RESEARCH

INFORMATION TO PARTICIPANTS:

We would like to invite you to be a part of a study into online banking quality and its influence on customer behaviour in Saudi Arabia, specifically in terms of customer satisfaction and loyalty. This study will employ a mixed methodology approach to ensure the results will be more reliable. Also, this research will provide recommendations for policymakers to improve the quality and performance of online banking services. This study will contribute to the literature on quality of eServices not only in Saudi Arabia but also in other countries.

CERTIFICATION BY PARTICIPANT

I, _____ certify that I am at least 18 years old and I am voluntarily giving my consent to participate in the study: Online banking Quality and its influence on Customer Satisfaction and Loyalty in Saudi Arabia being conducted at Victoria University by: Dr Leanne White.

I certify that the objectives of the study, together with any risks and safeguards associated with the procedures listed hereunder to be carried out in the research, have been fully explained to me by Abdullah Albinalsheikh and that I freely consent to participation involving the below mentioned procedures:

- Permitting the researcher to have my contact phone number and email address.
- Participating in face- to- face interview and allowing it to be recorded.
- Allowing the researcher to use the information provided by me for his DBA thesis.

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and this withdrawal will not jeopardise me in any way.

I have been informed that no personally identifiable information will be associated with my responses and all information will be used for academic purpose only.

Contact Number: _____

Email: _____

Signature: _____

Date: / /

Any queries about your participation in this project may be directed to the researchers

Dr Leanne White	Dr Maxwell Winchester	Abdullah Albinalsheikh
Chief Investigator	Associate Investigator	Student
Office: (03) 9919 1980	Office: (03) 9919 4618	Office: (03) 9919 6100
Mobile: (04) 0936 3151	Mobile: (04) 0151 0200	Mobile:(04) 8176 8424
Email: leannek.white@vu.edu.au	Email: maxwell.winchester@vu.edu.au	Email: abdullah.albinalsheikh@live.vu.edu.au

Appendix 7: Qualitative Survey Instrument

VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

Interview Questions

Online Banking Quality and its Influence on Customer Satisfaction and Loyalty in Saudi Arabia

Interviewee Information:

Interview No:	**Bank Name:**
Position Title:	**Qualification:**
Years of Experience:	

Question:

1. Does your bank apply any particular procedures to improve the quality of online banking services?
2. How does your bank evaluate the quality of online banking services?
3. From customers' perspectives, the results of this study showed that the most significant quality dimensions in context of the online banking services were (1) Fulfilment, (2) System available, (3) Efficiency, (4) Privacy, (5) Responsiveness, (6) Compensation and (7) Contact, Do you think that these dimensions have essential affect customer behavior?
4. Does your bank have specific methods to measure customer satisfaction in the context of online banking quality?
5. What are communication channels that your bank provides to get the feedback from the customers regarding online banking services?
6. Does your bank have a specific timeframe to resolve customers' troubles with online banking services?
7. Do you think that the brand size of financial institutions affects customer loyalty in relation to online banking services?
8. Does your bank apply any particular procedures to enhance brand image, specifically in the online banking services context?
9. Do you think that the brand size of banks might impact customers prefer to use online banking services? If yes, what is the main reason that attracts customers to deal with particular bank?
10. What are the other factors that affect customer satisfaction and loyalty in the Saudi banking sector, that not mentioned in this study?
11. Do you have any suggestions for the Saudi banks that might lead to improve the quality and efficiency of online banking services?
12. To conclude, what policies should be implemented by the Saudi Arabian Monetary Authority that could lead to improve the performance and quality of online banking services in Saudi Arabia?

Appendix 8: Translator's Certification

Jerusalem Translation
Mohamed El Saafen
Advanced Level (4) Translator
Mobile: (04) 2264 8655
Business Registration No: B1594777Z
Email: saafen1959@gmail.com

17 Hawkesbury Ct.
Thomastown, VIC. 3074
NAATI ID (CPN5LM20K)

TRANSLATOR'S STATEMENT

I, the undersigned Mohamed El Saafen, accredited NAATI Arabic-English, English-Arabic, advanced level (4) translator, hereby certify that the Arabic interview questions attached hereto is, to the best of my ability, knowledge and belief, a true, complete and correct translation of the original English interview questions.

Dated: 12 June 2019
Translator Name: Mohamed El Saafen
NAATI ID: (CPN5LM20K)

Appendix 9: Qualitative Survey Instrument (Arabic Version)

VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

أسئلة المقابلة الشخصية

أثر جودة الخدمات المصرفية المقدمة عبر الإنترنت على رضا وولاء العملاء بالمملكة العربية السعودية

معلومات المشارك

رقم المقابلة: اسم البنك:

المسمى الوظيفي: عدد سنوات الخبرة:

المؤهلات العلمية:

الأسئلة:

1- هل لدى البنك إجراءات معينة لتحسين الجودة المستمرة للخدمات المصرفية المقدمة عبر الإنترنت؟

2- ماهي الاجراءات التي يتبعها البنك لتقييم مستوى جودة الخدمات المصرفية المقدمة عبر الإنترنت؟

3- من وجهة نظر العملاء، أظهرت نتائج هذه الدراسة بأن أهـــم أبعاد الجودة في إطار الخدمات المصرفية المقدمة عبر الإنترنت والتي تؤثر على رضا العملاء هي: (1) الانجـــاز (2) الكـفاءة (3) توفـر النظام (4) الخصوصية (5) سـرعة الاستجابة (6) التعويض (7) الاتصال. هل تعتقد بأن هذه العوامل تؤثر على رضا العملاء في السوق السعودية؟

4- ماهي الأساليب التي يعتمدها البنك لقياس رضا العملاء عن جودة الخدمات المصرفية المقدمة عبر الإنترنت؟

5- ما هي قنوات الاتصال التي يوفرها البنك للاستماع إلى تجارب العملاء فيما يتعلق بالخدمات المصرفية المقدمة عبر الإنترنت؟

6- هل لدي البنك أطار زمني محدد لحل المشاكل التي تواجه العملاء أثناء استخدم الخدمات المصرفية المقدمة عبر الإنترنت؟

7- هل تعتقد أن حجم العلامة التجارية للمؤسسات المالية (البنوك) يؤثر في مدى ولاء العملاء في سياق الخدمات المصرفية المقدمة عبر الإنترنت؟

8- هل يقوم البنك بتطبيق أي إجراءات معينة لتعزيز الصورة الذهنية للعلامة التجارية للبنك، في سياق الخدمات المصرفية المقدمة عبر الإنترنت؟

9- هل تعتقد بأن حجم العلامة التجارية للبنك تؤثر على تفضيلات العملاء لاستخدام الخدمات المصرفية المقدمة عبر الإنترنت؟ وإذا كان الجواب بنعم، ما هي الدوافع التي تجذب العملاء للتعامل مع بنك معين؟

10- ماهي ابعاد الجودة التي قد تؤثر على رضا وولاء العملاء في قطاع البنوك السعودي والتي لم يتم ذكرها في هذه الدراسة؟

11- ماهي الإجراءات المقترحة للبنوك السعودية والتي قد تساهم في تحسين جودة وكفاءة الخدمات المصرفية المقدمة عبر الإنترنت؟

12- في الختام، هل لديك أي مقترحات تقدم لمؤسسة النقد العربي السعودي تساهم في تطوير السياسات المتعلقة بجودة وكفاءة الخدمات المصرفية المقدمة عبر الإنترنت في المملكة العربية السعودية؟

شكرا لكم على تعاونكم

Appendix 10: Common Method Bias

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	Percentage of Variance (%)	Cumulative Percentage (%)	Total	Percentage of Variance (%)	Cumulative Percentage (%)
1	13.569	36.674	36.674	13.569	36.674	36.674
2	2.609	7.051	43.725			
3	1.943	5.251	48.976			
4	1.866	5.045	54.021			
5	1.610	4.351	58.372			
6	1.365	3.689	62.060			
7	1.187	3.209	65.269			
8	1.068	2.885	68.155			
9	0.857	2.315	70.469			
10	0.791	2.138	72.607			

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	Percentage of Variance (%)	Cumulative Percentage (%)	Total	Percentage of Variance (%)	Cumulative Percentage (%)
11	0.763	2.063	74.670			
12	0.693	1.874	76.543			
13	0.687	1.856	78.399			
14	0.588	1.590	79.990			
15	0.586	1.584	81.574			
16	0.516	1.394	82.968			
17	0.511	1.382	84.350			
18	0.499	1.350	85.700			
19	0.463	1.251	86.951			
20	0.438	1.183	88.134			
21	0.403	1.090	89.224			
22	0.385	1.039	90.263			

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	Percentage of Variance (%)	Cumulative Percentage (%)	Total	Percentage of Variance (%)	Cumulative Percentage (%)
23	0.370	1.001	91.264			
24	0.353	0.955	92.219			
25	0.335	0.906	93.125			
26	0.307	0.830	93.954			
27	0.291	0.787	94.741			
28	0.259	0.700	95.441			
29	0.245	0.662	96.103			
30	0.236	0.638	96.741			
31	0.226	0.611	97.353			
32	0.201	0.544	97.896			
33	0.191	0.517	98.413			
34	0.168	0.454	98.866			

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	Percentage of Variance (%)	Cumulative Percentage (%)	Total	Percentage of Variance (%)	Cumulative Percentage (%)
35	0.154	0.417	99.283			
36	0.138	0.373	99.656			
37	0.127	0.344	100.000			

Note: Extraction method: principal component analysis.