# Investigating the Factors Affecting Customers' Trust and Acceptance of Online Banking: The Case of Saudi Arabia

**This Thesis is submitted for the Degree of Doctor of Philosophy**


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# Abstract

The need for online banking technology in the banking industry is important to allow financial institutions to serve their customers worldwide, without having the need to be present in person or face-to-face to benefit from the service. Despite the investment in informational technology and information system infrastructure by Saudi Arabian financial institutions, the Saudi banks have lagged their Western counterparts when it comes to provision of online banking services. Given a relatively recent adoption of online banking in Saudi Arabia, consumer trust in online banking is a critical challenge facing bank managers, warranting further research.

The aim of this research is to develop a framework to improve consumer trust toward online banking services and its affect consumer intentions to use the online banking service and e-WOM. The literature included the assessment of relevant theories including social cognitive theory, technology acceptance model and commitment trust theory. These theories formed the basis of formulation of research framework, including development of 12 research hypotheses. Perceived usefulness, perceived ease of use, relationship termination cost, shared value, communication, privacy and demographic factors all have an important role in influencing the extent of trust and the subsequent intention of customers to engage in and use online banking services provided by the financial institutions.

When it comes to the literature gap, there remains a relative lack of existence of research on the subject of consumer trust in online banking within Saudi Arabia (Zhou, 2012; Alanezi and Brooks, 2014; AL-Malkawi et al., 2016), which presents a gap in the literature warranting further research. Moreover, most of the prior research on the subject of consumer trust in online banking has concentrated on the information cues such as reputation and information quality (Montazemi and Qahri-Saremi, 2015). This is alongside relatively little attention given to other factors such as perceived usefulness, ease of use, shared value, and privacy/security, which are crucial factors in online banking services (Fatima, 2011; Aloul., 2012; Montazemi and Qahri-Saremi, 2015).

Regarding methodology, the positivist research philosophy, deductive approach, survey questionnaire and quantitative data collection and analysis techniques were undertaken. A key rationale for selection of such a methodology is the review of relevant literature, which led to development of research hypotheses that are tested through the survey technique, which is consistent with positivist and deductive research approach. The survey questionnaire request was sent online to 800 research participants (users of online services in Saudi Arabia). Out of these 800, 585 responded (indicating a response rate of an impressive 73%). The response rate was improved through giving regular reminders to the research participants who had not responded to the survey earlier.

The findings of this research support the argument that trust in e-bank website play an important role in maintaining long term relationship with customers. Therefore, online banks who deal with their customers in a confidential, transparent and honest manner and ultimately protect the consumers' interests are likely to contribute to greater adoption of online banking by customers in Saudi Arabia. Furthermore, it is also concluded that perceived ease of use, trust in online banking website, trust in technology, relationship termination cost, privacy/security, shared value, and communication have positive and significant effect on customer trust in e-bank website, intention to use online banking, and e-WOM.

# Dedication

By the blessings of Almighty Allah I was capable to achieve this doctoral research. I dedicate my doctoral research to my loving family, for their praise and unwavering support. A special feeling of gratitude to my parents, the greatest mother Loloah who I unfortunately lost through my PhD, I will forever feel her warm embracing support, prayers and blessings with me, may Allah rest her soul in peace in Jannah and my precious father Abdullah for being my supporting pillar who I may lean on at all times, his continuous love, compassion and prayers which light up my life. My Siblings, Meshael, Hossam, Omar, Manar, Rakan, Lana and Tala who never left my side and are very dear. Also, very special thanks to my uncle Abdulaziz Aljasser for his full support and encourgment. Without the grace of Almighty Allah and then my amazing family's encouragement, support and prayers, I would not have been able to accomplish this great achievement.

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# Declarations

I hereby declare that the thesis is based on my original work, except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Brunel University or other institutions.

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## Abbreviations:

| | |
|---|---|
| **COM** | Communication |
| **DOI** | Diffusion of Innovation Theory |
| **EOU** | Perceived ease of use |
| **EWOM** | eWord of mouth |
| **INT** | Intention to use online banking |
| **MM** | Motivational Model |
| **MPCU** | Model of PC Utilisation |
| **MTR** | Model of Trust and Risk |
| **PEOU** | Perceived Ease of Use |
| **PSC** | Privacy/Security |
| **PU** | Perceived Usefulness |
| **SCT** | Social Cognitive Theory |
| **SHV** | Shared value |
| **TAM** | Technology Acceptance Model |
| **TPB** | Theory of Planned Behaviour |
| **TRA** | Theory of Reasoned Action |
| **TRB** | Trust in bank |
| **TRC** | Relationship termination cost |
| **TRT** | Trust in technology |
| **TRW** | Trust in online banking website |
| **USF** | Perceived usefulness |
| **UTAUT** | Unified Theory of Acceptance and Use of Technology |

# Chapter 1: Introduction

## 1.1 Research Background

The new financial system refers to the increased interconnectedness of the global economy and finanical markets, which has been made possible through development of capital markets alongside technological advancements (Beck *et al.,* 2014). Internet is the driving engine of the new economy and has given birth to online banking, a new and increasingly popular way of banking for most customers (Mukherjee and Nath, 2007). Online banking for customers refers to several types of banking activities through which bank customers can get information and carry out most retail banking services. Online banking services such as balance reporting, inter-account transfers, bill payment can be done by the bank customers simply through a telecommunication network without leaving their homes or offices (Sathye, 1999; Sudhan and Varadharajalu, 2012).

The usage of online banking provides information as well as services through network or telecommunications technologies, leading to establishment of digital value (Kim *et al,* 2010). Due to the fact that banking services provide information to users alongside serving the customers' financial needs (Woldie et al, 2008) and can be easily automated (Peppard et al., 2014). Most banks consider the technology of online banking as a means for customers trust and satisfaction, and service quality improvement (Robinson, 2000; Miguel-Dvila et al, 2010). Online banking technology is relatively novel and has been around for a little over few decades (Biemans et al., 2016) and several online banking descriptions have been cited in the literature. Nevertheless, banking technology researchers and practitioners (e.g., Martins et al, 2014; Montazemi and Qahri-Saremi, 2015; Shanmugam et al., 2015,) agree that the concept of online banking technology refers to the system that enables banks to offer their customers access to their accounts to transact business and obtain information via electronic communication channels; these channels are, Telephone banking, Home banking, Automated Teller Machines ATMs and Internet banking.

The need for the online banking technology in the banking industry is important in order to allow the financial institutions to serve their customers worldwide, without having the need to be present in person or face-to-face to benefit from the service. According to (Ismail and Osman 2012), traditional banking methods (e.g., back office processes and tasks such as: file

details of bank customers, process paperwork, sorting cheques and cash handling, from both the bank and customers' perspective) has become the most costly way to engage in banking transactions. In addition, Nasir et al. (2015) stated that the complex requests of bank customers such as, bill payments, cash withdrawals, loan applications and cheque clearings was huge task for traditional banks, thus there was a clear need for customers to trust and accept technology to automate back office duties. According to Beatty and Liao (2014), the use of computer systems in the banking industry enable banks to transfer, record and store financial information inexpensively, thus the overall result will help to drive a reduction in banking costs.

Schueffel and Vadana (2015) argue that the fundamental reasons for the online banking technology are the transactions-processing cost and time savings. It has been proven that online banking technology is the cheapest delivery channel for banking products once trusted and accepted (Laukkanen, 2016). Moreover, the technology creates new market places and opportunities for banks. It reduces physical trade difficulties, increases market access and trade efficiency (Schueffel and Vadana, 2015). From the customer's perspective, the online banking system has additional convenience, functionality and accessibility (Kundu and Datta, 2014). Bank customers argue that branch banking takes much more time and efforts, and the costs of banking services are dramatically reduced when they are accessed through online banking channels compared to at a branch (Jamshidi et al., 2014).

Trust in online banking is a new and emerging area of interest in the field of management research. The trust in online banking technology varies from one culture to another across the world. For example, the trust and acceptance level of online banking technology in USA, Western Europe and Asian Pacific countries seems very high, whereas in developing countries it is very low especially in the Arab region (Nasir et al., 2015). Banks in developing countries have recently acknowledged the benefits of online banking technology in improving their productivities, efficiencies and customers trust.

However, some banks in developing countries such as Saudi Arabia have struggled to provide their customers with online banking technology within its existing banking system (Abukhzam and Lee, 2010). This is not primarily because they are unable to afford the technology, but rather, are due to customer's trust and acceptance factors preventing them from trusting IT in general, and online banking technology in particular (Schueffel and Vadana, 2015). Arabic academic researchers (e.g. Abukhzam and Lee, 2010; Abduljalil and

Zainuddin, 2015) pointed to a mixture of lack of basic technological infrastructure, low level of computer literacy and education, lack of technology trust and awareness among bank customers and IT language differences have all been found to make online banking unattractive in developing countries in general and Saudi Arabia as Arab country in particular.

Extant literature on online banking is scarce and focused on more general issues. In a case study, Jamshidi et al. (2014) examined electronic payment systems and discussed laws supporting electronic payment systems, risk reduction measures and change management issues. Martins et al. (2014) explored intention to use Internet banking services through attitude, subjective norms, and behavioural controls. Dauda and Lee (2015) studied the relationship between innovation attributes (relative advantage, ease of use, compatibility, image, voluntariness, trialability, etc.) and online banking adoption. Hanafizadeh et al. (2014) examined online banking issues, like culture of innovation, market share, organizational restrictions and customer acceptance from the perspective of Internet managers in companies. Nasir et al. (2015) examined behavioural issues pertaining to online banking, such as satisfaction, word-of-mouth; repurchase intentions, price sensitivity, propensity to complain, and switching barriers. Montazemi and Qahri-Saremi (2015) studied the effects of ease of use, perceived usefulness, social influence, trust in the online banking and trust in the physical bank on adoption of online banking. In a comprehensive study, Thakur and Srivastava (2015) identified the drivers, development challenges and expectations of online banking by studying both IT managers and bank customers.

The review of the above literature illustrates that the research on online banking has mostly included qualitiative research and analysis. Furthermore, the existing research has investigated the online banking as a phenomenon and a logical process but not taken into consideration the online banking as a model with a set of inputs and outputs. In addition, another limitation of the existing research studies is that they have been highly specific and only dealt with the best practice case studies without sufficient theoretical background.

Prior research studies have primarily concentrated on technology adoption from the individuals within organisational structure- bank managers and their employees - and limited consideration has been given to the individuals outside the organisational structure – bank customers. Thus, most studies have covered the trust and acceptance in online banking and related factors rather broadly from the customer’s point of view and little detailed attention

has been paid to the factors that influence the online banking trust and acceptance from the perspective of bank customer (Dauda and Lee, 2015; Montazemi and Qahri-Saremi, 2015). Therefore, perception and attitude of bank customers about the trust and acceptance of online banking present a gap in the literature, which would be studied in this research.

Until now there has not been any substantial research undertaken on consumers trust toward banks websites in Arab countries in general and particularly in Saudi Arabia which has a unique economic and social system. This research is one of few studies to use bank customers' perception and requirements in attempts to understand trust and acceptance in online banking technology. Furthermore, this study will use questionnaire based evidence in attempt to understand the perceptions and different views of bank customers' towards online banking technology if it is provided within the existing banking system in Saudi Arabia.

According to Touati (2008), Saudi Arabia banks are currently using the very basic electronic system to provide their customers with banking services and customers struggling to do their banking transactions. It will be of interest to determine whether online banking technology will be accepted and trusted by Saudi Arabia bank customers' if it is provided by Saudi Arabia banks within their banking system.

The improvement of modern and reliable banking systems is essential for customers' trust and acceptance in Saudi Arabia's banking development (IMF, 2006). Online banking technology is essential to bank customers' in modern banking business, lowering functional costs and time saving, and many banks worldwide have been highly successful at adopting and utilising online banking to provide efficient banking services to their customers (Freeman, 1996). In contrast, online banking technology has not yet found its way to Saudi Arabia banking sector (Saudi Arabia investment, 2008). Basic electronic banking facilities, such as automated teller machines(ATMs), telephone banking are not yet widely available in Saudi Arabia and more interestingly, Saudi Arabia banks are still relying on basic banking methods to undertake their daily banking activities (Touati, 2008). The increasing demand from the international banking community is placing significant pressure on Saudi Arabia banks to be electronically ready especially in online banking technology as it is shorten the long distance (Saudi Arabia investment, 2007). The long geographical distance between Saudi Arabia banks has also created a pressure for connecting banks headquarters with their branches online, rather than handling cash and papers manually (Touati, 2008).

Therefore, the need of this research and the development of the technology trust framework can be justified by the following points:

1- Many banks in the Arab regions are about to offer their customers with a wave of online banking technology from developed countries (Kamel & Hassan, 2003; Hassan, 2008).
2- However, they need to understand how Western-have developed technologies such as online banking technology. They also need to understand how online banking technology is perceived on Arabic culture, and what factors influencing such culture to trust and accept such technology.
3- The intensive investigation conducted through the literature review could not identify any similar research or a framework that could assist with bank customers' trust and acceptance of online banking technology in developing countries in general, and Saudi Arabia as Arab country in particular, which explains clearly the uniqueness and novelty of this empirical study. Thus, the following sup-sections outline both uniqueness and novelty of the research.
    - Uniqueness: Through the literature review there has been no empirical studies conducted on online banking in Saudi Arabia to investigate and document the main factors that impact on Saudi Arabia customers' trust and acceptance of online banking and to provide an appropriate framework and guidance for improving the Saudi Arabia customers trust to trust and accepting of online banking technology.
    - Novelty: Novelty refers to the quality of being new, or novel. It refers to something that is unusual or innovative;

      -Personal Interest: It is important that you choose a topic in which you are likely to do well and, if possible, already have some academic knowledge (Saunders et al, 2000).

      - Sector Interest: The proposed framework could be used by policy makers, banking managers, and banking sector when considering national and business strategic plans. The identification of potential barriers and difficulties facing customers trust and accepting online banking is also of benefit to academics, new researchers, and training programmers.

## 1.2 . Internet Banking in Saudi Arabia and the Role of Demographic Factors

Initially, some of the Saudi banks adopted the internet as merely another distribution channel because they just wanted to keep up with the changes in the market. However, the hype of e-commerce soon began, and the banks realised the potential growth in this market. Hence, many banks started aggressively marketing the internet as the way to do business. In the last few decades with the advent of the Internet and as it began to be incorporated into the services provided by the financial institutions, Saudi banks were seeking to improve their relationship with the customers by delivering information, news, knowledge, and promotions to them (Sohail and Al-Jabri, 2014). Internet penetration leading to online banking (OB) penetration cannot always be guaranteed. Abed et al. (2015) investigated the adoption of OB penetration and found that the rate of adoption of the internet has varied among different banks in Saudi Arabia. Generally, two classes of internet use in financial institutions can be identified in two categories: information presentation and transaction banking (e.g. electronic payments) (Abed et al., 2015).

Information may be provided in connection with one- or two-way communication. Two-way communication allows the customers to send electronic mails (e-mails) to the server in order to ask for further information or make suggestions with respect to the internet site (Ezzi, 2014). The second class is when banks use the internet for transactional purposes; i.e. as a proper delivery channel. This refers to when a customer can conduct online every service that they would be able to conduct offline, whether that is through the branch, ATM, or telephone. At this level, customers are provided with a range of banking services, such as retrieving account information, bill payment and money management services 24 hours a day, 7 days a week.

Some banks go for the completely virtual strategy. According to the Internet World Stats (Internet World Stats, 2015), the Saudi Arabia internet penetration rate is high and increasing rapidly (65.9 %). Out of a population of 27.7 million, 18.3 million are regular internet users. Moreover, the number of internet users increased by 51% between 2010 and 2015. However, only 44% of internet users have adopted internet banking (World Bank, 2017). The internet banking has been available in Saudi Arabia only since 2001 (Alsheikh and Bojei, 2014). Despite the existence of the laws on the Internet banking for almost 16 year period now, there has been a relative lack of progress from the organisations to appropriately implement the

laws around online banking (Alsheikh and Bojei, 2014). In addition, banks that offer Internet banking in Saudi Arabia face cultural challenges.

The infrastructure support for internet and internet banking is also relatively new or in a development process which increases the challenges. In the Saudi Arabian financial infrastructure, there are often numerous integrated applications, available across local, wide area, and public networks. The introduction of the internet has added to the uncertainties of maintaining a secure environment. According to a study conducted by Sharma et al. (2015) in Saudi Arabia, internet banking penetration was 31% among 1,500 internet users and 23% were using internet but not using internet banking, though these users intended to use internet banking services in the future (Sharma et al., 2015). This potential is beneficial because it implies an increase in the money movement velocity. This, in turn, results in more money being available in an economy, which can translate to real economic growth and to increases in the standard of living (Alsheikh and Bojei, 2014).

Online banking customers depend on internet technologies for instant access to their financial services and information purposes. The security of these resources is currently the subject of significant focus. To have competitive, efficient, and secure online banking, institutions must adopt policies, standards, and procedures that allow the business to function well and protect information assets. Saudi banks need to operate at or above the service level of successful domestic and international competitors in order to enhance their competitiveness and ability to compete with foreign financial institutions in the increasingly competitive landscape. However, without specific technical and policy restraints, the internet allows unregulated data to flow across any national border. This runs the risk of abuse from known or anonymous sources. As a result, Saudi Arabian financial institutions must provide a sufficient level of protection and enforce a range of regulations and policies (Dalwai et al., 2015).

People's demographic characteristics are important factors influencing their consumer behaviours. Gender, age, income, occupation, and education, for example, can influence decision making at every step in the process (Desai and Desai., 2017; Szopiński., 2016; Hussain Chandio et al., 2017).

Gender is considered a fundamental demographic feature, as males and females have many different needs associated with their biological structure, ranging from simple products to highly complex services. An association has long been recognized between the process of consumption and sex or gender, so it is understandable that consumer researchers often examine the effects of these variables on consumer behaviours (Palan 2001; Szopiński., 2016). Peter and Olson (2008) reported extensive evidence that male and female differ in

more than mere physical respects. For instance, they may process information differently. Women seem to be more generous, more nurturing, and less dominating than men. For some marketing purposes, gender differences may be significant enough to consider the two sexes as separate subcultures (Schiffman et al., 2008; Szopiński., 2016). This may be why many products are either exclusively or strongly associated with the members of one gender.

Age is another important demographic factor that influences consumer behaviour (Engel et al. 1995; Solomon, 2004; Schiffman et al., 2008; Hussain Chandio et al., 2017). As people age, their needs, preferences and thinking change, often similarly to those of peers in the same age group (Solomon, 2004). Age, in many different situations, dictates what particular goods and services a customer wants, needs, and eventually buys. Therefore, age grouping is a useful basis for both understanding associated members and tailoring marketing approaches to particular segments (Blackwell et al., 2006; Szopiński., 2016). Flavián et al. (2006) found that sex and age are factors that influence consumers' decision as to which bank to deal with via the Internet.

Education background can also have prominent effects on consumer behaviour. A person's education impacts the way in which they make decisions (Solomon et al., 2006). There is evidence that less educated people have less information on brands, prices, and alternative products and services than more educated people (Kotler and Armstrong 2006; Szopiński., 2016). One reason for this is that less educated people often lack the means to engage in comparison shopping. Such people also may lack information channels such as Internet access, and so have fewer information opportunities (Schiffman et al. 2008). The education level of the targeted market needs to be considered by marketers, as it has the potential to influence associated perspectives of marketing efforts (Solomon, 2004; Szopiński., 2016).

Income is another important factor that can affect consumer behaviour. According to Peter and Olson (2005:336), "people at different income levels tend to have quite different values, behaviours, and lifestyles". Obviously, people with a higher income level have greater purchasing power (Assael, 2004). Consumers with more disposable income tend to purchase more expensive products than people who have more limited means. They will also be likely to adopt innovations more quickly than those who are less well off, as the latter have less room for error in their purchases (Roger, 1995; Szopiński., 2016). Therefore, the present study investigates the moderating influence of these demographic factors on the relationship between trust in e-bank website, intention to use online banking services, and positive WOM.

## 1.3 Research Motivations

Online banking technology is essential to bank customers' in modern banking business, lowering functional costs and time saving, and many banks worldwide have been highly successful at adopting and utilising online banking to provide efficient banking services to their customers (Martins *et al.*, 2014). Although the financial institutions in Saudi Arabia have taken initiatives to adopt online banking technology and make it available to customers, further technological and infrastructure related investment is required (Al-Malkawi et al., 2016).

The increasing demand from the international banking community is placing significant pressure on Saudi Arabian financial institutions to be ready from electronic perspective, especially in light of advancements in the contemporary online banking environment. The long geographical distance between Saudi Arabian banks has also created a pressure for connecting banks headquarters with their branches online, rather than handling cash and papers manually (Dalwai et al., 2015). Therefore, the need of this research and the development of the technology trust framework can be justified based on the following:

1- Many banks in the Arab regions are about to offer their customers a range of online banking services premised upon the online banking technology in use within developed countries (Sohail and Al-Jabri, 2014).

2- There is a need for financial institutions in Saudi Arabia to understand how Western financial institutions developed technologies such as online banking technology. The Saudi financial institutions also need to understand how online banking technology is perceived on Arabic culture, and what factors influencing such culture to trust and accept such technology.

3- The review of the literature could not identify any similar research or a framework that could assist with bank customers' trust and acceptance of online banking technology in developing countries in general, and Saudi Arabia in particular, which illustrates the uniqueness and novelty of this empirical study.

## 1.4 Research Problem

This research investigates the research problems through a study of the profile of e-shoppers and the antecedents of their trust in e-bank websites for online banking services (known as 'e-banking). Specifically, this research identifies the driving factors and concerns that stimulate Saudi Arabia Internet users to trust e-banking websites. Understanding consumers' incentives to shop online is critical in the development of an e-marketing strategy and for its long-term success.

Trust is crucial for any business relationship (Palvia, 2009; Wang et al., 2015), and it plays a critical role in m-commerce, because it reduces uncertainty (Gu et al., 2009; Li & Yeh, 2010; Wang et al., 2015). In the same way, building users' initial trust is essential for mobile banking service providers (Zhou, 2012). There are different factors that affect customer's trust in online banking. Some of them are privacy, security, shared value, task characteristics, social influence and risk perception. Regarding trust in e-commerce, Kim and Benbasat (2006) stated that the adequate construction of trust-assurance arguments, which are disclosed on websites, is another factor that affects customers' trust. Their empirical results confirm this assumption. The same reasoning is applied to internet banking: banks need to provide customers with compelling arguments in order to establish trust and acceptance of this technology. Thus, the environment in which people live can modify the relationship between trust in online banking websites and the factors already identified by literature, which motivated the development of this study with Saudi Arabia respondents. Customers need to trust in online banking services to use it. Viruses and Trojan horses may exist in online banking too; so, these problems increase users' concern about payment security, and decrease their trust in banks websites, which, in turn, can affect their usage intention and behavior (Zhou, 2012). In the relationship between customers and online banking use, if trust is not present, there is no adoption and no use of this technology (Zhou, 2012).

Jarvenpaa et al. (2000) emphasize the need to account for the concept of trust in the context of e-commerce. By adding trust to the UTAUT model, Riffai et al. (2012) find strong evidence for the role of trust in affecting intention. According to Gefen et al. (2008), trust serves as a basis for adopters' decisions to use new technologies. Indeed, trust is considered as a focal concept in uncertain and risky situations (Zhou, 2011) such as Internet banking because of the "spatial and also temporal separation" between the customer and the online bank (Grabner-Kraeuter, 2002, p. 43) and the lack of "physical cues" (Lee et al., 2007, p.

729). The reluctance of customers to adopt and use online banking is attributable to the absence of trust (Yousafzai et al., 2005; Yap et al., 2010).

Though prior studies have focused on the online trust as an important factor in determining the uptake of innovations (Yousafzai et al., 2005), the antecedents and consequences of trust is rarely addressed (Bock et al., 2012). The fact that researchers do not account for antrecedents and consequences of trust, in a multi-channel context, constitutes a gap in the literature (Yap et al., 2010). Recent studies, however, consider trust as a multi-dimensional concept (Schoorman et al., 2007; Luo et al., 2010). Indeed, a growing body of research assumes that trust in the organization (i.e., the physical entity that provides the online service) and trust in the channel through which the service is offered are two salient aspects of trust, specifically in the adoption stage (Teo et al., 2009; Schaupp and Carter, 2010; Carter et al., 2011; Powell et al., 2012). When customers do not experience online banking, they do not have enough information to form high initial online trust (Lin, 2011).

We observed that online banking could leverage the penetration of banks in Saudia Arabia, hence, contribute to the growth of the bank rate access in the following years. The low rates of disclosure indicate additional characteristics that might affect trust in online banking. Therefore, these characteristics turn this environment an appropriate place to verify the adherence of previous literature on trust in online banking in Saudi Arabia. Given this scenario, we developed this study in order to explore potential determinants of trust in online banking in Saudi Arabia context.

The concern about an access to personal/financial information by an unauthorized third-party leads customers to distrust in the security of online systems (Kim et al., 2008). In the case of online banking, higher risk perception can make people avoid its adoption, especially when we observe the results of Sohail and Al-Jabri (2014), showing that non-users perceive higher levels of risk in online banking when compared to the users of this technology. Al-Jabri and Sohail (2012) also found a negative effect of perceived risk in mobile banking adoption. In addition, Al-Gahtani (2011) and Liao et al. (2011) identified that perceived risk had a negative effect on trust to conduct online transactions.

Consumers' trust in online banking is a critical challenge facing bank managers, warranting further research (Zhou, 2012; Alanezi and Brooks, 2014). The current conceptual frameworks have provided a detailed guideline for online banking research. However, there seems to be limited empirical research on some of the areas.

- Prior research is often based on information technology adoption theories such as the innovation diffusion theory (IDT) (Kim et al., 2009; Lin, 2011), and the unified theory of acceptance and use of technology (UTAUT) (Luo et al., 2010). The process of trust development has seldom been explored (Biemans et al., 2016)
- In Zhou's (2012) framework it appears that studies are concerned with the information cues such as reputation and information quality, and little attention was paid to other factors such as perceived usefulness, ease of use, shared value, and privacy/security, which are crucial factors in online banking services (Fatima, 2011; Aloul., 2012; Montazemi and Qahri-Saremi, 2015).
- The lack of physical presence of the bank branches and the lack of physical interaction between the bank personnel working across different branches in the country and the customers render online banking a unique environment, in which trust is of paramount importance. However, the way in which trust may be gained and the impact it has on online banking outcomes need to be understood better in the contemporary environment (Takieddine and Sun, 2015; Asad et al., 2016).
- Demographic factors play an important role in forming consumer behaviour. However, there is limited published work exploring the demographic factors that capture the acceptance of Internet banking from the perspectives of customers in the context of developing countries in the Middle East.

To address this research problem, this study identifies the demographic and geodemographic information that makes up the profile of Saudi Arabian e-shoppers for online banking services. The research draws from the Technology Acceptance Model (TAM; Davis, 1989; Rauniar et al., 2014) and Commitment Trust Theory (Morgan and Hunt, 1994; Hashim and Tan, 2015). This is to investigate perceived ease-of-use, perceived usefulness, shared value, communication, relationship termination cost, and privacy/security) and the individual characteristics (i.e. trust in bank and trust in technology) that determine consumer trust in online bank website in the context of online banking.moreover, the present study incorporate demographics factors (gender, age, education, and income) into the proposed model. The results will facilitate an understanding of the factors associated with consumers trust in e-bank websites, thereby enabling researchers, practitioners and policy makers to better develop appropriate strategies to enhance and promote consumers trust in online banks.

## 1.5 Research Aim and Objectives

The aim of this research is to develop a framework that presents and connects the new factors to enhance the consumer trust toward online banking services and its affect on consumer intentions to use the online banking service and e-WOM. To achieve this aim, the following objectives are specified in the research.

- To examine the factors affecting consumer trust towards online banking services.

- To conduct primary research to investigate the facts that Saudi Arabia customers' hold about online banking and to investigate potential country related factors that influence the bank customers' trust in online banking.

- To investigate the roles of trust and accepting online banking system, and identify a framework for the improvement of customers' trust in online banking system.

- To examine the influence of consumer trust towards online banking and investigate the moderating role of demographic factors in the relationship between trust in e-bank website, intention to use online banking services, and positive e-WOM.

- To draw conclusions and make recommendations for both banks on how to enhance the trust in online banking technology and customers, as well as when to trust online banking services in the banking industry.

## 1.6 Research Questions

The overall research question is "what are the antecedents and consequences of customers' trust toward online banking services?" The research question requires investigating the issues such as:

1. What are the factors affect consumers trust towards online banking?
2. What is the relationship between intention towards the online banking and e-WOM?
3. What is the role of customers' trust and acceptance of online banking?

4. What are the facts held by the customers in Saudi Arabia about online banking, especially with the consideration of the demographic factors?

### 1.7 Research Contribution

This research makes a number of contributions to the body of literature engaged in attempts to comprehend bank customers' views about trust and intentions to use the online banking services in Arab countries and mainly Saudi Arabian context. Firstly, it is one of the few studies to analyse Saudi Arabia bank consumers in efforts for developing an integrated framework for Saudi Arabian banks to produce more effective reporting in online banking trust and acceptance. The study therefore addresses a gap in the literature, given there is an absence of the use of in-depth quantitative evidences to interpret the trust in online banking in Arab countries and especially Saudi Arabia.

Secondly, the research is novel, as it not only focuses on perceptions of Saudi Arabia bank customers', but also investigates the factors that may affect the trust and use of online banking in Saudi Arabia as it is held that these perceptions enable one to examine Saudi Arabian bank customers' concerning the trust and use of online banking in greater depth.

In addition, it is expected that this will bring the issue of trust and use in online banking to the attention of the researchers with a specific focus on Arab countries for further research in this field. The findings of this research, furthermore, may be useful to the policy makers in Saudi Arabia by helping them to develop any future potential guidance for banks in the area of trust and intention to use online banking services.

This research has made several theoretical contributions in various ways: Firstly, it is among the first to examine the antecedents of consumer trust in online banks, integrating several theories and validates the integration of these theories in the context of online banking. This study confirms perceived ease of use, perceived usefulness, termination cost, communication, shared value, and privacy/security as determinants of consumers' trust in online banks website as hypothesized in the commitment-trust theory and TAM. The research also indicated that consumers trust in online banks websites has a positive influence on consumer intention to use online banking services and e-WOM.

## 1.8 Research Methodology

Methodology can be defined as a system of explicit rules and procedures upon which research is based and against which claims for knowledge are assessed (Creswell, 2003). The research philosophy of this research is derived from a positivistic paradigm in which the research problem stems from the literature itself (Bryman and Bell, 2015). The positivistic paradigm, employing a cross sectional survey methodology, was considered as the most appropriate approach for conducting this research due to its suitability in addressing the research aim and questions. The sample of this research included Saudi Arabia residents that have the right to hold an internet banking account in Saudi Arabia and making use of the internet banking services. Structural equation modelling (SEM) will be adopted with a partial least squares (PLS) to test the research questions.

## 1.9 Research outline

In addressing the aim and objectives of the research, this thesis will be divided into four main parts: the literature review, the research methodology, the research findings, and the discussion of research findings, conclusion, and implications for theory and practice.

The first part, the literature review and hypotheses developments, Chapter 2 covers online banking, its advantages to both, a bank and the customers, trust in e-commerce, trust in online banking, theory of reasoned action(TRA), innovation diffusion theory, Technology Acceptance mode (TAM), and commitment –trust theory. Chapter 3 covers the conceptual model of the research and the hypotheses developments.

The second part, the research methodology, includes two chapters: Chapter 4 discusses the research methodology which is a scientific method of achieving research results and research objectives and answering research questions. It also presents the different approaches of certain research philosophies, research methods and research design and it justifies why this research adopts a specific methodology. This chapter outlines the data collection and the measurement of variables. Finally, it presents different types of samples and it shows the most suitable type for this research, and outlines the procedures employed to pilot and

validate the form. The chapter aims to check different types of validities such as face, content and construct validity. It also presents the stages that have been followed to translate the questionnaire to be more valid. In addition, it tests the reliability of the questionnaire.

The third part, research findings, encompasses one chapter. Chapter 5 presents the findings, including an illustration of the descriptive statistics of the data, the measurement model and the structural model.

The fourth part: discussion, conclusion, and implications. Chapter 6 aims to link the results of the current research with those in previous studies in order to see the extent to which both are consistent. It also justifies the research results based on the commitment-trust theory and Technology acceptance model. Chapter 7 covers the conclusion of the research, implications to theory and practice, recommendations to online banks, and limitations and future research areas.

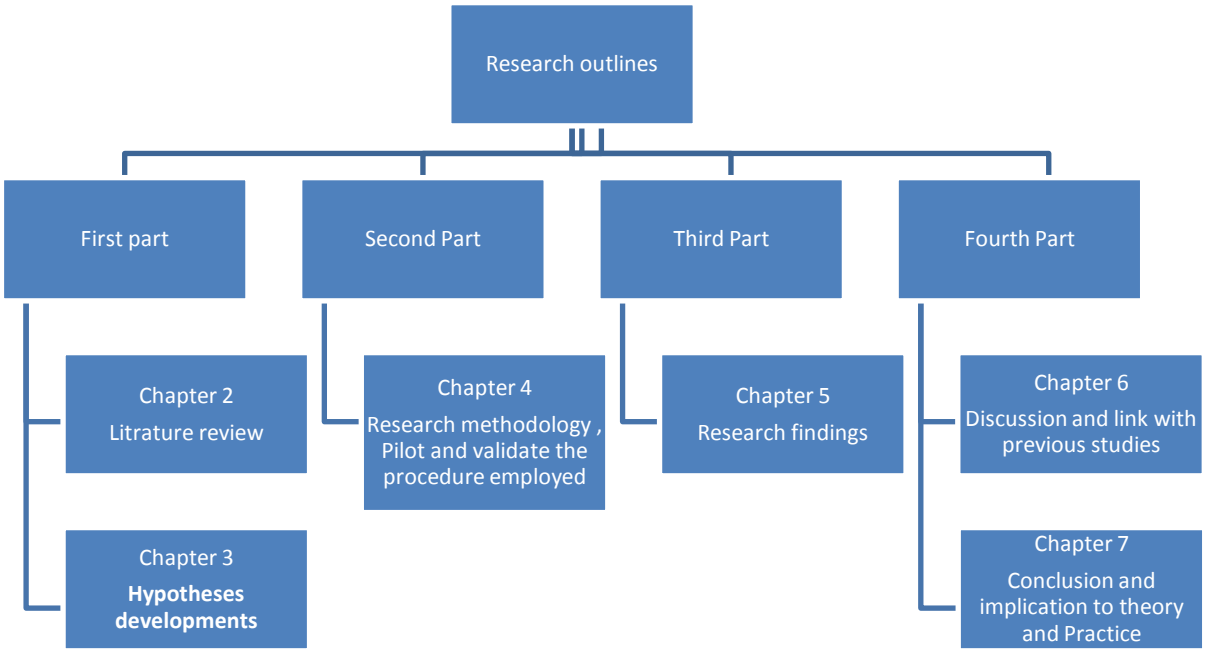



Figure 1.1 Research outline

# Chapter 2: Literature Review

## 2.1 Introduction

This chapter reviews the relevant literature that supports the research questions formulated. The review aimed at extracting the theoretical understanding of the online banking services, also to identify the gaps in research. These underpinning further assist in the process of deciding on most suitable research methodology to achieve the research aim. This chapter will be starting with definition of online banking. This chapter also explores the relative advantages for online banking to both, the bank and customers. This chapter then reviewed and identified theories effecting the adoption of new technology and critically evaluating them in way that supports the review of perceived factors that effecting the trust and intentions to use online banking services. The best practice use of these theories in the adoption of online banking for gaining customer trust and acceptance is lastly stated. This chapter concludes by recapturing the chapter findings and making a holistic representation of the key findings.

## 2.2 Online Banking Services

Online banking can be defined in many ways depending on the level and type of service provided by banks to their customers. For example, Sathye, (1999) defined online banking as, in a basic form, the setting up of a web page by a bank to give information about its product and services; and in a more advanced form, it involves provision of facilities such as accessing accounts, funds transfer, and buying financial products or services online. This is called "transactional online banking" and this will be the more focused of this research (Safeena et al., 2017). Furst et al. (2000) defined online banking as the service that refers to the use of the Internet as a remote delivery channel for banking services. Such services include modern ones, such as opening account or transferring funds among different accounts, and new banking services, such as electronic bill presentment and payment (allowing customers to receive and pay bills on a bank's Web site).

Tan and Teo (2000) presented a slightly different definition, as they defined online banking as a service allows customers to perform a wide range of banking transactions electronically via the bank's Web site. Online banking in general, refers to several types of services through

which bank customers can request information and carry out most retail banking activities such as balance reporting, inter-account transfers, bill-payment, etc., via a telecommunication network without leaving their homes or organisations (Danial, 1999; Akhlaq and Ahmed, 2013; Safeena et al., 2017).

In a different way, Aladwani, (2001) defined online banking as the newest delivery channel for retail banking services. More recently, Ismail and Osman, (2012) have defined online banking as all necessary activities that are carried out, processed and delivered through electronic communication devices in an effort rendering banks services at ease and conveniences for their current and expected valuable customers. The rationalization for the definitions stated above is that first, Akhlaq and Ahmed (2013) pointed towards the levels of development for online banking which were basic and advanced online banking with the usage of web page (Internet) with comparison, the second and third definitions (Furst et al, 2000; Tan and Teo, 2000) concentrated on the practicality of online banking by defining online banking as a service including the use of Internet as a remote control. All definitions refer to the Internet or web page as a way of using online banking, which would be utilised in this research. Others such as (Danial, 1999; Ismail and Osman, 2012) have provided general definitions for online banking that present different types of services through online banking available for customers. All definitions indicate the way that online banking operates and serves customers, containing various types of online banking technology available for the perceived bank customers to use and get advantages.

## 2.3 Advantages of Online Banking

There are numerous advantages of online banking to both, customers and bank staff. The technology of online banking has advantages to the customers and to the bank as follow:

### 2.3.1 Advantages to the Customers

To the customers, there are many advantages of online banking for example: online banking services are easy to use, lower price (cost effectiveness), convenience, and save time in contrast to visiting bank branches (Jayawardhena and Foley, 2000; Montazemi and Qahri-Saremi, 2015). There seems to be a general consensus that online banking offers advantages for consumers (Montazemi and Qahri-Saremi, 2015). The portability of online banking gives the system another advantage, for instance if an individual is out of the country or in a remote

area without access to bank branch and faces a funding issue, they can access the account at anytime from anywhere so long as there is Internet access. This is foreseen as the main benefit of online banking (Tan and Teo, 2000; Montazemi and Qahri-Saremi, 2015). The potential competitive advantage of online banking lies in the areas of cost reduction and satisfaction of customer needs (Bradley and Stewart, 2002; Biemans et al., 2016).

Some of the other benefits of online banking technology as explained by Chavan (2013) are summarised below:

- Banking becomes easier and faster (e.g. can undertake weekly reconciliations instead of waiting for monthly statements);

- It saves time for customers due to the avoidance of having to go to the branch, which also assists the banks to better manage the queues in branch and make a more effective use of available human resources in their branches;

- The ability to access online banking at any-time anywhere, bank can be any-time of day or night, on weekends and even holidays. This can be through online banking;

- Viewing previous transactions without having to keep old files of account statements, which has eliminated much of the paper work and thus created much more space that used to be acquired by statements files. Furthermore, the reduction in use of paper is also more environmentally friendly;

- Better monitoring and resultant management of cash flow, as an individual is able to view the account anytime and can see through all transactions that transpired during the particular time span;

- Can schedule automatic or pending transfer for bill payment, which has eliminated the problem of overlooking bill payments at the end of the month.

### 2.3.2 Advantages to the Banks

Online banking reduces physical trade difficulties by increasing market access and trade efficiency (Khalfan and Akbar, 2006). It also helps banks to present a potentially low cost compared to traditional branch banking. Tan and Teo (2000) found that the majority of banks with web sites spent less than US$25,000 to create a web presence, and less than US$25,000

a year maintaining it. Furthermore, Martins et al. (2014) argue that even if spending on online banking from financial institutions increases in the future as a result of increased growth of online banking and the resultant greater focus of banks on this, this spending would still be less costly than the traditional branch banking. For example, it requires US$1.5 million to US$2 million to set up a traditional brick and mortar branch and US$350,000 to US$500,000 a year to operate the branch (Martins et al., 2014).

### 2.4 Trust in Online Banking

The increased transition towards lesser physical presence of bank branches and the absence of physical interaction between the bank personnel and the customer renders a unique environment, in which trust is of vital importance. Customers are reluctant to adopt online banking because of security and privacy concerns (Liu and Wu, 2007; Beatty and Liao, 2014). Thus, the lack of customer trust, both in the attributes of the bank and in the overall online environment has been, and remains, an obstacle in the widespread adoption of online banking. Luhmann (2000) accordingly, has identified customers' trust as an important future challenge for online banking.

Customer trust in online banking transactions has some unique dimensions, that is, the impersonal nature of the online environment, the extensive use of technology, and the inherent uncertainty of using an open infrastructure for transactions. The online atmosphere does not allow customers the natural benefits of face-to-face communication (Citera *et al.*, 2005) to directly observe the service provider's behaviour, or look into the service provider's eyes (Ba et al., 1999) - assurance mechanisms on which humans have depended for a long time. This separation of time and space increases fear of opportunism. As McNeish (2015) noted, the risk is higher when there is increased separation in the transaction with regards to time and space.

To further complicate the situation, there is concern about reliability of the underlying internet and related infrastructure with the extensive media coverage about security, privacy, reputation, legal and fraudulent transactions on the internet. Overall, these unique differences decrease customer perceptions of control and increase their hesitation about trusting online banking. This provides a unique challenge to the banks to find ways in which to initiate and encourage electronic relationships with their customers. The survival of online banking

depends on the bank's ability to convince customers to bank online, an act that is unlikely to occur if the bank is being perceived as untrustworthy.

Banks can build mutually valuable relationships with their online customers through a trust-based collaboration process (Yu et al., 2015), which signifies the importance of engagement and collaboration with customers to listen to their views and instil greater trust and confidence in them regarding the services provided by the financial institutions. However, the way in which trust may be gained and the impact it has on online banking is not yet well understood (Martins et al., 2014). Trust in internet banking is a new and emerging area within the field of marketing and financial services research. Extant literature on trust related to online banking is scarce and focused on more general issues of e-commerce. Less attention has been given to online banking trust and related issues.

## 2.5 Theories and Models of e-banking Adoption

Studies on online banking adoption referred to various and different theories and models. These theories and models are adopted from divers' disciplines such as information systems, psychology, sociology, management studies, political studies, communication and technological aspects in order to create a conceptual model that underpin the researcher argument. The well-known theories and models employed in these studies include Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Motivational Model (MM), Model of PC Utilisation (MPCU), Social Cognitive Theory (SCT), Diffusion of Innovation Theory (DOI), Unified Theory of Acceptance and Use of Technology (UTAUT), Technology Acceptance Model (TAM) and Model of Trust and Risk (MTR).Despite that, there is single comprehensive model that include the salient variables, particularly demographic and social aspects. This is due to the argument that researchers adopt specific model and theories that fit their argument, which leads to elimination to important variables in other models and theories (Venkatesh et al., 2003).

From social psychology perspective, Fishbein and Ajzen (1975) proposed an important theory called Theory of Reasoned Action. The theory posits that actual behaviour is affected by intention to do such behaviour which in turn a function of information or beliefs that a certain action will lead to specific result (see Figure 2.1) (Belanger and Carter, 2008). They divided the beliefs that affect the behavioural intention to personal attitude and subjective

norms. Personal attitude refers to individual negative or positive feeling towards performing such a behaviour, whereas, subjective norms refer to individual perception of other positive or negative feelings to perform such behaviour or avoid it (Loureiro, 2013).

This theory assumes that individuals rationally use their beliefs or possess information and try to evaluate motivational factors, other implication and predict the outcome of performing certain behaviour. Thus, the theory proposes that to increase individual intention to use or accept system, it is important to establish beliefs and awareness of that system and its benefits. It is considered as one of the first persuasion theory evaluate human behaviour, particularly in terms of individual acceptance of technology (Lean et al., 2009b).

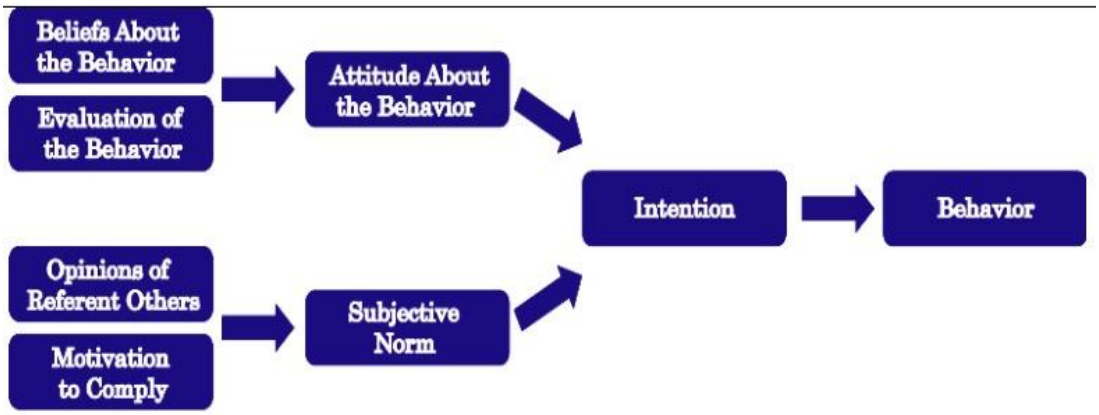



**Figure 2.1: Theory of Reasoned Action**
**Source: Fishbein and Ajzan (1975)**

Despite the ability of this theory to predict human behaviour, it has been criticised in term of predicting individual behaviour with less control over their actions (Sharma and Kanekar, 2007). This is due to the argument that Theory of Reasoned Action ignores the individual ability to perform specific behaviour and instead, it consider the motivational factors that lead to perform such behaviour (Alsaif, 2014).

To overcome such limitation, Ajzen (1991) proposed the Theory of Planned Behaviour (TPB) which is an extension to the Theory of Reasoned Action (TRA). Ajzen (1991) added a variable called Perceived Behavioural Control, which refers to the individual perception of ease or difficulty to perform a specific behaviour (Lean *et al.*, 2009b).

Moreover, Perceived Behavioural Control is affected by two constructs namely, self-efficacy and facilitating conditions (see Figure 2.2). According to Bandura (1982), self-efficacy refers to individual belief that he/she is able to perform a particular behavioural to gain a particular

outcome, whereas facilitating conditions refers to the resources required to perform that behavioural. Thus, intention to perform a particular behaviour is positively affected by individual attitude, subjective norms and perceived behavioural control. This improvement added a prediction power to the theory, especially to online banking adoption as it include both knowledge and tool to alleviate user transaction with banks electronically (Lean *et al.*, 2009).

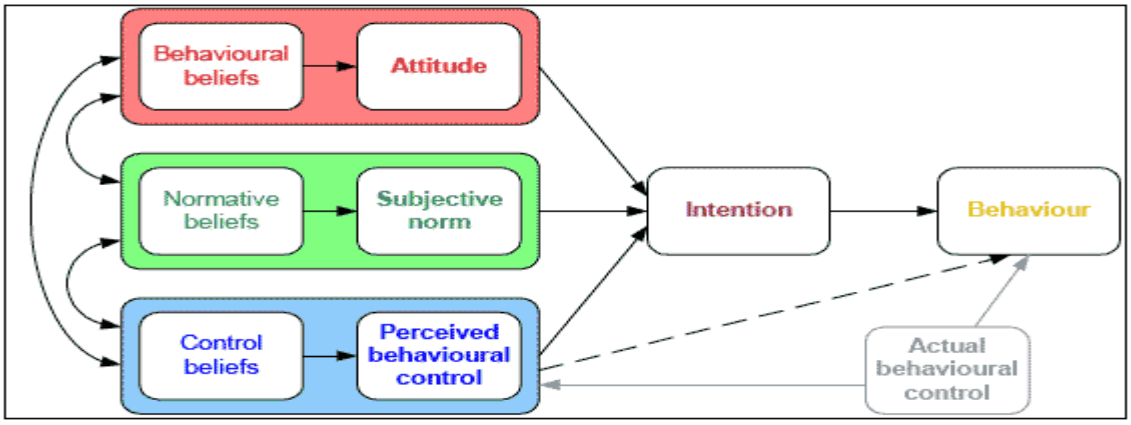



**Figure 2.2: Theory of Planned Behaviour**

**Source: Ajzen (2002)**

However, ignoring important variables such as personal, demographic as well as lack of measurements of "Perceived Behavioural Control" are considered weaknesses of both TRA and TPB. Also, for TPB to work, the control over behaviour is voluntary. Moreover, there is no reflection of unconscious motives in the theory (Alsaif, 2014).

For a motivational model to remedy such limitation, Deci and Ryan (2014) explained that all facets of activation and intention such as energy, direction, and persistence are closely linked to motivation. According to Deci (2012), motivation is categorised into two separate set, namely intrinsic and extrinsic. Intrinsic motivation refers to performing a particular activity without an influence of external reward for different reasons such as enjoyment, satisfaction, exploration and learning purpose (Coon and Mitterer, 2012). Thus, intrinsic motivation is positively affected by enjoyment of using a system regardless of the performance outcome from the system usage (Deci and Ryan, 2014). Whereas, extrinsic motivation is described by Brown (2007) as an individual intention to perform particular behaviour as a result of an external tangible or intangible rewards or benefits such as monetary incentive or behave for prise. According to Davis *et al.* (1992), extrinsic and intrinsic motivations have significant

effect to motivate individual particularly in the usage of information system, where both are respectively explained by perceived usefulness and the enjoyment and success adoption of using such system.

However, the focus of previous theories and models were on the intention to use, whereas, Thompson et al. (1991) have applied Model of PC Utilisation (MPCU) which mainly focuses on individual personal behaviour and the prediction of computer utilisation. This model is derived from the theory of human behaviour proposed by Triandis (1977). The model includes six elements as follows (Thompson *et al.*, 1991):

- Long term consequences: The future gain from using such technology or system;
- Job fit: The extent to which they believe that job performance would be improved through the use of technology
- Complexity: The perception of individual about the degree of difficulty to use such system or technology;
- Social factors: Relate to culture, subjective norm and interpersonal factors;
- Affect toward use: Relates to feeling that result from using such technology such as gladness, pleasure or displeasure etc.;
- Facilitating condition: The support that provided to individual to facilitate the use of technology or system.

The model of PC utilisation has been applied by Thompson *et al.* (1991) as an attempt to understand and predict individual personal acceptance and behaviour toward the use of information technology.

Other researchers (e.g. Bandura, 2001; Cooper and Lu, 2016) have applied one of well-known and established theory in humane social behaviour filed known as Social Cognitive Theory (SCT). This theory was proposed by Bandura (1986) and emphasises that individuals learn from observations in particular social context (see Figure 2.3). SCT is used to explain the influence of individual personal beliefs on a particular behaviour in addition to the relationship between those beliefs (Bandura, 2001). Also, the theory explains that the adoption of technology is influenced by Individual perception about his/her capability (self-efficiency) to use such technology as well as factors that trigger technology anxiety. According to Alalwan et al. (2015), outcome expectation, which is linked to personal, and

performance, which is linked to behaviour, are considered two main and important elements of this theory.

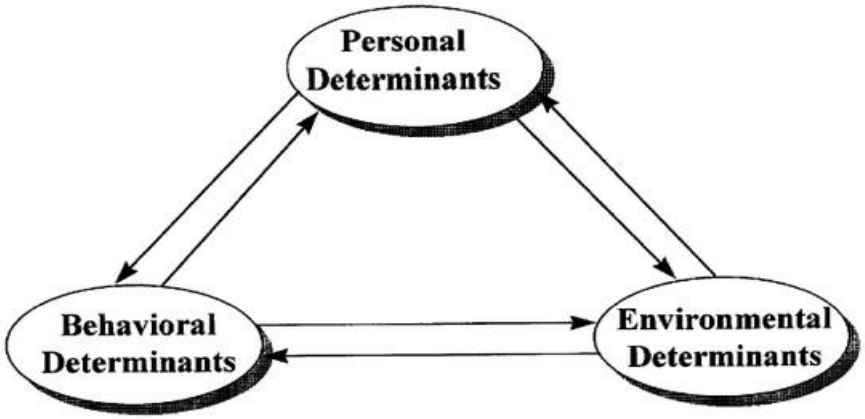



**Figure 2.3:Social Cognitive Theory**

**Source: Bandura (1986).**

Another comprehensive model was proposed by Venkatesh *et al.* (2003) called Unified Theory of Acceptance and Use of Technology (UTAUT). The model is aimed at understanding both individual intention to use and the future usage behaviour. It is based and driven from eight models that already have been examined in the literature of information system acceptance and use. These models and theories include theory of reasoned action (TRA), technology acceptance model (TAM), motivational model(MM), theory of planned behaviour (TPB), an integration of both (TAM) and (TPB) models, model of personal computer use (MPCU), diffusion of innovations theory (DOI), and social cognitive theory (SCT). Consequently, the model has a significant prediction power to explain the intention of technology use and subsequent behaviour use (Weerakkody *et al.*, 2013).

There are four different variables that moderate the relationship between both behaviour intention and actual use and other independents variables. These moderators' variables include gender, age, experience and voluntariness of use (Venkatesh *et al.*, 2003b) (see Figure 2.4).

Venkatesh *et al.* (2003b) described the determinant variables as follow:

- Performance expectancy: refer to the extent that individual believes about using such technology or system would improve the required job performance;
- Effort expectancy: described as individual believes that using a technology or system would be easy;

- Social influence: Individual perception of other about using particular technology or system;
- Facilitating conditions: individual believes about support offered with the use of particular technology or system;
- Behavioural intention: individual likelihood to perform the behaviour under investigation.

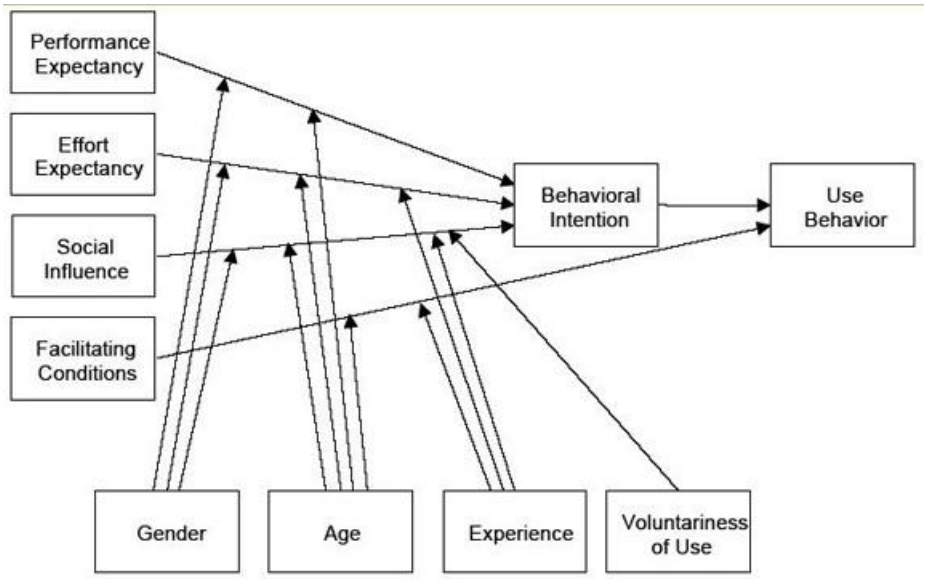



**Figure 2.4: Unified Theory of Acceptance and Use of Technology**

**Source: Venkatesh et al. (2003)**

According to Benbasat and Barki (2007), the inclusion of social norms and perceived behaviour control to (UTAUT) model has overcome the limitation of technology acceptance model (discussed in the next sub-section) as a basic and simple model. Despite the model significant ability to explain user intention and behaviour than other models, it has been criticised in many studies as it ignores the individual beliefs and attitude toward using particular technology or system (Al-Gahtani *et al.*, 2007; Bagozzi, 2007; Paola et al., 2011).

### 2.5.1 Technology Acceptance Model (TAM):

This model is widely applied in studies to explain user acceptance and use of technology as well as management and information systems. TAM is proposed by Davis *et al.* (1989) as an extension of the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975). The theory posits that individual actual behaviour is influenced by his/her intention which in turn influenced by her/his beliefs. It includes two external psychological perceptions, namely Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) as well as the influence of

attitude upon individual behaviour intention (see Figure 2.5). Davis *et al.* (1989) described (PU) as an individual believes about using such technology would lead to an improvement to the job performance, whereas, (PEOU) relate to individual believes that using particular technology would be free of effort. The model is able to explain around 40% to 50% of the variance (Park, 2009).

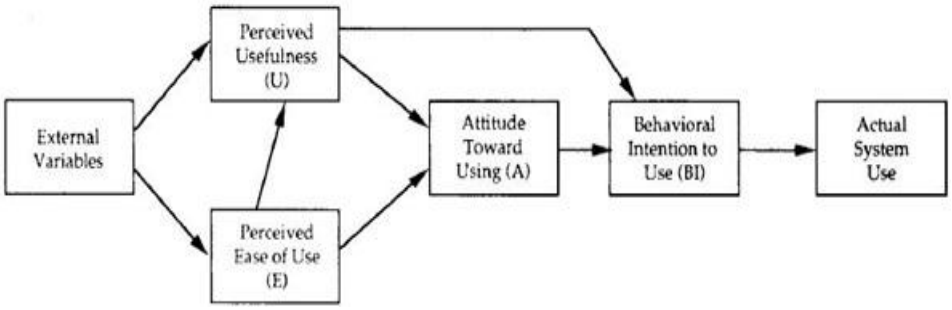



**Figure 2.5: Technology Acceptance Model**

**Source: Davis et al. (1989)**

Despite its wide usage and acceptance in the literature, unlike TRA, TAM has been criticised as it ignored important predictors such as social norms. As a response to such limitation, Venkatesh and Davis (2000) proposed a model called TAM2, which is an improvement to the original model, as it incorporates subjective norms that are found to positively influence individual personal image toward technology usage and explained 60% of the variance. Another limitation discussed by Benbasat and Barki (2007) is that the model has a predictive power but it is difficult to be extended. They also stated that the PU and positive beliefs are founded to be significant by TAM, unlike TRA and TPB. Also, the focus in TAM is on the acceptance of technology rather than the behaviour of using such technology, which lead to the elimination of emotional consideration. Consequently, incorporating TAM with other models is considered a solution by some researchers to overcome such limitation.

### 2.5.2 Model of Trust and Risk:

According to Burda and Teuteberg (2014) and Fang et al. (2014), trust is an important factor define the social relationship as well as individual expectation and behaviour. In online context literature, Belanger and Carter (2008) introduced the model of trust and risk in e-commerce, which consists of four main elements:

- Perceived Risk: Individual perception of uncertainty or adverse outcome;
- Trust of the Internet: willingness to take risk associated with the use of Internet;

- Trust of the bank: willingness to take risk associated with the behaviour of bank;
- Disposition to Trust: Individual general willingness to trust in other.

The model posits that intention to adopt and use e-banking is positively influenced by trust in both banks and internet which in turn both positively influenced by disposition to trust. In contrast, trust of e-banking negatively influences perceived risk, which also in turn negatively affects individual intention and use of e- banking (Belanger and Carter, 2008).

### 2.5.3 Commitment-trust theory

In their seminal paper, Morgan and Hunt (1994) showed that relationship marketing is the act of establishing and maintaining successful relational exchanges constitutes a major shift in marketing theory and practice. Based on the commitment-trust theory, Morgan and Hunt (1994) developed the key mediating variable (KMV) model of relationships marketing. The KMV model proposed trust and commitment as mediating variables between five antecedents (relationship termination cost, relationship benefits, shared value, communication, and opportunistic behaviour) and five outcomes (acquiescence, propensity to leave, co-operation, functional conflict, and decision making uncertainty).

Trust and commitment are both particularly important in the context of e-commerce because customers are unlikely to shop online if they do not trust the website on which they are shopping (Kim , et al., 2011). Studies have analysed the antecedents of consumers' trust and commitment, and these help bank managers to design their websites in such a way that consumers perceive the transactions to be trustworthy. This research examines, in relation to banks websites, the antecedents of trust that, according to Morgan and hunt (1994), are related to consumers' perceptions, such as Relationship termination cost, shared value, and communication.

Perceived privacy/security is also relevant to consumers' perceptions of the trustworthy of an e-commerce company. Hence, the current research adds perceived privacy/security as antecedents to consumer trust to online banks website. This research analyses these factors for banks websites because only a few studies have examined the antecedents of trust in online banking (Kim , et al., 2011; Escobar-Rodíguez & Carvajal-Trujillo , 2014).

In addition to the above examples of best practice and use of the online banking adoption theories for gaining customer trust and acceptance, the following table shows a wide range of literature covering the influence of trust in online banking technology.

**Table 2.1: Summary of studies of technology adoption and acceptance theories**

| Source | Relevant Findings | Country based study |
|---|---|---|
| Jarvenpaa et al.(2000) | Willingness to buy in an internet store was affected by attitude and perception of risk. Attitude and perception of risk were affected by trust, which in turn was affected by consumer's perception of size and reputation of store. | Not specified |
| Suh and Han (2002) | Trust had a significant effect on intention to use and attitudes toward using internet banking. | South Korea |
| George (2002) | Privacy and internet trustworthiness were significant determinants of attitude toward internet purchasing. In turn, attitude had a significant effect on intent to purchase. | United States |
| Gefen (2002) | Purchase intention was influenced by trust, which in turn, was affected by integrity and benevolence. | Not specified |
| Bhattacherjee (2002) | Consumers' willingness to transact online was influenced by trust, which in turn was affected by familiarity. Familiarity was significant on consumers' willingness to transact. | Not specified |
| Gefen et al. (2003) | Trust was a significant predictor of purchase intention for both potential and repeat customers. Familiarity and deposition to trust were significant on trust for both customers. | Not specified |
| Sohail and Shanmugham (2003) | Trust in one's bank had a significant influence on him or her to use internet banking. Other factors were internet accessibility, attitude towards change, computer and internet access cost, security concerns, ease of use and convenience. | Malaysia |
| Pavlou (2003) | Trust was a significant predictor of intention to transact in both samples. Trust had a significant effect on perceived risk, perceived usefulness and perceived ease of use. Integrates trust and risk with Technology Acceptance Model (TAM). | Not specified |
| Joseph and Stone (2003) | Technology based delivery channels are linked with the customers' perception of internet banking among mature customers , whereas perceived difficulty in using computers combined with the lack of personal service in e-banking were within the main barriers. | Not specified |
| Mattila et al. (2003) | Household income and education were found to have significant effect on the adoption of internet banking, perceived difficulties, lack of personal service and security were found to be the main barriers on internet banking adoption. | Finland |
| Nor and Pearson (2007) | The influence of trust on internet banking acceptance. | Malaysia |
| Hahn and Kim (2008) | Consumer trust on an online retailer was a significant predictor of perceived internet confidence and search | United States |

| | | |
|---|---|---|
| | intention for product information via the online retailer. | |
| Yap et al. (2009) | Traditional service quality builds customer trust in the e-banking service. The size and reputation of the bank were found to provide structural assurance to the customer but not in the absence of traditional service quality. Website features that give customer confidence are significant situation normality cues. | Not specified |
| Abukhzam and Lee (2010) | Investigating the key factors affecting bank staff's attitude towards e-banking technology, a step necessary to understand what makes effective the introduction of e-banking projects in Libya. | Libya |
| Houda and Debabi (2012) | Perceived ease of use, perceived usefulness and previous experience are the factors which determine internet as a new business tool. | Not specified |

**Source: The Researcher**

Table 2.1 summarises the studies of technology adoption and acceptance theories. One of the earlier studies was undertaken by Jarvenpaa et al. (2000), who concluded that the willingness of an individual to purchase on the Internet is impacted by their attitude and perception of risk. The consumer attitude and risk perception are influenced by the extent to which a consumer trusts the brand and underlying technology, which is influenced by the size of the store and the technology adopted. This finding was reinforced by Suh and Han (2002), whose research was focused on South Korea and concluded that trust had a major impact on the intention to use, as well as the attitude of consumers towards online banking.

George (2002) and Gefen (2002) also concluded that intention of the consumers to purchase particular products online was affected by trust, which was subsequently influenced by integrity and benevolence. A study by Sohail and Shanmugham (2003) focused on online banking and the adoption of technology whereby they concluded that trust of consumers in their financial institution contributed to their use of Internet banking; a conclusion also confirmed by Nor and Pearson (2007) in a study conducted in Malaysia. Houda and Debabi (2012) argued that perceived ease of use, prior experience and the perceived usefulness are the important factors that influence the adoption of online banking technology by the customers.

## 2.6 Summary of Literature Gap

There remains a relative lack of existence of research on the subject of consumer trust in online banking within Saudi Arabia (Zhou, 2012; Alanezi and Brooks, 2014; AL-Malkawi et al., 2016), which presents a gap in the literature warranting further research. With the advancement in technology and the resultant proliferation of of provision of online banking services in Saudi Arabia, this increases the importance of understanding how consumer trust is influenced when making use of online banking in the country (Takieddine and Sun, 2015).

With regards to theoretical gap in the literature, Lin (2011) argued that past research on the subject of consumer trust in online banking is largely premised upon the information technology adoption theories including innovation diffusion theory and the unified theory of acceptance and use of technology. This highlights that the process of trust development has not been explored frequently (Biemans et al., 2016). Moreover, most of the prior research on the subject of consumer trust in online banking has concentrated on the information cues such as reputation and information quality (Montazemi and Qahri-Saremi, 2015). This is alongside relatively little attention given to other factors such as perceived usefulness, ease of use, shared value, and privacy/security, which are crucial factors in online banking services (Fatima, 2011; Aloul., 2012; Montazemi and Qahri-Saremi, 2015).

Given the relatively infrequent physical (face to face) interaction amongst the personnel working in the various branches of the financial institutions, the technological advancements have meant there is an increased need for users to make use of online banking. This has contributed to heightened importance of creation and maintenance of trust amongst the consumers when using such online banking services. Nevertheless, the way in which trust may be gained and the impact it has on online banking outcomes need to be understood better in the contemporary environment (Takieddine and Sun, 2015).

The gap in the literature is also summarised in the Table 2.2 below.

**Table 2.2: Gap in the literature**

| **Author** | **Research Gap** |
|---|---|
| Alanezi and Brooks, (2014); AL-Malkawi et al. (2016) | Relative lack of exploration of the consumer trust in online banking within Saudi Arabia |
| Takieddine and Sun (2015) | Despite technological advancements over time and the increased offering of the online banking services in Saudi Arabia, there has been a lack of research on understanding how consumer trust is influenced when making use of online banking |
| Biemans et al. (2016) | The process and phenomenon of development of trust is yet to be explored comprehensively and fully |
| Montazemi and Qahri-Saremi, (2015); Fatima, (2011); Aloul., (2012); | Most of the prior research on the subject of consumer trust in online banking has concentrated on the information cues such as reputation and information quality.<br>There is relatively little attention given to other factors such as perceived usefulness, ease of use, shared value, and privacy/security, which are crucial factors in online banking services |

**Source: The Researcher**

This gap is addressed through the demographic and geodemographic information that makes up the profile of Saudi Arabian e-shoppers for online banking services. The research draws from the Technology Acceptance Model (TAM; Davis, 1989; Rauniar et al., 2014) and Commitment Trust Theory (Morgan and Hunt, 1994; Hashim and Tan, 2015). This is to investigate the perceived ease-of-use, perceived usefulness, shared value, communication, relationship termination cost, and privacy/security) and the individual characteristics (i.e. trust in bank and trust in technology) that determine consumer trust in online bank website in the context of online banking. The results will facilitate an understanding of the factors associated with consumers trust in e-bank websites, thereby enabling researchers, practitioners and policy makers to better develop appropriate strategies to enhance and promote consumers trust in online banks.

## 2.7 Conclusion

Given the heightened interest in understanding of consumer trust in online banking due to the rising importance and need for online banking services to be used by the customers, there are good reasons for this research to choose the literature on the technology acceptance model (TAM) as a starting point. The theoretical background of technology acceptance model has revealed the understanding of the relevant theories on which previous research has been based. However, it is important to note that even though most ideas on consumer adoption research have been discovered using the technology acceptance model, there are also potential biases in the framework. Thus, other related theories should be considered in the development of the research constructs, mainly the Commitment Trust Theory.

These theories will guide this research for the following reasons. Firstly, they have been widely applied and referred to in studies related to the acceptance of new ideas. This will provide a strong foundation for this study, as consumer behavioural theory in the context of the Internet is still in its infancy. Secondly, despite being extensively used, there is still room for further improvement; extension and integration with other emerging constructs (i.e. shared value, communication, termination cost and privacy/ security) in the effort to understand the antecedence of customers trust in new technology.

Thirdly, since these theories have been producing significant results that show high reliability and validity in the traditional research setting, it is interesting to test the applicability of the theories in a new setting. The theories might produce unexpected results in the online banking context. Consumers' trust in bank and technology are seen as direct influences on consumers' trust online banking websites of these financial institutions. Since in the TAM, the acceptance of new technology depends on whether consumers perceive it as useful and easy to use, it is expected that these personal variables might have a greater influence on perceptions. Therefore, based on the literature reviewed presented in this chapter, the following chapter introduces the research framework, which is designed to examine the factors that influence consumers trust in e-bank website. Specific hypotheses are then formulated to test using the proposed research framework.

# Chapter 3: Research Framework and Hypotheses Development

## 3.1 Introduction

Internet banking increasingly serves as a new distribution channel for the delivery of banking and financial services. From both academic and practical perspectives, it is interesting to understand and assess customer trust towards the online banking services and customer intention to use these services. The conceptual model devised by the researcher using the review of relevant literature has extended commitment-trust theory by adding new constructs (e.g. privacy/ security). In addition, the research model was modified by utilizing other well-tested models such as but not limited to (Bigne , et al., 2010; Internet world stats, 2014; Sanz-Blas , et al., 2014) ( Lien & Cao, 2014), which takes into consideration technology adoption, and trust. This research has also utilized the technology acceptance model (TAM) by using the perceived usefulness and perceived ease of use as antecedents to consumers trust towards online banking services (see Figure 3.1).

## 3.2 Review of Different Models of Adoption of Technology

Although the Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA) and Theory of Planned Behaviour (TPB) focus on different determinants to explain consumer behaviour in technology adoption, these theories share some similarities. Firstly, the TRA, TPB and TAM assume an attitude-intention-behaviour relationship, that is, cognitive and normative or affective beliefs form an attitude, which, in turn, has an influence on behavioural intention and actual usage behaviour. Secondly, perceived usefulness (PU) in the TAM is similar to relative advantage, while perceived ease of use (PEU) is closely related to the complexity construct in the DIT. These constructs are considered as cognitive components of an individual's attitude. Thirdly, both the DIT and the TAM place similar importance on beliefs and external variables in the decision to adopt a technology. The TAM specifies a causal linkage between consciously intended behaviours, attitudes and beliefs.
In the TAM, external variables influence technology acceptance behaviour indirectly by affecting beliefs and attitudes. Comparatively, the TAM has been found to be much simpler, easier to use, and more powerful in determining user acceptance of computer technology compared to other models (Chen and Chan, 2014). Having said that, the Commitment – Trust

theory and TAM differ in several theoretical aspects. The TAM was designed to explain implementation of information technology and information systems, and as such the variables in the model were formulated to predict user attitudes and behaviours within organizations. The Commitment – Trust theory proposed trust and commitment as mediating variables between five antecedents (relationship termination cost, relationship benefits, shared value, communication, and opportunistic behaviour) and five outcomes (acquiescence, propensity to leave, co-operation, functional conflict, and decision making uncertainty).

Although the TAM and other social psychological models have been extensively used as theoretical foundations in technology adoption studies, little attention has been paid to the study of online banking (Martins et al., 2014; Kim and Shin, 2015). Constructs related to shared value, termination cost, communication and privacy/ security are not included in most of the previous online banking studies (Ashraf et al., 2014; Kim and Shin, 2015).

Furthermore, TAM suffers from several other limitations too that make it unsuitable when it comes to development of consumer trust toward online banking services and its affect on consumer intentions to use the online banking service and e-WOM. Wallace and Sheetz (2014) argued that even though TAM possesses significant predictive power when it comes to analysing the impact of independent variables on the dependent variable, this generality and predictive power exhibited by the TAM does not in itself lead to a detailed understanding from the perspective of providing the information essential for the designers of the systems to facilitate the creation of user acceptance for the new systems.

In particular, it should be noted that even though the constructs prevalent in TAM such as perceived ease of use have been deployed and used frequently in the research regarding user acceptance and TAM, there is a lack of existence of research that has been particularly applied to online banking (Wallace and Sheetz, 2014). A similar argument was put forward by Park et al. (2014), who stated that even though TAM possesses significant predictive power when it comes to predicting user acceptance of technology, a key limitation of TAM is that it has not been extensively used in the context of online banking. Moreover, TAM does not assist in providing detailed explanation of consumer acceptance of online banking technology in ways that could contribute to development beyond suggesting that characterestics of the system have an impact on the perceived ease of use (Park et al., 2014).

With regards to the Commitment Trust theory, the theory has not been applied frequently when it comes to understanding the trust of consumers toward online banking services and its affect on consumer intentions to use the online banking service and e-WOM. This is

especially the case when making use of the variables such as expertise, knowledge, familiarity of customers, satisfaction as well as repectivity of consumers towards the technology that has an impact on consumer trust in the adoption of technology (Hashim and Tan, 2015). Trust tends to increase with increased adoption of technology with regards to online banking (Jain et al, 2014), which has not been extensively explored by the researchers.

This research attempts to fill the research gap by integrating the TAM with the Commitment –Trust Theory into a research model to fit the study of online banking. Apart from the above-mentioned constructs, including perceoived ease of use (PEU), perceived usefulness (PU) and trust (using Commitment Trust theory) are also taken into account in the proposed research model to explain consumer trust in e- bank website, as many studies have proven their influence on the adoption of online transactions and trust (Karkin and Janssen, 2014; Jafari et al., 2011; Zada et al., 2016; Agag and El-masry, 2016; Elbeltagi and Agag, 2016). This research uses the theoretical foundations of the TAM and the Commitment – Trust Theory to develop and test an integrated model predicting potential antecedents of trust in e-bank website. Thus, the framework explained in the section 3.3 below would focus on addressing the gap in the literature with regards to the development of consumer trust toward online banking services and its affect on consumer intentions to use the online banking service and e-WOM. The hypothesized framework will be tested on online banking consumers via an online survey.

### 3.3 Development of framework

Based on the review of the other models (e.g. Technology Acceptance Model (TAM) and Commitment Trust Theory) and the review of relevant literature, the proposed framework focuses on addressing the gap in the literature with regards to the development of consumer trust toward online banking services and its affect on consumer intentions to use the online banking service and e-WOM. Eight factors were identified as antecedents to consumers trust towards online banking services as well as two factors as consequences to consumers trust towards online banking services. These factors are relationship termination cost, shared value, communication, privacy/security, trust in bank, trust in technology, perceived ease of use, and perceived usefulness.

The framework has been divided into three main facets (dependent variables), that is, intentions to use online banking services and word of mouth. Independent variables are expected to have different relationships with those two facets. Mediating variable is consumer trust towards online banking services.

Given the relative lakc of application of Technology Acceptance Model and Comitment Trust theory in the context of development of consumer trust toward online banking services as highlighted in the literature, the framework combines the key features and application of the Technology Acceptance Model and Comitment Trust theory to assess the development of consumer trust toward online banking services and its affect on consumer intentions to use the online banking service and e-WOM. This is illustrated in the figure 3.1 below, which highlights the perceived usefulness (PU) and perceived ease of use (PEOU) aspects of TAM alongside trust in the bank and trust in technology contributing to trust in the e-bank website. This is in addition to the four variables in Commitment Trust theory namely privacy/security, shared value, communication, and relationship termination cost that also impact trust in the e-bank website. These variables would subsequently be used through the survey questionnaire to assess their impact on the intention to use online banking and e-WOM (see Figure 3.1).

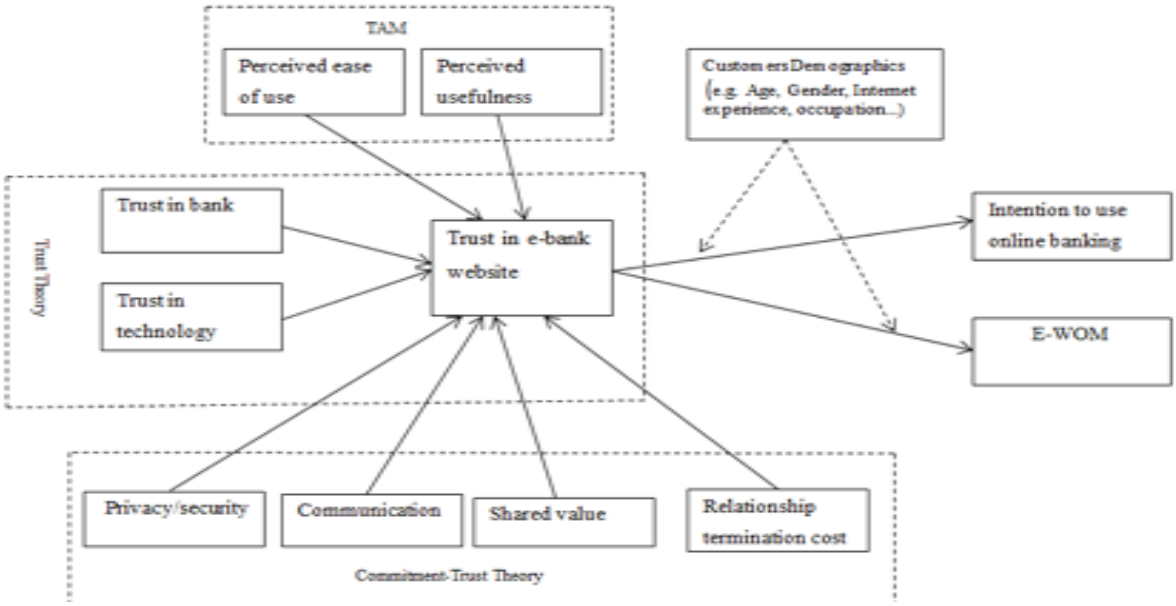



**Figure 3.1: Conceptual framework of the antecedents and consequences of consumer trust towards online banking**

**Source: The Researcher**

### 3.4 Research Hypotheses Development

Commitment-trust theory and Technology Acceptance Model were deployed as fundamental framework in this research with the extension of trust element to develop a conceptual framework for the antecedents and consequences of consumer trust towards online banking services in Saudi Arabia fig 3.1. To enhance the framework, demographics factors have been placed in to see the effect between trust and intention to use and e-WOM.

#### 3.4.1 Trust

Trust is crucial for any business relationship (Palvia, 2009; Wang et al., 2015), and it plays a critical role in m-commerce, because it reduces uncertainty (Gu et al., 2009; Li & Yeh, 2010; Wang et al., 2015). In the same way, building users' trust is essential for mobile banking service providers (Zhou, 2012). Among the myriad of factors, trust is considered as an important future challenge for internet banking continuance. Yousafzai et al. (2009) cite lack of customer trust as a potentially major obstacle for widespread acceptance of internet banking. As customers enter into business relationship with a distant and impersonal banking servicetheymayexperiencegreater perceivedriskanduncertaintyininternetbanking environment. The perceived lack of control and personal contact in internet banking environment increases customers' concern for security and reliability of transactions (Flavián and Guinalíu, 2006; Chiou and Shen, 2012). These factors may reduce customer trust in internet banking (Lim, 2003), which might have an additional effect on its adoption and continuance. It is suggested that customers' untrust in internet banking can be overcome by building, confirming, and maintaining trust (Cheskin Research, Studio Archetype/Sapient, 1999).

The open nature of the Internet as transaction information and its global constitution has made trust a crucial element of e-commerce (Hoffman et al.,1999; Agag and El-Masry, 2016a; Souter and Kerretts-Makau, 2012). The commonly cited study by Hoffman et al (1999) focuses on security and privacy as the key drivers of online trust. They argue that environmental control, or a consumer's ability to control the action of a web vendor, directly affects his/her perception of online security and privacy. They also discuss the effectiveness of third-party trust-certification bodies and the public key encryption infrastructure for ensuring transactional security and privacy protection as success factors for building online trust. Other researchers have reinforced this belief asserting customers will only consider

other web features, such as, ease of navigation, familiarity and reputation, after their security and privacy concerns have been addressed (Benassi 1999; Agag and El-Masry, 2016b; Dayal et al. 1999).

Some authors have studied trust in the perspective of experience for example, Jarvenpaa et al. (2000) differentiated between two stages of trust, the early and mature stages. They showed that in the early stages, online trust may have more to do with the performance of the technology, whereas in the mature stages, trust may depend upon differences in the firm's implementation of Internet technology. Moreover, Lee and moray (1992) suggested that customers' trust on the transaction medium is dependent upon the mediums' perceived technical competence and performance, and the customers' understanding of the underlying characteristics and processes govern the medium's behaviour. The various performance measures used by customers to test the competency of transaction medium includes network and download speed, reliability, connectivity and availability (Lee and Turban, 2001). Among these factors, reliability is the most vital concern for the customers, as when the personal and financial data is transmitted over the network there are risks that unauthorised parties could intercept the information (Clay and Strauss 2000, Agag and E-Masry, 2016c). Therefore, customers' technical orientation and perception of the technological competency of the internet is very important in their information processing behaviour and perceived trust towards e-commerce.

(Lee and Turban, 2001; Hunaiti et al, 2009, Elbeltagi and Agag, 2016) suggest that customers' trust in ecommerce is driven by trustworthiness of web-vendor, trustworthiness of webshopping medium, contextual factors and the individual's trust propensity. Cheskin (1999) stated six features for enhancing customer perceptions of the web-vendor's trustworthiness, safeguard assurances, marketers' reputation, ease of navigation, robust order fulfilment, the professionalism of the website, and the use of state-ofthe-art web page design technology. Kini and Coobineh (1998) and Agag (2017) however claim that the trustworthiness of the web merchant is necessary but not sufficient for an ecommerce transaction to take place; in addition the customer must also trust the transaction medium. Factors that identified by Lee and Turban (2001) and Hunaiti et al (2009)are forming the core aspects of web based technology such as e-commerce and online banking and these factors particularly emphasised buy this research.

A number of researchers have argued that citizens remain reluctant to adopt e-commerce due to factors of trust and privacy, as well as security concerns (Belanger and Carter, 2008; Martins et al., 2014). Rotter (1967) defined trust as an expectancy that individual or group

can be relied upon. A recent survey conducted by Szopinski (2016) on factors influencing the online banking in Poland concluded that despite the belief of Polish citizens in the benefits of online banking, they remain concerned about risks associated with the online transactions, together with the electronic sharing of their personal information.

Trust in banks arises if citizens have confidence in the banks and banking sytsem (Reddick and Roy, 2013), which reinforcing the perceptions of integrity and reliability (Belanger and Carter, 2008; Benbasat et al., 2008; Lee et al., 2011b; Srivastava and Teo, 2009). The development of trust is an evolutionary process (Srivastava and Teo, 2009), suggesting that trust in banks can quickly change depending on how the bank and finanical system as a whole actually works (Karkin and Janssen, 2014).

There are few studies that have explored trust in the context of online banking (Beldad et al., 2012; Lee et al., 2011b; Schaupp et al., 2010). Some studies considered trust in technology as a significant factor in the context of online banking but few studies included trust in bank as a significant antecedent (Belanger and Carter, 2008; Jafari et al., 2011; Teo et al., 2008). Trust in online banking will exist if the citizens have trust in their banks (Belanger and Carter, 2008; Lee et al., 2011c; Schaupp et al., 2010; Teo et al., 2008), leading to placing a greater trust on banks IT programmes (Lee et al., 2011b; Srivastava and Teo, 2009; Teo et al., 2008). In other words, the willingness to adopt online banking depends on both trust in technology and trust in the bank (Beldad et al., 2011; Beldad et al., 2012; Lee et al., 2011b; Reddick and Roy, 2013), which highlights the interconnected relationship between the technology and the finanical institution employing that technology, when it comes to the role of trust in that finanical institution.

Trust has been a primary predictor of technology usage and a fundamental construct for understanding user perceptions (McKnight and Chervany, 2001; McKnight et al., 2002), especially considering ongoing security and privacy concerns that hinder the use of online banking (Belanger and Carter, 2008; Benbasat et al., 2008; Lee et al., 2011b). This makes the appreciation of the value of trust in technology very important (Srivastava and Teo, 2009). In this case, trust in technology is basically the trust in the tools to be used to deliver the service (Beldad et al., 2011; Weerakkody et al., 2013). Simply put, this means that trust in technology is vital for encouraging citizens to trust an online bank website by transacting and sharing information with it.

In e-commerce, the website is the primary influence on user perceptions because it is the interface that exists between customers and sellers (Lee and Koubek, 2010). The role of trust in internet banking continuance is likely to be highly significant because of the complexities of the internet banking environment (Suh and Han, 2003). Trust act as an insurance against potential risks and unexpected actions associated with internet banking. Prior research studies provide empirical evidence for the relationship between trust and intention to use internet banking.For example, Eriksson et al. (2005) show that trust influences perceived usefulness, perceived ease of use, and intentions to use internet banking.Similarly, Benamati and Serva (2007) found that both trust and distrust influence customers' decision to use internet banking. More recently, Akhlaq and Ahmed (2013) provide empirical support for the relationship between trust and intentions to use internet banking in a low income country context. These studies reveal that when customersextend trust, they feel confident ofusing the internet banking services for future financial transactions.

Alsajjan and Dennis (2010) found that trust influences consumer attitude and intention to engage in behaviour. Consumers who trust in online service provider will have a positive attitude toward this online service provider and more likely to repurchase. In support of this notion, Amaro and Duarte (2015) and Ashraf, et al. (2014) and Agag and El-Masry (2016a), found a significant path from trust to customer repurchase intentions. Other research has found that trust influences word of mouth (Lien & Cao, 2014). Therefore, consumers who trust in an online banking are more likely to spread positive word of mouth.

The fundamental factors that affect trust are trust of the Internet linked to the belief of citizens that the Internet is a dependable medium, as well as a safe place to undertake transactions in a secure manner, together with trust of organisations that is associated with a belief in the capability of institutions and the ability of staff to provide online services in a confidential manner. Oliveira et al. (2016) considered that concerns relating to risks involved in the adoption of technology increased as the experience of the Internet decreased. Within e-commerce, several prior studies have confirmed the positive link between trust and the intentions to purchase online (Chiu , et al., 2010; Gefen , et al., 2003; Kim , et al., 2012). Other research has found that trust influences word of mouth ( Lien & Cao, 2014).

Based on the above arguments, the following hypotheses are presented:

- **Hypothesis 1**. Trust in banks positively affects trust in e-banks website.

- **Hypothesis 2**. Trust in technology positively affects trust in e-banks website.
- **Hypothesis 3**. Trust in e-bank websites positively affects intention to use online banking services.
- **Hypothesis 4**. Trust in e-bank websites positively affects word of mouth.

### 3.4.2 Perceived usefulness

Davis (1989, p. 320) conceptualised perceived usefulness as "the degree to which a person believes that using a particular system would enhance his or her job performance". In this research, perceived usefulness refers to the extent to which the consumer believes that using online banking services improves his/her banking services planning.

Several studies have reported that perceived usefulness is an important factor for adopting and using technology (Davis et al., 1989; Agag and ElMasry, 2016a; Venkatesh, 1999, 2000; Venkatesh and Davis, 2000). In the context of online banking, it is presumed that the level of usefulness that IB offers over and above traditional banking methods could affect customer attitudes towards adoption and use. For example, online banking could be perceived as useful by customers that find it difficult to visit the bank's branches. The users' performance is expected to be when he or she realise the usefulness of a technology. According to Amin (2009), Perceived Usefulness is the extent to which a person believes that using a particular system will enhance his or her performance.

Mathwick et al. (2001) defined perceived usefulness as the extent to which a person deems a particular system will boost his or her job performance. The importance of perceived usefulness has been widely recognized in the field of e-banking (Liao & Cheung, 2002; Jaruwachirathanakul & Fink, 2005; Agag and ElMasry, 2016a; Guriting & Ndubisi, 2006; Agarwal et al., 2009; Al-Majali & Nik Mat, 2011). It is the primary prerequisite for mass market technology acceptance, which depends on consumers' expectations about how technology can improve and simplify their lives (Al-maghrabi & Dennis, 2010). This research adopted Davis (1989) parecived usefulness defenetion as "the degree to which a person believes that using a particular system would enhance his job performance".While some researchers such as Palvia (2009) proposed perceived usefulness as an antecedent to transaction intention based on technology acceptance model (TAM), to the best of researcher's knowledge, no existing study specified perceived usefulness as an antecedent to trust. As Gefen et al. (2003) suggested, it would make more sense to postulate that perceived usefulness is a consequence, not an antecedent, of trust in an e-commerce firm. A business

relationship developed based on trust provides a measure of subjective guarantee that the e-commerce firm will behave with goodwill and that the outcome of a transaction will be fair and favourable, and thus increase the benefits of transacting on the e-commerce website that consumers come to perceive as more useful (Gefen et al., 2003, Agag and El-Masry, 2016). Therefore, it has been concluded that perceived usefulness as a trust antecedent. Hence, the hypothesis:

- **Hypothesis 5**. Perceived usefulness positively influences consumer trust towards online bank website.

### 3.4.3 Perceived ease of use

The TAM theory postulates that individual perceptions about ease of use and usefulness are two cognitive factors that determine their acceptance of information system. TAM has received substantial empirical support in explaining consumer acceptance of various types of technology e.g. technology based services (Zhu and Chan, 2014), smart phones (Joo and Sang, 2013) and the new media (Workman, 2014).

Davis (1989) defined perceived ease of use as the degree to which a person believes that using a particular system would be free of effort. A significant number of studies have suggested that perceived ease of use influences customer attitudes towards the adoption of new technologies (Davis et al., 1989; Agarwal and Prasad, 1997;Agag and El-Masry, 2016a; Venkatesh, 1999; Venkatesh and Davis, 2000). For example, Cooper (1997) identified that "ease of adoption" was one of the three most important characteristics from the customer's perspective for the adoption of innovative services. "The degree to which an innovation is difficult to understand or use" was one of the reasons for failure of home banking in the USA (Dover, 1989). Scarbrough and Corbett (1992) reported "understandings of consumers" to be an important element in the diffusion of innovative technology. The Wallis Report (1997) identified that technological innovation "must be easy to use" to ensure customer take-up or acceptance. Customer skill is related to customer selection, and to the flexibility of the service offered. Akamavi (2005) highlighted that it is important for the service designer to understand customers' needs, in order to design a website that the customer will find easy to use. Daniel (1999) identified ease of use as one of the factors for customer acceptance in her study of e-banking in the UK and Ireland. It is a critical factor in the development and delivery of online banking services (Taylor & Todd, 1995; Agag and ElMasry, 2016a; Al Hajri & Tatnall, 2008). Perceived ease of use is a person's subjective perception of the

effortlessness of a computer system, which affects the perceived usefulness, and thus has an indirect effect on a user's technology acceptance (Rigopoulos & Askounis, 2007). Also, the longer an individual has been using online banking, the more likely they are to find it easy to use (Prompattanapakdee, 2009). Similarly, the easier it is for a user to interact with a system, the more likely it is that he or she will find it useful. There is substantial empirical support for this view (Amin, 2007; Rigopoulos & Askounis, 2007; Lee, 2009). It affects the consumers' intentions to use online banking (Al-maghrabi and Dennis, 2010; Agag and ElMasry, 2016a Al-Majali & Nik Mat, 2011). This research adopted Davis (1989) parecived ease of use defenetion as "the degree to which a person believes that using a particular system would be free of effort".

Perceived ease of use has been defined as the extent to which a person believes that using a particular system would be free of effort (Davis, 1989). In the current research, perceived ease of use is defined as the extent to which the consumers believe that online banks website is easy to use. Research has supported the positive and significant relationship between perceived ease of use and consumer trust (Gefen, et al., 2003; Tung, et al., 2008). Thus, the following hypothesis has been proposed:

- **Hypothesis 6**. Perceived ease of use positively influences consumer trust towards online bank website.

### 3.4.4 Relationship termination cost

Relationship termination cost implies all expected losses from termination of the relationship, and result from the perceived lack of comparable potential alternative websites, relationship dissolution expenses, and substantial switching costs (Morgan & Hunt, 1994). Consumer's anticipation of high switching costs gives rise to the consumer's interest in maintaining the existing relationship.

Relationship termination implies difficulty in substituting services due to switching costs. Such costs may be monetary or inconvenient in nature, such as a learning curve or loss of online history. Anticipating a high switching cost, customers will maintain the existing relationship.

Relationship termination costs refer to all anticipated losses from the termination of the relationship that result from the perceived lack of similar potential alternative partners (Morgan & Hunt, 1994). These costs can be financial (e.g. switching and opportunity costs, dissolution expenses) and non-financial (e.g. loss of reputation, unnecessary stress) in nature

that have a significant impact on the level of commitment towards an on-going relationship (Liao et al., 2014; Sharma & Patterson, 2000; Tähtinen & Vaaland, 2006). Therefore, it is the expectation of total costs that influences commitment where higher costs involved are likely to generate a higher level of commitment. This study posits that relationship termination costs will affect the level of commitments from cusomers, which in turn influence the intention to use online banking services.

A direct positive relationship between relationship termination cost and trust is supported by a wide variety of studies ( Mukherjee & Nath, 2007; Friman , et al., 2002). It can be inferred that consumers will increase their trust towards online bank websites if the cost of terminating their relationship is high. Hence, the following hypothesis was proposed:

- **Hypothesis 7**. Relationship termination cost positively influences consumer trust towards online bank website.

### 3.4.5 Shared value

Shared value is the extent to which the buyer and supplier have a mutual understanding about their behaviours, goals, and policies. Ethics are a key aspect of shared value. Morgan and Hunt (1994) have conceptualized shared values through the extent to which ethics is compromised and the consequences of unethical behaviour. High standards of online seller ethics such as e-governance, taking permission from users for mailing lists or preventing kids from accessing adult content are especially important for online travel. When customers perceive a higher perception about shared values, such perceptions will increase their trust and commitment to their supplier. Therefore, observance of ethics by sellers has a direct and positive impact on inducing heightened degree of trust from the consumers in the transaction, technology and the organisation as a whole.

Shared values are the extent to which exchange partners agree and/or disagree towards the understanding and beliefs about the behaviors, goals and policies that they have in common (Danchev, 2005; Morgan & Hunt, 1994; Zineldin et al., 2015). Shared values also play a critical role in facilitating business relationships by contributing to the development of commitment and trust between exchange partners (Battisti & Perry, 2015; Friman et al., 2002; Mukherjee & Nath, 2007). This study proposes that a higher degree of mutual acceptance of shared values will contribute to increased commitment and trust between customers and the banks websites, which can affect consumers' intention to use online banking services.

Referring to mutual goals, Fontenot and Wilson (1997) maintain that the more committed partners are to the relationship, the better the chance for a firm to achieve its individual and mutual goals without the overshadowing risk of engaging in opportunistic behaviour. MacMillan et al. (2005) report a positive relationship between shared values and relationship commitment. Both groups of authors find that, when partners share same values, this has a positive effect on their mutual level of commitment to the relationship.

For consumers and online banks with goals or policies in common, sharing resources and abilities can lead to greater mutual commitment and closer bonds. Agag and El-Masry (2016); Mukherjee and Nath (2007); Elbetagi and Agag (2016) point out that shared values have a positive influence on consumer commitment and trust. Therefore, the following hypotheses were proposed:

- **Hypothesis 8**. Shared value positively influences consumer trust towards online bank website.

### 3.4.6 Communication

Communication is defined as the credibility, timeliness, and accuracy of information exchanged (Graca et al., 2015). Simpson and Mayo (1997) maintain that communication is a key variable at the beginning of any relationship. Another definition of communication is provided by Anderson and Narus (1990), who state communication is the formal as well as informal sharing of meaningful and timely information between firms. According to Goodman and Dion (2001), the significance of effective communication to social and business relationships is universally accepted. Communication is not only viewed as an important determinant of relationship effectiveness, but is also described as the glue that holds industrial marketing relationships together (Coote, et al, 2003).

One of the key drivers of trust is communication, which can be broadly referred to the formal and informal sharing of valuable information between businesses (Lages et al., 2005; Shipilovet al., 2014). Regular communications in a relationship can help minimise and resolve disputes and ambiguities, increase frequency on the exchange of accurate and critical information, and align perceptions and expectations (Cason & Mui, 2014; Koza & Dant, 2007; Ryssel et al., 2004). Through communication, trust and openness between exchange partners can be enhanced and leading to mutual benefits. This study posits that communications between customers and the banks will have adverse effects on the level of

trust they have on one another, which can influence consumers intention to use online banking services.

Graca et al. (2015) studied the performance outcomes of behavioural attributes in buyer-supplier relationships and concluded that communication has a positive and indirect impact on the retailer-supplier relationship commitment in the motor vehicle tyre industry, while Altinay et al. (2014) stress the critical role of communication in partnerships for the establishment of cooperation and trust. Leckie et al. (2017) argue that, although not every commitment model proposed has included communication as a determinant, the majority of studies address the importance of effective communication. Leckie et al. (2017) therefore, contend that a relationship characterised by effective communication should enhance commitment to the relationship. Graca et al. (2015) point out that communication directly influences trust, and through trust, indirectly influences relationship commitment.

Communication has been used as antecedents to consumer trust (Etgar, 1979; Morgan and Hunt, 1994; Mukherjee and Nath, 2003; O'Mahonya, et al., 2013; Agag and El-Masry, 2016; Mukherjee and Nath, 2007; Elbetagi and Agag, 2016). Consumers are more likely to trust online banks that make its policies available, inform them about new offerings and quickly confirm that a transaction has occurred. Based on the support in the literature, it is proposed that:

- **Hypothesis 9**. Communication positively influences consumer trust towards online bank website.

### 3.4.7 Privacy/ security

The issues of privacy and security have been labelled as two major concerns of e-commerce (Briones, 1998). Privacy extends itself beyond the uncertainty of providing personal information on the websites, but includes the degree to which personal information is shared or sold to third parties that have related interests (Miyazaki and Fernandez, 2001). Perceived security is defined as the perceptions of consumers about the security of transactions with an online provider. Privacy practices are thus crucial for online provider in coaxing customers to disclose their personal information (Wanga and Wu, 2014; Tsou and Chen, 2012).

In general, privacy refers to the protection of personal information. To be precise, Clarke (1999) defines privacy as the individual's right to be alone and he considers several dimensions like privacy of the individual's body, behaviour, communications and personal data. Where the internet is concerned, privacy affects aspects such as the obtaining,

distribution or the non-authorised use of personal information (Wang et al., 1998). The growing capacity of new technology for information processing, plus its complexity have made privacy an increasingly important issue. This fact is increasing consumer distrust as to how personal data is being gathered and processed in online transactions and, as a consequence, it is becoming a major obstacle to the spread of e-commerce (Flavian and Guinalı´u, 2006), due basically to the loss of control perceived by the user over the use of personal information supplied to the seller.

As well as problems with the lack of privacy, the lack of security as perceived by online consumers is another of the main obstacles to the development of e-commerce (Furnell and Karweni, 1999). In the context of the internet, security refers to the perceptions about security regarding the means of payment and the mechanism for storing and transmission of information (Kolsaker and Payne, 2002). Thus, as Flavian and Guinalıu (2006) point out, what we are talking about here are the technical aspects that ensure the integrity, confidentiality, authentication and non-recognition of relationships. In summary, it is possible to state that privacy refers to a set of legal requirements and good practices with regard to the handling of personal data, whereas security refers to the technical guarantees that ensure that the legal requirements and good practices with regard to privacy will be met effectively (Casalo et al., 2006). However, these two variables are clearly related, as may be seen in three clearly distinct areas (Flavian and Guinalıu, 2006). Firstly, it should be emphasised that there is a close relationship between the two concepts in the mind of consumers and as a result, they usually confuse them. Secondly, companies also tend to handle both concepts jointly. Thirdly, public institutions also view both concepts as running side by side. Thus, legislative measures are used to include those of a procedural nature (e.g. regarding the collection, use and transfer of private data) and others of a purely technical nature. Thus, it seems fair to say that in view of the particularities of the privacy and security variables, the two need to be handled as distinct concepts. However, as we have seen, not only the consumer, but also the company and the legislator perceive that the two concepts have a close relationship. This fact suggests the need for the two variables to be dimensions of a single construct. This construct, called perceived security in the handling of private data, shows the consumer's perception of practices regarding personal data protection carried out by the financial services web site, and the security of the information system in which these practices are to be found.

When consumers perceive a higher perception about privacy and security, such perceptions will increase consumers trust. A significant and positive relationship between perceived

privacy/security and consumer trust is supported by a variety of studies (Bigne, et al., 2010; Escobar-Rodríguez and Carvajal-Trujillo, 2014; Kim, et al., 2011; Ponte, et al., 2015 Agag and El-Masry, 2016; Elbetagi and Agag, 2016). Therefore, the following hypothesis was proposed:

- **Hypothesis 10**. Privacy/security positively influences consumer trust towards online bank website.

### 3.4.8 Demographic Factors

Different demographic factors affect the adoption of internet banking to a different degree. Those factors have been found to be associated with the adoption of different banking channels, especially internet banking (e.g. Al-Ashban and Burney, 2001; Karjaluoto et al., 2002; Al-Qahtani, 2014; AL-Nahdi et al., 2015).

Gender is defined as a hierarchical separation between women and men embedded in both social institution and social practices (Jackson & Scott, 2001). The consideration of gender in models of behaviour was introduced in gender schema theory (Bem, 1981) and other technology acceptance models (e.g., TAM 2 and TPB). Previous studies has shown that men and woman are different in decision-making processes and usually use different socially constructed cognitive structures (Venkatesh & Morris, 2000). Previous research has suggested that gender plays an important role in predicting usage behaviour in the domain of IS research (e.g., Venkatesh & Morris, 2000; Porter & Donthu, 2006; Venkatesh et al., 2003; He & Freeman, 2010; Wang et al., 2009; Tarhini et al., 2014). For example, Venkatesh et al. (2003) found that the explanatory power of TAM significantly increased to 52% after the inclusion of gender as a moderator. More specifically, gender was found to have a moderating impact on the relationships between trust in e- bank website, positive WOM and intention to use e banking services. Venkatesh et al. (2003) found gender to influence the relationship between performance expectancy (similar to PU) and intention, with the relationship significantly stronger for men compared to women. Their findings are consistent with literature in social psychology, which emphasizes that men are more pragmatic compared to women and highly task-oriented (Minton et al., 1980). It is also argued that men usually have a greater emphasis on earnings and motivated by achievement needs (Hofstede & Hofstede, 2005) which is directly related to usefulness perceptions. This suggests that men place a higher importance on the usefulness of the system. Their argument is also supported by other researchers (e.g., Srite & Karahanna, 2006; Terzis & Economides, 2011). In

contrast, Wang et al. (2009) did not find any moderating effect of gender on the relationship between performance expectancy (similar to perceived usefulness), effort expectancy (similar to perceived ease of use) and intention. Venkatesh et al. (2003) reported that the intention to adopt and use a system is more highly affected by effort expectancy for women than men. Their results are consistent with gender role studies (Schumacher & Morahan-Martin, 2001). The reason could be that women compared to men generally have higher computer anxiety and lower computer Self-Efficacy (SE). The difference is based on the correlational relationship, which is closely related to perceived ease of use, so that higher computer self-efficacy will lead to lowering of the importance of ease of use perception (Venkatesh & Morris, 2000). This is also supported in previous research in psychology (e.g., Roca et al., 2006) which suggests that men perceive analytical and competitive approaches to solving problems which will lead to higher score on Self-Efficacy (Venkatesh et al., 2004). Additionally, it has been found that gender affects the relationship between trust and intention to use such that the effect is stronger for men (Huang et al., 2012). Women are found to rely more than men on others' opinion (Hofstede & Hofstede, 2005) as they have a greater awareness of others' feelings compared to men and therefore more easily motivated by social pressure and affiliation needs than men.

Research has shown that age is an important demographic variable that has direct and moderating effects on behavioural intention, adoption and acceptance of technology (e.g., Chung et al., 2010; Wang et al., 2009; Yousafzai et al., 2007; Walker & Johnson, 2008; Sun & Zhang, 2006). Venkatesh et al. (2003) reported that age was an important moderator within his UTAUT model. They found that within an organizational context, the relationships between performance expectancy (similar to perceived usefulness), perceived ease of use and intention was stronger for younger employees, while the relationship between effort expectancy (similar to perceived ease of use) and intention was stronger for older employees in accepting and using the technology (Venkatesh et al., 2003). They concluded that "increased age has been shown to be associated with difficulty in processing complex stimuli and allocating attention to information on the job" (Venkatesh et al., 2003, p. 450). They also found that age moderate the relationship between facilitating conditions and behavioural intention. Similarly, Morris and Venkatesh (2000) found the same moderating effects of age. It could be that age increased the positive effect of SN due to greater need of affiliation (e.g., Burton-Jones & Hubona, 2006).

In previous studies, education level was related to knowledge and skills which in turns affect the behavioural beliefs (ease of use and usefulness) towards acceptance and usage of new

technologies (Rogers, 2003). Educational level, like other individual factors, has been studied as an antecedent of ease of use (Agarwal & Prasad, 1999) and as a moderator that affects the relationship between main determinates and behavioural intention (Burton-Jones & Hubona, 2006). In particular, educational level was found to influence the relationships between ease of use and intention (Porter & Donthu, 2006; Sun & Zhang, 2006; Burton-Jones & Hubona, 2006). Venkatesh et al. (2000) found a positive correlation between the level of education and trust, Similarly, Burton-Jones and Hubona (2006) suggested that higher education level leads to positive association with ease of use and those users are less sensitive to usefulness since it will reduce the computer anxiety and improve the overall attitude. Abu-Shanab (2011) found a moderating effect of educational level on the relationship between most of the key determinants of UTAUT and acceptance of internet banking in Jordan.

Akinci et al.'s (2004) findings in Turkey showed that middle-aged consumers are more likely than younger or older consumers to use internet banking whereas in Italy, younger consumers are more likely than older consumers to use ATMs (Filotto et al., 1997). In addition to that several studies found that customers who are younger more likely to use internet banking (e.g. Sathye, 1999; Karjaluoto et al., 2002; Mattila et al., 2003). Similarly, those who belong to the upper middle class and have high-level occupations and income are more likely to use internet banking (Jayawardhena and Foley, 2000; Karjaluoto et al., 2002; Al-Qahtani, 2014).

According to Polatoglu and Ekin (2001) and Howcroft et al. (2002) and Al-Qahtani (2014) one of the demographic factors that describe typical e-banking customers is high education. Moreover, different authors found that customers who are educated more likely to use internet banking (e.g. Sathye, 1999; Karjaluoto et al., 2002; Mattila et al., 2003; Al-Qahtani, 2014).

Additionally, Akinci et al. (2004) found that the internet banking users in Turkey were well educated, more technology-oriented and convenience-minded costumers. Income is another major demographic factor which relates to the usage of internet banking. The adoption of internet banking has been found positively associated with income level (Al-Ashban and Burney, 2001). Similarly, different authors found that wealthier customers are expected to use internet banking (e.g. Sathye, 1999; Mattila et al., 2003; AL-Nahdi et al., 2015). In addition, Karjaluoto et al. (2002) and AL-Nahdi et al. (2015) found that who have high-level occupations and income is more likely to use internet banking. Therefore, the following hypotheses are proposed:

- **Hypothesis 11**. Demographic factors moderate the relationship between trust in e-bank website and intention to use online banking services.
- **Hypothesis 12**. Demographic factors moderate the relationship between trust in e-bank website and e-WOM.

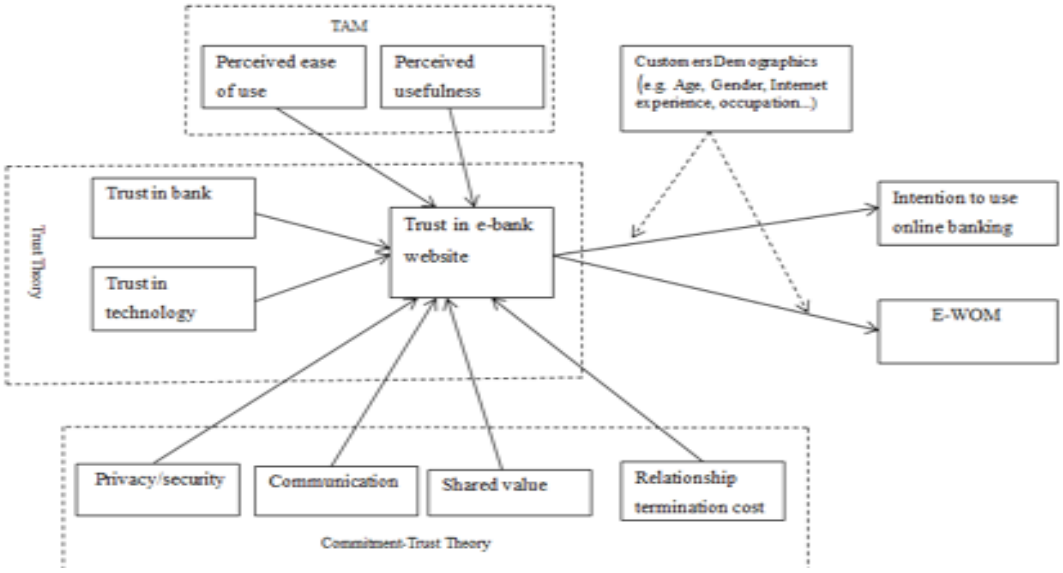



**Figure 3.2: Conceptual Framework of the Antecedents and Consequences of Customer Trust towards Online Banking.**
**Source: The Researcher**

Mobile banking technology represents an attractive area of interest to be examined and studied especially considering the main challenges accompanied by introducing such technology. Taking into account the lower adoption rate of Mobile banking by Saudi Arabia customers, this study realised the necessity of examining the main factors that could shape the Saudi Arabia customers' intention and adoption of Mobile banking. This is in addition to the fact that there are a quite few studies that have addressed the related issues of Mobile banking in Saudi Arabia. Furthermore, there was a need to select the theoretical foundation which is able to capture the most important aspects associated the adoption of Mobile banking by Saudi Arabia banking customer. Thus, a new model was developed to propose the conceptual model of the current study. This was based on TAM and commitment-trust theory and extended by including trust as external factor have been extensively citied as one of the most important predictor of the customers intention and adoption of online banking channels. Examining and explaining customer intentions and the adoption of Mobile banking have been recently the focus for scholars and practitioners worldwide, and this issue has seen a dramatic

growth in the relevant literature of online banking channels. More importantly, researchers have formulated different models and theories from the IS/IT area such as the Innovation Diffusion Theory (IDT) (Rogers, 2003) by Lin (2011) and Kim, Shin, and Lee (2009); the Technology Acceptance Model (TAM) (Davis, Bagozzi, & Warshaw, 1989) by Gu et al. (2009); the Theory of Planned Behaviour (TPB) (Ajzen, 1991) by Luarn and Lin (2005); the Decomposed Theory of Planned Behaviour (DTPB) by Püschel et al. (2010); the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh, Morris, Davis, & Davis, 2003) as by Zhou, Lu, and Wang (2010). However, upon further reflection, it became apparent that most of these theories and models were originally proposed in an organisational context (e.g. TPB and UTAUT) (Venkatesh et al., 2012). This leads to a concern regarding their applicability in customer-focused contexts (Venkatesh et al., 2012). Therefore, due to a variance between the customers and the organisational context in terms of which and how factors can form the individual's trust, intention and behaviour towards technology, there is a need to select the theoretical framework that is appropriate for the customer (i.e. individual consumer) context (Venkatesh et al., 2012). This framework should also be able to cover the main aspects relating to the individual customers' trust and intention to adopt Mobile banking.

The results of this study will provide clues for Saudi Arabia banks about the important influence of trust toward online banking services. Therefore, banks have to initially be sure that Mobile banking channels are able to conduct financial transactions efficiently, securely, and within less time along with the availability of information required by customers to successfully use these channels. Practically, expanding the range of financial services provided by the banks and maintaining the permanency of their performance efficiently and effectively 24/7 will positively reflect on the customers' perception toward Mobile banking as more useful and trustworthy channel.

## 3.5 Conclusion

The chapter critically reviewed the relevant literature that contributed to development of conceptual framework and the research hypotheses. It is evident that financial institutions are increasingly reliant on development of trust that enables them to convince their customers to engage in online banking. This is more so in the contemporary environment, as financial institutions are increasingly tasked with the responsibility to engage with their consumers through online banking in Saudi Arabia. It is a result of a less frequent physical interaction, given the relatively spread out physical branches of financial institutions across Saudi Arabia.

Furthermore, commitment-trust theory and Technology Acceptance Model were deployed as fundamental framework in this research with the extension of trust element to develop a conceptual model for the antecedents and consequences of consumer trust towards online banking services.

Perceived usefulness, perceived ease of use, relationship termination cost, shared value, communication, privacy and demographic factors all have an important role in influencing the extent of trust and the subsequent intention of customers to engage in and use online banking services provided by the financial institutions. Thus, commitment-trust theory, and trust theory conceptualize the causal relationships among this research's constructs: relationship termination cost, shared value, communication, privacy/security, trust in bank, trust in technology, perceived ease of use, perceived usefulness, intentions to purchase e-banking services, and e-WOM

Chapter 3 has developed 12 research hypotheses through the review of the relevant literature, which is followed by the discussion of research methodology in the next chapter that would be adopted by the researcher to test these hypotheses via primary data collection.

# Chapter 4: Research Methodology

## 4.1 Introduction

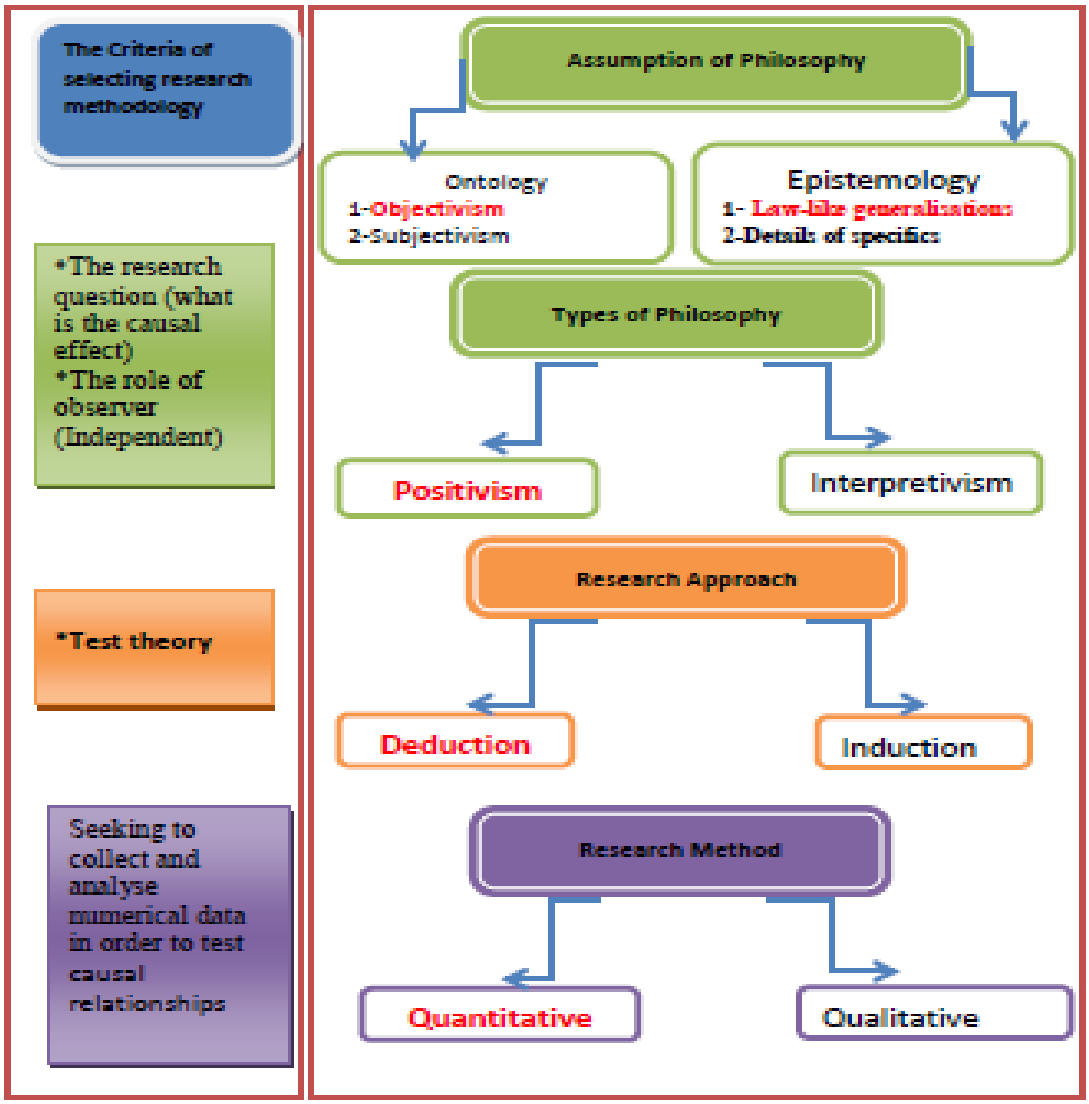
This chapter reports the research methodology which is a systematic way to accomplish the research objectives or to solve the research problem. It refers to how research is performed scientifically. Researchers should adopt many logical steps to study the research problem in order to get a detailed understanding of the research issues and how they could be addressed (Smith, 2007). Research method the procedures and techniques employed for conducting research (Bryman and Bell, 2015). The methods include those related to the collection of data, statistical techniques and to evaluate the accuracy of the results. Therefore, research method is a part of the research methodology (Bryman and Bell, 2015). As Kothari (2004) stated, discussion of research methodology not only takes into consideration the research methods but also considers the rationale underlying the methods used in the context of the study and explain the use of a particular method or technique over other methods.

This chapter is structured as follows. Firstly, Section 4.1 outlines the research philosophy. Section 4.2 presents the research paradigm and Section 4.3 provides the different types of research approach. Section 4.4 explains the research methods and Section 4.5 describes the research design and strategy.

## 4.2 Research Philosophy

The term research philosophy relates to the development and the nature of knowledge (Saunders, et al., 2012). There are numerous reasons why an understanding of philosophical issues is important. Firstly, it can help to refine and to identify the research methods, which are used in a particular study and to illuminate the overall research strategy which is employed. This includes the type of gathered data and its source, and how it helps to answer the research questions. Secondly, knowledge of the research philosophy supports and assists the evaluation of different methodologies and methods and to employ suitable methods for a study. Thirdly, it may inform the selection or alteration of the research (Easterby-smith, et al., 2008). Therefore, ignoring the research philosophy can affect the quality of the research and it may become unsuitable (Neuman, 2010). Although there are many research philosophies (e.g. positivism, realism, interpretivism, objectivism, subjectivism, pragmatism, functionalist

philosophy, interpretivist, radical humanist and radical structuralism philosophy (Saunders et al., 2009), this research focuses on two types, namely positivism and anti-positivism due to their relevance for the research topic.




Red texts denote to a suitable research methodology for the study

**Figure 4.1: Research Methodology**

**Source: Saunders *et al.* (2009)**

### 4.2.1 Positivism

The positivist position is employed mainly in natural science which is concerned with a single truth or reality (Saunders et al., 2009). Positivism can be applied to social studies if the research follows a scientific method or scientific principles (Webb, 1992). Positivism supposes that objects can be investigated as hard facts and the relationships related to these facts in order to become scientific rules. Therefore, social issues can be studied in much the same way as natural issues (Smith, et al., 2005). The positivists believe that the study of consumers and marketing phenomena should be a scientific study. Marketing research establishes causal relations which support research which tries to understand, explain and predict marketing phenomena (Huberman and Miles, 2002).

The positivist research philosophy is premised upon the argument that it is only the knowledge based on facts and obtained through the observations including measurement that could be truly considered reliable (Saunders et al., 2009). The researcher under positivist research philosophy has a role limited largely to collection and subsequent analysis of data through an objective approach (Bryman and Bell, 2015). Furthermore, positivist research philosophy also includes the research findings that could be observed and quantified by the researcher (Smith et al., 2005). Within positivism, researcher remains independent of the research being conducted, which means there is a focus on facts to collect and analyse data whilst maintaining objectivity (Bryman and Bell, 2015).

As with its usefulness, there has been considerable research to assess the extent to which positivist research philosophy could be considered feasible within the social sciences (Hammersley and Atkinson, 2007). Similarly, Huberman and Miles (2002) argue that some of the complexities experienced by researchers when collecting data including lack of consistency in research findings could be a result of positivism research philosophy. This highlights the need to pay considerable attention when deciding whether positivist research philosophy would be adopted.

### 4.2.2 Anti-positivism (Interpretivism)

Anti-positivism or interpretivism is important in gaining a detailed understanding of the differences between people rather than objects (Saunders et al., 2009). Interpretive perspectives view reality as being socially constructed (Howell, 2013). Research can explain

reality only through a subjective interpretation which focuses on the details of a situation, a reality behind these details and the motivations of action (Denzin and Lincoln, 2000). Research which adopts an anti-positivistic perspective is not concerned with the issue of generalisability (Bryman and Bell, 2007).

The analysis of the phenomena undertaken in the natural environment is important as part of interpretivist research philosophy, which is in addition to accepting that the researchers are unable to avoid affecting the phenomenon they investigate (Bryman and Bell, 2015). Moreover, even though there are numerous interpretations associated with the reality, it is held that these interpretations are a component of the knowledge that is being sought.
In contrast to positivism where the researcher maintains their independence form the research subject, in the case of interpretivist philosophy the researcher is part of what is being analysed (Saunders et al., 2009). The objective based on interpretivist research philosophy is to enhance the understanding of the topic of study through obtaining comprehensive data that is used to induce and develop ideas (Smith et al., 2005). In addition, interpretivism philosophy also considers the perspective of all the relevant stakeholders.

### 4.2.3 Research Philosophy Adopted:

This study is considered to be applied research, as it answers the research question which is: what is the cause and effect relationship between antecedents and consequences of consumers trust towards online banking? On the basis of the research hypotheses formulated and summarised in chapter 3 earlier, it is clear that this study accepts the objectivist reality of an ontological perspective. It also accepts the epistemological position as the research hypotheses focus on causality and low-like generalisations through sufficient sample size and using statistical analysis. This means that the research is independent of the subject under examination, which supports the selection of positivist research philosophy as interpretivist involves the researcher being part of what is observed. In this research, the researcher sought to maintain independence of the subject of the study. Furthermore, human interests were given lesser relevance and importance as part of the study.
Another factor that supports the selection of positivist research philosophy is that research progressed through the ability of the researcher to conduct a comprehensive and critical review of the literature in order to formulate 12 research hypotheses, as mentioned in chapter 3. These hypotheses have assisted the researcher to operationalise the key concepts being

studied in the research, which further helps in measuring these concepts. This also reinforces the selection of positivism over interpretivism as a more suitable research philosophy.

## 4.3 Research Approach

It is useful to attach the research approach to the research philosophy. The choice of research approach then enables the researcher to decide on the research design, that is, the techniques for collecting data, and the procedures of analysis. Furthermore, the chosen research approach helps the researcher to select the appropriate research strategy and method.
Saunders et al. (2012) state that there are two types of research approaches: the deduction approach and the induction approach. These are as follows.

### 4.3.1 Deduction Approach (test theory)

Deduction is the process by which the researcher can arrive at a reasoned conclusion by logical generalization of a known fact (Sekaran, 2003). A deduction approach adopts current theories and concepts to justify research relationships. The empirical findings are employed to test this theory (Vanderstoep and Johnston, 2009). In a deduction approach, the research is interested in studying some issues which are related to previous theories and concepts and these make up the research hypotheses. Moreover, the deduction approach (testing of theory) is related to quantitative research (Bryman and Bell, 2007).
The way in which deductive reasoning functions is that it begins through the review of relevant theories to assist in formulation of research hypotheses that could be subsequently tested as part of the research. The hypotheses are assessed by conducting primary research, which involves collection of data to assess whether hypotheses could be accepted or rejected to reinforce the existence of a particular theory (Saunders et al., 2009).

### 4.3.2 Induction Approach (build theory)

Induction approach is a process where we observe certain phenomena and on this basis, arrive at conclusions (Sekaran, 2003). The inductive research reverses the stages applied in the deductive research (Lancaster, 2005). An inductive research approach does not need previous theories or hypotheses. Therefore, this type of research is more flexible than the deduction approach. Saunders et al. (2012) indicate that inductive research tends to lean towards interpretivism and Bryman and Bell (2007) show that the induction approach relates mainly to qualitative research which followed the interpretivism approach.

Inductive reasoning approach is different from the deductive reasoning approach in that it initiates from undertaking specific observations, which are followed by development of patterns and key trends. Subsequently, potential hypotheses are developed through the assessment of these patterns and trends, which ultimately assist in development of a theory in line with the research findings.

### 4.3.3 Research approach adopted in this research:

Given the specific distinction between deductive and inductive reasoning approaches, this research employs deductive reasoning approach. This is because the researcher began by reviewing the relevant literature including development of trust that enables them to convince their customers to engage in online banking. Furthermore, commitment-trust theory and Technology Acceptance Model were deployed as fundamental framework in this research with the extension of trust element to develop a conceptual model for the antecedents and consequences of consumer trust towards online banking services.

This literature led to the formulation of 12 specific research hypotheses, which were used for the purposes of undertaking primary research to ultimately confirm whether these research hypotheses could be accepted or not. Thus, it is clear that deduction research approach is considered more suitable in contrast to the induction research approach.

Bryman and Bell (2015) argued that deductive reasoning by its very nature tends to be narrow and specific with a primary emphasis on testing and subsequently assessing whether hypotheses could be confirmed. This is in contrast to the inductive reasoning approach, which is exploratory and open-ended. Therefore, given the specific and narrow focus of this study instead of an open-ended approach, it also justifies the use of deduction research approach.

## 4.4 Research Methods

There are three research methods that can be used in human and social science research: quantitative, qualitative and mixed methods (Creswell, 2003).

### 4.4.1 Quantitative Method

Quantitative method is an objective and systematic process in which pieces of numerical data are used to obtain information about the world and which are analysed by using mathematical methods. Quantitative research emerges from a positivism paradigm which operates on strict

rules of logic, truth, laws and predictions (Burns and Grove, 2003). Quantitative research is concerned with producing data in a quantitative form which can be subjected to precise quantitative analysis in a rigid and formal way. Quantitative research is used to test a theory by identifying the variables based on the previous studies, examining the research relationships and obtaining the findings (Kothari, 2004). Johnson and Onwuegbuzie (2004) raise that there are many reasons to account for the use of quantitative research which include the following:

- Quantitative method can achieve greater objectivity and more accurate results. It depends on a few variables and it follows many tools in order to test the validity and reliability of the data;
- • Quantitative method can generalise research findings when the study collects data from a random sample which represents its population and it has sufficient sample size.
- Quantitative method enables researchers to compare findings statistically between different groups;
- The research results are relatively researchers' personal bias can be avoided who can keep a 'distance' from participating subjects and employ subjects unknown to them (Punch, 2013).

### 4.4.2 Qualitative Method

Qualitative method is an interpretive naturalistic approach. Qualitative research is concerned with extracting and interpreting individuals' attitudes, perception and beliefs of situations. This means that qualitative researchers investigate topics in their original contexts in order to interpret the phenomena based on the meanings of people who have more experience of the subject. Qualitative research attempts to make sense of personal stories to solve the research problem (Thomas, 2003). Qualitative research is subjective and reliant on analysis of the qualitative data instead of numerical data that is mainly quantified (Miles and Huberman, 1994). This makes qualitative research methods useful, especially when discovering a new concept or phenomenon. A qualitative method seeks to understand problems in a particular environment. It is not concerned mainly with measuring the event through observation (Malhotra, *et al.*, 2012).

### 4.4.3 Research Method chosen

Based on the research aim, objectives and research questions in this research along with the research philosophy of positivism, and the research approach of deduction; this study considers the quantitative method as a suitable research method. The deductive design uses quantitative methods to achieve the research objectives and it seeks to collect and analyse numerical data in order to test the relationship between the antecedents and consequences of consumers trust towards online banking.

A key reason for selection of quantitative data is that it would allow the researcher to generalise the findings of the research. This is important because it would be useful in obtaining greater comfort, reliability and validity over the primary research. Furthermore, Kothari (2004) stated that quantitative research leads to an increase in objectivity and accuracy of the result findings. The ability to draw summary of data including the statistical and econometric analysis using the quantitative data collected further assists in generalisation, which would also help improve the validity and research reliability.

Moreover, as the research undertook positivist research philosophy whereby the researcher was independent from the subject of the study, the use of quantitative research method and data assisted the researcher in avoiding the personal bias. This was through keeping a distance with the research sample to maintain independence.

## 4.5 Research Design

Research design is considered to be an important part of reliable and valid research. It is a plan or framework for conducting the research (Yin, 2003). A research design is the preparation of conditions for the collection and analysis of the data required either to solve the research problem or to achieve the research purpose (Kothari, 2004). It describes the purpose of the study and the types of questions being addressed, the techniques to be used for collecting data, approaches to select samples and how the pieces of data will be analysed (Gray, 2004). The next section discusses these issues.

### 4.5.1 The Purpose of the Research

There are three types of research namely; exploratory, descriptive, and explanatory research as follows.

#### 4.5.1.1 Exploratory Research

An exploratory research aims to develop a hypothesis rather than testing or confirming a hypothesis (Kothari, 2004). Such research seeks to identify the research problem or to address an issue when little or no prior research has been conducted to provide enough information about the subject (Saunders et al., 2009). The main focus of these researches is to discover ideas and insights. Therefore, an exploratory research is useful when the researcher does not know the essential variables to be investigated (Creswell, 2009).

#### 4.5.1.2 Descriptive Research

Descriptive research portrays the characteristics of a particular phenomenon, event, individual, or group. It provides a description of the position of affairs as it is at present. Researchers seek to collect data about some variables such as some items such as frequency of shopping and demographic questions (Kothari, 2004; Salkind, 2010). Therefore, it is concerned with counting the frequencies. In order to collect this data in descriptive studies, researchers use survey methods and they employ comparative and correlation methods for the purpose of analyses (Kothari, 2004).

#### 4.5.1.3 Explanatory (causal) Research

Explanatory research aims to answer the question why some variables have an effect on other variables or the explanatory research seeks to test a theory which is a set of logically organized and interconnected principles, rules, assumptions, statements and propositions which are employed to explain, describe and predict the phenomenon. Many theories illustrate the critical effects of the relationships between the variables. They hypothesise the direction, which may be positive or negative, and the strength and causal relationship between variables. Explanatory research attempts to go beyond the findings of exploratory research and descriptive research to understand the real reasons behind the phenomenon (Kothari, 2004; Saunders et al., 2009). It distinguishes between dependent and independent variables (Gray, 2009).

The purpose of a research should be determined by the research questions and research objectives. Accordingly, the present study is explanatory research. The commitment-trust theory and TAM are used to test the relationship between the dependent variables (intention to use online banking and word of mouth) and independent variable (shared value, communication, termination cost, privacy/security, perceived ease of use, perceived usefulness, trust in bank and trust in technology).

### 4.5.2 Research Strategies

Research strategies are employed to identify the sources of data collection and the research limitations money, time, and location. These strategies help researchers to provide data that can answer the research questions or achieve the research objectives. There are many types of research strategies such as experiment, survey, and case study (Saunders et al., 2009).

#### 4.5.2.1 Experiment

Experimental research is an empirical quantitative research method. It follows the positivism paradigm and seeks knowledge through objective and systematic methods (Miller and Salkind, 2002). The purpose of the experimental research is to test a research hypothesis. Researcher manipulates either the independent variable or the experimental group subject to some special programme or condition (Kothari, 2004). An experiment seeks to discover either cause-and-effects or explanatory variables which must be defined and measured (Saunders et al., 2009).

#### 4.5.2.2 Survey

Survey is usually employed to answer the questions of who, what, how much and how many (Saunders et al., 2012). This strategy is more likely to apply in descriptive and explanatory research and it is linked mainly to the deduction approach (Gray, 2009). Normally quantitative data are collected through questionnaires, which enables the researcher to collect a large sample of data incuding the responses to statement questions to test the specific research hypotheses. The data explain the relationships between the research variables. This strategy uses statistical analysis to achieve the research results (Saunders et al., 2009).

#### 4.5.2.3 Case study

Yin (2003) argued that case study is an empirical research that studies and evaluates a recent phenomenon within the real-life context; whereby the existing boundary between the context and phenomenon is not evident including the use of a range of sources of evidence. Case study is a very popular method employed in qualitative research which aims to collect data or to observe a social unit, for example, a person, a family, a cultural group, an organisation, or a whole community. It is concerned with studying the phenomena in depth rather than widely. Also, it fully examines a limited number of events or conditions and their interrelationships. Therefore, case study is fundamentally an intensive analysis of a particular unit under specific considerations (Kothari, 2004) and offers a deeper understanding of a complex topic.

#### 4.5.2.4 Research Strategy Selected

The study examines the relationship between the antecedents and consequences of consumers trust towards online banking. As discussed above, survey is usually employed to answer the questions of what, how much and how many. In addition, this strategy is more associated with the deduction approach and enables data to be collected quantitatively. Furthermore, the data, collected from the survey strategy, can be used to suggest a possible explanation of the relationship between the study's variables. Consequently, the survey is the most relevant to the research philosophy, deduction approach and quantitative method of this study.

### 4.5.3 Survey

A survey questionnaire is considered to be a key tool in collecting data and it is the most widely used tool in social research (Lancaster, 2005). A survey will be carried out to solicit information relating to online customers. This approach is consistent with the positivistic-oriented view as the dominant paradigm employed in this study. The survey approach refers to the drawing of a sample of respondents from a population for examination, from which inferences are made about the population (Collins, et al., 2003); Questionnaires can be divided into two main types according to their administration method: self-administered and interviewer-administered.

The self-administered questionnaire is usually completed by the respondents, and includes three sub-categories: the internet-mediated questionnaire (via e-mail or a website), the postal questionnaire (hard copy with a cover letter, sent by post), and the delivery-and- collection questionnaire (hand delivered, then collected later). For the interviewer-administered

questionnaire, the interviewer must record the responses; this could take the form of a telephone questionnaire (the interviewer telephones the respondent and completes the questionnaire based on their answers) or an interview questionnaire (where the interviewer completes the questionnaire will face-to-face with the respondent; also called 'interview schedules') (Saunders, et al., 2009). In this study, the web survey method will be used over other survey methods.

### 4.5.4 Survey design

Survey questions can take three possible structures: closed, open-ended, and contingency questions (Bryman and Bell, 2015). Closed (or multiple choice) questions ask the respondent to tick or circle a choice from a set of answers; the respondent is restricted to the offered choices which introduces bias to some extent and does not allow any creativity on the part of the respondents. The answers to closed questions can simply be yes/no, or a range of positive to negative responses, represented by three, five or more answers (Denscombe, 2014). Open-ended questions on the other hand give respondents the chance to supply their own answers, by writing a number, word or some text. This type of question can help the researcher to gather new information on the topic studied (Denscombe, 2014). However, they can be difficult to answer and to analyse. Contingency questions are a special case of closed questions; also called filter questions, they are directed at a sub-category of respondents, and seek extra or more detailed information about a previously-answered question (Sinscalco and Auriat, 2005).

There are three types of questionnaire that can be used: structured, semi-structured, and unstructured. A structured questionnaire consists of questions with predefined answers. This type is suitable for quantitative studies because it helps the researcher to gain responses to the pre-defined statement questions, which could be subsequently analysed leading to generalisability of the findings (Bryman and Bell, 2015). A structured questionnaire is also useful when it comes to enhancing the reliability and validity of the research findings (Denscombe, 2014).

Semi-structured questionnaires comprise a mixture of closed-ended, open-ended and sometimes partially closed-ended questions. These questionnaires are suitable for investigative studies, as they allow the researcher to ask open-ended questions that could be subsequently analysed to investigate the subject of the research. The unstructured questionnaire is made up of questions that allow free responses and is often referred to as a

‘topic guide’. This type of questionnaire is most suitable for qualitative studies (Hague, 2002).

The structured questionnaire will be used in this study; to allow the respondents to choose the most relevant answers representing their opinions. Furthermore, as argued earlier regarding the ability of structured questionnaire to help increase the response rate, reliability and validity as well as generalisability, these are also important considerations in deciding on the selection of structured questionnaire.

Four types of information are requested in the questionnaire: knowledge, beliefs/attitudes/opinions, behaviour, and attributes. Knowledge information is about what people know, or how well they understand something (awareness, for example). Beliefs/attitudes/opinions type of information relates to perceptions of people, thoughts, ideas, feelings or judgements. Behavioural information is concerned with what people do or have done, in the present or past, or plan to do in the future. Finally, attributes-related information is people’s personal demographic characteristics, such as age, education, income or occupation (Taylor -Powell, 1998). A mixture of these types of information is requested in the questionnaire designed for this study. Before moving on to the questionnaire layout, the variables of the conceptual framework developed in Chapter 3 are operationalized in the following section. A copy of the survey questionnaire is included in the appendix 1.

### 4.5.5 Research Measures

Looking back at the conceptual framework developed in Chapter 3 of this study. The independent variables are shared value, communication, relationship termination cost, privacy/security, trust in technology, trust in bank, perceived usefulness, and perceived ease of use. Whilst the dependent variables are intention to use and word of mouth, the mediator variable is trust in website. In addition, this section presents the measures used in the quantitative survey.

A questionnaire with multiple item five-point Likert scales (1=strongly disagree; 5=strongly agree) will be developed for all the theoretical constructs used in the conceptual model. The Likert scale avoids the problem of development pairs of dichotomous adjectives. The scale consists of a series of statements expressing either a favourable or an unfavourable attitude toward the concept under study. The respondent will be asked to indicate the level of her or his agreement or disagreement with each statement by assigning it a numerical score. The scores are then totalled to measure the respondent's attitude.

In developing the measurement scales the relevant previous literature and studies have been reviewed. Most of the measurements for the constructs in the conceptual model are readily available in the literature (see Table 4.1).

**Table 4.1: Items Measurements**

| Constructs | Items | References |
|---|---|---|
| **Intention to use online banking** | I intend to use the online banking website in the near future. | (Venkatesh, 2000; Kim, et al., 2012). |
| | I intend to use the online banking website to access banks services frequently. | |
| | I plan to use online banking services from this website. | |
| | I will continue using online banking websites in the future. | |
| **eWord of mouth** | I am willing to recommend this online banking website and its products/services to others. | (Choi and Choi, 2014). |
| | I usually say positive things about this online banking website to others. | |
| | I will tell my friends and relatives to use this online banking products /services website. | |
| **Perceived usefulness.** | Online banking websites enable me to accomplish tasks more quickly. | (Pavlou, 2003; Van Slyke et al., 2004; Carter and Be´langer, 2005; Vassilakis et al., 2005). |
| | Using online banking websites save my time. | |
| | Online banking websites would enable me to complete different transactions more quickly. | |
| | I think online banking websites would provide a valuable service for me. | |
| **Perceived ease of use** | Interacting with online banking websites requires a lot of my mental effort. | Davis (1989); Cheng et al. (2006); Moore and Benbasat (1991); Castaneda et al. (2007). Kumar et al. (2007). |
| | My interaction with online banking websites is easy for me to understand. | |
| | I do not find that online banking websites need high skills. | |
| | Learning to interact with the online banking websites would be easy for me. | |
| **Trust in online banking website** | This online banking website is trustworthy. | (Teo et al., 2008). |
| | This online banking website is honest and truthful. | |
| | This online banking website can be trusted. | |
| **Trust in technology** | The Internet has enough safeguards to make me feel comfortable using it to transact personal business with banks agencies. | (Belanger and Carter, 2008; McKnight and Chervany, 2002; McKnight et al., 2002a; Teo et al., 2008). |
| | I feel assured that legal and technological structures adequately protect me from problems on the Internet. | |
| | I feel confident that encryption and other technological advances on the Internet make it safe for me to transact. | |

| | | |
|---|---|---|
| | In general, the Internet is now a robust and safe environment in which to transact business. | |
| **Trust in bank** | I believe that the ban agency acts in citizen's best interest. | (Belanger and Carter, 2008; McKnight et al., 2002a; Teo et al., 2008; Wang and Benbasat, 2008). |
| | I believe that the bank agency is truthful, honest and genuine in its dealings. | |
| | In general, the bank is reliable to meet their obligations | |
| **Shared value** | The online service provider respects our business values. | (Morgan and Hunt, 1994; Theron, et al., 2008). |
| | The online service provider and we have a mutual understanding of each other's business values. | |
| | The online service provider sticks to highest level of business ethics in all its transactions. | |
| **Relationship termination cost** | My personal financial management would be greatly disrupted if I decided I want to leave the bank's Online Banking now. | (Vatanasombut, et al., 2008). |
| | It would cost very little for me to leave the bank's Online Banking now. | |
| | The costs to switch to another online bank would be very high at this time. | |
| | If I decided to stop using the bank's Online Banking now, I could easily find a comparable alternative | |
| **Communication** | The online service provider provides high quality information. | (Morgan and Hunt, 1994) and Moorman, et al., 1993). |
| | The online service provider allows buyers to track order status on the website. | |
| | The online service provider keeps its buyers informed about the latest developments.<br>My choice to purchase online was a wise one. | |
| **Privacy/ security** | I am concerned about the privacy of my personal information during a transaction. | (Bart,et al., 2005; Mukherjee and Nath, 2003; Roman, 2007; Kim, et al, 2008, Roman, 2008). |
| | The bank website implements security measures to protect users. | |
| | Information regarding the privacy policy is clearly presented. | |
| | The site appears to offer secure payment methods. | |

**Source: The Researcher**

### 4.5.6 Questionnaire layout

The questionnaire is divided into two sections. Firstly, Section 1 discovers determinants of consumer trust towards online banking websites. These questions aim to obtain information regarding consumers' perceived ease of use, perceived usefulness, trust in bank, trust in technology, shared value, relationship termination cost, communication, and privacy/security. Secondly, Section 2 is constructed to obtain personal information about respondents such as gender, academic qualification, income and the type of industry. These questions aim to provide information about the profile of the study sample.

#### 4.5.6.1 Sample size

The appropriate number of participants in a sample size is a tricky and complex decision. Hence, this study decided to explain the most commonly used techniques in determining the proper number of the sample size. First, rules of thumb; some scholars follow a rule of thumb in determining the proper sample size. For example, (Johanson and Brooks, 2010) suggests four rules of thumb to decide the proper sample size (n).

(i) The number of participants should be larger than 30 and the less than 500.

(ii) If researchers have more than one group (e.g., male or female, Johanson and Brooks (2010) recommend researchers to employ more than 30 participants for each group.

(iii) In the case of using multivariate analyses, Johanson and Brooks (2010) advise researchers to have a sample size that is larger, at least 10 times or more, than the number of variables used in the analysis. Furthermore, other scholars such as Denscombe (2014) suggests having 15 cases per construct to calculate the proper sample size. Denscombe (2014) posits that 15 cases per construct are sufficient to get trustworthy results from the multivariate analysis. In turn, Bentler and Chou (1987) advise researchers to determine the sample size based on number of parameters. For example, Peng and Lai (2012) posit that if the data is normally distributed, then at least 5 cases per parameter are sufficient.

(iv)If the researcher is conducting a simple laboratory experiment where some conditions are controlled, then the appropriate sample size should be between 10-20 participants (Denscombe, 2014).

The second technique that scholars use in determining the adequate number of a sample size depends on the data analysis processes or techniques (Hair, et al., 2006). This study explains the considerations that (Hair, et al., 2006) recommend determining the proper sample size when using Structural Equation Modelling (SEM) techniques. According to Hair et al.

(2006), if the distribution of the data deviates from the assumption of multivariate normality, then 15 respondents for each parameter is an acceptable number to minimise the problem of deviation from normality.

Hair *et al.* (2006) explain that if the sample size exceeds 400, then the MLE method becomes more sensitive and results of the goodness-of-fit measures become poorer. Third, model complexity; this consideration relates to the number of constructs used in the analysis. In other words, the more constructs a model has, the more parameters should be used in the analysis and as a result the more sample size is needed to conduct the analysis. Moreover, Hair et al. (2006) assert that if a researcher is using a multi-group analysis, then, an adequate sample for each group is required. Fourth, missing data, Hair et al. (2006) posit that the more missing data research has the greater sample size a study needs.

The study will employ SEM to test its hypotheses. The SEM fit model depends mainly on the sample size and it helps support the sufficient statistical power and precision of the parameter estimates in an SEM research (Brown, 2006). A review of the SEM literature suggests some guidelines to determine the optimal sample size. For example, the cases/parameter ratio should be 5:1 (Kline, 2011) and 10 or 15: 1 (Garson, 2009).

The final approval of the executive manager of banks (Al-Rajhi Bank, Samba Financial Group, Al-Riyad Bank, Banque Saudi Fransi, Saudi British Bank, National Commercial Bank, Arab National Bank, Al-Jazira Bank, Saudi Investment Bank, Saudi Hollandi Bank, and Bank Albilad) to cooperate in conducting this research was gained, subject to a proviso that the bank would have the right to receive an executive summary of the key research findings of this research.

Several meetings were held with the Senior Vice President, Head of Marketing and Communication, in each Bank to decide the best way to distribute both questionnaire types (the online and the conventional questionnaire, which were delivered through the bank). Also, each Bank appointed the Head of its Marketing Research Department as a supervisor and a coordinator for the project, in making the arrangements with the researcher about the methods and techniques for distribution and collection of data from clients.

The population of interest in this study was all Saudi banks clients who have used internet banking services. Internet banking users were reached by online questionnaire, which was sent to them by their bank. Internet banking clients from all regions of KSA were included, as an online questionnaire is not restricted by geographical boundaries.

Regarding Internet banking users, an invitation from each bank was distributed to its online clients to participate in this study. This increases response rate, as people are more willing, as

Walonick (2004) noted, to participate in surveys that deal with new services that have the capability to improve existing services, which is the case of this research. This letter included the link to the online questionnaire. This invitation was sent out to random clients in a series of mass mailings until the researcher obtained the required number of respondents. Based on bank experience with similar surveys, a low response rate was expected. In this research, the survey questionnaire request was sent online to 800 research participants. Out of these 800, 585 responded (indicating a response rate of an impressive 73%). The response rate was improved through giving regular reminders to the research participants who had not responded to the survey earlier. After reviewing the 585 survey responses, 20 were found to not contain complete responses, which ultimately meant that 565 survey responses are considered valid out of the total of 800.

Achieving a random sample of Internet users can be problematic, according to Selm and Jankowsk (2006), who consider the main problem with Internet surveys to be the absence of a central registration of users on the Web, such as telephone numbers and home addresses. However, in this research, the banks had a list of the e-mail details of all its online clients. This enabled random selection, in which all units of the population had an equal probability of inclusion in the sample that was drawn to represent all bank IB users. The participating bank administered the entire process of sending the questionnaire to its clients' emails, with the researcher's directions.

Despite these difficulties, this research employed careful sampling procedures to help to reduce coverage and sampling errors, such as:

- Targeting the maximum number of respondents possible in the light of the available time and resources.
- Implementation of a wide area sample that covered all districts of KSA.
- Choosing respondents randomly and at different times of the day, using systematic random sampling (taken at intervals) of the customers entering the bank over a period of time.

The generalizability of this study is additionally enhanced by a circumspect selection of branches to cover all main areas in KSA. Such a selection allows this study to include people from a variety of backgrounds.

#### 4.5.6.2 Sampling frame

After defining the population and sampling size, it is necessary to identify an appropriate sample and a suitable sampling frame. Selecting a sample is a fundamental element of a positivistic study (Hussey and Hussey, 1997). The reasons for sampling are the lower cost, greater accuracy, and greater speed of data collection and the availability of population elements (Cooper and Schindler, 2001). A representative sample should be large enough to satisfy the needs of the study, should be chosen at random and should be unbiased (Hussey and Hussey, 1997). The sampling frame for any sample is a complete list of all the cases in the population from which the sample will be drawn (Saunders et al., 2000). The target population must be defined in terms of elements, sampling units, extent, and time (Webb 1992). Denscombe (2014) further argues that element: is the object about which or from which the information will be obtained.

In this survey, the customers who have used the online banking services at least once over the last six months and are over 18 years of age, who are internet shoppers of online banking are considered a suitable target audience. Extent refers to the geographical boundaries (Peng and Lai, 2012); this research will investigate online banking behaviour in the KSA, in the specific time period of 2016-2017.

### 4.5.7 Research Ethics

When conducting a research study several important ethical considerations arise and it is vital to the researcher to take these concerns into account. These considerations protect both the researcher and its subjects (Myers, 2013). Research ethics delineate what is and is not permissible to do when undertaking research (Kalof et al., 2008). Research ethics are defined as the consideration of moral ethics and values in every stage of a research study (McNabb, 2013). Similarly, Saunders et al. (2012) defined the research ethics as "the adoption of an appropriate behaviour in relation to the rights of the individuals or groups being studied or affected by the study".

McNabb (2013) has identified four issues related to research ethics that should be followed in all stages of the research, from gathering the data to reporting the findings. These were truthfulness, thoroughness, objectivity and relevance. By truthfulness it is meant that researchers must not lie, deceive or use fraud. Thoroughness implies that researchers should be thorough in the research process and do not use shortcuts. Objectivity implies that researchers should not be biased and this is particularly important for positivistic studies, and

relevance suggests the conducted research should be purposeful and relevant to the literature. Accordingly, the researcher will make every effort to preserve these ideals.

### 4.6 Partial Least Squares

The data will be analysed by employing Structural Equation Modelling (SEM), a second generation multivariate statistical technique used to estimate the parameters of a structural model. The main goal of SEM is to test hypothesized models that depict relationships among variables (Schumacker and Lomax, 2004). SEM has become popular among researchers because it takes into account measurement error when statistically analysing data. SEM can be either variance-based, like those used in Partial Least Squares (PLS) analysis, or covariance-based, such as those used in LISREL.

Covariance-based SEM techniques are not appropriate for some types of studies because they have restrictions. Unlike variance-based SEM, which does not require a sound theory base, covariance-based SEM techniques support only confirmatory types of research, as opposed to exploratory ones. Other restrictions imposed by covariance-based SEM techniques include requirements for normal distribution, large sample size, usually more than 100 cases, and only reflective variables (Gefen, et al., 2000). Reflective latent variables refer to where indicators of a latent variable are viewed as affected by the same underlying concept (Chin, 1998).

Partial Least Squares (PLS), a second generation multivariate variance-based technique used to estimate the parameters of a structural model, was developed by Wold (1975) for situations where data cannot meet the restrictive assumptions of covariance-based SEM techniques (Fornell and Bookstein, 1982). PLS maximizes the explained variance of dependent variables by disaggregating the overall causal model into partial equations which are solved simultaneously (Chin, 1998). Variance-based SEM is a multivariate analysis technique that shares similarities with covariance-based SEM but differs from it in that it builds on techniques, such as resampling, which do not require parametric assumptions to be met (Diaconis and Efron, 1983; Rencher, 1998). Variance-based SEM is more suitable when the requirement of multivariate normality is not met in a dataset (Chin, 1998).

PLS is preferred by researchers for several flexibilities it offers. PLS can be used for theory development, as it tests and validates exploratory models, does not require a large sample size, can estimate complex models with several latent and manifest variables, does not

require normality, is suitable for prediction-oriented research, and can deal with reflective, as well as formative, measurement models (Gefen, et al., 2000; Henseler, et al., 2009).

## 4.7 **Quesionnaire Pilot Testing**

In business research, a questionnaire is a common tool used to collect data (Denscombe, 2014). There is a need to conduct a pilot study on the questionnaire in order to assess the suitability, reliability and validity of the questionnaire before the full-scale research could be undertaken (Bryman and Bell, 2015). This is reinforced by Saunders et al. (2009), who confirmed that pilot study serves to assess the validity and reliability of the questions (Saunders et al., 2009).

Thus, the above arguments clearly demonstrate the need to conduct a pilot study for pre-testing the questionnaire prior to conducting a full-scale research. Based on the results of the pilot study, the questionnaire may be edited (Kothari, 2004). Therefore, this section illustrates the testing of the reliability of the questionnaire and its content validity; translation validity; and construct validity.

### 4.7.1. Validity

Validity refers to the extent to which an instrument measures what it is supposed to measure (Bryman and Bell, 2007). A measure's validity relies on the definitions of the variable which is used to design the measure. There are four types of validity: namely, face validity; content validity; criterion-related validity; and construct validity (Bordens and Abbott, 2014). These are discussed as follows.

#### 4.7.1.1 Face validity

Face validity is the degree to which the instrument appears, on the face of it, to be an appropriate measure in obtaining the desired information from the perspective of a potential respondent (Bryman and Bell, 2015). This means that questions appear to relate directly to the construct. Therefore, they should produce a valid response (Colton and Covert, 2007). Face validity is concerned with whether or not the measure looks valid to the respondents (Bornstein, 1996). Face validity is a subjective assessment since it depends on the judgment of experts who check the tool for grammar; suitability; and confirmation that it appears to flow logically. Therefore, it is considered to be the weakest form of validity (DE Von et al. 2007).

#### 4.7.1.2 Content Validity or Expert Validity

Content validity is the extent to which a test represents the universe of items from which it is drawn and it is especially useful when evaluating the usefulness of tests that sample a particular area of knowledge (Salkind, 2010). Alternatively, content validity is the extent to which the indicators measure the different aspects of the concept (De Vaus, 2007). Expert validity is achieved by inviting experts, in a particular topic, to evaluate it. The measure should include adequate coverage of the subject being studied. Content validity depends on the quality of the literature and the theories which are used to build this instrument and some experts should assess the questionnaire, also, in order to determine whether or not the questionnaire measures what it should measure (Ruane, 2005; Vogt, 2007).

#### 4.7.1.3 Pilot study

The initial questionnaire was emailed to four lecturers/senior lectures / professors in Alqassim University's management department. They had different specializations such as information technology; knowledge management; and Marketing. At the same time, it was checked by ten doctorate students specializing in business management in order to check how well they could understand the questions. Most of the feedback confirmed that the items related to their constructs and the students recommended that some items be rephrased in order to be clearer and more understandable. A member of staff recommended that the questionnaire should be translated into the Arabic language which was the respondents' mother tongue. Therefore, the next process related conducting the translation of the survey in order to improve the response rate and ability of the research respondents to more accurately gain an understanding of the precise research questions asked.

#### 4.7.1.4 Translation of Questionnaire

It is necessary for researchers, who apply their studies to a different language context, to translate the original questionnaire into the target language (Saunders et al., 2009). The researcher employed back-translation as a technique to obtain a target questionnaire (Saunders et al., 2009). Back- translation means that the source questionnaire is translated into the target questionnaire (e.g. Arabic questionnaire). The final questionnaire was translated, also, into the original questionnaire (e.g. English questionnaire). Then, the researcher compared the two original questionnaires to create a final questionnaire.

The Researcher sent the Arabic questionnaire by email to four professors of information technology and marketing at Business Management Department- at Alqassim University in

Saudi Arabia. They recommended that some words to be changed so that they were clear to Saudi Arabia online shoppers.

#### 4.7.1.5 Construct Validity

Construct validity is the extent to which items reflect the concept whereby these items are used to measure it (Howitt and Cramer, 2005). Many concepts are not measured or observed directly and, therefore, the instrument measures the constructs. Construct validity is necessary in order to check on the perceived overall validity of the measure. It is expected that a measure has high construct validity if it is built well on some theoretical construct (Clark-Carter, 2004). Colton and Covert (2007) divided construct validity into two sub-types: namely, convergent validity; and discriminant validity which are related concepts. They were assessed in the measurement model.

Firstly, convergent validity refers to the extent to which the correlation between the items of a construct exists strongly or, in measuring a construct, convergent validity is an association between indicators which are theoretically similar (Bergh and Ketchen, 2011). In order to obtain convergent validity in a construct, there should be high correlation coefficients (Brown, 2006; DeVon, 2007). The indicators measure the same concept. Average variance extracted (AVE) is employed to evaluate convergent validity. AVE means the overall amount of variance in the items accounted for a construct (Hair et al, 2010). In order to indicate sufficient convergent validity, the AVE should be greater than 0.5 (Dalaard, 2008). If the researcher has convergent validity issues, this is because, within their variable, the items do not correlate well with each other; i.e., the latent factor is not explained well by its observed variables.

Secondly, discriminant validity refers to the extent to which the constructs differ from other related constructs (Tanaka, 1987; Tarling, 2009; Hair et al., 2010). Discriminant validity exists if there is no strong relationship between the constructs (Colton and Covert, 2007). Each construct should be distinct from other constructs. Therefore, high discriminant validity provides evidence that a construct is unique (Hair et al., 2010). Discriminant validity is evaluated by the square root of the AVE; this must be greater than the correlations between the constructs (Fornell and Larcker, 1981). If, for each construct, the AVE is greater than its shared variance (which is the amount of variance that a variable (construct) is able to explain in another variable) with any other construct, discriminant validity is supported.

### 4.7.2 Reliability

Bordens and Abbott (2014) showed that reliability related to the extent to which a test measured consistently regardless of what it measured or whether or not a test produced the same results on different occasions. The measure was reliable when respondents gave the same answer in different situations. A question might be unreliable because it contained words which could be misunderstood and, consequently, which might cause confusion. Researchers use multiple-item indicators to create reliable indicators. In order to improve the question's reliability, the researcher should select the words of the questions carefully (De Vaus, 2007).

Scale reliability refers to a set of items used to measure a latent construct. The reliability can be evaluated through several methods such as internal consistency which focuses on the relationships between items within a single instrument (Colton and Covert, 2007). Therefore, it investigates the homogeneity of a scale. Internal consistency is assessed through calculating Cronbach's alpha is commonly used to measure of scale reliability (Ketchen and Bergh, 2009). Hair et al. (2010) and Field (2009) reported that Cronbach's alpha ought to be equal to or above 0.70

In order to achieve Cronbach's alpha, the study conducted a smaller sample (Clark-Carter, 2004). Therefore, the initial questionnaire was delivered to and collected from 150 Saudi Arabia online shoppers in order to obtain some assessment related to the questions' reliability and validity. 76 questionnaires were returned (a response rate of 51 %.). This was an acceptable response rate according to Saunders et al. (2009) who recommended that a 30% response rate was reasonable for questionnaires delivered and collected by a person.

Corrected item-total correlations are obtained from reliability statistics. The values of these correlations reflect how one item is correlated with the other items in a given set of items. It is used to determine a set of candidate items to be retained in a scale, which will achieve construct validity (see Section 5-4). There is much discussion over the exact values of these correlations that should be used to determine which items to retain in a scale; one rule states that the correlations should be above 0.30 (Field, 2009), another that they should be greater than 0.35, others that they should be between 0.50 and 0.80. The rule used in this study to achieve construct validity is that item (i) should be retained if $0.30 < i < 0.80$ (Field, 2009).

This study depended on the following two criteria to evaluate reliability: (1) Cronbach's alpha ought to be above 0.70 (Hair et al., 2010) and (2) Corrected item-total correlations

ought to be retained if the value was placed between 0.30 and 0.80 (Field, 2009). This value revealed the extent to which, within a scale, an item correlated with the other items. It was employed to determine the items which ought to be retained in a scale to support construct validity.

Beginning with the 4 items of Intention to use online banking, Table 4-2 shows the four items of intention to use with values exceeding 0.30. Therefore, the four items will be retained in the final questionnaire version.

**Table 4.2: Retained Intention to Use Items in the Final Questionnaire Version**

| **Intention to Use Items** | $\alpha = 0.84$ | |
|---|---|---|
| | **Corrected item- total correlation** | **Cronbach's alpha if item deleted** |
| I intend to use the online banking website in the near future. | 0.420 | 0.873 |
| I intend to use the online banking website to access banks services frequently. | 0.473 | 0.792 |
| I plan to use online banking services from this website. | 0.329 | 0.808 |
| I will continue using online banking websites in the future. | 0.430 | 0.829 |

Table 4.3 shows that the three items of word of mouth were valid, according to the corrected item-total correlations rule given above. Therefore, those three items were also retained in the final version of the questionnaire.

**Table 4.3: Retained Word of Mouth Items in the Final Questionnaire Version**

| **eWord of Mouth** | $\alpha = 0.89$ | |
|---|---|---|
| | **Corrected item- total correlation** | **Cronbach's alpha if item deleted** |
| I am willing to recommend this online banking website and its products/services to others. | 0.394 | 0.893 |
| I usually say positive things about this online banking website to others. | 0.739 | 0.877 |
| I will tell my friends and relatives to use this online banking products /services website. | 0.532 | 0.902 |

Table 4.4 shows that the four items of perceived usefulness were valid, according to the corrected item-total correlations rule given above. Therefore, those four items were also retained in the final version of the questionnaire.

**Table 4.4: Retained Perceived Usefulness Items in the Final Questionnaire Version**

| **Perceived Usefulness** | $\alpha = 0.91$ | |
|---|---|---|
| | **Corrected item- total correlation** | **Cronbach's alpha if item deleted** |
| Online banking websites enable me to accomplish tasks more quickly. | 0.494 | 0.893 |
| Using online banking websites save my time. | 0.388 | 0.934 |
| Online banking websites would enable me to complete different transactions more quickly. | 0.734 | 0.880 |
| I think online banking websites would provide a valuable service for me. | 0.454 | 0.843 |

Table 4.5 shows that the four items of perceived ease of use were valid, according to the corrected item-total correlations rule given above. Therefore, those four items were also retained in the final version of the questionnaire.

**Table 4.5: Retained Perceived Ease of Use Items in the Final Questionnaire Version**

| **Perceived Ease of Use** | $\alpha = 0.89$ | |
|---|---|---|
| | **Corrected item- total correlation** | **Cronbach's alpha if item deleted** |
| Interacting with online banking websites requires a lot of my mental effort. | 0.393 | 0.874 |
| My interaction with online banking websites is easy for me to understand. | 0.602 | 0.934 |
| I do not find that online banking websites need high skills. | 0.729 | 0.893 |
| Learning to interact with the online banking websites would be easy for me. | 0.433 | 0.884 |

Table 4.6 shows the four items of Trust in online banking website with values exceeding 0.30; only one item out of the four obeyed the retaining rule. Therefore, the three items will be retained in the final questionnaire version.

**Table 4.6: Retained Trust in online banking website Items in the Final Questionnaire Version**

| **Online banking website** | $\alpha = 0.86$ | |
|---|---|---|
| | **Corrected item- total correlation** | **Cronbach's alpha if item deleted** |
| This online banking website is trustworthy. | 0.393 | 0.894 |
| This online banking website is honest and truthful. | 0.560 | 0.884 |
| This online banking website can be trusted. | 0.638 | 0.849 |
| This online banking website can be reliable. | 0.201 | 0.801 |

Table 4.7 shows that the four items of Trust in technology were valid, according to the corrected item-total correlations rule given above. Therefore, those four items were also retained in the final version of the questionnaire.

**Table 4.7: Retained Trust in Technology Items in the Final Questionnaire Version**

| **Trust in technology** | $\alpha = 0.88$ | |
|---|---|---|
| | **Corrected item- total correlation** | **Cronbach's alpha if item deleted** |
| The Internet has enough safeguards to make me feel comfortable using it to transact personal business with banks agencies. | 0.534 | 0.893 |
| I feel assured that legal and technological structures adequately protect me from problems on the Internet. | 0.423 | 0.867 |
| I feel confident that encryption and other technological advances on the Internet make it safe for me to transact. | 0.704 | 0.860 |
| In general, the Internet is now a robust and safe environment in which to transact business. | 0.459 | 0.904 |

Table 4.8 shows that only one item out of the four items obeyed the retaining rule.

**Table 4.8: Retained Trust in bank Items in the Final Questionnaire Version**

| Trust in bank Items | α = 0.75 | | α = 0.89 | |
|---|---|---|---|---|
| | **Corrected item-total correlation** | **Corrected item-total correlation** | **Cronbach's alpha if item deleted** | **Cronbach's alpha if item deleted** |
| I believe that the ban agency acts in citizen's best interest. | 0.394 | 0.434 | 0.843 | 0.893 |
| I believe that the bank agency is truthful, honest and genuine in its dealings. | 0.412 | 0.745 | 0.780 | 0.893 |
| I believe most banks websites will perform to the customers' utmost benefit. | 0.207 | 0.232 | | |
| In general, the bank is reliable to meet their obligations. | 0.493 | 0.33 | 0.863 | 0.896 |

After excluding an item, Table 4.8 shows the valid three items and that Cronbach's alpha for the amended construct is 0.89 compared to 0.75 previously. The construct of trust in bank thus encompass only three items in the final questionnaire form.

Table 4.9 shows that the three items of shared value were valid, according to the corrected item-total correlations rule given above. Therefore, those three items were also retained in the final version of the questionnaire.

**Table 4.9: Retained shared value Items in the Final Questionnaire Version**

| **Shared value** | $\alpha = 0.91$ | |
|---|---|---|
| | **Corrected item- total correlation** | **Cronbach's alpha if item deleted** |
| The online service provider respects our business values. | 0.734 | 0.890 |
| The online service provider and we have a mutual understanding of each other's business values. | 0.642 | 0.912 |
| The online service provider sticks to highest level of business ethics in all its transactions. | 0.310 | 0.905 |

Table 4.10 shows that the four items of relationship termination cost were valid, according to the corrected item-total correlations rule given above. Therefore, those four items were also retained in the final version of the questionnaire.

**Table 4.10: Retained relationship termination cost Items in the Final Questionnaire Version**

| **Relationship termination cost items** | $\alpha = 0.83$ | |
|---|---|---|
| | **Corrected item- total correlation** | **Cronbach's alpha if item deleted** |
| My personal financial management would be greatly disrupted if I decided I want to leave the bank's Online Banking now. | 0.459 | 0.895 |
| It would cost very little for me to leave the bank's Online Banking now. | 0.695 | 0.8504 |
| The costs to switch to another online bank would be very high at this time. | 0.560 | 0.805 |
| If I decided to stop using the bank's Online Banking now, I could easily find a comparable alternative | 0.458 | 0.783 |

Table 4.11 shows that the three items of communication were valid, according to the corrected item-total correlations rule given above. Therefore, those three items were also retained in the final version of the questionnaire.

**Table 4.11: Retained Communication Items in the Final Questionnaire Version**

| **Communication items** | $\alpha = 0.84$ | |
|---|---|---|
| | **Corrected item- total correlation** | **Cronbach's alpha if item deleted** |
| The online service provider provides high quality information. | 0.645 | 0.795 |
| The online service provider allows buyers to track order status on the website. | 0.558 | 0.821 |
| The online service provider keeps its buyers informed about the latest developments.<br>My choice to purchase online was a wise one. | 0.534 | 0.884 |

Table 4.12 shows that the four items of privacy/security were valid, according to the corrected item-total correlations rule given above. Therefore, those four items were also retained in the final version of the questionnaire.

**Table 4.12: Retained Privacy/Security Items in the Final Questionnaire Version**

| **Privacy/Security items** | $\alpha = 0.88$ | |
|---|---|---|
| | **Corrected item- total correlation** | **Cronbach's alpha if item deleted** |
| I am concerned about the privacy of my personal information during a transaction. | 0.643 | 0.930 |
| The bank website implements security measures to protect users. | 0.503 | 0.879 |
| Information regarding the privacy policy is clearly presented. | 0.638 | 0.892 |
| The site appears to offer secure payment methods. | 0.473 | 0.904 |

## 4.8 Summary

This chapter justified the use of positivist philosophy, deductive research approach, survey questionnaire and quantitative data collection and analysis techniques. A key rationale for selection of such a methodology is the review of relevant literature, which led to development of 12 research hypotheses that would be tested through the survey technique. This justifies the suitability of positivist philosophy and paritcularly deductive research approach, which involves the finalisation of research hypotheses on the basis of the review of relevant literature, which is used to conduct primary research to collect data to test the hypotheses.

In addition, the survey questionnaire and quantitative data collection and analysis techniques are also explained in this chapter and how they assist in addressing the research aim, objectives and research questions.

Furthermore, a suitable sample is customers who have used the online banking services at least once over the last six months and are over 18 years of age, who are internet shoppers of online banking with a specific emphasis on KSA, in the specific time period of 2016-2017.

Additionally, the chapter also reviewed the pilot study, reliability and validity of the research to ensure that the 12 research hypotheses tested are based on reliable and valid research methodology.

Reliability is related to the extent to which a test measured consistently regardless of what it measured or whether or not a test produced the same results on different occasions. The measure was reliable when respondents gave the same answer in different situations. Reliability was measured through the use of Cronbach's alpha whereby Cronbach coefficient in excess of 0.70 indicated that the measure is internally reliable and consistent. This is in addition to the research ethics to ensure that the researcher was compliant with the ethical guidelines as provided by the Brunel University London throughout the course of the research.

# Chapter 5: Data Analysis and Findings

## 5.1 Introduction

The previous chapter outlined the methodology used for this study. The questionnaire was developed based on the conceptual framework in Chapter 3. This chapter addresses in detail the statistical procedures and presents the results of data analysis obtained through the researcher's survey. This chapter opens with the pre-analysis process that explains the data preparation, coding, cleaning and screening.

Subsequently, it moves to evaluate non-response bias, followed by addressing and explaining the outliers. Next, multicollinearity was monitored and examined and a normality test was performed and discussed. It also evaluates the measurement model by investigating confirmatory factor analysis. Finally, it ends to test the research hypotheses (structure model) by using warp PLS.

## 5.2 Data Preparation and Collection Process

The data collection process faced many challenges. As discussed in earlier chapters, some of the target respondents were unwilling or unable to participate in the survey due to time constraints, lack of interest, unwillingness to provide 'sensitive' information about them. A total of 800 questionnaires were sent in the KSA, this resulted in obtaining 585 completed questionnaire forms. Each collected form was reviewed for completeness necessary to the analysis. After data cleaning and screening a total of 565 of the completed forms were found useable for analysis, resulting in 71% response rate.

## 5.3 Pre-analysis Data Processing

After completing data collection, it was very important to examine the data through conversion into a form suitable for data analysis to ensure their integrity, significance, accuracy and representability.

### 5.3.1 Data Coding

Coding refers to "the process of assigning numerals or other symbols to answers so that responses can be put into a limited number of categories or classes" (Kothari, 2004, p.123). This means that each category of answers in the questionnaire will be allocated a specific code that will help the researcher transfer it into a form identifiable by computer and make subsequent analysis easier (Saunders et al. 2012). In this study, the continuous response scale used a pre-coded technique by allocating numbers for each question, with No. 1 meaning 'strongly disagree' and No. 5 'strongly agree', which facilitated respondents' task. The collected data were entered into SPSS and the codes were labelled for each variable as to illustrate the meaning of codes.

### 5.3.2 Data Cleaning and Screening

Data cleaning and screening was conducted in this study before any further statistical analyses to ensure that the entered data are free of any coding error or missing data or any inappropriate responses. This process was very important to ensure that the entered data includes only accurate values that are essential for examining the casual theory. Descriptive statistics and frequency tables were employed using SPSS to identify the missing data in range values and inconsistent responses (Saunders et al, 2012). Missing data must be considered in order to decide how to deal with it.

According to Dong and Peng (2013), the missing data can be at two levels: Unit level and item level. Unit level refers to respondents who fail to take or entirely refuse the survey, while item level refers to those who return the survey with incomplete answers. Item level occurs for two main reasons. First, the respondent may fail to answer part(s) of the questionnaire in case of lack of information, unwillingness to answer some 'sensitive' questions or missing to answer some questions. Second, the respondent may not have time to finish answering the questionnaire (Saunders et al., 2012).

Moreover, Saunders et al. (2012) defined three patterns of Missing Completely At Random (MCAR), missing At Random (MAR) and Missing Not At Random (NMAR). MCAR occurs when the missing values for a variable are not correlated with that variable itself or any other variable of interest. As for MAR, it occurs when the missing values for a variable are not correlated with that variable itself but with other variables. In NMAR, the missing values for a variable are correlated with that variable itself and with other variables. Therefore, it was essential for this study to address the missing data problem to avoid embarking on false

findings, compromised internal validity leading to loss of statistical power and external invalidity when research results are to be generalized.

There are different approaches to address the missing data such as list-wise deletion, pairwise deletion, mean substitution, estimation of conditional means, imputation using the expectation maximization algorithm (EM), multiple imputation and regression-based imputation (Dong and Peng 2013). In this study, the percentage of missing data was identified before conducting further statistical inferences. Out of the 580 responses, 15 were missing. In average, this accounts for approximately 3% of all responses. Although, there was no agreement in related literature about the acceptable percentage of missing data, many studies agree that 10% is considered acceptable (Schlomer et al., 2010). Therefore, 15 forms were excluded.

### 5.3.3 Assessing Non-response Bias

The non-response bias is important to be addressed especially that the response rate in this study was 71%. This bias occurs when respondents in the sample refuse to participate in the survey due to certain characteristics they may have. The existence of non-response bias is prone to result in a major problem in the study because it would generate bias in the sample which undermines its validity and quality (Linder et al., 2001).

Non-response bias was evaluated by comparing the responses of early and late respondents. Lindner et al. (2001) suggested that the early and late comparison respondents' is the most widely useful method in quantitative research to identify nonresponse bias. They argue that if there are no significant differences between early and late respondents, the study results can be generalized to the population. This study considered the first 80 responses as early responses because they responded fast without any further efforts by the researcher, while the last 80 responses are considered late responses due to efforts exerted to obtain them. There was no consensus around the number of items which should be tested.

Lambert and Harrington (1990) chose 28 of 56 original questions; whilst (Yaghi, 2006) selected randomly 20 of the 74 items. Using 26 randomly selected items (Kaleka, 2012), the obtained results (attached in Appendix B) illustrated that the significance value for Levene's test is higher than .05 and hence, it can be assumed that both groups share the same variances. It can be noted that the t-values "Sig. (2-tailed)" are non-significant (p values greater than 0.05) for almost all items assuming that there is no significant difference between the two groups. Therefore, it can be concluded that both samples used in the present study are indeed

representative of the whole population. These results do not rule out the possibility of non-response bias, but they suggest that non-response may not be a problem.

### 5.3.4 Normality Test

Normality assessment is an important prerequisite for any further analysis particularly in the multivariate analysis that was conducted in this study. According to Field (2009, p.134) "normality assumes that the independent variables and the sampling distribution is normally distributed". This means assuming that all values in each item of the individual variables are normally distributed. Normality test is important in any study that conducts regression analysis. Non-normality will severely reduce the statistical power of the study. In addition, it undermines the efficiency of standard errors which may lead to wrong conclusions (Tabachnick and Fidell, 2013).

However, non-normality can be treated through transforming mathematical methods such as square root, logarithm and inverse. The deviance form of normality is examined either graphically or statistically. Graphically, deviance is assessed by histogram or normality plot. Statistically, skewness and kurtosis are used to assess normality (Tabachnick and Fidel, 2013). According to Tabachnick and Fidell (2013), skewness refers to the symmetry of distribution while kurtosis refers to the peakedness of distribution. Tabachnick and Fidell (2013, p.79) proposed that "skewed variable is a variable whose mean is not in the centre of the distribution".

The skewed variable could be either positive or negative. Positive skew occurs when the tail is longer on the positive side rather than negative side of the peak, while the negative skew happens when the tail is longer on the negative side of the peak. Positive kurtosis occurs when values of kurtosis are above zero, displaying heavy tails and too peaked to normal distribution, while the negative kurtosis occurs when values are below zero with flat and light tails. Tabachnick and Fidell (2013) explained that normal distribution occurs when the values of skewness and kurtosis are equal to zero.

However, there is no clear agreement in research on the absolute values of skewness and kurtosis indexes. Many previous studies agreed that absolute values of skewness index greater than 3.0 are considered extremely skewed (Kline, 1993). According to Kline, (1998) and Hoyle (1995) absolute values of kurtosis greater than 10.0 are considered a problem and values greater than 20.0 an extremely serious problem. In this study, all independent variables were examined for normality using skewness and kurtosis methods as shown in Table 5.1. The table shows that all items were normally distributed with lowest registered values of

skewness and kurtosis being -1.831 and - 1.290, respectively, while the highest were 0.882 and 2.393, respectively.

**Table.5.1. Descriptive statistics and normality tests**

| construct | Items | Mean | Standard deviation | skewness | Kurtosis | Construct | Items | Mean | Standard deviation | skewness | kurtosis |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INT | INT1 | 3.429 | 0.892 | -0.372 | -0.483 | TRT | TRT1 | 3.290 | 0.894 | -0.473 | -1.290 |
| | INT2 | 4.039 | 1.089 | -0.627 | 0.128 | | TRT2 | 2.93 | 0.873 | -0.829 | -0.489 |
| | INT3 | 3.289 | 0.629 | 0.882 | -1.023 | | TRT3 | 3.203 | 0.738 | -0.128 | -0.302 |
| | INT4 | 3.201 | 0.827 | 0.483 | -1.293 | | TRT4 | 3.189 | 0.849 | -1.029 | -0.384 |
| WOM | WOM1 | 3.847 | 0.827 | -1.029 | -0.481 | TRB | TRB1 | 3.490 | 1.001 | -0.129 | -1.290 |
| | WOM2 | 3.489 | 0.982 | -0.289 | -0.348 | | TRB2 | 3.293 | 0.723 | -0.128 | -0.485 |
| | WOM3 | 3.203 | 0.728 | 0.002 | -0.128 | | TRB3 | 3.203 | 0.7830 | -0.438 | -1.290 |
| USF | USF1 | 4.029 | 1.337 | -0.238 | -0.328 | TRC | TRC1 | 3.920 | 0.793 | -0.483 | -0.294 |
| | USF2 | 4.327 | 0.748 | -0.192 | -1.293 | | TRC2 | 2.390 | 0.859 | -0.559 | -1.204 |
| | USF3 | 3.290 | 1.204 | -1.290 | -.394 | | TRC3 | 3.489 | 0.904 | -0.493 | -0.39 |
| | USF4 | 3.026 | 0.748 | -0.384 | -0.302 | | TRC4 | 4.342 | 0.849 | -0.129 | -0.293 |
| EOU | EOU1 | 3.873 | 0.663 | -0.637 | 0.239 | PSC | PSC1 | 2.983 | 1.184 | -0.384 | -0.478 |
| | EOU2 | 3.482 | 1.360 | -0.342 | -0.182 | | PSC2 | 4.304 | 0.849 | -0.392 | -0.394 |
| | EOU3 | 3.290 | 0.789 | -0.483 | -1.032 | | PSC3 | 3.489 | 0.849 | -0.283 | -0.293 |
| | EOU4 | 2.930 | 0.793 | -1.023 | -0.129 | | PSC4 | 3.290 | 0.784 | -1.023 | -0.192 |
| TRW | TRW1 | 3.290 | 0.762 | 0.129 | -1.290 | SHV | SHV1 | 3.045 | 0.894 | -0.483 | -0.129 |
| | TRW2 | 3.211 | 0.592 | -0.127 | -0.283 | | SHV2 | 3.129 | 0.719 | -0.839 | -0.128 |
| | TRW3 | 3.201 | 0.829 | 0.382 | -0.378 | | SHV3 | 4.093 | 0.584 | -0.238 | -0.748 |
| COM | COM1 | 2.378 | 0.637 | -0.367 | 0.283 | | | | | | |
| | COM2 | 2.093 | 0.820 | -0.182 | -0.192 | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | COM3 | 3.018 | 0.693 | -0.482 | 0.230 |

**Notes:**

**INT:** Intention to use online banking; **WOM**: Word of mouth; **USf**: Perceived usefulness; **EOU**; Perceived ease of use; **TRW**: Trust in online banking website; **TRT**: Trust in technology; **TRB**: Trust in bank; **TRC**: Relationship termination cost; **PSC**: Privacy/Security; **SHV**: Shared value; **COM**: Communication.

### 5.3.5 Common Method Bias

Common method bias assumes that a single factor explains the majority of variance. Researchers rely on the same respondents who provide information about all the variables (Podsakoff et al., 2012). Common method bias is a problem because it is considered to be a main source of measurement error which has a negative effect on the validity of the measure (Podsakoff et al., 2003). Due to the method bias, correlations are inflated (Meade et al., 2007).

This study had to investigate this method because of using one questionnaire to measure all constructs including Intention to use online banking, Word of mouth, Perceived usefulness, Perceived ease of use, Trust in online banking website, Trust in technology, Trust in bank, Relationship termination cost, Privacy/Security, Shared value and Communication. The study employed Harman's one-factor test to evaluate common method bias (Podsakoff et al., 2003). The un-rotated factor analysis showed that the first factor accounted for 32% of the total variance (Appendix C). Therefore, the results suggested that there was no common variable (its value was not above 50%) to threaten the data to be analysed further.

### 5.3.6. Descriptive statistics

A total of 565 respondents were surveyed, 310 were men (55.0 per cent) and 255 were women (45.0 per cent). The most experience for the majority of respondents was within the previous two to five years (46.0 per cent) and the majority of respondents had Bachelor degree (49.0 per cent), Table 5.2 shows the respondents demographics.

**Table 5.2: sample profile**

| Category | | |
|---|---|---|
| Total subjects | | 565 |
| Gender | Males | 310 (55%) |
| | Females | 255 (45%) |
| Education level | Bachelor | 280 (49%) |
| | Diploma | 115 (21%) |
| | Master or PhD | 170 (30%) |
| | Other | - |

| | | |
|---|---|---|
| Internet experience | < 2 | 10 (32%) |
| | 2<5 | 259 (46%) |
| | >5 | 126 (22%) |
| Age | <25 | 140 (25%) |
| | 25<30 | 210 (37%) |
| | 31<40 | 127 (23%) |
| | 41<50 | 88 (15%) |
| | >50 | |
| Income | <1000 | 295 (52%) |
| | 1000-2000 | 98 (17%) |
| | 2000-3000 | 90 (16%) |
| | 3000-40000 | 82 (15%) |
| | > 4000 | - |

### 5.4 Structural Equation Modelling

SEM is a statistical methodology that takes a confirmatory (i.e., hypothesis-testing) approach to the analysis of a structural theory bearing on some phenomenon (Byren, 2013). The main goal of SEM is to explain the relationships among multiple variables using a series of multiple regression equations. Theory plays a fundamental role in SEM. It is the main definer of the model relationships and forms the base from which to hypothesize cause and affect relationships (Hair et al., 2014). The procedure of SEM conveys that the causal relationships between constructs under investigation are represented by multiple regressions, allowing a simultaneous analysis of the entire system of variables which forms the hypothesized model and determines the hypothesised model consistency with the data (Byren, 2013).

Structural equation modelling (SEM) technique can be defined, according to Byrne (2010: 3), as "a statistical methodology that takes a confirmatory (i.e., hypothesis-testing) approach to the analysis of a structural theory on a given phenomenon". This technique is employed to test a hypothesized model which describes the relationships between latent variables (outer and inner models) (Schumacker & Lomax, 2004). Thus, the SEM method has been considered to be one of the most essential mechanisms of applied multivariate statistical analyses and has been used by many studies in different fields, such as marketing, economics,

education, medicine, and a diversity of other social and behavioural researchers (Pugesek et al., 2003).

Many previous studies were employed SEM analysis in online banking such as (Montazemi & Qahri-Saremi., 2015; Ong et al., 2017; Al-Malkawi et al., 2016; Szopiński., 2016) . In the current thesis, SEM is employed to examine the factors affecting intention to use online banking services. Literature review has indicated that there are two types of statistical methodologies which estimate SEM with latent variables including measurement models: covariance-based (CB-SEM) and partial least squares path modelling (PLS-PM) or variance-based SEM (Ringle et al., 2009). Stick with original references!!

In the current study, the researcher used the PLS-SEM technique (specifically WarpPLS 5.0) because, PLS does not have an identification problem (Fornell & Bookstein, 1981), and this means that latent variables do not have the requirements of the least of five items (Chin, 2001; Westland, 2007) which are required by covariance-based SEM techniques (Kock, 2015). Furthermore, Ringle et al. (2012) illustrated that the most considerably cited reasons for using it relate to small sample sizes (24 studies, 36.92%), non-normal data (22 studies, 33.85%), and the use of formatively measured latent variables (20 studies, 30.77%). PLS-SEM can use either a stable, jackknife or a bootstrap technique to produce t -values and P-values for the indicator's loadings (Agag & El-Masry, 2016a).

According to Hox and Bechger (1998) the structural equation modelling technique as a term conveys two important ideas of the procedure: first, that the causal processes under study are provided by a group of structural (i.e., regression) equations, taking into account the measurement error, and (b) that these structural relations can be modelled pictorially to simplify a clearer conceptualization of the theory and hypotheses under study (Agag & El-Masry, 2016b).

A model is a representation of a systematic set of relationships providing a consistent and comprehensive explanation of phenomena (Hair et al., 2014). For a clearer conceptualization of the theory under study, SEM models are pictorially modelled in a path diagram (Byren, 2013). There are two types of variables involved in SEM: the latent variables and the observed variables. Latent variables, which are also known as factors, are hypothetical explanatory variables that cannot be observed directly (Kline, 2011). Observed variables, on the other hand, are those indicators used as an indirect measure of these latent variables (Kline, 2011).

So far, older generations of multivariate procedures have been classified as either interdependence or dependence techniques. SEM, on the other hand, is considered a

combination of both techniques. This assumption is attributed to the foundation of SEM which lies in two multivariate techniques: factor analysis and multiple regression analysis (Hair et al., 2014). Thus, SEM can be broken down into two sub-models: a measurement model and a structural model.

### 5.4.1 The Measurement Model

The measurement model is a specification of the measurement theory that shows how constructs are operationalized by sets of measured variables (Hair et al, 2014). It describes the relationships between the latent variables and the observed variables by providing the link between scores on a measuring instrument (the observed indicator variables) and the underlying constructs they are designed to measure (the unobserved latent variables) (Byren, 2013). The statistical method used to analyse these relationships between observed and latent variables is known as factor analysis.

A measurement model is employed to evaluate individual, construct reliability, convergent and discriminant validity to discover the extent to which the measures have adequate internal consistency.

#### 5.4.1.1 Individual Item Reliability

The researcher evaluated the individual item reliability through combined loadings and cross loadings. The loadings were from a structure matrix (un-rotated) which included Pearson correlations between indicators and latent variables. The cross-loadings were from a pattern matrix (rotated) whereas cross-loading contained all the 39 observed items; this was loaded on the specified latent variables. These values were always between -1 and 1 (Kock, 2013). Hair et al. (2010) recommended that the loadings ought to be 0.50 or above and P values related to the loadings should be lower than 0.05. Tables 5.3 shows that compared to other latent variables, the factor loadings loaded higher on their theoretical specific latent variable. The loading all items exceeded 0.50 ($p<0.001$).

Combined loadings and Cross-loadings approach is a commonly used tool for checking the convergent validity of a construnt and discriminat validity of the instrument. Table 5.3 shows that the indicator loadings and cross-loadings are larger than 0.5. The indicator-loading value fall between -1 and 1 and if the cross loadings value is greater than 0.5 the construct is valid and the indicators are internally consistant provided corresponding p-value is significant. The value across the construct must not be significant meaning that the values across construct in a particular row should be lower than 0.50 otherwise the results would be spurious. The findings exhibited in table 5.3 show adequate convergent and discriminant validity for the measurement questions.

Thus, table 5.3 shows that the indicator loadings and cross-loadings are larger than 0.5. Additionally, their P-values are significant (less than 0.05), indicating an adequate convergent and discriminant validity for the measurement questions.

These results indicated that these measurement items were satisfied according to these criteria and they had individual item reliability.

**Table 5.3: Loadings and cross-loadings for latent variables**

| Items | INT | WOM | USF | EOU | TRW | TRT | TRB | TRC | PSC | SHV | COM | P value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INT1 | **0.863** | 0.372 | 0.003 | 0.283 | 0.016 | 0.029 | 0.417 | 0.349 | 0.291 | 0.384 | 0.048 | <0.001 |
| INT2 | **0.798** | 0.039 | 0.271 | 0.483 | 0.005 | 0.372 | 0.053 | 0.374 | 0.473 | 0.403 | 0.367 | <0.001 |
| INT3 | **0.883** | 0.127 | 0.289 | 0.411 | 0.372 | 0.120 | 0.416 | 0.473 | 0.032 | 0.182 | 0.439 | <0.001 |
| INT4 | **0.838** | 0.382 | 0.029 | 0.221 | 0.392 | 0.317 | 0.217 | 0.291 | 0.403 | 0.437 | 0.471 | <0.001 |
| WOM1 | 0.399 | **0.823** | 0.128 | 0.627 | 0.128 | 0.162 | 0.065 | 0.310 | 0.273 | 0.218 | 0.201 | <0.001 |
| WOM2 | 0.230 | **0.867** | 0.239 | 0.029 | 0.231 | 0.471 | 0.043 | 0.039 | 0.394 | 0.473 | 0.483 | <0.001 |
| WOM3 | 0.103 | **0.929** | 0.006 | 0.382 | 0.278 | 0.017 | 0.054 | 0.343 | 0.394 | 0.322 | 0.319 | <0.001 |
| USF1 | 0.483 | 0.290 | **0.873** | 0.287 | 0.021 | 0.370 | 0.541 | 0.120 | 0.029 | 0.293 | 0.182 | <0.001 |
| USF2 | 0.039 | 0.103 | **0.749** | 0.382 | 0.267 | 0.182 | 0.047 | 0.382 | 0.123 | 0.403 | 0.029 | <0.001 |
| USF3 | 0.320 | 0.393 | **0.782** | 0.037 | 0.289 | 0.471 | 0.281 | 0.127 | 0.473 | 0.347 | 0.372 | <0.001 |
| USF4 | 0.012 | 0.383 | **0.838** | 0.003 | 0.308 | 0.128 | 0.037 | 0.192 | 0.032 | 0.039 | 0.389 | <0.001 |
| EOU1 | 0.039 | 0.039 | 0.337 | **0.939** | 0.043 | 0.217 | 0.127 | 0.093 | 0.372 | 0.283 | 0.192 | <0.001 |
| EOU2 | 0.073 | 0.482 | 0.138 | **0.872** | 0.382 | 0.612 | 0.026 | 0.384 | 0.049 | 0.342 | 0.130 | <0.001 |
| EOU3 | 0.211 | 0.218 | 0.237 | **0.932** | 0.392 | 0.278 | 0.127 | 0.039 | 0.384 | 0.340 | 0.029 | <0.001 |
| EOU4 | 0.038 | 0.127 | 0.373 | **0.983** | 0.029 | 0.170 | 0.028 | 0.378 | 0.083 | 0.127 | 0.218 | <0.001 |
| TRW1 | 0.302 | 0.023 | 0.137 | 0.382 | **0.872** | 0.002 | 0.128 | 0.473 | 0.283 | 0.038 | 0.238 | <0.001 |
| TRW2 | 0.392 | 0.003 | 0.127 | 0.391 | **0.820** | 0.291 | 0.037 | 0.182 | 0.473 | 0.472 | 0.038 | <0.001 |
| TRW3 | 0.301 | 0.371 | 0.233 | 0.182 | **0.928** | 0.006 | 0.128 | 0.129 | 0.389 | 0.342 | 0.392 | <0.001 |
| TRT1 | 0.182 | 0.203 | 0.221 | 0.120 | 0.201 | **0.918** | 0.037 | 0.374 | 0.128 | 0.483 | 0.028 | <0.001 |
| TRT2 | 0.281 | 0.127 | 0.291 | 0.290 | 0.121 | **0.871** | 0.128 | 0.384 | 0.483 | 0.273 | 0.029 | <0.001 |
| TRT3 | 0.236 | 0.029 | 0.283 | 0.186 | 0.119 | **0.892** | 0.037 | 0.219 | 0.009 | 0.128 | 0.384 | <0.001 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TRT4 | 0.128 | 0.372 | 0.372 | 0.428 | 0.273 | **0.916** | 0.006 | 0.328 | 0.289 | 0.039 | 0.028 | <0.001 |
| TRB1 | 0.374 | 0.028 | 0.382 | 0.373 | 0.482 | 0.173 | **0.829** | 0.248 | 0.283 | 0.472 | 0.023 | <0.001 |
| TRB2 | 0.318 | 0.039 | 0.237 | 0.039 | 0.220 | 0.006 | **0.928** | 0.182 | 0.483 | 0.374 | 0.127 | <0.001 |
| TRB3 | 0.086 | 0.128 | 0.472 | 0.382 | 0.137 | 0.102 | **0.846** | 0.319 | 0.180 | 0.378 | 0.239 | <0.001 |
| TRC1 | 0.079 | 0.029 | 0.238 | 0.238 | 0.439 | 0.291 | 0.192 | **0.810** | 0.329 | 0.238 | 0.003 | <0.001 |
| TRC2 | 0.378 | 0.374 | 0.273 | 0.128 | 0.229 | 0.216 | 0.004 | **0.828** | 0.182 | 0.347 | 0.023 | <0.001 |
| TRC3 | 0.034 | 0.384 | 0.371 | 0.293 | 0.129 | 0.102 | 0.047 | **0.798** | 0.329 | 0.129 | 0.238 | <0.001 |
| TRC4 | 0.490 | 0.128 | 0.620 | 0.372 | 0.452 | 0.163 | 0.195 | **0.889** | 0.219 | 0.102 | 0.007 | <0.001 |
| PSC1 | 0.039 | 0.023 | 0.002 | 0.120 | 0.382 | 0.372 | 0.039 | 0.298 | **0.918** | 0.293 | 0.029 | <0.001 |
| PSC2 | 0.002 | 0.362 | 0.329 | 0.203 | 0.362 | 0.218 | 0.238 | 0.048 | **0.830** | 0.239 | 0.129 | <0.001 |
| PSC3 | 0.382 | 0.120 | 0.371 | 0.471 | 0.238 | 0.219 | 0.384 | 0.238 | **0.839** | 0.304 | 0.483 | <0.001 |
| PSC4 | 0.003 | 0.129 | 0.483 | 0.129 | 0.237 | 0.218 | 0.047 | 0.192 | **0.873** | 0.583 | 0.239 | <0.001 |
| SHV1 | 0.039 | 0.417 | 0.284 | 0.212 | 0.039 | 0.392 | 0.038 | 0.384 | 0.129 | **0.830** | 0.007 | <0.001 |
| SHV2 | 0.239 | 0.128 | 0.291 | 0.029 | 0.032 | 0.229 | 0.128 | 0.483 | 0.238 | **0.903** | 0.394 | <0.001 |
| SHV3 | 0.032 | 0.180 | 0.009 | 0.238 | 0.382 | 0.120 | 0.281 | 0.093 | 0.031 | **0.939** | 0.039 | <0.001 |
| COM1 | 0.237 | 0.271 | 0.203 | 0.391 | 0.018 | 0.498 | 0.382 | 0.483 | 0.039 | 0.129 | **0.923** | <0.001 |
| COM2 | 0.238 | 0.281 | 0.392 | 0.019 | 0.117 | 0.229 | 0.195 | 0.239 | 0.482 | 0.495 | **0.839** | <0.001 |
| COM3 | 0.283 | 0.218 | 0.283 | 0.283 | 0.632 | 0.192 | 0.348 | 0.348 | 0.094 | 0.049 | **0.783** | <0.001 |

**Notes:**

**INT:** Intention to use online banking; **WOM**: Word of mouth; **USf**: Perceived usefulness; **EOU**; Perceived ease of use; **TRW**: Trust in online banking website; **TRT**: Trust in technology; **TRB**: Trust in bank; **TRC**: Relationship termination cost; **PSC**: Privacy/Security; **SHV**: Shared value;**COM:**Communication.

#### 5.4.1.2 Reliability Assessment

As mentioned previously, reliability expresses the extent to which a measure produces the same results on different occasions. The reliability can be evaluated through several methods such as internal consistency; this refers to a set of items in measuring a latent construct which is composed of a set of reflective indicators. Examining internal consistency allows the researcher to compare results across and between items within a single instrument (Colton and Covert, 2007). Traditionally, Cronbach's alpha coefficient is the most commonly used measure of scale reliability (Ketchen and Bergh, 2009). Furthermore, reliability, in SEM, can be assessed by using construct or composite reliability (CR) which addresses the internal consistency. As a rule of thumb, alpha and CR should be at least 0.7 to reach internal reliability (DeVaus, 2002). Table 5.4 shows that Cronbach's alpha coefficients and composite reliability coefficients were equal to and greater than 0.70. Therefore, this measure has an internal consistency.

**Table 5.4: Reliability Assessment**

| Factors | Cronbach's alpha coefficients | Composite reliability coefficients |
|---|---|---|
| **INT** | 0.918 | 0.949 |
| **WOM** | 0.834 | 0.895 |
| **USF** | 0.921 | 0.964 |
| **EOU** | 0.903 | 0.969 |
| **TRW** | 0.842 | 0.883 |
| **TRT** | 0.832 | 0.874 |
| **TRB** | 0.817 | 0.905 |
| **TRC** | 0.874 | 0.903 |
| **PSC** | 0.798 | 0.834 |
| **SHV** | 0.880 | 0.943 |
| **COM** | 0.793 | 0.891 |

### 5.4.1.3 Validity Assessment - Convergent Validity

Validity refers to the ability of an instrument to measure what it is intended to measure (Colton and Covert, 2007). Convergent validity is a measure of how well the items in a scale converge or 'load together,' on a single latent construct (Ketchen et al., 2007). The researcher evaluated Average Variance Extracted (AVE) which was the mean variance extracted for the items loading on a construct (Hair et al., 2010). AVE should be greater than 0.50. Table 5.5 demonstrates that, for each latent variable, the AVE is greater than 0.50. Hence, this measure is consistent with the rule of convergent validity.

**Table 5.5: Average Variances Extracted**

| Factors | INT | WOM | USF | EOU | TRW | TRT | TRB | TRC | PSC | SHV | COM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **AVE** | 0.653 | 0.612 | 0.593 | 0.589 | 0.590 | 0.563 | 0.604 | 0.619 | 0.502 | 0.695 | 0.576 |

### 5.4.1.4 Validity Assessment - Discriminant Validity

Discriminant validity refers to the extent to which each construct differs from other constructs (Hair et al., 2010,). Discriminant validity exists if there is no strong relationship between the constructs (Colton and Covert, 2007). Discriminant validity is evaluated by the square root of the AVE, which must be greater than the correlations between the constructs (Fornell and Larcker, 1981). If the AVE for each construct is greater than its shared variance (which is the amount of variance that a variable (construct) is able to explain in another variable) with any other construct, discriminant validity is supported. Table 5.6 shows that the square root of the AVE is greater than the correlations between the constructs (Fornell and Larcker, 1981). This condition is satisfied for all constructs. The correlation matrix reported, also, that there were significant correlations ($P<0.001$) between the constructs are significant.

**Table 5.6: Correlation between Latent Variables and Square Roots of AVEs**

| Factors | INT | WOM | USF | EOU | TRW | TRT | TRB | TRC | PSC | SHV | COM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INT | **(0.847)** | | | | | | | | | | |
| WOM | 0.783 | **(0.902)** | | | | | | | | | |
| USF | 0.238 | 0.439 | **(0.837)** | | | | | | | | |
| EOU | 0.483 | 0.503 | 0.402 | **(0.831)** | | | | | | | |
| TRW | 0.392 | 0.348 | 0.383 | 0.329 | **(0.917)** | | | | | | |
| TRT | 0.483 | 0.483 | 0.419 | 0.594 | 0.483 | **(0.837)** | | | | | |
| TRB | 0.692 | 0.430 | 0.402 | 0.348 | 0.329 | 0.429 | **(0.793)** | | | | |
| TRC | 0.439 | 0.401 | 0.387 | 0.485 | 0.420 | 0.384 | 0.392 | **(0.829)** | | | |
| PSC | 0.293 | 0.238 | 0.394 | 0.202 | 0.329 | 0.492 | 0.290 | 0.401 | **(0.795)** | | |
| SHV | 0.408 | 0.402 | 0.129 | 0.493 | 0.382 | 0.309 | 0.229 | 0.492 | 0.398 | **(0.820)** | |
| COM | 0.291 | 0.239 | 0.329 | 0.293 | 0.203 | 0.419 | 0.503 | 0.219 | 0.491 | 0.349 | **(0.769)** |

**Notes:**

**INT:** Intention to use online banking; **WOM**: Word of mouth; **USf**: Perceived usefulness; **EOU**; Perceived ease of use; **TRW**: Trust in online banking website; **TRT**: Trust in technology; **TRB**: Trust in bank; **TRC**: Relationship termination cost; **PSC**: Privacy/Security; **SHV**: Shared value;**COM**:Communication.

#### 5.4.1.5 Full Collinearity VIFs and Q-squared Coefficients Assessment

Warp PLS produces full collinearity Variance Inflation Factors (VIFs) for all latent variables (see Table 5.7). It is used to measure discriminant validity and overall collinearity. VIFs are evaluated based on a full collinearity test which helps the identification of not only vertical but, also, lateral collinearity. It enables the testing of collinearity involving all latent variables in a model (Kock, 2013). Vertical or classic collinearity is predictor-predictor latent variable collinearity in individual latent variable blocks. Lateral collinearity is a relatively new term that refers to predictor-criterion latent variable collinearity; a type of collinearity that can lead to particularly misleading results (Kock, 2013). A rule of thumb of full collinearity VIFs is 3.3 or lower to suggest no multicollinearity in the model (Kock, 2013). Table 5.7 shows that, for all latent variables, the full collinearity VIFs was lower than 3.3. Hence, the latent variables had no problem of multicollinearity and there was discriminant validity for these variables.

Moreover, Q-squared coefficient is used to evaluate the predictive validity of the model's endogenous latent variable. In order to obtain acceptable predictive validity, a Q-squared coefficient should be above zero whilst the Q-squared coefficient of less than 0 means that the model is poor in predictive validity (Hair et al., 2010; Roldan and Sanchez-Franco, 2012) (Roldan & Sanchez-Franco , 2012). In this study, the Q-squared coefficients for all constructs were above zero. Therefore, the model contributed to support predictive validity.

**Table 5.7: Full Collinearity VIFs and Q-squared Coefficients Assessment**

| Factors | INT | WOM | USF | EOU | TRW | TRT | TRB | TRC | PSC | COM |
|---|---|---|---|---|---|---|---|---|---|---|
| **VIFs** | 3.273 | 2.239 | 3.337 | 2.334 | 3.293 | 3.193 | 2.319 | 3.128 | 2.129 | 3.362 |
| **Q-squared coefficients** | | 0.521 | 0.623 | 0.649 | 0.504 | 0.793 | 0.483 | 0.372 | 0.723 | 0.592 |

Moreover, according to Kock (2015), testing discriminant validity can be established by using the indicators weight for the indicators/items, VIFs and their P. value. Table 5.8 presents the indicators' weights. This Table shows that all indicators' P-values for the weights associated with the latent variables are significant (P-values of all indicators are lower than 0.05). This indicates that the formative latent variables' measurement indicators were properly constructed. The table also provides the VIFs for all of the indicators of the latent variables. Standard issue errors are also provided for all indicators' weights. All of the indicators have sufficient discriminant validity.

**Table 5.8: Indicator Weights**

| | INT | WOM | USF | EOU | TRW | TRT | TRB | TRC | PSC | SHV | COM | Type | VIF | WLS | | ES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INT1 | **(0.416)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 1.834 | 1 | 0.220 |
| INT2 | **(0.405)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 1.394 | 1 | 0.303 |
| INT3 | **(0.384)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 2.369 | 1 | 0.395 |
| INT4 | **(0.326)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 1.347 | 1 | 0.340 |
| WOM1 | 0.000 | (0.340) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 1.347 | 1 | 0.480 |
| WOM2 | 0.000 | (0.421) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 2.236 | 1 | 0.123 |
| WOM3 | 0.000 | (0.435) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 3.715 | 1 | 0.329 |
| USF1 | 0.000 | 0.000 | **(0.193)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 3.236 | 1 | 0.219 |
| USF2 | 0.000 | 0.000 | **(0.203)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 1.717 | 1 | 0.239 |
| USF3 | 0.000 | 0.000 | **(0.327)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 2.650 | 1 | 0.326 |
| USF4 | 0.000 | 0.000 | **(0.401)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 2.820 | 1 | 0.197 |
| EOU1 | 0.000 | 0.000 | 0.000 | **(0.321)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 2.226 | 1 | 0.071 |
| EOU2 | 0.000 | 0.000 | 0.000 | **(0.359)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 1.234 | 1 | 0.290 |
| EOU3 | 0.000 | 0.000 | 0.000 | **(0.404)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 2.236 | 1 | 0.237 |
| EOU4 | 0.000 | 0.000 | 0.000 | **(0.340)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 2.253 | 1 | 0.343 |
| TRW1 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.327)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 3.223 | 1 | 0.453 |
| TRW2 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.196)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 3.139 | 1 | 0.247 |
| TRW3 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.384)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 3.083 | 1 | 0.444 |
| TRT1 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.309)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 3.902 | 1 | 0.326 |
| TRT2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.120)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 1.977 | 1 | 0.331 |
| TRT3 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.393)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 3.412 | 1 | 0.172 |
| TRT4 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.403)** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 2.290 | 1 | 0.172 |
| TRB1 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.346)** | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 3.618 | 1 | 0.136 |
| TRB2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.329)** | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 2.015 | 1 | 0.186 |
| TRB3 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.376)** | 0.000 | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 1.783 | 1 | 0.091 |
| TRC1 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.403)** | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 1.911 | 1 | 0.022 |
| TRC2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.218)** | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 4.628 | 1 | 0.303 |
| TRC3 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.432)** | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 4.911 | 1 | 0.332 |
| TRC4 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.218)** | 0.000 | 0.000 | 0.000 | Reflective | <0.001 | 1.729 | 1 | 0.197 |
| PSC1 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.221)** | 0.000 | 0.000 | Reflective | <0.001 | 1.110 | 1 | 0.326 |
| PSC2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.457)** | 0.000 | 0.000 | Reflective | <0.001 | 2.479 | 1 | 0.327 |
| PSC3 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.258)** | 0.000 | 0.000 | Reflective | <0.001 | 4.638 | 1 | 0.237 |
| PSC4 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.237)** | 0.000 | 0.000 | Reflective | <0.001 | 1.309 | 1 | 0.339 |
| SHV1 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.431)** | 0.000 | Reflective | <0.001 | 5.830 | 1 | 0.129 |
| SHV2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.374)** | 0.000 | Reflective | <0.001 | 1.896 | 1 | 0.221 |
| SHV3 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.189)** | 0.000 | Reflective | <0.001 | 4.810 | 1 | 0.271 |
| COM1 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.316)** | Reflective | <0.001 | 4.801 | 1 | 0.302 |
| COM2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.218)** | Reflective | <0.001 | | 1 | 0.203 |
| COM3 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **(0.193)** | Reflective | <0.001 | | 1 | 0.192 |

*Notes: P values < 0.05 and VIFs < 2.5 are desirable for formative indicators; VIF = indicator variance* inflation *factor; WLS = indicator weight-loading sign (-1 = Simpson's paradox in l.v.); ES = indicator effect size.*

### 5.4.2 Assessing the Structural Model

A structural model is described as causal relationships between latent variables. The structural mode aims to test the hypothesized research model. The overall fit of the model fit indices was evaluated by using the following three measures: Average Path Coefficient (APC); Average R-squared (ARS) and Average Variance Inflation Factor (AVIF). Kock (2014) recommended that APC and ARS were significant (P< 0.05) whilst the AVIF value ought to be below 5. Table 5.9 reports that these measures were in the range of the fitting model and, therefore, there was a good fit model.

**Table 5.9: Model Fit and Quality Indices**

| Criterion | Assessment | Supported |
|---|---|---|
| **(1)Average Path Coefficient (APC)** | 0.214 | Supported |
| **(2)Average R-squared (ARS)** | 0.761 | Supported |
| **(3)Average adjusted R-squared (AARS)** | 0.694 | Supported |
| **(4)Average block VIF (AVIF)** | 2.692 | Supported |
| **(5)Average full collinearity VIF (AFVIF** | 1.829 | Supported |
| **(6)Tenenhaus GoF (GoF)** | 0.617 | Supported |
| **(7)Sympson's paradox ratio (SPR)** | 0.765 | Supported |
| **(8)R-squared contribution ratio (RSCR)** | 0.944 | Supported |
| **(9) Statistical suppression ratio (SSR)** | 1.000 | Supported |
| **(10) Nonlinear bivariate causality direction ratio (NLBCDR)** | 0.853 | Supported |

Note: Average path coefficient (APC)=0.214, P<0.00; Average R-squared (ARS)=0.761, P<0.001Average adjusted R-squared (AARS)=0.694, P<0.001; Average block VIF (AVIF)=2.692, acceptable if <= 5, ideally <= 3.3; Average full collinearity VIF (AFVIF)=1.829, acceptable if <= 5, ideally <= 3.3; Tenenhaus GoF (GoF)=0.617, small >= 0.1, medium >= 0.25, large >= 0.36; Sympson's paradox ratio (SPR)=0.765, acceptable if >= 0.7, ideally = 1; R-squared contribution ratio (RSCR)=0.944, acceptable if >= 0.9, ideally = 1; Statistical suppression ratio (SSR)=1.000, acceptable if >= 0.7; Nonlinear bivariate causality direction ratio (NLBCDR)=0.853, acceptable if >= 0.7.

The previous criteria of the model fit indices (see Table 5.9) can be illustrated according to Kock (2015) as follow (see Table 5.10).

**Table 5.10. Model fit and quality indices illustration**

| Index | Description | Threshold |
|---|---|---|
| **Average Path Coefficient (APC)** | The regression values of independent variables on the dependent ones | P<0.05 |
| **Average R-squared (ARS)** | The variance explained in the dependent variable by the independent variables | P<0.05 |
| **Average Adjusted R-squared (AARS)** | Corrects the spurious increases in R-squared coefficients due to predictors that add no explanatory value in each latent variable block | P<0.05 |
| **Average block VIF (AVIF)** | Checks the vertical collinearity in the model's latent variable blocks | acceptable if ≤ 5 |
| **Average full collinearity VIF (AFVIF)** | It checks the multicollinearity of the whole model | ideally if ≤ 3.3 |
| **Tenenhaus GoF (GoF)** | A measure of a model's explanatory power and global goodness of fit | small ≥ 0.1, medium ≥ 0.25, and large ≥ 0.36 |
| **Sympson's paradox ratio (SPR)** | A measure of the extent to which a model is free from Simpson's paradox instances | acceptable if ≥ 0.7 |
| **R-squared contribution ratio (RSCR)** | A measure of the extent to which a model is free from negative R-squared contributions | acceptable if ≥ 0.9 |
| **Statistical suppression ratio (SSR)** | A measure of the extent to which a model is free from statistical suppression instances | acceptable if ≥ 0.7 |
| **Nonlinear bivariate causality direction ratio (NLBCDR)** | A measure of the extent to which bivariate nonlinear coefficients of association provide support for the hypothesized directions of the causal links in a model. | acceptable if ≥ 0.7 |

### 5.4.3 Results Overview

The results of the SEM analysis are shown in Figure 5.1. Each hypothesis refers to a link in the model while links refer to variable-pair relationships. The latent variables are represented by oval shapes while the manifest variables are represented by a square. Beta coefficients, standardized partial regression coefficients, denote the strengths of the multivariate associations among variables in the model. The symbol "*" refers to beta coefficients with a significance level lower than 5 percent (P<0.05) the symbol "**" to P<0.01 and the symbol "***" to P<0.001. The symbol "NS" represents beta coefficients that were not statistically significant. R-squared coefficients, under endogenous variables, show the percentage of variance explained by the variables that point to them in the model.

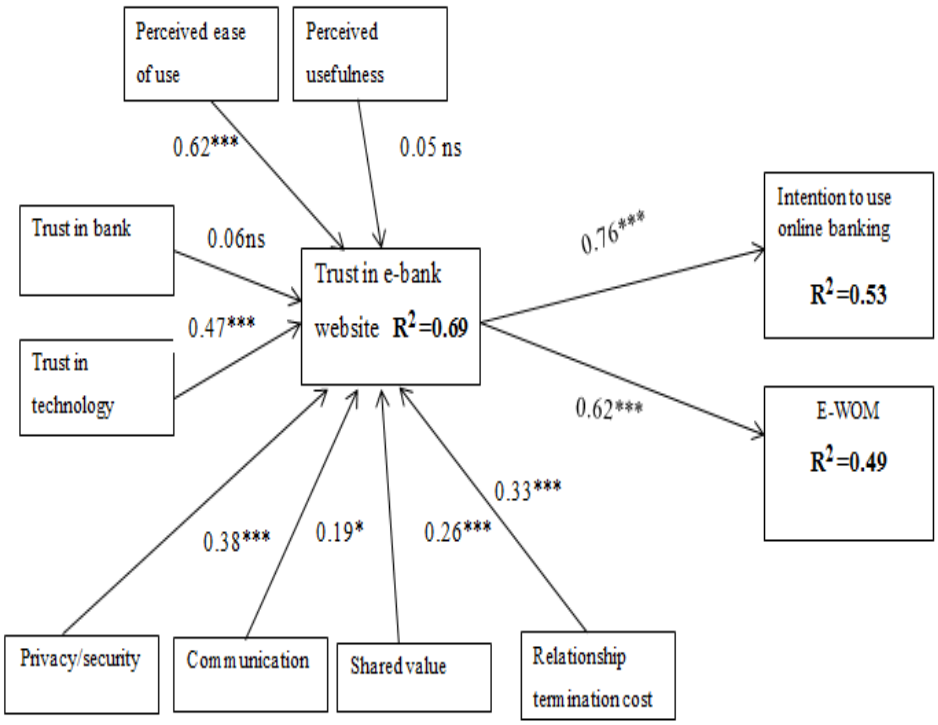



**Figure 5.1. Estimated coefficient of the path analysis.**

**Notes:** Significant levels at 1% (***); 5% (**); and 10% (*).

**Soure: The Researcher**

The various hypotheses were tested using the structural model to identify how the constructs are related to each other. Table 5.11 summarises the standardised coefficients from the estimated structural model along with p-value. Also, a simplified structural model that the measured variables and the error variance terms are omitted from the diagram for simplicity, are depicted in Figure 5.1.

**Table 5.11: Structural model estimation results**

| Hypothesised paths | Standardised coefficient | P value | Test results |
|---|---|---|---|
| TRB ⟶ TRW | 0.06 | NS | Reject |
| TRT ⟶ TRW | 0.47 | *** | Accept |
| TRW ⟶ INT | 0.76 | *** | Accept |
| TRW ⟶ WOM | 0.62 | *** | Accept |
| USF ⟶ TRW | 0.05 | NS | Reject |
| EOU ⟶ TRW | 0.62 | *** | Accept |
| TRC ⟶ TRW | 0.33 | *** | Accept |

| | | | |
|---|---|---|---|
| **SHV → TRW** | **0.26** | ******* | **Accept** |
| **COM → TRW** | **0.19** | ***** | **Accept** |
| **PSC → TRW** | **0.38** | ******* | **Accept** |

H1 is confirmed with the construct of Trust in banks had no effect on trust in e- banks website (Standardised coefficient of 0.06) and thus H1 is rejected. H2 receives support as the construct of Trust in technology is positively related to trust in e-banks website (Standardised coefficient of 0.47 at $p<0.01$). H3 is also supported, as the construct of Trust in e-bank websites positively affects intention to use online banking services (Standardised coefficient of 0.76 at $p<0.001$). Trust in e-bank websites would be positively related to word of mouth (H4). This proposition is confirmed (Standardised coefficient of 0.62 at $p<0.001$).

H5 is rejected as Perceived usefulness had no influence on consumer trust towards online bank website (Standardised coefficient of 0.05). H6 predicted that perceived ease of use positively influences consumer trust towards online bank website. This prediction was confirmed in the study (Standardised coefficient of 0.62 at $p<0.001$). Hypothesis 7 proposed a positive association between relationship termination cost and consumer trust towards online bank website. As expected, relationship termination cost positively influences consumer trust towards online bank website ($\beta=0.33$, $p<0.001$).

As H8, H9 and H10 predict, the study found significant positive impacts of shared value, commitment, and privacy/security on trust towards online bank website, the study found significant positive impacts of shared value, communication, and privacy/security on trust towards online bank website ($\beta=0.26$, $p<0.001$), communication ($\beta=0.19$, $p<0.001$), and privacy/security ($\beta=0.38$, $p<0.001$).

The researcher examined moderating effects by applying a multi-group analysis. This involves adopting a split-group approach, where the initial sample is divided into two subgroups on the basis of cut-off values of each individual moderator. For consumer gender, the sample was divided into male and female groups, for consumer age the researcher broke down the sample into younger and older groups, for consumer education the author separated the sample into low-(i.e., non-university) and high-(i.e., university) educated groups, and for income the author separated the sample into low and high, the sample was divided into groups based on their respective median (Sharma et al., 2009).

**Table 5.12: Results of individual moderating effects**

| Main effect | Gender as a moderator<br>Hypothesized moderating effect | Male group<br>(n1= 310) | Female group<br>(n2= 255) | Δ□2 (1)<br>Δ.d.f.=1 |
|---|---|---|---|---|
| TRW ⟶ INT | Effect is stronger among males than females | β= 0.41<br>t = 3.16* | β= 0.26<br>t = 1.73* | 3.21<br>p <0.10 |
| WOM ⟶ INT | Effect is stronger among males than females | β= 0.25<br>t = 2.14* | β= 0.11<br>t = 1.93* | 2.64<br>p <0.10 |
| | Age as a moderator | | | |
| Main effect | Hypothesized moderating effect | Younger age group (n1=202) | Older age group (n2=363) | Δ□2 (1) |
| TRW ⟶ INT | Effect is stronger among older than younger | β= 0.34<br>t = 4.19* | β= 0.53<br>t = 3.53* | 2.57<br>p <0.10 |
| WOM ⟶ INT | Effect is stronger among older than younger | β= 0.57<br>t = 3.09* | β= 0.67<br>t = 4.63* | 4.70<br>p <0.10 |
| | Education as a moderator | highly educated | poorly educated | Δ□2 (1) |
| Main effect | Hypothesized moderating effect | (n1= 401) | (n2= 164) | Δ.d.f. =1 |
| TRW ⟶ INT | Effect is stronger among highly educated than poorly educated | β= 0.37<br>t = 4.72* | β= 0.29<br>t = 2.71* | 3.56<br>p <0.10 |
| WOM ⟶ INT | Effect is stronger among highly educated than poorly educated | β= 0.46<br>t = 3.47* | β= 0.38<br>t = 2.70* | 3.60<br>p <0.10 |

Two models were subsequently estimated for each hypothesized moderating effect: (a) a constrained model, where the path affected by the moderating variable was fixed to 1; and (b) a free model, where all paths of the structural model were allowed to be freely estimated. A significant difference (P<0.05) between the two models implies that the moderator variable has a significant effect on the hypothesized relationship.

With regard to gender, the findings suggest that there is a moderating effect on the website trust, intention to use online banking, and positive WOM link (Δ☐2 (1) = 3.21, 2.64; p <0. 10), had stronger perceptions of intention to use online banking. Although both males and females exhibited significant results, the relationship is stronger between men than women. With regard to age, the findings suggest that there is a moderating effect on the website trust, intention to use online banking, and positive WOM link (Δ☐2 (1) = 2.57, 4.70; p <0. 10), had stronger perceptions of intention to use online banking. Although both older and younger exhibited significant results, the relationship is stronger between older than young consumers. With regard to education level, the findings suggest that there is a moderating effect on the website trust, intention to use online banking, and positive WOM link (Δ☐2 (1) = 3.56, 3.60; p <0. 10), had stronger perceptions of intention to use online banking. Although both highly educated and poorly educated exhibited significant results, the relationship is stronger between highly educated.

### 5.5. Conclusion

After finalisation of the research methodology undertaken to address the research aim and objectives in the previous chapter, this chapter addressed in detail the statistical techniques and presented the results of the data analysis obtained through the survey conducted by the researcher. The data analysis chapter began with the pre-analysis process that explained the data preparation, coding, cleaning and screening.

Subsequently, it moved to evaluate non-response bias, followed by addressing and explaining the outliers. Next, multicollinearity was monitored and examined and a normality test was performed and discussed. It also evaluated the measurement model by investigating confirmatory factor analysis. Finally, it tested the research hypotheses (structure model) by using warp PLS.

It should be noted that the researcher faced numerous challenges during data collection process. As discussed in methodological limitations earlier, some of the target respondents were unwilling or unable to participate in the survey due to time constraints, lack of interest, unwillingness to provide 'sensitive' information about them. A total of 800 questionnaires were sent in the KSA, this resulted in obtaining 585 completed questionnaire forms. Each collected form was reviewed for completeness necessary to the analysis. After data cleaning and screening a total of 565 of the completed forms were found useable for analysis, resulting in 71% response rate. The different research hypotheses were assessed through the use of the structural model to ascertain and analyse the way in which the different constructs are related to each other. The last section paid attention to testing the study's hypothesis and the study model by use of eleven constructs. The results of hypothesis test of the study model indicated that:

- Trust in technology was strongly supported since it had a positive relationship with trust in e-bank website.
- Perceived ease of use was supported since it was positively related to trust in e-bank website.
- Privacy/security being positively related to trust in e-bank website was supported.
- Communication having a positive relationship with trust in e-bank website was strongly supported.
- Shared value and relationship termination cost have a positive influence on trust in e-bank website.
- Trust in e-bank was supported since it was positively related to e-WOM and intention to use online banking.

These research findings are discussed thoroughly in the next chapter and correlated with relevant past studies from the literature review.

# Chapter 6: Discussion

## 6.1 Introduction

This chapter highlights the main empirical findings which are contained in the previous chapter and in detail presents the results of analysis conducted to test the research hypotheses. These discussions relate to findings based on previous studies and the context of the study. In the first section of this chapter, a brief overview of the study is provided. The second section provides a detailed discussion of each set of variables with their related effects.

## 6.2 Overview of the Study

This study tested the hypothesized relationships among the factors affecting customers trust in online banking websites, customer intention to use online banking services and e- WOM. These variables are listed in Table 4.1 the testing of these hypothesized relationships was statistically analysed using path analysis with WarpPLS 5.0, a structural equation modelling software package. The path model representing these relationships is formalized as demonstrated in Figure 3.1. WarpPLS 5.0 was used to statistically analyse this path model because the software was specially designed to identify nonlinear relationships among variables. This study used modelling tool WarpPLS (ver. 5). Partial Least Squares (PLS) has a number of advantages: (1) the capacity to deal with very complex models, (2) produces loadings, standardized regression coefficients, and R2 for all endogenous constructs (Ha and Park, 2013), and (3) provides relaxed assumptions regarding the distribution of the data (Ruiz et al., 2010). WarpPLS identifies such nonlinear relationships by conducting linear and non-linear (or “warped”) regression analysis (Kock, 2014).

This study used online surveys to reach online banking users because online users are engaged in online websites. With the development of the Internet, researchers in e-commerce fields can use online surveys to efficiently reach populations of interest (Kim et al., 2011; Agag and El-Masry, 2016b). The independent variables in the theoretical model are (Perceived usefulness, Perceived ease of use, Trust in technology, Trust in bank, Relationship termination cost, Privacy/Security, Shared value and Communication). The intervening or mediating variable in the theoretical model is trust in online banking websites. Finally, the main dependent variables in the theoretical model are intention to use online banking services and e-WOM. A missing data analysis was performed prior to the statistical analysis. The independent, mediating, and dependent variables were within the 10% missing data threshold as suggested by Hair et al. (2014). To address the missing data, this study utilised listwise deletion (LD) method. The LD treatment removed all data rows which contained missing data elements. This resulted in the removal of 68 rows (5.96% of the dataset) using the LD treatment. The descriptive statistics for the data were calculated using SPSS. The study's theoretical model was analysed using path model analysis with Warp PLS 5.0 which looks for non-linear relationships among variables. In general, customers trust in online banking websites in Saudi Arabia was found to be driven primarily by Perceived usefulness, Perceived ease of use, Trust in technology, Trust in bank, Relationship termination cost, Privacy/Security, Shared value and Communication. The results of this model and data were used to test the hypotheses of the study. Out of the 10 original model hypotheses, 8 were confirmed. The results of the hypotheses testing are outlined in Table 5.9. The results of the data analysis were presented in Chapter 5. In this chapter, the interpretation of the results will be provided.

The data were analysed for multicollinearity. High correlation coefficients among variables in the model may signify multicollinearity (Kock, 2014). The presence of a high correlation coefficient between two or more variables is a possible indicator of multicollinearity. While high correlation coefficients do not conclusively signify multicollinearity, such high correlation coefficients are generally conflated with collinearity (Douglass et al., 2003; Haie et al., 2014). Therefore, a full collinearity test was performed on the data. In the multivariate analysis literature, a conservative recommended threshold for VIF values when analysing models without latent variables is VIF=5 as suggested by Hair et al. (2014). Using this recommended threshold of VIF=5, the VIF values for the data suggest that no vertical multicollinearity exist.

### 6.3. The Research Gap and Research Questions

Technology affects the way people live, play and do business. There has been a noticeable shift from the traditional brick and mortar branch banking to more sophisticated banking delivery channels. As these changes also affect the users of the banking system, studying consumers and their behaviours and perceptions towards such technologies subsequently becomes necessary. These growing concerns about safety and trustworthiness of online banking services can harm and restrain online banking growth and deter consumers from online banking activities. Banks must understand how the trustworthiness issues relate to consumer intention to use online banking services and e- WOM to foster further growth. For that reason, it is particularly relevant that banks understand how consumers perceive and evaluate the trustworthiness of their web sites in facing severe competition and continually rising consumer expectation (Malaquias and Hwang, 2016).

The need for the online banking technology in the banking industry is an important consideration. According to (Ismail and Osman, 2012), traditional banking methods (e.g., back office processes and tasks such as: file details of bank customers, process 3 paperwork, sorting cheques and cash handling, from both the bank and customers' perspective), has become the costliest way to bank. According to Robinson (2000), the use of computer systems in the banking industry enable banks to transfer, record and store financial information inexpensively, thus the overall result will help to drive a reduction in banking costs (Cooper, 1994).

The trust and acceptance level in online banking technology vary from one culture to another across the world. For example, the trust and acceptance level of online banking technology in USA, Western Europe and Asian Pacific countries seems very high, whereas in developing countries it is very low especially in the Arab region (Touati, 2008).

Banks in developing countries have recently acknowledged the benefits of online banking technology in improving their productivities, efficiencies and customers trust. However, some banks in developing countries such as Saudi Arabia have struggled to provide their customers with online banking technology within its existing banking system (Khalfan and Akbar, 2006; Touati, 2008; Abukhzam and Lee, 2010).

Arabic academic researchers (e.g., Aladwani, 2001; Kamel and Hassan, 2003; Khalfan and Alshawaf, 2004; Touati, 2008; Abukhzam and Lee, 2010) pointed to a mixture of lack of basic technological infrastructure, low level of computer literacy and education, lack of

technology trust and awareness among bank customers, shortage of IT skilled personnel, technology investment costs and IT language differences have all been found to make online banking unattractive in developing countries in general and Saudi Arabia as Arab country in particular.

Therefore, in an attempt to address the abovementioned shortcomings in the empirical literature, the present research has proposed and tested a conceptual model that discovers the relationships between factors affecting trust in online banking websites web sites (e.g. Perceived usefulness, Perceived ease of use, Trust in technology, Trust in bank, Relationship termination cost, Privacy/Security, Shared value and Communication) and customer intention to use online banking services and e- WOM ( please see figure 3.1). It also explores a mediating role of customers trust in online banking websites on the link between these factors and intention to use online banking services. Furthermore, the current study examines the moderating role of demographic factors between customer trust in online banking website and intention to use online banking services and e-WOM.

Alongside this model, a set of research questions were developed to address the shortcomings identified in the online banking literature. Since this chapter links the study's findings to the research questions, it would therefore be useful to recall these questions:

RQ1. What are the factors affect consumers trust in e-bank website?

RQ2. How are intentions towards the use of online banking and e-WOM made?

RQ3. What is the role of customers' trust and acceptance of online banking?

RQ4. What are the facts held by the customers in Saudi Arabia about online banking, especially with the consideration of the demographic factors?

The subsequent sections are structured as follows. The first section discusses the factors affecting consumers trust in online banking websites. This would address the first research question (RQ1) and hypothesis identifying the factors affecting consumers trust in online banking websites (H1, H2, H5, H6, H7, H8, H9, and H10) in the proposed model). Second, the link between consumers trust in online banking websites and intention to use online banking services and e-WOM, as well as the moderating role of demographic factors are discussed in the following section. In so doing, the second, third and fourth research questions are addressed (RQ2, Q3 and RQ4), whereas the hypotheses predicting the effect of trust in

online banking websites and demographic factors on customers' intention to use online banking services and e-WOM are explained (H3 and H4 in the proposed model).

### 6.4 Factors Affecting Trust in Online Banking Websites

The rapid diffusion of the Internet has radically changed the delivery channels used by the financial services industry. Many banks have established presence on the Internet using web technologies providing customers with the opportunity of performing interactive retail banking transactions (Al-Somali, et al., 2009). What attracts customers to Internet banking is the round-the-clock availability and ease of transactions and avoidance of queues and restrictive branch operating hours. Therefore, online banking helps banks to retain their existing customers, improve customer satisfaction, increase banks' market share, reduce administrative and operational cost and more importantly improve banks' competitive positions (Al-Somali, et al., 2009).

The concept of trust usually comes with uncertainty or risk/issues. This subsection looks at online banking and related issues or perceived issues. Perceived risk or issue is commonly thought of as uncertainty regarding the possible negative consequences of using a products or services of online banking. It has formally been defined as a combination of uncertainty plus seriousness of outcome involved (Kim & Prabhakar, 2000). Kim and Prabhakar (2000) also suggest that perceived risk and trust affect trusting behaviour in the online banking context, without specifying what relations exist between risk and trust. However, the expectation of risk usually associated with online banking transactions (Lu et al, 2010).

The element of risk is particularly noticeable in online banking as opposed to traditional banking. The distant and impersonal nature of the online environment and the implicit uncertainty of using a global open infrastructure for transactions may bring several issues that are either caused by functional defects or security problems or by the conduct of parties that are involved in the online transaction (Pavlou, 2003). Gefen et al. (2003) suggests that the concept of risk should command a central role in the study of online banking customer behaviour. The literature on trust dating from Deutsch (1960), generally suggest that trust is interweave with risk, because it then reduces the risk of falling victim to opportunistic behaviour (Ganesan, 1994).

Risk has been called the element that gives the trust dilemma its basic character (Johnson-George & Swap, 1982). Trust is essentially needed only in uncertain situations since trust

effectively means to assume issues and become vulnerable to trusted parties (Hosmer 1995). If there was no issue and actions could be taken with complete certainty no trust would be required. Prior research has discussed the role of trust in reducing the issue of opportunistic behaviour in channel relationships (Anderson & Weitz, 1989) and in inter-organisational exchanges (Doney & Cannon, 1997).

Researchers agree that trust lowers the perceived risk of facing a negative outcome of a transaction by reducing the information complexity (Mayer et al 1995; Luhmann, 2000). Research on trust however, does not clarify the relationship between trust and perceived issue. According to Mayer et al. (1995) "it is unclear whether risk is an antecedent to trust, is trust, or an outcome of trust". This implies causality between trust and perceived issue, without being clear about the direction of the causality. Rousseau et al. (1998) proposes a reciprocal relationship without implying causality, "risk creates an opportunity for trust, which leads to risk taking". This confusion is further compounded when the effect of risk is considered on customer's intentions and actual behaviour.

Gefen et al (2003) proposed two models from the trust and risk literature: i) perceived issues mediate the relationship between trust and behaviour ii) the perceived risk moderates the relationship between trust and behaviour. The conceptualisation of perceived risk in this study is based on the trust model which suggests that the higher the level of customer's trust the lower will be their perception of risk, thus leading to development of positive intentions. Recent studies of online banking suggest that perceived risk lead to low customer's trust on an online banking of transactions from that channel (Jarvenpaa et al, 2000).

Factors affecting consumer acceptance and adoption of online banking have been at the forefront to several research projects in the US (e.g. (Montazemi and Qahri-Saremi, 2015), throughout Europe (see (Littler and Melanthiou, 2006), and Asia (see (Yiu, et al., 2007). However, there is limited published work exploring the factors that capture the acceptance of Internet banking from the perspectives of customers in the context of developing countries in the Middle East. This study focuses upon Saudi Arabia that has a diverse immigrant population, a Sharia, a legal system and a developing economy and there for makes an interesting and unique case study. To date, there have very few such studies, a notable exception is the study by Al-Somali et al (2009) who studied Internet banking adoption in Saudi Arabia and he focused on adopters.

The adoption and use of online banking by consumers varies from one population group to another, from one social setting to another and from one cultural context to another (Alalwan et al., 2014; Venkatesh et al., 2012). In KSA, the number of internet users increased from

13.5 to 80.5 per cent of the population between 2005 and 2017 (Internet World Stats, 2017) which created opportunities for Saudi Arabia banks to expend to wider customers. However, despite the relatively advanced and well-managed banking system and the huge amount of money and resources that have been projected in this vein by all KSA banks, online banking is still a relatively new phenomenon in KSA and its adoption by the customers is reported to be very low (Itani, 2008). She indicated that only 3.5 per cent of the KSA population used online banking service in 2008, while statistics from the Federal Deposit Insurance indicates that about 74 per cent of Americans already adopted online banking and 16.9 million customers (one-third of the UK's adult population) used internet services in 2006. This reality implies that online banking in KSA is still an innovation and lag very far behind compared to counterparties in other countries (Itani, 2008; Toufaily et al., 2009). Such a low adoption rate is troublesome for banking institutions (Alalwan et al., 2014).

In recent years, a variety of well-known theories and models have been employed to explain the relationship between user beliefs, attitudes and behavioural intentions (BI) to use the technology. From the stream of social psychology, innovation diffusion theory (IDT), theory of reasoned action (TRA), theory of planned behaviour (TPB), the social cognitive theory, the motivational model, the model of perceived credibility (PC) utilisation, technology acceptance models (TAM) and a hybrid model combining constructs from TAM and TPB, are only a few of the major modular approaches that have lead the way in analyses and results (Yiet al., 2006; Venkatesh et al., 2012; Yousafzai, 2012). A review and synthesis of these eight models of technology use resulted in the unified theory of acceptance and use of technology (UTAUT) (Venkatesh et al., 2003).

Based on the previous models and the literature review discussed in chapter 3, eight factors were identified as antecedents to consumers trust towards online banking websites as well as two factors as consequences to consumers trust towards online banking websites. These factors are relationship termination cost, shared value, communication, privacy/security, trust in bank, trust in technology, perceived ease of use, and perceived usefulness.

### 6.4.1 Perceived ease of use, perceived usefulness and trust in e-bank website

In the existing literature, several theoretical perspectives have been applied in an attempt to understand individuals' acceptance and use of technology-related applications. Of these, the TAM stands out as the most parsimonious and, perhaps, the most influential approach to studying user acceptance. The model was originally proposed by Davis (1986) based on the Theory of Reasoned Action (Ajzen and Fishbein, 1980). The theory postulates that

individual's acceptance of information systems are determined by two cognitive factors (i.e. perceptions of usefulness and ease of use).

TAM has been widely applied to investigate user-acceptance of various types of technology including smart phones (e.g. Joo and Sang, 2013) (Joo & Sang , 2013), technology based services (e.g. Zhu and Chan, 2014), e-learning (e.g. Persico, Manca, and Pozzi, 2014) and the new media (e.g. Workman, 2014). In the online banking research, TAM applications include customers' acceptance of IT (Ismail and Osman, 2012; Malaquias and Hwang, 2016). The findings of these studies demonstrate that perceived ease of use is an important determinant of consumers trust in online banking websites. Therefore, the TAM holds true for Saudi Arabia (i.e., a culture that is high in uncertainty avoidance, power distance, and masculinity and low in individualism).

In a further extension of TRA, Davis (1986) introduced the technology acceptance model, which described an individuals' acceptance of information technology. The goal of TAM is to provide an explanation of the determinants of computer acceptance among users. TAM replaced TRA's attitude beliefs with the two technology acceptance measures: Perceived usefulness (PU) referring to the degree to which a person believes that using a particular system would enhance his/her job performance; and Perceived ease of use (PEOU) referring to the degree to which a person believes that using a particular system would be free from effort (Davis, 1989). TAM does not include TRA's subjective norms (SN) as a determinant of behaviour intention (BI). However, based on empirical evidence, the final model excluded the attitude construct because it did not fully mediate the effect of PEOU on intention (Davis et al., 1989). TAM posits that PU is influenced by PEOU because, other things being equal, the easier a technology to use, the more useful it can be. Consistent with TRA, TAM suggests that the effect of external variables on intentions is mediated by PEOU & PU.

The external variables in the model refer to a set of variables such as objective system design characteristics, training, computer self-efficacy, user involvement in design, and the nature of the implementation process (Davis, 1996). However, as TAM continued to evolve, new variables were introduced as external variables affecting PU, PEOU, BI, and actual use or behaviour. Among the most frequently referenced are: system quality, compatibility, computer anxiety, enjoyment, computing support, and experience (Lee et al., 2003). The relationship between TAM's four major variables (PU, PEOU, BI and B) is hypothesized to use PU as both: a dependent variable affecting BI directly; and as an independent since it is predicted by PEOU. Actual Use or Behaviour is usually measured by: amount of time using, frequency of use, actual number of usages and diversity of usage.

Prior studies have indicated concern regarding the applicability of the TAM in a culture that is high in uncertainty avoidance, power distance, and masculinity (McCoy et al., 2007). However, the current study results reveal useful insights regarding the applicability and generalizability of TAM in a culture that is high in uncertainty avoidance, power distance, and masculinity. The results of this study are consistent with (Agag and El.Masry, 2016a), which pointed out that perceived ease of use plays a critical role in the early adaption stages. The findings highlight a positiverelationship that is consistent with previous studies (e.g. Agag and El.Masry, 2016a; Ayeh, et al., 2013; Yap , et al., 2010).

The results also show that perceived usefulness had no significant influence on consumers trust in e- bank websites. One possible reason for this is that The Saudi Arabia consumers are likely to be more worried about their ability to use the website than the online banking services benefits when making decisions about e-commerce adaption, which is consistent with those of prior research on the e-commerce e.g. Agag and El.Masry (2016a).

### 6.4.2 Relationship termination cost, shared value, communication, privacy/security, and trust in e-bank website.

This study attempts to test an adaptation of the commitment-trust theory of relationship marketing in the online banking context. Although the main variables were mostly borrowed from the commitment-trust framework (Morgan and Hunt, 1994), the dimensions and the items were adapted significantly to the context of online banking. In this study, we identified four main antecedents to trust (e.g. relationship termination cost; shared value; communication; privacy/security).

The study investigates and empirically test the supposition that trust and commitment, important relationship variables in online banking, play key roles affecting B-to-C online purchase intent. This testing was based on the assumption that a relationship could be established between consumers and a services e-tailer. Given channel differences, this may have been a lofty assumption. However, this study's results support the theory that such alliances are feasible. This finding, in and of itself, is not a minor point in as much as interaction between consumer and online banks is a “faceless” one. From the practitioner's view, results related to trust and commitment indicate that, in addition to focusing on typical marketing strategies aimed at building price, promotional, and fulfillment advantages, strategies should also encompass achieving mutual benefits that culminate in long-term B-to-C relationships. Within the context of online banking, trust and commitment were established

as core components of services e-tailers' relationships with consumers. Two of the strongest direct relationships observed in the model were positive relationships between trust and commitment and commitment and purchase intent. These findings support research showing both trust and commitment as critical central elements of B-to-C exchange relationships (Morgan & Hunt, 1994) and further underscore contentions of Urban et al. (2000) who propose that website trust will differentiate successful from failing online retail companies.

In so far as the importance of trust and commitment have been established in online retailer-consumer relations, one next research step may be to identify differences and similarities between consumers' commitment and intention toward a services providers. Oliver (1999) suggests that consumers perceive various degrees of loyalty. Given this premise, commitment may also be present in varying degrees and/or may be analogous to specific stages of intention. Future research may also ascertain whether the channel itself facilitates or hinders consumers' perceived trust and commitment. Some researchers advocate that consumers may have more difficulty formulating expectations about some dimensions of online, as compared to offline, service quality (Zeithaml et al., 2002). Conversely, others contend that enhanced interactivity of the online channel may capacitate building trust with consumers (Urban et al., 2000).

Shared value is the extent to which partners have beliefs in common about what behaviours, goals and policies are important or unimportant, appropriate or inappropriate, and right or wrong (Morgan and Hunt, 1994). In this study, shared value has been treated as a multidimensional construct. In the online banking context, shared value symbolises the extent to which the bank and the customers share common beliefs on critical values like ethics.

Relationship termination implies difficulty in substituting services due to switching costs. Such costs may be monetary or inconvenient in nature, such as a learning curve or loss of online history. Anticipating a high switching cost, customers will maintain the existing relationship. Communication involves increased credibility, timeliness, and accuracy of information exchanged. It is a major precursor of trust (Graca te al., 2015); it can induce trust by helping to resolve disputes, and align perceptions and expectations (Etgar, 1979). In e-commerce, customers are likely to trust a firm that responds to their electronic complaints quickly, makes its policies regarding privacy and security available, quickly confirms that a transaction has occurred, or informs them about new offerings and anticipated system downtime.

In terms of the antecedents of trust in e-bank website, the SEM results show that shared value had significant influence on consumer trust; the study reveals that shared value is a significant

determinant of trust. Shared value also leads to increased commitment from the customer. The customer on the net looks for a better association with the bank it is dealing with. Shared value enhances the feeling of association, developing a bonding and nurturing an associative long-term relationship. This then leads to the birth of trust. Thus, in order to develop a trust-based relationship, the banking organization must strive to foster a culture of ethics, and inculcate positive shared value in the relationship. The findings highlight a positive relationship that is consistent with previous studies e.g. Vatanasombut et al., 2008; Mukherjee and Nath, 2007; Eddleston and Morgan, 2015; Agag and El.Masry, 2016; Vatanasombut, et al., 2008). Consumers and online banking provider with goals or policies in common, sharing resources and abilities can lead to greater consumer trust.

Consistent with H7, termination cost (H7) was related to relationship commitment. According to Morgan and Hunt (1994, p. 24): "A common assumption in the relationship marketing literature is that a terminated party will seek an alternative relationship and have "switching cost" which leads to dependence". For example, this type of cost has been caused by idiosyncratic investments (Ibid.). Examples of idiosyncratic investments, suggested by Goodman and Dion (2001) are: promotional programs, advertising campaigns, dedicated personnel, product training sessions, direct mail programs and demonstration equipment. "The buyer's anticipation of high switching costs gives rise to the buyer's interest in maintaining a quality relationship" (Morgan and Hunt, 1994, p. 24). The same authors explain that termination costs are the direct result of changing relationships. This results in the relationship being viewed as important and, therefore, contributes to the trust of the relationship.

Communication is found to play a relatively secondary influence in building a bank-customer trust relationship on the Internet. Speed of response, quality of information and openness are important. Graca et al. (2015) conclude that communication has a positive and indirect impact on the retailer-supplier relationship commitment in the motor vehicle tyre industry, while Anderson and Narus (1990) stress the criti-cal role of communication in partnerships for the establishmentof cooperation and trust. Morgan and Hunt (1994) point out that communication directly influences trust, and through trust, indirectly influences relationship commitment. Communication has been used as antecedents to consumer trust (Agag and El.Masry, 2016; Albert et al., 2013; O'Mahonya, et al., 2013). Consumers are more likely to trust online banking provider that makes its policies available, informs them about new offerings and quickly confirms that a transaction has occurred.

Findings also confirmed that customers are concerned about the possibilities of technological loopholes leading to creditcard information leakage and incidents of any hacking attempts onthe website. Customers believe that the internet payment channels are not always secure and could potentially be intercepted (Kim, et al., 2011; Ponte, et al., 2015). This reduces the customer's trust, discouraging them from providing personal information (Ponte et al., 2015).
The issues of privacy and security have been labelled as two major concerns of e-commerce (Albert et al., 2013). Privacy extends itself beyond the uncertainty of providing personal information on the websites, but includes the degree to which personal information is shared or sold to third parties that have related interests (Fullerton, 2014).
Perceived security is defined as the perceptions of consumers about the security of transactions with an online provider. Privacy practices are thus crucial for onlineprovider in coaxing customers to disclose their personal information (Wanga and Wu, 2014; Tsou and Chen, 2012). When consumersperceive a higher perception about privacy and security, such perceptions will increase consumers trust. In the field of e-commerce, a significant and positive relationship between perceived privacy/security and consumer trust is supported by a variety of studies (Bigne, et al., 2010; Escobar-Rodríguez and Carvajal-Trujillo, 2014; Kim, et al., 2011; Ponte , et al., 2015).

### 6.4.3 Trust in Bank, Trust in Technology, and Trust in e- bank website

Trust in banks arises if citizens have confidence in them (Reddick and Roy, 2013), reinforcing perceptions of integrity and reliability (Belanger and Carter, 2008; Benbasat et al., 2008; Lee et al., 2011; Srivastava and Teo, 2009). Trust building is an evolutionary process (Srivastava and Teo, 2009), suggesting that trust in bank can quickly change depending on how the banks actually works (Montazemi and Qahri-Saremi, 2015). However, few studies explored trust in the context of e-bank ( (Montazemi and Qahri-Saremi, 2015; Chong, et al., 2010). Some studies considered trust in technology as a significant factor in the context of e-bank but few studies included trust in bank as a significant antecedent (Belanger and Carter, 2008; Jafari et al., 2011; Teo et al., 2008) (Belanger & Carter , 2008; Jafari , et al., 2011).
Trust in e-bank websites will exist if the citizens have trust in their bank (Belanger and Carter, 2008; Lee , et al., 2011; Montazemi and Qahri-Saremi , 2015), leading to trusting bank programs (Lee, et al., 2011; Srivastava and Teo , 2009). In other words, the willingness to adopt e-bank depends on both trust in technology and trust in the bank (Lee, et al., 2011; Reddick and Roy, 2013).

Trust has been a primary predictor of technology usage and a fundamental construct for understanding user perceptions (McNeish, 2015), especially considering ongoing security and privacy concerns that hinders online banking (Montazemi and Qahri-Saremi, 2015; Lee, et al., 2011). This makes the appreciation of the value of trust in technology very important (Srivastava and Teo, 2009). In this case, trust in technology is basically the trust in the tools to be used to deliver the service (Beldad et al., 2011; Weerakkody et al., 2013) (Beldad, et al., 2011). Simply said, this means that trust in technology is vital for encouraging citizens to trust an online bank website by transacting and sharing information with it.

In e-commerce contexts, the website is the primary influence on user perceptions because it is the interface existing between customers and retailers (Lee and Koubek, 2010). The fundamental factors that affect trust are trust of the Internet that is linked to the belief of citizens that the Internet is a dependable medium, as well as a safe place to perform secure transactions, together with trust of organisations that is associated with a belief in the capability of agencies, as well as the ability of staff to provide online services in a confidential manner. George (2002) considered that concerns relating to risks involved in the adoption of technology increased as the experience of the Internet decreased. Within Saudi Arabia, the culture value of uncertainty is relatively high, which will require additional effort to encourage confidence and trust between all members of society; it is the people with more internet experience who have greater confidence in using on-line services.

Trust in technology emerged as a strong predictor of website trust. Therefore, the higher the perceived trust in technology, the more users will trust in online banking website. Therefore, the current study shows that trust in technology is an important predictor of trust toward online banking websites, which is consistent with previous studies (e.g., Chen, et al., 2015; Chong, et al., 2010; Montazemi and Qahri-Saremi, 2015).

### 6.5 Consequences of Customer Trust in e-bank Websites

Although trust is not a feature of the models reviewed in Chapter Two, it was added to the conceptual framework, and the hypothesis formed, based on its importance in any situation involving risk (Liu et al. 2005; Agag and El-Masry, 2016c) and previous evidence that it is important in Internet banking adoption (Yousafzai 2005; Montaziem, et al. 2014). As hypothesized, trust was found to have a significant effect on the intention to use Internet banking. Unarguably, trust is important in an uncertain and risky environment such as

Internet transactions. In such a situation, trust can be used as a strategy to reduce this uncertainty by implementing safeguards to protect clients from potential unfavourable consequences. These results support similar findings in the literature. For example, (Montazemi and Qahri-Saremi, 2015) found that trust in e-bank influence significantly on consumers' intentions to use online banking.

The prominence of trust in online banking can be explained through the lens of the social exchange theory (Hair, et al., 2010). The social exchange theory views interactions in a similar manner to economic exchanges: being composed of costs paid and rewards received. As in an economic exchange, people participate in an interaction only if their outcome from it is satisfactory, i.e., if their perceived rewards exceed their perceived costs (Ho, et al., 2015). Trust increases the perceived certainty concerning other party's expected behaviour and reduces the fear of being exploited, particularly when the social exchange involves current costs (e.g., risks) invested in exchange for expected future unguaranteed rewards (Ho, et al., 2015). In the online environment, consumers and online retailers often face spatial and temporal separation; consequently, transactions conducted online often do not involve a simultaneous transaction of goods (or services) and money (Yap, et al., 2010). Fears of hackers and privacy invasion compound the uncertainty surrounding online services (Yap, et al., 2010). Thus, trust in online banking is essential to mitigate the uncertainty of financial transactions to entice the consumer to use it (Kim and Prabhakar, 2004).

There is a scarcity of studies in online settings about the role of trust on consumer's intention to engage in positive WOM. In this study, we argue that if online banking users trust in e-bank websites, they will then be more willing to talk to their friends and acquaintances about the website and about the experiences they have with using it. In fact, a user who uses other consumers' recommendations is more likely to improve his/her decision making.

Results regarding consequences of website trust are consistent with the findings of (McNeish, 2015; Montazemi and Qahri-Saremi, 2015; Filieri, 2015). The findings of this study acknowledge that trustworthy relations between the consumer and online service provider have a significant and positive effect on e-WOM. The more consumers are confident about the trustworthiness of a bank website the more likely they will be to tell their friends and acquaintances where the advice came from because the risk of deception is very low. Therefore, if e- bank websites want to increase their popularity among customers, they have to be trusted, as trust will motivate its users to talk to their friends about their positive experience with the recommendation received from the bank website. This way, these organizations will save a huge amount of money on advertising as their consumers will

informally publicize the website in their social circles, and following a network effect, the name of the website will spread quickly among Internet users. Therefore, keeping high levels of trust can be critical also to enlarge the customer base and increase the popularity and reach of a bank website.

## 6.6. Customers Demographic Factors (The Moderating Effects).

In the literature, it is suggested that there are moderating influences of customers' demographics on the therelationship between trust in e-bank websitem, intention to use online banking services, and postive WOM. This study supported such an idea, as it indicated that such features play a role in determining whether individuals use online banking services or not. This research found clear differences between customers demographic characteristics in relation to the adoption and use of online banking. These findings harmonise with those of Gounaris and Korito's (2008) and Szopiński (2016), who found the demographic profile influence on consumers intention to use online banking services. Similarly, Ozdemir et al. (2008) found, in their study in Turkey, that there were significant differences between adopters of the Internet banking services in terms of their perceptual, experience and consumers' demographic characteristics. The characteristics found to be significant in this research were gender, age, income, and education level. These results support previous research (Cheng et al. 2006; Srivastava, 2007; Branca, 2008; Montazemi and Qahri-Saremi., 2015; Gounaris and Koritos 2008) which revealed that gender, age, education and income play important roles in Internet banking adoption. In the following paragraphs, each factor will be discussed in turn.

Gender: the relationship between trust in e-bank website, intention to use online banking, and positive WOM is isgnificant between men. This does not come as a surprise, as males in Saudi Arabia dominate many aspects of life. According to culture, religious understanding and inherited tradition, they have the full responsibility for managing the financial affairs of their families. This is why women in Saudi Arabia still do not have as much opportunity as men in regard to obtaining higher education or in entering the workforce. This affects the number of women who have individual financial resources or personal bank accounts. Moreover, even if a Saudi woman has a bank account, she would be strongly influenced by men in her family (i.e. husband, father or brother), so it is not likely that a Saudi woman would take the initiative to start using online banking without the support of a male member

first. Banks should understand this and try to reach Saudi women through their male family members. This could happen by introducing the benefits of using online banking to males first and tempting them to introduce this service to their family members. This method could be supported by giving rewards for clients who succeed in achieving this. In general, this finding is consistent with many prior studies, which found that men are more willing than women to adopt Internet banking (Akinci et al., 2004; Dauda and Lee., 2015; Wan et al., 2005). Moreover, as women are not allowed to drive, it may be difficult for them to reach bank branches or ATMs. Also, they cannot stand with men in the same queue in front of an ATM, as to do so would cause great embarrassment, and this adds to the difficulty of performing financial transactions, which might make them more welcoming of online banking as a banking channel. Women were also less concerned than men about issues such as trust, prices of computers and Internet subscriptions. This may be because they do not have as much knowledge about such issues as men, given men's control of family finances.

Age: The majority of respondents were concentrated in the middle groups between 25- 30 years. This is not consistent with the previous anticipation about the spread of adoption of online banking amongst young people because of their closer relationship with the technology. This calls into question the assumption of some banks' marketing managers that electronic channels should first be marketed to young clients, as they are expected to be more readily persuaded than older clients. There are, however, possible explanations for the low online banking use among the under 25s. Given recent trends in Saudi culture, it may be that many people of this age are still in education and financially dependent on parents and guardians, so their bank transactions are few and simple; hence they felt no need to pay attention to learning about and using online banking. This view is supported by another finding, which shows the main reason for not adopting online banking was because banking business was very simple. In contrast, older people might have more extensive banking transactions that justify adoption of online banking. Older people, for example, might be more likely than younger ones to have built up a business, to have accumulated savings, or to have capital to invest on the stock market. These findings harmonise with previous research such as Wan et al. (2005) and Akinci et al. (2004), who found that customers who adopt Internet banking are middleaged, whereas younger or older consumers tend to use the more traditional channels. A recent study similarly shows that younger clients do not seem to adopt online banking earlier than other age segments of the population (Gounaris and Koritos, 2008; Khan et al., 2017). However, many young people too, might not have used and learned about computers and the Internet until high school, or later, since these facilities are being

diffused into society gradually. The younger group might therefore have little computer experience. However, they did not seem to have difficulty with all aspects of computer use; difficulty with using and understanding computers and the Internet, in general, was reported by older clients rather than younger.

Income and Qualification: In relation to participants' income, a clearly significant difference was observed between online banking users. The income of online banking users was noticeably high. Higher income would make people more able to afford the prices of computers and Internet subscription, which were reported frequently as reasons for not using online banking. Ozdemir et al. (2008) similarly found that clients who had higher income had more intention to adopt Internet banking services. Another explanation of the role of income is suggested by Wan et al. (2005). They found in Hong Kong that a high household income would mean that the client has more financial resources to manage, and thus a stronger need for banking channels that offer a high level of flexibility, such as Internet banking. This explanation may also be applicable in the Saudi context, given the finding, noted previously, that the scale and complexity of banking transactions were seen by consumers as a relevant factor in their decisionmaking regarding online banking use. A similar situation was found for qualifications, half of online banking users held a bachelor degree. In other words, the online banking users' population was better educated. This could be significant in two ways; better education would increase the opportunity to become familiar with computers and the Internet (which was first introduced in universities) and might also lead to better jobs and, hence, greater ability to afford computers and Internet charges. Clients with higher qualification were less concerned about issues such as considering the Internet as a liberal idea, prices of computers and Internet connections, understanding computer terminology, technical problems of online banking, and willingness to learn about computers and the Internet.

Less educated people seemed to be more conservative, finding the Internet a liberal idea. They were reluctant to have it in their home, for fear it would bring deviation from traditional values, in which they aimed to raise their children. Previous research (Chaouali et al., 2016; Mattila et al. 2003; Akinci et al. 2004; Wan et al. 2005; Yu et al., 2015) similarly found that highly educated people were likely to be more receptive to new things, and tended to use the relatively new Internet banking channel.

## 6.7. Conclusion

This chapter provided the further discussions about the results regarding to the research questions addressed in the study. The basic features of the data such as the conceptual framework factors, sample characteristics and descriptive statistics were described. The relationship between the study constructs also explained in terms of each construct and it's consistent and inconsistent with prior studies. To explain factors affecting consumers trust in e-bank websites, a structural equation model was developed and estimated.

The rapid diffusion of the Internet has radically changed the delivery channels used by the financial services industry. Many banks have established presence on the Internet using web technologies providing customers with the opportunity of performing interactive retail banking transactions. What attracts customers to Internet banking is the round-the-clock availability and ease of transactions and avoidance of queues and restrictive branch operating hours. Therefore, online banking helps banks to retain their existing customers, improve customer satisfaction, increase banks' market share, reduce administrative and operational cost and more importantly improve banks' competitive positions.

Findings confirmed that customers are concerned about the possibilities of technological loopholes leading to credit card information leakage and incidents of any hacking attempts onthe website. Customers believe that the internet payment channels are not always secure and could potentially be intercepted (Kim, et al., 2011; Ponte, et al., 2015). This reduces the customer's trust, discouraging them from providing personal information (Ponte et al., 2015).

The issues of privacy and security have been labelled as two major concerns of e-commerce (Albert et al., 2013). Privacy extends itself beyond the uncertainty of providing personal information on the websites, but includes the degree to which personal information is shared or sold to third parties that have related interests (Fullerton, 2014).

Following the discussion of the results of this study, the next chapter outlines the conclusions of the study.

# Chapter 7: Conclusion

## 7.1 Introduction

This chapter discusses the contributions of this study, its limitations and suggests avenues for future research. In order to investigate the factors affecting customers trust in online banking websites, customer intention to use online banking services, and e-WOM., this thesis has developed a model illustrating the factors affecting customers trust in e-bank websites and its effect on intention to use online banking services and e-WOM, based on commitment-trust theory and TAM. The study mainly employed a quantitative method to explore these factors roles in retaining customers.

This chapter will commence by presenting the study conclusions, the theoretical and managerial contributions, and will be followed by a discussion of the limitations and direction for future research.

## 7.2 Conclusions

The banking sector is one of the fastest industries that have adopted the Internet as a delivery channel for their services (Chaouali et al, 2016). However, despite the benefits of Internet banking (IB) (Chaouali et al, 2016; Alalwan et al., 2016) and huge expenditures invested by retail banks, offline bank clients have not used the online service as expected (Yap et al., 2010). For example, Yousafzai and Yani-De-Soriano (2012) argue that Turkish and English banks did not succeed in generating enthusiasm among their customers for adopting and accepting Internet banking. The centre of attention of most past studies has been largely on the factors that motivate customers to adopt Internet banking services. Among these are ease of use, perceived usefulness, accuracy, information availability, shared value, security and privacy, and trust, to mention a few (Chaouali et al, 2016; Schultz, 2016; Safeena et al., 2013). Among the myriad of factors, trust is considered as an important future challenge for internet banking continuance. Alalwan et al. (2016) cite lack of customer trust as a potentially major obstacle for widespread acceptance of internet banking. As customers enter into business relationship with a distant and impersonal banking service they may experience greater perceived risk and uncertainty in internet banking environment. The perceived lack of control and personal contact in internet banking environment increases customers' concern for

security and reliability of transactions (San et al., 2016; Chiou and Shen, 2012). These factors may reduce customer trust in internet banking (Lim, 2003), which might have an additional effect on its adoption and continuance. It is suggested that customers' lack of trust in internet banking can be overcome by building, confirming, and maintaining trust (Loureiro, 2013). However, extant literature on trust related to internet banking is scarce and this remains an area worth exploring.

The review of literature confirmed that in order to develop trust, one has to be trustworthy (Graca et al., 2015). It is argued that trustworthiness communicates trusting behaviour and enables initiation of long-term relationship with customers (Estrella-Ramon et al., 2016). Fang et al. (2014) view that trustworthiness drives the service providers' behaviour. This suggests that trustworthiness is critical to understanding trust in internet banking continuance. In spite of its significance, there is a lack of empirical research given to the role of trustworthiness in building trust.

This study adopted a positivist philosophy. A deduction approach and quantitative method were also suitable for this study. A questionnaire was delivered to Saudi Arabia online banking users. A total of 800 questionnaires were sent in Saudi Arabia followed by receiving 565 responses; indicating 71 percent response rate. This study used PLS to test the research hypotheses. The measurement model has confirmed that the measure indicates accepted reliability and validity. Based on the research results, most hypotheses are accepted. This means that trust in e- bank website plays a crucial role in maintain long term relationship with consumers.

The findings of this study support the argument that trust in e-bank website play an important role in maintaining long term relationship with customers. Therefore, online banks who deal with consumers in a confidential and honest manner that ultimately protects consumers' interests – that is, strongly understand how consumers' trust towards e-bank websites is formed and thus showed improved customer intention to use online banking services and e-WOM.

The findings suggest the importance of online banking in order to understand how consumers' trust in e-bank website is formed which enhance customer intention to use online banking and e-WOM. Therefore, online banks, in Saudi Arabia that seeks to enhance their customer intention to use online banking and e-WOM have to improve their customers' trust that ultimately protects their consumers' interests.

This study has confirmed that Perceived ease of use, Trust in online banking website, Trust in technology, Relationship termination cost, Privacy/Security, Shared value, and Communication have positive and significant effect on customer trust in e-bank website, intention to use online banking, and e-WOM. These variables account for 53% and 49% of the variety in customer intention to use online banking services and e-WOM, respectively. This finding is consistent with the argument that if online banks build customer trust in technology, shared value, privacy/security and communication, they are more likely to improve their customers' trust in e- bank website. On the other hand, high trust in e- bank website improves intention to use online banking and e-WOM. It also supports (Lien and Cao, 2014) arguments that trust in e-bank website influence positively on intention to use online banking and e-WOM.

### 7.3 Theoretical contribution

Having studied the most important factors predicting Saudi Arabia customers' intention and adoption of Online banking, the current study represents a substantial contribution to existing knowledge regarding online banking channels and technology acceptance area in general. In fact, this study represents a worthwhile direction by examining online banking which, so far, has not been well evaluated in the Saudi Arabia context. Thus, this study significantly contributes to the knowledge and literature in Saudi Arabia by focusing more on online banking as more novel technology in Saudi Arabia and is calling for further understanding; examining other important aspects; and applying advanced statistical analyses method (e.g. SEM). As the commitment trust theory is precisely theorised to explain technology acceptance from the customers' perspective, it has been selected as a fitting theoretical foundation for the conceptual model. Therefore, this study comprises a substantial contribution by being the initiator in building the conceptual framework based on a theoretical foundation appropriate with the customers' context and being able to capture the most important aspects forming customer intention and behaviour toward online banking as well. Thus, this study is one of the forefront studies extending the applicability of commitment trust theory by examining new technologies (online banking) in a new context (banking industry) in developing countries (Saudi Arabia).

The findings of this study contribute to the literature in the following ways. First, this research extends the current understanding of internet banking adoption by empirically examining the role of perceived ease of use, trust in technology, privacy/security, communication, shared value, relationship termination costs, and trust in internet banking continuance and e-WOM. While the literature in IS area argues that trust plays a central role in internet banking adoption, the role of ease of use, privacy/security, communication, and termination cost in building customer trust in internet banking is not explored. The results of the study provide strong evidence that trust in internet banking is developed through the perceptions of ease of use, privacy/security, communication, and termination cost. By including these factors, this study presents a process by which banking service providers can build trust, and more importantly enhance the customers' intention to continue using internet banking and e-WOM.

The researcher demonstrate that an extended of the commitment-trust theory of Morgan and Hunt (1994) explains perfectly well the role of electronic trust in online online banking in KSA. Taking a lead from the limitations of Morgan and Hunt's (1994) study, the researcher tested sets of measures for the antecedents and consequences of trust and commitment in different context. The measures were developed based on extensive pre-tests with online banking and their users, which helped the researcher to check the face validity of the scales. The measure for relationship benefits as proposed by Morgan and Hunt (1994) was modified to include personalization of service. Morgan and Hunt (1994) measured relationship benefit using a comparative measure between the major and alternate suppliers. The researcher found that an absolute measure works better, as satisfied customers are unwilling to switch to alternative retailers for short-term benefits. Second, since none of the three antecedents of Morgan and Hunt (1994) i.e. shared value, communication, and opportunistic behaviour directly addresses privacy and security, adding them to our enhanced model helped to explain trust and commitment better in the online banking context. The researcher found both privacy and security to have significant impacts on trust and commitment. Our study confirms that trust significantly affects customers' intention to use online banking services in KSA. The research also throws new light on the impact of relationship benefits and termination costs on commitment.

The researcher demonstrates the superiority of the proposed model when compared to an alternative base model. Apart from the re-examination of commitment-trust theory in the online context, our study attempts to make some other fundamental contributions in understanding online consumer behaviour. Consumer trust plays a key role in success of any

retail business. The researcher found that generating confidence in websites through endorsement by celebrities and trust in technological features has significant impact in building consumer trust towards a website. Developing reputation of the online retail brand acts as assurance to the customers (Stratford, 1999). The best way to create customer confidence is through third party endorsement. This is more significant if the third party is a peer consumer (Li et al., 2001). This has immense implications for commercial retail website design and long-term internet retailing strategies.

Fourth, this study extends prior research studies on consumer trust by considering both cognitive-based and affective-based dimensions of trusting beliefs (service provider characteristics). For instance, Schaubroeck et al. (2011) suggest that both cognitive and affective dimensions determine trust. Consequently, the researcher considered the cognitive dimensions of competence and integrity and affective dimensions of benevolence and shared values in understanding trust in internet banking continuance. Furthermore, shared values have often been overlooked in the trust research (Khong et al., 2013). The results show that both cognitive and affective dimensions are important for developing trust in internet banking. Thus, the study findings show that cognitive aspects that focus on providing consistent and timely internet banking services and affective aspects that relate to sharing common goals with users are critical to building trustworthiness and trust perceptions in internet banking.

The findings of this study also contribute to the literature by expanding the extant literature on online trust by assessing the drivers and outcomes of trust toward online banking websites in an emerging Middle East context. These results are important because they empirically test theories predominately developed in developed countries, in the context of a vigorous emerging Middle East marketplace, which increasingly attracts international marketers who want to target the Saudi Arabia market. Therefore, the theoretical implications of this study are that consumer trust towards online banking websites depends on relationship termination cost, shared value, communication, privacy/ security, trust in technology, trust in websites, perceived ease of use, and perceived usefulness. Furthermore, previous studies have often not adequately distinguished between consumer trust, e-WOM and concomitantly have not understood their relationships with each other or how they influence purchase intentions. Therefore, distinguishing between these concepts both empirically and conceptually will provide important insights into their distinct roles in the online context.

Finally, while extant literature on internet banking has indicated that trustworthiness is important for developing customer trust in internet banking, seldom research has examined it (Alsajjan and Dennis, 2010). Based on the trust theory, the present study distinguishes trust

and trustworthiness, and positions trustworthiness to mediate the relationship between trusting beliefs and trust. Moreover, trust was observed to mediate the relationship between trustworthiness and internet banking use. This has important implications for service providers in building trust and enhancing internet banking continuance and e-WOM.

### 7.4 Implications for management

Trust has become a top concern for online banking websites as evidenced by prior studies (Szopiński., 2016; Estrella-Ramon et al., 2016; Khan et al., 2017). This study was couched on the premise that prior studies have largely ignored the factors leading to consumers trust towards online banking websites as identified by the literature was needed. The present study's findings have revealed some important implications for online banking providers and academic researchers as well as making a significant contribution to the body of knowledge in a number of different ways.

The advancement witnessed during the past few years in banking electronic services is by large the product of the shift into the e-services industry and the former retail boom. Consequently, the banking business is driven by one mantra: virtually all types and kinds of banking services to be made extendable across channels, including the Internet (Vat, n.d.). The current study focused on actual users of Internet banking in Saudi Arabia. Customers hold the key to banks' survival and retaining current customers is less expensive than attracting new ones (Kotler & Armstrong, 2008). Through the findings of this research, decision makers within the financial sector can visualize the role of beliefs in forming actual usage behaviour. The findings showed that trust in banks websites and its antecedents influence on consumer intention to use online banking services to make decisions about system usage.

From a practical point of view, this study conveys several implications to online service providers and Marketing managers, in particular. The results of the study will be very useful to the banking service providers as a tool to determine the internet banking continuance and eWOM in Saudi Arabia. It is also essential to identify that the relationship between ease of use, trust in technology, privacy/security, communication, relationship termination cost, shared value, and trust show that the internet banking services much create trusting environment based on ease of use, trust in technology, privacy/security, communication,

termination cost, shared value to create trust perceptions in internet banking continuance and e-WOM.

The knowledge of the antecedents and consequences of consumer trust and the influence of these factors on intentions to use online banking service are useful for managers who should develop strategies and actions aimed at increasing the consumer trust in their websites and, consequently, the consumers' intentions to use online banking services in KSA. The current study has provided empirical validation of a model that can help online banking managers to understand the antecedents and consequences of trust toward online banking websites. Perceived ease of use and perceived usefulness emerged as crucial success factors for building trust toward online banking websites; consequently, positive word of mouth and intentions to use online bankinf service, actions can be taken by managers to increase perceived ease of use and perceived usefulness. Online banking managers can utilize the advances of technology to facilitate convenience in using online banking. For instance, online banking managers can provide apps for mobile devices to use online banking.

The study findings have important implications for international marketers who want to target the KSA market. The study reveals that PEU plays a critical role in influencing consumer trust toward online banking websites. In other words, Saudi Arabia consumers are likely to be more worried about their ability to use the website than the online banking benefits when making decisions about online banking adaption.

Thus, the internet banking services providers should design and implement strategies that highlight the ability to provide consistent services, communicate common goals, being trustful in dealings and provide timely and meaningful information in developing trustworthiness and trust in internet banking use. As shared values influence trust through trustworthiness, failure to communicate the value alignment with the customers leads to lost opportunities of building trust in internet banking. This implies that in emerging countries where the Internet banking services are still in the early stage of their life cycle, managers need to foster trust in their physical presence in order to persuade customers and encourage them to use online banking services.

Privacy and security are found to be one of the most important determinant of trust. Co-operative interaction between the customer and the online retailer (Li et al., 2001), and use of privacy programmes (Li et al., 2001) can improve the trustworthiness of the website. A consumer visiting a website will expect clear guidelines on consumer privacy on non-disclosure of private information and receiving unsolicited e-mails. Customers are more willing to provide information and make purchases online with higher perceived security

(Ackerman et al., 1999). While credit card brands and web-based seals of approval provide security, it has been found that web-based security seals such as the Better Business Bureau, Verisign, and TRUSTe, which are recognised by customers, are more effective than credit card logos (Jarvenpaa et al., 1999). Security perceptions can be enhanced through explicitly mentioning the use of encryption (Stratford, 1999). Guarantee of online transactions by major financial institutions or vendors increases customers' trust (Rutter, 2000), which encourages them to engage in online information search and purchase. Our study showed communication between the online banks and its users is a significant determinant of consumer trust. A greater number of links with other established websites and the presence of a virtual advisor (Sultan et al., 1999) can improve communication and reinforce consumer trust. In addition, integrating human assistants into web systems is a way to provide efficient user support and increase online customers' trust in a bank (Aberg & Shahmehri, 2001). Virtual communities of online retail customers are also valuable resources for promoting quality of response through providing reviews, hints, tips and buying advice (Rutter, 2000). Through virtual communities, there can be interaction among the members and more importantly, trust is heavily linked to the development, fostering and maintenance of online community relationships. Facilitating flow in online customers to a site through combination of goal orientated challenge, feedback, and interaction with other online customers in the community encourages the development of trust. Role of online community is emphasized in Bart et al. (2005). Finally, as the studies conducted by Dutta and Segev (1999) show, enhancing, developing and maintaining customer relationships remains a priority for all banks online. Thus, our research reinforces the importance of trust as a key driver to developing online customer relationships.

Whilst the TAM model, as expanded by Davis et al., (1992) and Gefen et al (2003) has been used widely in research in the industrialized world, it is not so common in the Arabic nations and Saudi Arabia as part of the developing countries. To the best of the author's knowledge, this study is the first attempt to investigate the online banking continuance intention in Saudi Arabia. In fact, such research is virtually non-existent, especially in the online banking context. Therefore, this study adds to the understudied area of online banking continuance intention in the western and in non-western countries in general; and the Arab World in particular, and Saudi Arabia specifically, by examining the effects of usefulness and ease of use on continuance. Consumers will form intentions to continue online banking if they find it to be useful and ease to use. This study addresses this knowledge gap for a unique culture. To the same extent, the research contribution is potentially valuable, as the TAM stops at

intention and does not investigate continuance intentions or behaviour. Moreover, the cross-cultural and the intensive group behavioural differences aspects to our contribution are also relevant, as both models have been used widely in research in the industrialized world. Such differences between users (invariance analysis) introduce series of interesting questions that are beyond the scope of this thesis but important for future investigation and research. The shortage of research in the Arabic countries and as well as the intensive invariance analysis conducted in this thesis would generate a debate and stimulate research in the Arab world context in general and in Saudi Arabia in particular, specially that Saudi Arabia has been ranked 5th in 2009 and 4th in 2010 in the Kearney Global Retail Development Index for retail attractiveness (Kearney GRDI, 2010).

Additionally, and in order to increase customers' intention to adopt Internet banking, bank managers in emerging countries particularly in Saudi Arabia can take advantage of their physical presence (i.e., physical channel) to enhance online trust. In such a case, offline customers have the possibility to combine online and offline banking services. The authors add that multichannel retailers (i.e., concomitant use of offline and online channels) need to develop cross-channel customer services in order to increase customers' online trust.

The most significant implication for the banking sector is the need to recognise that online banking trust and acceptance should be managed with objectives of creating a useful and easy service and of building trusting relationship with the customers. While the explicit essence of the customer's relationship with the bank is to get a useful and efficient online banking service, the customer's trust and its antecedents are an essential aspect of this relationship contribute to its value. The banks should build websites that are not only useful and ease of use to use, as TAM suggests, but it should also include trust-building mechanisms. The findings of this research provide some guiding principle as to the relative importance of investing in a trusting relationship with the customer in comparison with providing an efficient and useful online banking.

The results support previous research that perceived usefulness reflects the utilitarian aspects of online banking, whereas perceived ease of use reflects its hedonic aspects. In our study, enjoyment has a strong direct effect on trust in e-banks websites, which confirms that usefulness and ease of use are important in an online banking environment and have a direct effect on trust. Some consumers may primarily use online banking for utilitarian or functional purpose, such as improved multidimensional examination of a product, while other consumers may shop online for hedonic purposes, such as enhancing the shopping enjoyment experience by creating a virtual model of the product. Also, if an individual ''feels good''

about an online activity, and it is intrinsically motivating, the individual is more likely to engage in it. Individuals using online banking and experiencing enjoyment and playfulness are more absorbed and interested in the interaction. Such interaction shapes the individual intention to use online banking services.

Perceived ease of use has a significant effect on trust and behavioural intention, confirming that possibly extending the TAM into the online banking context to explain its acceptance. The banking industry should use these findings as guidelines in order to design "corrective actions" fora successful Internet banking implementation and "enhance business impact resulting from the large investments in time and money" related to the provision of Internet banking. Perceive ease of use is found to have a strong effect on intention. Thus, when designing bank websites, functions such as quick payments, optimization of financial operations, and convenience should be considered.

However, the effect of perceived usefulness on intentions and trust was not significant. Thus, perceived ease of use will affect the use when the intrinsic character of the technology contributes to the actual outcome. The sample for the present study consisted of experienced online banking users, and as users gain experience with the technology more cognitive considerations will emerge and gain significance in determining the intended behaviour.

Trust in e-bank website is shown to be direct antecedents of intention and e-WOM, suggesting that trust in e- bank website is a key component in the customers' acceptance of online banking and e-WOM especially in Saudi Arabia banking industry, thus, it deserves particular attention.

Another benefit is gained through the reported findings with respect to demographics, in particular education and income, which demonstrated a moderating effect for the KSA market. Such results can also be employed to tailor services and features of the online channel to match users' needs from different income levels.

## 7.5 Limitations and future research

No empirical study is without limitations. First of all, as mentioned before, this study was not randomized. There is always the issue of generalizability in the customer behaviour studies, and this study is no exception. The findings should be viewed as a first step toward understanding factors affecting customer trust in e-bank website from the customers' perspective. This study employed a convenience sample. Even though the characteristics of the sample are very similar to those of the Saudi Arabia online banking users, the researcher encourage future studies to use random sampling of general consumers.

Another limitation of this study comes from the fact that the data collected was from only one country. Therefore, caution is advised in making generalizations from the findings of this study. Any comparative study from a developed and developing country would make a worthwhile contribution to the body of knowledge. Also, comparing between those who use Internet banking and those who do not use it might shed further light on the reasons behind the adoption of Internet banking.

Third, the variables of this study have been measures at a single point of time. Thus, future studies should use longitudinal analysis in order to validate the proposed model. Moreover, despite the antecedents of consumer trust in e-bank website explained a substantial amount of its variance; there are some other important dimensions which have not been included in the research model, representing opportunities for further research (e.g. satisfaction, perceived value, consumer experience of with the internet and consumers shopping orientations).

Finally, a key methodological limitation is that the research study made use of quantitative analysis technique, whereby the data was only collected through the use of surveys. This meant that qualitative reseach methods (e.g. focus groups, qualitative interviews and ethnographic observations) were not undertaken. The result is the inability of the research to make use of qualitative analysis to ascertain whether it complements the findings arrived at through the quantitative analysis or not.

In terms of future research, the following recommendations are made. Firstly, the future research should aim to incorporate randomisation within the research study. This would help

overcome the problem of generalisability, which is associated with majority of the studies undertaken on the topic of consumer behaviour and ultimately help enhance the quality of the data analysis and conclusion reached.

Secondly, despite the usefulness of convenience sampling, the future research should make use of random sampling of the general consumers. This would help to overcome the limitations associated with the convenience sampling and ultimately improve the research methodology and the quality of conclusions reached. Customer variables such as knowledge, expertise, familiarity, satisfaction, and technology receptivity, which may affect trust, have not been included in this study. Trust is likely to increase with greater "know-how" regarding online searching, shopping, matching, determining product quality, and monitoring the fulfillment of transactions (Yoon, 2002). Future studies can compare the effects of website design variables with such customer personal variables on trust formation.

Thirdly, the future study should include more than a single country (Saudi Arabia) as is the case with this research when assessing the consumer adoption of online banking technology and online banking in general. In particular, the comparison of the findings of different regions could be undertaken, which would help to overcome the generalisability issues experienced by this research, as well as enable the researcher to compare the results based on the findings from the different countries.

Fourthy, instead of undertaking cross-sectional study as is the case with this research, the future research could make use of longitudinal study to make a better use of the data collected from the research participants over a period of time. This would be particularly useful in ascertaining whether there is any change in the perception of consumers when it comes to the use of online banking technology over time.

Finally, the future research should make use of the mixed method research methodology whereby the combination of quantitative and qualitative research should be undertaken. This would involve not only making use of the survey questionnaire technique and subsequently analysing the data through quantitative (econometric and statistical) techniques but also collectiong qualitative data (e.g. through ethnographic observations, unstructured interviews and focus groups). This would allow the researcher to assess whether the findings from the qualitative research techniques complement and reinforce the conclusions reached through the quantitative analysis. Furthermore, the use of mixed method research would allow the researcher to overcome the limitations associated with the use of quantitative and qualitative research, if used in isolation.

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# Appendix A: Survey questionnaire

**Dear Participant**

I am a Ph.D. student studying at Brunel University London, Brunel Business School. My research focuses on investigating the factors affecting customers' trust and acceptance of online banking.

I am thus sending to you the accompanying questionnaire in order to gather the opinions of internet banking users in Saudi Arabia. There are no right or wrong answers; I am just interested in your opinions. Thus if you are using internet banking please answer **all questions** as best as you can and return the completed questionnaire. If you face any difficulty or have any questions please contact me on the address below. Your response is extremely important to the success of this research and will be held in **strict confidence**.

I shall be pleased to share the findings of this research once it is completed. To that extent if you would like to receive a copy of its findings please provide me with an e-mail address at the end of the survey.

Thank you for your participation.

I look forward to receiving your reply.

Yours sincerely,

Hassan Alboqami

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## PART 1: intentions to purchase, word of mouth, and antecedents of trust)

**Please use the following scale to describe your opinion towards online banking services: 5= Strongly Agree (SA), 4= Agree (A), 3= Neutral (N), 2= Disagree (D) and 1= Strongly Disagree (SD).**

| | Strongly Agree | | | | Strongly Disagree |
|---|---|---|---|---|---|
| **Online Banking:** | | | | | |
| I intend to use the online banking website in the near future. | **5** | **4** | **3** | **2** | **1** |
| I intend to use the online banking website to access banks services frequently. | **5** | **4** | **3** | **2** | **1** |
| I plan to use online banking services from this website. | **5** | **4** | **3** | **2** | **1** |
| I will continue using online banking websites in the future. | **5** | **4** | **3** | **2** | **1** |
| **Communication:** | | | | | |
| I am willing to recommend this online banking website and its products/services to others. | **5** | **4** | **3** | **2** | **1** |
| I usually say positive things about this online banking website to others. | **5** | **4** | **3** | **2** | **1** |
| I will tell my friends and relatives to use this online banking products /services website. | **5** | **4** | **3** | **2** | **1** |
| **Perceived Ease of use:** | | | | | |
| Online banking websites enable me to accomplish tasks more quickly. | **5** | **4** | **3** | **2** | **1** |
| Using online banking websites save my time. | **5** | **4** | **3** | **2** | **1** |
| Online banking websites would enable me to complete different transactions more quickly. | **5** | **4** | **3** | **2** | **1** |
| I think online banking websites would provide a valuable service for me. | **5** | **4** | **3** | **2** | **1** |

| | | | | | |
|---|---|---|---|---|---|
| Interacting with online banking websites requires a lot of my mental effort. | **5** | **4** | **3** | **2** | **1** |
| My interaction with online banking websites is easy for me to understand. | **5** | **4** | **3** | **2** | **1** |
| I do not find that online banking websites need high skills. | **5** | **4** | **3** | **2** | **1** |
| Learning to interact with the online banking websites would be easy for me. | **5** | **4** | **3** | **2** | **1** |
| **Trust in e-bank website:** | | | | | |
| This online banking website is trustworthy. | **5** | **4** | **3** | **2** | **1** |
| This online banking website is honest and truthful. | **5** | **4** | **3** | **2** | **1** |
| This online banking website can be trusted. | **5** | **4** | **3** | **2** | **1** |
| The Internet has enough safeguards to make me feel comfortable using it to transact personal business with banks agencies. | **5** | **4** | **3** | **2** | **1** |
| I feel assured that legal and technological structures adequately protect me from problems on the Internet. | **5** | **4** | **3** | **2** | **1** |
| **Trust in Technology:** | | | | | |
| I feel confident that encryption and other technological advances on the Internet make it safe for me to transact. | **5** | **4** | **3** | **2** | **1** |
| In general, the Internet is now a robust and safe environment in which to transact business. | **5** | **4** | **3** | **2** | **1** |
| **Trust in Bank:** | | | | | |
| I believe that the bank agency acts in citizen's best interest. | **5** | **4** | **3** | **2** | **1** |
| I believe that the bank agency is truthful, honest and genuine in its dealings. | **5** | **4** | **3** | **2** | **1** |
| In general, the bank is reliable to meet their obligations. | **5** | **4** | **3** | **2** | **1** |
| **Shared Value:** | | | | | |
| The online service provider respects our business values. | **5** | **4** | **3** | **2** | **1** |
| The online service provider and we have a mutual understanding of each other's business values. | **5** | **4** | **3** | **2** | **1** |
| The online service provider sticks to highest level of business ethics in all its transactions. | **5** | **4** | **3** | **2** | **1** |
| **Relationship termination cost:** | | | | | |
| My personal financial management would be greatly disrupted if I decided I want to leave the bank's Online Banking now. | **5** | **4** | **3** | **2** | **1** |
| It would cost very little for me to leave the bank's Online Banking now. | **5** | **4** | **3** | **2** | **1** |
| The costs to switch to another online bank would be very high at this time. | **5** | **4** | **3** | **2** | **1** |
| If I decided to stop using the bank's Online Banking now, I could easily find a | **5** | **4** | **3** | **2** | **1** |

comparable alternative.

| **Perceived Usefulness:** | | | | | |
|---|---|---|---|---|---|
| The online service provider provides high quality information. | **5** | **4** | **3** | **2** | **1** |
| The online service provider allows buyers to track order status on the website. | **5** | **4** | **3** | **2** | **1** |
| The online service provider keeps its buyers informed about the latest developments. | **5** | **4** | **3** | **2** | **1** |
| My choice to purchase online was a wise one. | **5** | **4** | **3** | **2** | **1** |

| **Privacy/ Security:** | | | | | |
|---|---|---|---|---|---|
| I am concerned about the privacy of my personal information during a transaction. | 5 | **4** | **3** | **2** | **1** |
| The bank website implements security measures to protect users. | 5 | **4** | **3** | **2** | **1** |
| Information regarding the privacy policy is clearly presented. | 5 | **4** | **3** | **2** | **1** |
| The site appears to offer secure payment methods. | 5 | **4** | **3** | **2** | **1** |

## PART 2: FOR PERSONAL INFORMATION

**Could you please provide the following information about you?** (Please tick the appropriate).

**Your Gender**

| | |
|---|---|
| Male | |
| Female | |

**Marital Status**

| | |
|---|---|
| Single | |
| Married | |
| Divorced | |
| Widowed | |

**Your age**

| | |
|---|---|
| Under 25 | |
| 25 - 30 | |
| 31 - 40 | |
| 41 - 50 | |
| Over 50 | |

**Educational qualifications you hold**

| | |
|---|---|
| University degree (or equivalent) | |
| High diploma | |
| Master's | |
| PhD | |
| Others…..... ... | |

**Internet experience (years):**

| | |
|---|---|
| Less than 2 | |
| 2-5 | |
| More than 5 | |

**THANK YOU FOR YOUR TIME AND CONSIDERATION!**

Thank you for taking the time to complete this questionnaire.

Your assistance in providing this information is very much appreciated.

……

……

……

**Appendix B: Tables for Non-response Bias Test**

| Independent Samples Test | | | | |
|---|---|---|---|---|
| | Levene's Test for Equality of Variances | | t-test for Equality of Means | |
| | F | Sig. | Sig. (2-tailed) | Mean Difference |
| **INT1** | 0.201 | 0.479 | 0.393 | -0.341 |
| **INT3** | 0.725 | 0.184 | 0.393 | -0.341 |
| **INT4** | 1.123 | 0.058 | 0.272 | -0.522 |
| **WOM1** | 0.033 | 0.642 | 0.272 | -0.522 |
| **WOM2** | 3.026 | 0.012 | 0.935 | -0.168 |
| **WOM2** | 0.333 | 0.623 | 0.934 | -0.168 |
| **USF2** | 0.857 | 0.315 | 0.462 | -0.566 |
| **USF3** | 0.331 | 0.522 | 0.462 | -0.566 |
| **EOU1** | 3.229 | 0.019 | 0.671 | 0.310 |
| **EOU2** | 0.182 | 0.728 | 0.671 | 0.310 |
| **EOU4** | 2.363 | 0.081 | 0.436 | 0.267 |
| **TRW1** | 0.836 | 0.212 | 0.436 | 0.267 |
| **TRW3** | 0.283 | 0.723 | 0.577 | 0.205 |
| **TRT1** | 0.643 | 0.314 | 0.576 | 0.205 |
| **TRT3** | 1.235 | 0.037 | 0.316 | 0.622 |
| **TRT4** | 0.478 | 0.328 | 0.315 | 0.622 |
| **TRB2** | 0.392 | 0.748 | 0.719 | -0.217 |
| **TRB3** | 1.920 | 0.024 | 0.719 | -0.217 |
| **TRC1** | 0.374 | 0.293 | 0.481 | 0.385 |
| **TRC2** | 0.859 | 0.839 | 0.481 | 0.385 |
| **TRC4** | 0.582 | 0.062 | 0.576 | -0.298 |
| **PSC2** | 0.278 | 0.473 | 0.576 | -0.298 |
| **PSC3** | 0.473 | 0.574 | 0.348 | -0.432 |
| **PSC4** | 0.384 | 0.067 | 0.348 | -0.432 |
| **SHV1** | 0.049 | 0.217 | 0.134 | -0.626 |
| **SHV2** | 0.485 | 0.094 | 0.133 | -0.626 |
| **COM1** | 0.172 | 0.694 | 0.467 | -0.523 |
| **COM3** | 0.473 | 0.584 | 0.467 | -0.523 |
| | | | 0.684 | -0.386 |

| | | | | |
|---|---|---|---|---|
| | | | 0.684 | -0.386 |
| | | | 0.264 | -0.473 |
| | | | 0.367 | -0.472 |
| | | | 0.568 | -0.410 |
| | | | 0.384 | -0.074 |
| | | | 0.283 | -0.832 |

**Appendix C: Tables for Common Methods Bias Test**

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 32.712 | 33.251 | 33.251 | 32.712 | 33.251 | 33.251 |
| 2 | 7.392 | 11.232 | 43.483 | | | |
| 3 | 7.233 | 9.049 | 52.532 | | | |
| 4 | 7.127 | 8.450 | 60.982 | | | |
| 5 | 6.363 | 6.405 | 67.387 | | | |
| 6 | 5.870 | 6.213 | 73.600 | | | |
| 7 | 5.564 | 5.582 | 79.182 | | | |
| 8 | 5.218 | 5.235 | 84.417 | | | |
| 9 | 4.314 | 3.943 | 88.360 | | | |
| 10 | 3.933 | 3.211 | 91.571 | | | |
| 11 | 2.861 | 2.427 | 93.998 | | | |
| 12 | 2.819 | 1.253 | 95.248 | | | |
| 13 | 1.780 | 0.847 | 96.088 | | | |
| 14 | 1.662 | 0.736 | 96.818 | | | |
| 15 | 1.471 | 0.671 | 97.488 | | | |
| 16 | 1.432 | 0.593 | 98.078 | | | |
| 17 | 1.335 | 0.475 | 98.548 | | | |
| 18 | 1.183 | 0.239 | 98.778 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 19 | 0.841 | 0.204 | 98.978 | | | |
| 20 | 0.810 | 0.185 | 99.458 | | | |
| 21 | 0.806 | 0.083 | 99.538 | | | |
| 22 | 0.723 | 0.074 | 99.808 | | | |
| 23 | 0.711 | 0.071 | 99.878 | | | |
| 24 | 0.680 | 0.062 | 99.838 | | | |
| 25 | 0.632 | 0.051 | 99.888 | | | |
| 26 | 0.598 | 0.050 | 99.898 | | | |
| 27 | 0.539 | 0.047 | 99.908 | | | |
| 28 | 0.433 | 0.044 | 99.968 | | | |
| 29 | 0.401 | 0.039 | 99.971 | | | |
| 30 | 0.317 | 0.039 | 99.973 | | | |
| 31 | 0.283 | 0.037 | 99.975 | | | |
| 32 | 0.171 | 0.033 | 99.900 | | | |
| 33 | 0.130 | 0.032 | 99.210 | | | |
| 34 | 0.127 | 0.031 | 99.010 | | | |
| 35 | 0.120 | 0.032 | 99.023 | | | |
| 36 | 0.118 | 0.029 | 99.023 | | | |
| 37 | 0.117 | 0.027 | 99.047 | | | |
| 38 | 0.116 | 0.026 | 99.482 | | | |
| 39 | 0.115 | 0.024 | 100 | | | |