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**The direct and mediated effects of Customer Relationship Management (CRM) systems usage as service delivery channels on consumer buying behaviour: An empirical appraisal of the context of the Nigerian banking industry.**

**By**

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**A thesis submitted in partial fulfilment of the requirements of Robert Gordon University for the degree of Doctor of Philosophy**

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## **Abstract**

Ample evidence from the literature suggests that in recent years, banks have been heavily investing in customer relationship management (CRM) systems. The reasons for this are traced to banks' emergent need to gain and sustain competitive advantage through greater knowledge of their customers. In turn, this increased knowledge is likely to also lead to increased: a) customer base, b) customer satisfaction c) customer retention and, d) customer loyalty. The literature suggests that there is a knowledge gap, which relates to the reasons for CRM systems adoption and usage as service delivery channels, as well as its effects on banks' customers. This is particularly the case with regards to the banks' customers buying behavior and is stemming from the fact that bank customers display some unique buying patterns.

Based on the above, the aim of this study is to find out whether or not there is a potential influence of newly implemented CRM systems on consumer buying behaviour in the context of the Nigerian banking industry and also to assess the extent and nature of this influence (if any). Previous research suggests that CRM systems are theoretically measured regarding customers' attitude towards usage, usage experience, ease of use, usefulness, technology downtime/reliability and their orientations regarding CRM-enabled channels. Based on these, the direct and mediated effects of CRM system on consumer buying behaviour are examined through service quality, customer acquisition, satisfaction, retention and loyalty.

Drawing on a systematic mixed method on the basis of previous consumer behavioural intention, technology acceptance and marketing, this study tests specific hypotheses that relate to the relationships between CRM systems and consumer buying behaviour in the banking industry. The theorised relationships are analysed using a structural equation modelling technique and a regression-based bootstrapping approach (Process). The validated structural equation model is tested through the obtained empirical data from 400 individual customers of Nigerian banks.

The findings of the study suggest that CRM system usage as service delivery channels influences consumer buying behaviours. The research makes contribution to knowledge by revealing that CRM system is a significantly valid and robust predictor of buying behavioural outcomes. The findings of this study have important theoretical and managerial implications especially for marketing practitioners and banking professionals. On a final note, numerous future research avenues and some limitations of the study are discussed.

**Keywords:** Customer Relationship Management (CRM), technology and banking, consumer buying behaviour, Structural Equation Modelling (SEM), Process

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### **Glossary: Definition of terms and abbreviations**

**CRM, Technology, CRM systems, CRM enabled channels, technology-enabled channels:** These terminologies were used interchangeably to mean platforms through which bank customers can perform financial transactions other than through the bank branch e.g. POS, ATM, Online banking, Mobile banking.

**Customer, consumer:** These terms have been used in this thesis to refer to the bank customers, who are users of CRM enabled channels.

**CRM:** Customer relationship management

**SEM:** Structural equation modelling

**CBB:** Consumer buying behaviour: The behavioural buying pattern of bank customers, i.e. purchasing habits exhibited by the bank customers.

**CBN:** Central Bank of Nigeria

**ATT:** customers' attitude towards CRM enabled channels usage

**TDT:** Technology downtime

**PU:** Perceived usefulness of the channels

**PEOU/PEU:** Perceived ease of use of the channels

**TO/CRMO:** Customer Technology/CRM enabled channels usage orientation

**CE:** The experience customers perceived using the channels

**CA:** Customer acquisition

**SERVQUAL:** Service quality

**CSAT/CS:** Customer satisfaction

**CR:** Customer retention

**CL:** Customer loyalty

## **Chapter one**

This chapter provides the theoretical study backdrop, the research significance and the justification for the research. It further introduces the reader to the study aim and objectives, key research contribution to knowledge, a summary of the research approach and finally, the logical flow of the thesis structure.

### **1.0. Introduction**

This study is initiated with the intention to understand and predict the influence Customer Relationship Management (CRM) systems usage has on consumer buying behaviour in Nigerian banks. CRM systems in this study context refer to the use of technology-enabled channels as customer service delivery platforms by the banks. This is important because banks have made a significant investment in the acquisition of CRM-enabled channels for the purpose of gaining competitive advantage (Agariya and Singh 2011; Payne and Frow 2006; Parvatiyar and Sheth 2001). The banks believe that by adopting a CRM system, they would be able to attain an increased level of new customer acquisition, customer satisfaction and greater customer retention and customer loyalty (Azzam 2014; Shaon and Rahman 2015).

The essence of adopting CRM systems by banks is for the purpose of achieving a company's motive for investing in CRM systems (Payne and Frow 2006; Kumar 2014). The CRM systems implementation and usage process is expected to have an effect on consumer buying behaviour in relation to a bank's products. These buying behavioural attributes are through cross-buying, up buying, re-purchase, multiple banking habits and word of mouth as an outcome (Sivaraks et al. 2011; Wang et al. 2004). These outcomes are therefore identified to be fundamental to how the influence of CRM systems on consumer buying behaviour is measured (Ejaz et al. 2013; Padmavathy et al. 2012). This study, through a review of relevant literature, indicates the trend of events with respect to consumer buying behaviour as mentioned above.

This research intended to identify whether or not and to what extent CRM systems influence consumer buying behaviour. This is

undertaken specifically with respect to the customers' perceptions formulation process impact using the technology-enabled platforms. To this effect, direct and indirect effects relationships are theoretically hypothesised. As revealed in the literature review sections in chapter two, various researchers (e.g. Buttle 2009; Payne and Frow 2005) have studied the benefits and importance of CRM systems. Existing authors on CRM systems mentioned constructs such as new customer acquisition, satisfaction, retention service quality and loyalty as accruing benefits (e.g. Becker et al. 2009; Payne and Frow 2006). Similarly, some scholars have considered reliability, ease of use and usefulness among other factors as a means to access technology-enabled channels adoption, acceptance and usage level (e.g. Ayo et al. 2010; Padmavathy et al. 2012). However, there is no indication as to what impact CRM-enabled channels usage may have on consumers and their buying decisions (behaviour) specifically in the financial industry. Based on this, the study is undertaken to find out the influence CRM systems may have on consumer buying behaviour with a focus on the Nigerian banking industry.

It is important to note as found from the literature that CRM implementation level is linked to the degree of investment and numbers of CRM-enabled channels (Payne and Frow 2006; Reinartz et al. 2004; Stefanou et al. 2003). Hence, an insight was drawn from the level of technology deployment in the Nigerian banking industry. This forms the basis upon which CRM enabled channels usage by the customers is measured in this study. Furthermore, despite all the positive benefits attributed to CRM, some authors indicate that CRM implementation has not been entirely successful due to some recorded failures traceable to low employee knowledge, adoption incompatibility and suitability, change management issues, inadequate return on investment, etc. (Coltman 2007; Frow et al. 2011; Liu et al. 2006; Rigby and Bilodeau 2009; Verhoef et al. 2010). Therefore, this study does not intend to include the examination of CRM inefficiency and ineffectiveness. This assumption was substantiated based on the fact that many recent studies have established that the use of technology channels positively and significantly affect organisational performance (Adiele and Gabriel 2013; Boateng 2014; Coltman et al. 2011; Padmavathy et al. 2012). Likewise, while efforts have been made by

earlier studies to indicate the pitfalls of CRM systems usage as service delivery platforms, several other studies have established that the unfolded accruing benefits outweigh the shortfalls (E.g. Boulding et al. 2005; Payne and Frow 2005). Therefore, this formed an integral part of the fundamental assumptions of the study.

Following the acknowledged literature appraised above demonstrating the view of the fact that CRM systems implementation is linked to some accruable benefits as mentioned and discussed in section 2.7, that CRM usage as service delivery channels impacts company performances, and serves as an enabling framework for automated technology-driven service delivery platforms. It is imperative to clarify that the arguments presented by previous researchers are not contended in this study. However, this study curiously inquires to provide empirical understanding to the nature on effects the identified variables would have on the relationships between CRM systems and consumer behaviours. This study therefore argues that if as claimed from the literature that CRM systems adoption increase customer acquisition, improves service quality, customer satisfaction, retention and loyalty, then the inclusion of these variables in a technology inclined service delivery model (service framework) would enhance or bring about positive customer perception and buying behavioural intentions. This argument also begs for the questions such as the ones listed in section 1.1, which is cumulatively summarised as to whether the adoption and usage of technology-enabled channels such as Point of Sales (POS), Automated Teller Machine (ATM), online banking, and telephone banking in the Nigerian banking industry context, is explainable within a theoretical framework underpin by the principles of Technology Acceptance Model and the Theory of Planned Behaviour. In line with the existing literature, a clearer context of this study is demonstrated in section and sub-sections 1.

### **1.1. Research background and identification of research gap**

The banking industry is globally experiencing difficulty in gaining customer loyalty and retaining both existing and prospective new customers (Dowling 2002; Taleghani et al. 2011). According to

Dowling (2002) and Lee-Kelley et al. (2003), attracting, retaining and gaining customer loyalty can be achieved through excellent customer satisfaction by being responsive to customers' needs and by exceeding customer expectations. Previous studies have found that loyal and satisfied customers have a high tendency to buy more products from the organisation by way of up buying and cross-buying (Javadin et al. 2012). This revealed that satisfied customers refer the company to other prospective consumers through word of mouth. These attributed outcomes have been rationalised in this study as some of the customer buying behavioural element (Dowling 2002; Javadin et al. 2012). Scholars have identified that in the modern era of strategic market relationship management, Customer Relationship Management (CRM) emerges as the answer to gaining competitive advantage, customer satisfaction and customer loyalty (Onut et al. 2008; Zeithaml and Bitner 2003).

Likewise, the necessity for banks to maintain their customer database, understand customer dynamics and changing needs can be achieved with the help of CRM (Luck and Lancaster 2003; Roberts-Lombard and Plessis 2012; Xu et al. 2002). As stated by Verhoef and Langerak (2002), the adoption of CRM by banks and other sectors in recent years is a result of the need for customer data warehouses, sales force automation, interactive communication techniques and statistics decision support tools. However, Payne and Frow (2005) suggest that the need for CRM system is far beyond the factors listed above. They argue that CRM systems could be integrated and adapted by organisations for many other purposes and in many different ways. Meanwhile, in the opinion of Parvatiyar and Sheth (2001) and Xu and Walton (2005), the imperative acquisition of customer data and knowledge through CRM is not limited to who the customers are in terms of their market segment, but also the knowledge about the manner of their buying behaviour.

Market researchers and practitioners acknowledge the importance of understanding consumer behavioural intentions. This includes the associated outcome of direct and indirect effects of CRM system adoption as service delivery channels. Effectively, this research assesses the influence of CRM system usage as service delivery



channels on consumer buying behaviour in the Nigerian banking industry. This is carried out by evaluating specific CRM benefits such as acquisition, service quality, satisfaction, retention and loyalty as mediating factors and consumer behaviour factors. This is done in order to determine CRM system's influence on bank customer buying behaviour considering variables such as product cross-buying, up-buying, bundle buying, re-purchase, multiple banking, switching banks and word of mouth (referrer). In recent years, many researchers have commonly used either the Theory of Planned Behaviour (TPB) and Technology Acceptance Theory (TAM) to address specifically the acceptance and usage level of technology enabled channels. While this study does not aim at replicating this topic, the TPB and TAM have been justifiably used in this study as the basis to measure CRM system customer usage perceptions.

The questions addressed in this study are the following:

- ❖ Does CRM systems usage as a service delivery channel impact consumer buying behaviour in the Nigerian banking industry?
- ❖ If this is found to be the case, what are the dynamics of the relationships?
- ❖ Is the effect more of a direct impact, or are the associated effects much more dependent on the mediating effects of the intervening variable?
- ❖ Finally, how can the established impacts and dimensions be theoretically modelled and verified?

Therefore, this study empirically advances the body of knowledge through the assessment of the nature of the relational impact of CRM system on consumer buying behaviour in the context of the banking sector. To the best of the author's knowledge and based on comprehensive review of the literature, this is the first of its kind to use Structural Equation Modeling (SEM) and two different statistical techniques (Sobel test and Process – a regression-based statistical approach) to examine

the nature of the indirect/mediating effects relationships. These approaches allow the conceptualisation and development of a model with second order factors with the dimensions of CRM system. Thereby, this explained the linear association between CRM systems, the five mediating variables and the real customer buying behaviour in the banking industry. Consequently, the study did not only focus on establishing the nature of the relationship between CRM system and consumer buying behaviour; it also integrated the fundamental measurements holistically from the theories relating the technology adoption and behavioural intentions to underpin the study and empirically building on the model originally conceptualised by Padmavathy et al. (2012) and Wang et al. (2004).

#### **1.1.1. Key research gap citation**

*.....the factors that influence the CRM implementation are new customer attraction, consumer buying behaviour, competitive advantage, customer satisfaction, customer retention, acquisition, long-term relationships, knowledge management, web-enabled customer service, customer values among others (Karakostas et al. 2005 in Rahman and Shaon 2015 p. 26).*

This quotation has been emphatically pointed out at this stage because, being a re-emphasised statement from 2005 in a study of 2015, it further strengthens the originality, timeliness and the imperativeness of the current study. Interestingly, it specifically identified the variables considered in this study as the mediating factors as the drivers of CRM system adoption. The authors as indicated from the citation also advocated that CRM from the perspective of customer service, is not merely customer data storing and strategic customer information management process, but technology enabled points of contact. Hence, the quotation confirms the focus of the current study on CRM system and the selected mediating variables.

## **1.2. Research justification**

The benefits and importance of having a good knowledge of consumer buying behaviour and CRM cannot be discounted. This is because of their various effects for businesses, ranging from business growth in terms of profit, gaining competitive advantage, customer base, customer satisfaction, retention, loyalty and their general impact on the Nigerian banking industry and economic effect on the Nigeria economy (Ogbadu and Usman 2012; Oladele 2012). Notably, banks play a crucial function in the growing and maturation of a country regardless of the size and population (Sarangapani and Mamatha 2008). Various authors have carried out research on CRM and consumer behaviour both as individual concepts and as inter-related concepts. Reinartz and Kumar (2003) appraised the concept of the CRM process and its measurement and impact on performance. This sought to provide some consistent validity in that about 70% of CRM projects lead to either losses or there is no growth in the firm's performance (Gartner Group 2003; Reinartz and Kumar 2003).

A previous study on the link between customer loyalty and profitability was carried out by Reinartz and Kumar (2000), while Payne and Frow (2006) examined the concept of CRM from the view of strategy formulation and implementation. Other authors that have examined CRM include Yim et al. (2004) and Verhoef (2003). While the latter addressed CRM focussing on its dimensions and effects on customer outcomes (customer satisfaction, customer retention and sales growth), the former evaluated the understanding of the effects of CRM effort on customer retention and customer share development. Other studies on CRM by Maiyaki and Mokhtar (2011) and Valentim et al. (2011) was based on the determinants of customer behavioural intention in the Nigerian retail banks and understanding the minds of the consumers as priority in orienting organisational longevity respectively. Some of the recent research includes Yeganeh and Sohrabian (2015) who established the nature of the relationships between CRM and relationship quality through the value of customer life cycle and Abu-Shanab and Anagreh (2015) whose study proposed a framework regarding the impact of electronic customer relationship management in the banking industry based on an exploratory review

of 123 articles.

Recently, Zhang and Breugelmans (2012) had their study directed towards an empirical investigation on the impact of item based loyalty programme on consumer purchasing behaviour. Though these and many more have been written on the concept of CRM and consumer behaviour, it appears that there is a gap in the literature on the impact of CRM on consumer behaviour and this forms a major part of the justification for this study. Furthermore, some previous academic research has studied the influence of CRM functions focussing on technology (Jayachandran et al. 2005) CRM strategic functionality (Bell et al. 2002). Others have exploited the area of CRM performance based on company growth (Zahay and Griffin 2002), market share and company profitability (Jayachandran et al. 2005; Kim et al. 2003), customer satisfaction and loyalty (Colgate and Danaher 2000; Croteau and Li 2003). These studies indicated that technology adoption affects organisational performance across arrays of success indicators.

Other studies on bank customer behaviour include bank selection criteria (Almossawi 2001), antecedents of customer switching behaviour (Kura et al. 2012; Maiyaki and Mokhtar 2011) while Rootman et al. (2008) studied the variables that influence CRM effectiveness. Moreover, effective adoption of CRM from the consumer behaviour point of view has been established to have the potential to positively affect customer loyalty, retention and satisfaction (Kim et al. 2003; Mithas et al. 2005; Seeman and O'Hara 2006; Winer 2001). Other authors have made attempts to find out what impact CRM has on marketing performance (Blattberg et al. 2001; Rust et al. 2000). Further to the aforementioned various previous studies, it appears that no study has been carried out on this study area. Hence, it is imperative to investigate the influence CRM systems has on consumer buying behaviour and specifically in the Nigerian banking industry.

Further to the aforementioned previous studies, it appears that no study has been carried out on the proposed study area as existing literature show little interest in CRM systems usage impact on consumer buying behaviour. Hence, it is imperative to investigate the

influence CRM would have on consumer buying behaviour and specifically in the Nigerian banking industry. The purpose of carrying out this research is to contribute to the existing body of knowledge about CRM and consumer buying behaviour in the Nigerian Banking Industry, thereby enabling firms to execute the application of CRM systems effectively and utilise its maximum benefits. Hence, the study will reveal the benefits of the twin concepts of CRM systems and consumer behaviour on the academic understanding and the Nigerian banking industry.

### **1.2.1. Rationale from current unfolding bank regulations in the industry**

Prior to the introduction of the cashless society policy by the Apex bank in Nigeria, (Central Bank of Nigeria (CBN), Nigeria can be classified as a cash-based economy. This is because for most retail and commercial business activities payment transactions were carried out in cash. According to a recent study by CBN, 99% of Nigerian bank customers' commercial activities are cash related. The report unveiled that single cash-based transactions in excess of N150, 000 (of 10% of total cash transaction) account for about 71% of the total cash-based activities. This implies that the majority of the cash-based transaction are above the CBN cash-based threshold of N150, 000 (Odior and Banuso 2012; CBN 2011). According to CBN, the new cash policy was necessitated for some fundamental reasons. These include its primary objective to drive technology adoption in the banking industry, the development of IT-based banking and the modernisation of the Nigerian payment system in accordance with Nigeria's vision 2020 to make Nigeria among the top 20 economies. They also hope to reduce banking services costs, improve the effectiveness of their monetary policy and get the Nigeria banking industry to catch up with the developed world and to operate in tune with global trends in banking technology. Consequently, the CBN cash policy in a broad way has compelled all the banks in Nigeria to adopt technology in their customer serving business processes.

Moreover, prior to the introduction and adoption of CRM enabled channels (Online banking, ATM, POS etc.) in the delivery of banking

services in Nigeria, some research has identified peculiar characteristics of Nigerian banks' customer experience, including transaction delays, long queues, issues with money transfers and technology downtime (Ogbadu and Usman 2012; Ogunnaike and Ogbari 2009). These experiences are factors that have the potential to impair customer satisfaction, retention and loyalty. According to Ezuwore et al. (2014), improving or possibly eradicating all the challenges of long queues, tally-numbering, loss of valuable work hours while serving banks' customers has led to the adoption of technology, which is a product of the cashless policy. Therefore, it on this evidence that this study is set up to assess the effect of CRM on customer loyalty. This study, therefore, intends to evaluate the direct and mediated effect of CRM on customer loyalty in the Nigerian banking industry.

### **1.2.2. Justification for selecting the Nigerian banking industry**

The banking sector in any nation's economy performs a significant role (Padmavathy et al. 2012). Over the years, the global banking industry has gone through different stages and forms of transformational restructuring (Padmavathy et al. 2012). The factors that necessitated banks' transformation range from: policies and regulatory changes, technological innovations, business environmental factors, which bring about stiff competition to the general change in consumer behaviour (Klein 2005). The Nigerian banking industry is not an exception as over the last ten years it has been going through various regulatory and organisational restructuring (CBN 2011; Ajayi and Sosan 2013). According to Asikhia (2010), only banks that can understand their industry adequately and satisfy customers using their range of products and business processes can prosper in the business environment. Banks having realised the imperativeness of customers to their business, have in the last decade invested significantly in the adoption of CRM as a marketing strategic tool, to gather and develop customer database, understand customers, fulfil customers' needs, and achieve a high level of customer retention (Goyal and Joshi 2012; Uppal 2008). Individual firms in the industry strive to have a competitive advantage, hence there is competition in the industry as

all the firms serve a similar set of customers and offer products with similar features using brand as differentiator and different product names. Marketers in the banking industry must comprehensively understand the real needs, wants, beliefs and attitudes of consumers about their products and services (Sarangapani and Mamatha, 2008).

In the light of banks' dependence on customers for continuous growth and profitability of their business, both the concept of CRM systems and consumer behaviour are vital and necessary components of their business processes. This is as a result of banks' quest for competitive advantage, and the rising demand for the concepts in the global market. Moreover, the adoption of CRM systems by banks help to manage banks' business process that has to do with customers and involves the collection, collation and interpretation of customers' data, which will help to define customers' pattern of buying behaviour (Laudon and Laudon 2012; Karakostas et al. 2005). Other reasons for selecting the banking sector as stated by Karakostas, et al. (2005) include:

- The significant role of banks in Nigeria economy
- Availability and access to information
- Banks are more advanced in technology as compared with other organisations
- Banks require and keep more information about their customers.

### **1.3. Theoretical context of research originality**

Under the general range of studies on CRM and consumer behaviour, many scholars have focused their research direction on specific area. Examples of this include: the effects of CRM on customer retention and share development (Ahmad and Buttle 2001; Khan 2012; Verhoef 2003); consumer behaviour and CRM: understanding the mind of consumers as priority (Valentim et al. 2011); CRM in financial services (Peppard 2000); CRM in banks, a comparative study in India with attention to customer satisfaction and service quality (Mishra et al. 2011); CRM application impact on customer satisfaction in financial services and credit institutions, a study on Iran financial service

industry (Gilaninia et al. 2011); the impact of effective CRM management on repurchase: a study on customer loyalty in Ghanaian hotel (Amoako et al. 2012).

Moreover, with respect to the existing body of literature in Nigeria, little has been examined regarding CRM impact, unlike its adoption and acceptance. Ogbadu and Usman (2012) conducted a study on imperativeness of CRM in Nigerian banking industry with focus on CRM adoption and benefits; Maiyaki and Mokhtar (2011) research focused on the factors that determine customer behavioural intention in Nigerian retail banks; CRM and bank performance in Nigeria (Adiele and Gabriel 2013; Charles 2013). Adiele and Gabriel (2013) identified in their study conclusion and limitation by stating that further studies may investigate the impact of CRM on marketing and extending the sample population across the geo-political zones, appraising the technological perspective of CRM and appraising CRM in the Nigeria banking sector (Melodi et al. 2012; Olorunleke 2013). Despite all these studies on CRM and consumer behaviour in Nigeria, they failed to explore the influential relationships that might exist between CRM and consumer buying behaviour. Hence, this study aims to investigate this gap in literature and knowledge.

Valentim et al. (2011) stated that the need to understand consumers and their behaviour in relation to organisation adoption of CRM has become a popular field of research area that brings forth challenges to businesses across the globe. Therefore, this study intends to reveal whether or not CRM has an influence on consumer buying behaviour and point out the nature of the effects. Besides, the findings from this study will contribute to existing theories and models of CRM and consumer behaviour literature.

In summary, the research problem area rationale is listed below:

- Clearly measure CRM systems impact on consumer buying behaviour within the context of the Nigerian banking industry from consumer perspective on technology-based usage as service delivery platforms
- Lack of studies that have investigated the five selected buying behaviours (cross buying, repurchase, bank switching, multiple



banking and word of mouth) in a single study as displayed behavioural outcome consequential to technology-enabled channel usage

- Lack of existing research that has exploited the use Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB) constructs to measure CRM system
- The unevaluated combined hypothetical intermediation functions of service quality, acquisition, satisfaction, retention and loyalty in a single research model.

In conclusion, the need to identify and explain consumer behavioural dynamics has been a fundamental foundation of conventional marketing research custom. Hence, understanding how banks' customers behave regarding their buying habits, and the perceptions formed based on using technology-enabled channel usage become imperative. Consistent with this line of thought, the relevance of this research is clear as it postulates a conceptualised view to understanding CRM systems usage as service delivery channels and its impact on consumer buying behaviour.

#### **1.4. Research aim and objectives**

This study builds upon a body of previous research (e.g. Kamakura et al. 2002/2005; Payne and Frow 2006; Reinnartz and Kumar 2000; Verhoef 2003; Yim et al. 2004), which focuses on CRM measurement and its impact on performance. For instance, Kamakura et al. (2005) assessed CRM choice models particularly with respect to tracking individual customer behaviour in a long period of time. In addition, Payne and Frow's (2006) examined CRM within the context of strategy formulation and implementation. They also proposed a unified model that addressed CRM strategy and implementation. As an attempt to extend knowledge in this regard, this study intends to propose a single model that will address CRM systems usage and consumer buying behaviour with the inclusion of some mediating factors. Particularly, a stage of their model involves multi-channel integration. Hence, this

study will further build on the understanding of CRM as a multi-channel integration. Payne and Frow (2006) study therefore stands as a foundation upon which this study rationalised CRM systems as technology enabled channels. Moreover, this study seeks to further study the links between satisfaction, loyalty and business performance as well as the effects of CRM dimensions on customer outcomes. While it is recognised that past research such as (Blattberg et al. 2001, Oladele 2012, Rust et al. 2000, Sarangapani and Mamatha 2008 and Yim et al. 2004) exist, nevertheless their focus has not been on what the current study investigates. Furthermore, Padmavathy et al. (2012) affirmed that the banking industry of any nation's economy performs a significant role. Similarly, Asikhia (2010) averred that it is only banks that can observe their business environment well and sufficiently satisfy customers with their range of products and operational activities that can survive in the industry. Therefore:

The overall aim of this study is to investigate the effects of CRM systems on consumer buying behaviour in the context of the Nigerian banking industry.

As the bedrock of this aim and to adequately attain the key research aim, the study further intended to advance and test a theorised framework that incorporates each of the constructs and dimensions extracted from the literature on CRM and consumer behaviour. This was deemed necessary to theorise a basis to explain the impact of CRM systems on consumer buying behaviour directly and indirectly. To achieve this aim, the following outlined objectives were specified:

- I. To examine the origin, need for and role of CRM systems
- II. To review the literature on consumer buying behaviour regarding the use of technology as service delivery channels within the context of the banking industry, in order to understand bank customers' buying behaviour and clarify the knowledge gap.
- III. To establish a framework through the underlying models of consumer buying/usage behaviour in technology-based banking/service delivery channels grounded on the effects

CRM system and the mediating variables (Acquisition, service quality, satisfaction, retention and loyalty).

- IV. To examine the proposed direct and indirect associations between CRM systems and consumer buying behaviour specified in objective III using quantitative measures.
- V. To assess the research conceptualised model fit through structural equation modelling using collected primary data for empirical confirmation.
- VI. To suggest practical and theoretical deductions based on the outcomes of the empirical analysis uncovered from objective IV and V.

### **1.5. Managerial implications**

Following the projected aim and objectives of this study, the uncovered findings will contribute to the existing body of knowledge concerning technology (CRM) enabled channels usage to servicing banks customers, particularly in the context of the Nigerian banks customers. The findings by practical implication will be relevant and useful as customer service improvement guide to the financial organisations. These include the current state of technology usage perceptions, the extent to which technology should be deployed and the level of reliability that would influence positive customer perceptions, leading to positive buying behavioural outcomes. The findings from this study are also anticipated to be significant in providing comprehensive and suitable CRM system usage strategy to the banks in Nigeria. This would help improve Nigerian bank customer perceptions of CRM system usefulness and usage experience. Moreover, the research will also potentially contribute a new dimensions of evidence regarding the replication of research theorised framework to the prevailing dearth of knowledge about technology-enabled channels usage in African countries and other developing nations. Significantly, the study will empirically validate statistical evidence regarding deployed CRM systems and consumer buying behaviour in Nigeria.

## **1.6. Theoretical implications**

The details of this study's contribution to knowledge gap as presented in chapter five are categorised into the conceptual and theoretical contribution and methodological contribution. Primarily, the research contributes to theory relating to CRM system usage and consumer behavioural studies. This is achieved by establishing the nature of the relationships between CRM systems and consumer buying behaviour in the context of the Nigerian Banking Industry. The research employs two theories (TAM and TPB) as underpinning theories to conceptualise the dimensions of CRM systems, which was then used to connect the hypothesised relationships. Furthermore, these theories were used to explain the dynamics of bank customers' technology-enabled channels usage perceptions and the other fundamental views of the study. Likewise, by way of contribution, the two theories alongside the other variables form the basis upon which the research framework and model was established. The outcomes from the statistical assessment of the model on the hypothesised relationships inform the establishment of theoretical deductions, which uphold the established effects of CRM systems on consumer buying behaviour. Furthermore, the study empirically confirmed the nature of the direct and indirect effects of CRM systems on consumer buying behaviour in a manner that has not been established previously. Specifically, by first confirming the nature of the influence of CRM systems implementation and by uncovering the nature of the mediating effects of CRM established benefits (See quote below). Therefore, this study has conceptually and theoretically contributed to knowledge by extending existing models relating to CRM (E.g. Gilaninia 2012; Padmavathy et al. 2012; Rahman and Shaon 2015; Wang et al. 2004).

### **Reiterated citation:**

*.... the factors that influence the CRM implementation are new customer attraction, consumer buying behaviour, competitive advantage, customer satisfaction, customer retention, acquisition, long-term relationships, knowledge management, web-enabled*

*customer service, customer values among others (Karakostas et al. 2005 in Rahman and Shaon 2015 p. 26).*

Methodologically, this study has extended knowledge by using a combination of two statistical analysis techniques, specifically to assess the mediating and moderating effects. The results for the indirect effects were obtained by painstaking analyses conducted using Sobel test and regression-based analysis approach (Process) through bootstrapping. This analysis process enabled the researcher to have robust results by comparing the different analysis techniques outcomes. Thereby this provides stronger basis to authenticate the established relationships. This study is the first of its kind giving the nature and context of this research.

Like all in-depth research, the study has limitations and assumptions. The following sections briefly explain the implications of these limitations and assumptions.

### **1.7. Specific research assumptions**

Every study has some restrictions, say insufficient resources or shortcomings in the choice of the methodological process (Simon 2011). Therefore, underlying assumptions form an integral part of each piece of scholarly research and are always clearly set out in any quality piece of research. Given the nature of this study, there are some assumptions, which although they do not form part of this study as conceptualised, they are parts of the research implementation process and are out of the control of the researcher. The data used in the current study was collected in a cross-sectional manner covering the demographic variables such as gender, age, education and occupation. Therefore, the data collected is believed to be a representation of the Nigerian banked population. Therefore, the findings can be generalised if this assumption is accepted. Additionally, it is presumed that the respondents were honest at the point of completing the questionnaires. Also, that the responses supplied represent their genuine opinion and reality of events. In checking for this during the data collection exercise, participants who were not

willing to participate were not persuaded and proxy participation was totally refused politely. Anonymity was explained in order to encourage truthful participation. Most importantly, it is assumed that the survey mechanism employed in data collection, the research constructs that form the conceptualised framework and the techniques used to analyse empirical data are appropriate and have been applied consistently. This is on the basis of the fact that they have been previously used in scholarly research justifiably. The study applied the theories of Technology Acceptance Model (TAM) and The Theory of Planned Behaviour (TPB) (See section 4.2 & 4.3), employed statistical analysis software e.g. SPSS, AMOS™ (Confirmatory factor analysis (CFA)) and Process represent the combinations of approaches used in this study, which have been verifiably used in past studies. Based on this, it is safe to assume that the theoretical and methodological processes of this study are consistently reliable. Hence, achieving accurate outcomes and deductions is supported by previous legitimate studies. The results of validity and reliability are presented in chapter four.

### **1.8. Key research delimitations**

According to Simon (2011), delimitations are referred to as the elements that restrict the extent of a research scope, thereby dictating the study boundaries. This may include factors in the author's control such as research questions, objectives, theoretical view, constructs of interest and the sampled population (Simon 2011). The variables of interest, theoretical underpinning, as well as the research sample setting in the current study, have been defined accordingly. The comprehensive explanations and rationalised meanings of the variables are defined through the progress of the thesis. These include the detailed explanations of CRM/technology as enabled channels for service delivery platforms and consumer buying behaviour.

Having carried out this study in the context of the Nigerian banking industry, it is to be understood that the findings are delimited to the Nigerian setting. This implies that the conclusions can only be generalised to the research context environment. This is because the results obtained are subject to the validated data that represented obtained empirical data sample. However, this is with the exception

that the research model can be replicated as a basis for further related studies.

### **1.9. Summary of research methodology**

Chapter three provides the full description of the research methodology paradigm, data collection and analysis techniques. This section gives an overview of the philosophical research process in the study. Prior to selecting the research philosophy that can help provide a methodological basis for this study, an in-depth review of relevant philosophical and methodological paradigms was carried out. Afterwards, a mixed approach of a qualitative and quantitative (qual/QUAN) with a dominant quantitative design, which has been previously adopted in some scholarly research methods, was selected. This approach is often referred to as triangulation. But unlike other triangulation methods such as investigator, theoretical and data triangulation, the form of triangulation adopted in this study is methodological triangulation described as sequential exploratory mixed method (Creswell 2014; Bryman and Bell 2007; Bryman 2004). Essentially, the qualitative part is intended to provide confirmations to the questionnaire content, and give an insight into the further understanding of the research variables in the context of the Nigerian banking industry. To streamline the focus of this study, the study framework was conceptualised based on extant literature. This was subsequently translated into the research model, using the combination of two theories of technology acceptance/usage and behavioural intentions (TAM and TPB). Giving the nature of the Nigerian respondents, a face-to-face survey approach was subsequently considered as the most suitable and time/resource efficient for empirical data collection. The administered questionnaire was developed based on largely pre-tested items and scales extracted from the extant literature. Although the items were modified in accordance to the previous measures and to the suit current study, they were adopted based on their appropriateness and because they have been pre-established and pre-validated in pertinent research. This is explored in more depth in the methodology chapter. The survey instrument is presented as Appendix 1. Following successful

assessment and validation of the questionnaire content (through evidence from the research interviews and pilot study), the corrected copy was thereafter administered, using the Nigerian bank customers who are the sole signatory to their account as the respondents. The data gathering exercise took place across the four major ethnic/political zones of Nigeria, using major cities and local towns. The respondents were chosen through a systematic design producing 400 suitable responses. The method was considered suitable giving the nature of the respondents and accessibility. This allowed the researcher to have a good control of the survey exercise.

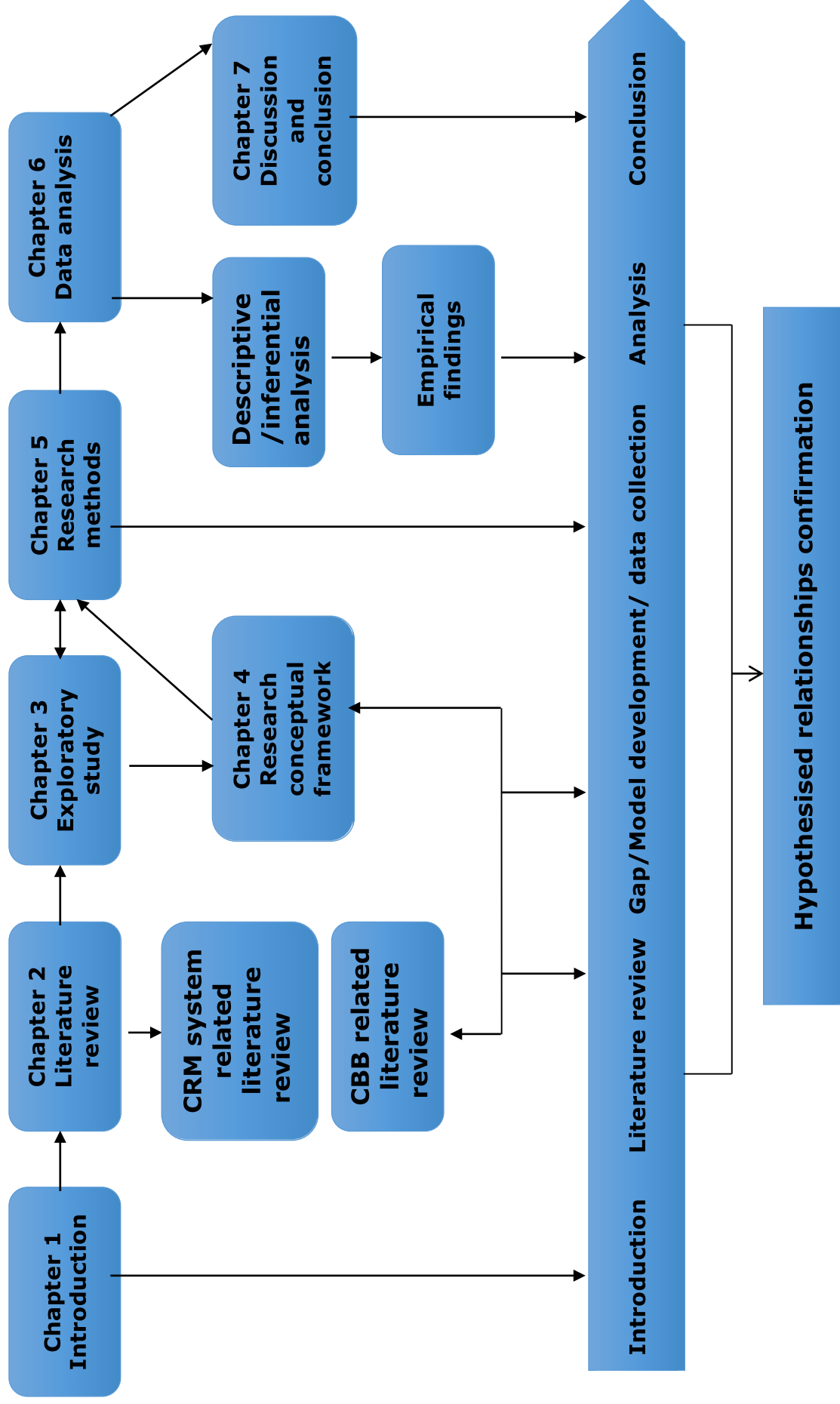
Subsequent to the data gathering exercise, the empirical data obtained was robustly analysed. Firstly, this was carried out through descriptive analytical mechanisms using SPSS, particularly to provide insight into the nature of the data, data treatment as well as data cleaning process. Secondly, the cleaned empirical data was subjected to vigorous hypothetical paths estimations with the use of structural equation examination procedures. Structural equation modelling (SEM) alongside a new approach called regression-based statistics analytical technique known as "Process" have been used and considered appropriate. Particular, Process was used to further substantiate the direct and mediated effects established from the use of SEM. This is due to the confirmatory nature of the research objectives. Additionally, because these techniques are commonly known to have the capability to undertake a vigorous data analysis and deliver robust results based on the conceptualised research model and theorised relationships.

#### **1.10. Structure of the thesis**

This thesis gives an account of the research process as carried out. It is structured into five chapters, with each chapter having various sections and sub-sections. As demonstrated in figure 1.1, the research structure follows a typical research pattern, which was designed in such a way that will lead to achieving the research aim and objectives (relationships confirmation).



Figure 1.1.1: Diagrammatic illustration of the research structure



Chapter one gives an overall introduction to the study background. It highlights the rationale, significance, assumptions, summarised research design and approach and particularly the aim and objectives as well as the summary of the theoretical and managerial implications of the study.

Chapter two presents the literature reviews on CRM systems and consumer behaviour. The chapter starts with the introduction of marketing concepts and links marketing trends to consumer behaviour and relationship marketing. The major part of this chapter provides a description of the literature relating to the origin, benefits of CRM and technology adoption in the banking industry as well as the discussions of some related theories. The chapter conclusion provides insight to the research variables that were later subjected to confirmation through a qualitative study.

Chapter three presents the explored confirmatory qualitative stage of the study. This phase was considered essential for attaining more insights into the key identified variables measured in this study. Mainly, the chapter describes the qualitative study process, delivering some corroborations and confirmations towards the measured variables and the hypothesis formulation.

Chapter four provides the conceptualisation of the research framework. As a result, from the reviewed literature and the framework based on the arguments made, the research key variables were identified. The identified variables were thereafter used to develop the research model, through which the study hypotheses were formulated.

Chapter five of this thesis identifies the study philosophical paradigm and the specific techniques and procedures undertaken to obtain empirical data. These processes include sampling approach, research plan, survey instrument design, pre-test and verification, questionnaire administration and other data collection related processes. The chapter further provides some explanations of structural equation modelling, pointing out the underlying principles of the statistical method, recommendations and criteria for model goodness of fit among others.

Chapter six presents the descriptive and structural analysis and discusses the findings uncovered. It explores and discusses the actualities of the process of testing data for reliability and validity. Within the chapter, the comprehensive process of the analysis is discussed on how SEM through AMOS™ 22 and “Process” was used to address model fitness assessment. It further provides how the empirical data was adjudged to be appropriate and fit the research model. The final parts of the chapter detailed how the direct and indirect hypothesised relationships were estimated following the stipulated paths in the developed model.

The final chapter discusses the analysis and findings discovered in chapter four. It emphasises the key research contributions to knowledge, highlights the research implications and states some identified research recommendations for further research, based on the study limitations.

### **1.11. Conclusion**

While this chapter predominantly provides a summary of the contents of this thesis, it fundamentally gives an inclusive introduction to the research. The chapter precisely provides details of how the research was carried out from initiation stage to the concluding section.

## **Chapter two**

### **Literature review**

#### **2.0. Introduction**

The first chapter introduced CRM systems (defined in sections 2.6/2.9 p.29 & 48) as a research subject-focused area with a comprehensive background, through which pertinent literature was used to provide the rationale and highlights the research gap of this study. The chapter also covers the justification of the need for this study and specifically identified the aim and the research objectives. The first stated objective of this study was to examine the origin, need for and the role of customer relationship management (CRM) systems. Achieving this objective requires conducting an in-depth critical review of the relevant literature in the field. This will help develop understanding of the meanings of the research constructs and measuring scales. Therefore, the first phase of this chapter provides a general background on what marketing is and the marketing concept trend. This process will help provide links on the developed marketing trend to the era of relationship management leading the emergence of CRM. Hence, the subsequent sections follow on with giving an in-depth critical review of related literature on CRM, customer buying behaviour and known findings on CRM systems with respect to some selected benefits of CRM (used in this study as mediating variables) and with respect to customer buying behaviour.

In addition, the literature on related theories and antecedents of CRM systems adoption and consumer behaviour in the banking industry is reviewed, looking into the following: a), relevant marketing theories, b) technology related theories and customers' CRM enabled channels usage, and c) perceptions and practices to make clarifications regarding identified dearth of knowledge in this research, thereby enabling the proposition of the study model, hypotheses development and testing. The final section of this chapter makes reference to outlined numbers of existing studies that have attempted to examine CRM (either as a technology, electronic banking, strategy, process or as a system) in different context, which relate to consumer behaviour

within and outside of banking sector. It also brings together the developed ideas from across the reviewed literature sections including the theories to inform what variable(s) serve as dependent, mediators, and independent as well as what theories have been selected to underpin this study.

### **2.1. Marketing and marketing concepts**

According to Lusch (2007), for the last century, what marketing means has been a topic of debate by marketing scholars and to date there has not been an end to it. This is because there is a broad perspective from various researchers. An instance is the definition that, "marketing is simply figuring out what you have to do to sell your product or services for profit" (Jack trout (2004) in Keefe 2004 p. 17). From the definition, the phrase "what you have to do" may entail the marketing strategy a firm adopts, the marketing mix strategy that may include pricing, product quality, and brand among others. However, this definition is often criticised by other marketing scholars because the definition is often considered vague and is not accepted.

Usually, marketing activities are centered on human behaviour and their social environment, which is full of emerging events and uncertainties. Hence, the debate on what marketing is will continue as long as consumer behaviour remains dynamic (Peter and Olson 2005). In addition, the emergence and evolution in technology, demographics, industry and the economy will bring changes and new interpretive meanings to marketing practices and terms among which are product, customer, target, data and segment (Keefe 2004).

Scholars have argued that there are unfolding events that bring about inferred changes in the concept and practice of marketing, thereby reshaping the marketing discipline (Sin et al. 2006). Gruen (1997) and Grönroos (1998) opined that the principles of business operation have deviated from across the various marketing concepts. They stated that business moved from production concept to a selling concept, to marketing concept and finally to relationship management orientation.

## **2.2. Definition of marketing**

According to AMA (2013), Marketing is said to be the “activity, set of institutions and processes for creating, communicating, delivering and exchanging offerings that have value for customers, clients, partners and society at large”. Also, Kotler and Armstrong (2010) defined marketing to be the process through which firms create value for their customers which results in building strong customer relationships so as to gain value from customers in return. Marketing from the perspective of this definition is argued by Keelson (2012 p. 35) to be interpreted as, “an organisational effort to create and retain profitable customers through positive relationship building between the organisation and its internal as well as external customers in a socially responsible manner”.

To create and retain valuable customers, firms need to direct their attention in the direction of the marketing concept. This is because as opined by Keelson (2012), a successful marketing strategy places customers at the centre of their businesses. Therefore, it is imperative that marketers understand consumer’s needs and come up with products and services that satisfy and delight them.

## **2.3. Marketing concept and consumer behaviour**

Marketing philosophy was earlier defined by Dibb et al. (1997 p. 264; 2005) as “a way of thinking, a management philosophy guiding an organisation’s overall activities (affecting) all the efforts of the organisation, not just its marketing activities”. Similarly, a marketing concept as defined by Peter and Olson (2005 p. 4) is the “appropriate philosophy for conducting business”. They argued that a marketing concept provides an avenue for organisations to satisfy consumers’ needs and wants in order to make a profit.

According to Keelson (2012) and Armstrong (2009), the definition of the marketing concept has evolved over the decades. And as argued by Schiffman et al. (2008), the discipline of consumer behaviour has its root in the marketing concept. These marketing concepts termed “a business orientation” by Schiffman et al. (2008 p. 4) evolved in the 1950s through the application of various alternative

marketing approaches in the direction of carrying out business. These are referred to as production concept, product concept and selling concept respectively (Keelson 2012; Peter and Olson 2005; Schiffman et al. 2008).

The developing concept of marketing has become known as a revelation of various marketing ideologies that are tailored towards looking into dynamic customer needs that may develop over time (Kotler and Armstrong 2010; Kotler and Keller 2009; Pride 2008). Though the relevance and dominance of all the concepts vary across different marketing eras, the fundamental inference of the concepts is to create, maintain and satisfy valuable customers (Drucker 1954; Keelson 2012).

#### **2.4. Marketing concept leading to relationship management**

Production philosophy was developed from the assumption that consumers' interest is favourably disposed to the availability of products and services at minimum prices (Schiffman et al. 2008). The strategy and objectives of this marketing principle entails organisations producing goods and services in a cheap and efficient manner as well as comprehensive distribution (Fahy and Jobber 2012; Kotler and Armstrong 2010). On the other hand, product philosophy is propounded based on the assumption that consumers are ready to buy products with the best quality, performance and products with the most state of the art features (Kotler and Armstrong 2010; Schiffman et al. 2008). The selling concept was developed on the premise that there is little tendency that consumers will buy a product except if they are persuasively impelled (Keelson 2012; Schiffman et al. 2008).

Nevertheless, the marketing philosophy began to evolve and dominate business direction in the 1950s (Pride 2008; Schiffman and Kanuk 2007). marketing philosophy rests on the key assumption that for any firm to be successful, it is imperative to find out what customers' wants and needs are hence, a firm have to produce what the customers wants and not what it has produced through "hard selling" (Schiffman and Kanuk 2007). The marketing concept favours the needs and wants of the customer whereas selling concept focuses on the needs of sellers and products. The evolving development in the

marketing concept described above coupled with quest by companies to gain competitive advantage and increase their customer base, resulted in the evolution of CRM. The next sections present the origin of CRM and its adoption, particularly as related to the banking sectors.

## **2.5. Origin of CRM**

The bedrock of CRM lies on the principles of relationship marketing that is considered to be one of the significant evolving aspects of modern marketing (Sheth and Parvatiyar 2000). CRM emerged from relationship marketing through a paradigmatic reposition in the marketing approach (Grönroos 1997; Payne and Frow 2006; Parvatiyar and Sheth 1997). Though relationship marketing has its root in work in the 1980s in industrial marketing (Jackson and Bund 1985; Levitt 1986), there were no publications on how imperative relationship marketing is on or before the 1970s (Sheth and Parvatiyar 1995) therefore, according to Grönroos, (1994), relationship marketing inception can be tracked back to the early times. The first research to establish relationship marketing was carried out by Berry (1983) where the author described relationship marketing as a process of attracting, maintaining and enhancing customer relationships.

Similarly, according to Dohnal (2002) and Donaldson and O'Toole, (2007), the term CRM emerged back in the 1990s. It was an era when the marketing concept evolved from transactional to relational marketing, which was based upon relationship development rather than simply trading goods and services for money. As opined by Buttle (2009), different authors have given various definitions to describe CRM. These definitions varied in meanings from RM to CRM (Buttle 2009). CRM originates from the principles and practice of relationship marketing (RM) (Sheth and Parvatiyar 2000). They opined that relationship marketing was regarded as one of the most crucial advances in the field of modern marketing. According to Dyché (2002), relationship marketing in the early 1990s was accepted as a medium through which marketing departments used to acquire customer knowledge and to understand their needs preferences as well as satisfying them.



According to Brodie et al. (1997), relationship marketing is a new paradigm which emerged from a set of studies that examined relationship marketing from a service perspective, an inter-firm exchange relationship, efficient and effective channel relationship (Axelsson and Easton 1992; Berry 1983; Ford 1990; Gronroos 1990; Wilson 1995). Relationship marketing, as posited by Osarenkhoe and Bennani (2007) was to be adopted as an avenue for firms to acquire information from the customer with respect to their buying preferences and after that, stored in the database. This marketing idea brought about one-on-one marketing approach and later evolved into what is known as CRM today (Reynolds 2002).

CRM, from a technology perspective, has been in existence for many decades (Buttle 2009). He stated that CRM emanated from some "standalone technologies" such as call centres, sales-force automation systems and customer information files (CIF) used as far back as the 1970s. The continued existence of businesses is guaranteed by how effectively they can attract and retain customers and sustain profit. Relationship marketing (RM) and CRM are marketing means of satisfying customers and are often used by researchers in literature interchangeably (Agariya and Singh 2011; Parvatiyar and Sheth 2001).

Many authors have defined relationship management (RM) with respect to different contexts and constructs (e.g. Berry 1983; Bergeron 2002; Kotler and Armstrong 2004; Peng and Wang 2006). Although there is no definition that is globally accepted from previous literature, Mishra and Li (2008) gave a basic definition of RM as the process of concentrating all marketing activities on the establishing, developing and maintaining successful relationship exchanges.

CRM on the other hand, is defined to be a marketing strategy that involves the process of acquiring, retaining and partnering with segmented customers for the purpose of creating enhanced value for both parties (Parvatiyar and Sheth 2001). While some authors have opined that CRM is a subset of RM (e.g. Agariya and Singh 2011; Peelen et al. 2006), on the other hand, CRM is seen to combine the strength of RM strategy and information technology (IT) to bring about company and customers extended relationship and an enhanced relationship with other stakeholders (Omarini 2011). However, as

stated by Sin et al. (2005) and Sheth and Parvatiyar (2000), RM and CRM are not entirely the same because differences exist between them starting from their definitions. Hence, this study will be looking at CRM and its influential relationship with consumer buying behaviour.

As the paradigm shift in relationship marketing continues to evolve, by the 1990s, CRM had attracted the interest of many marketing scholars and practitioners. This led to the practice of "one to one" marketing as opposed to mass marketing (Peppers and Rogers 1993). Thus, CRM represents the outcome of the ongoing advancement and integration of marketing concepts and modern existing data, technology and organizational marketing approaches (Boulding et al. 2005). Similarly, the need to merge customers' data collected through marketers during sales, in addition to call centre interactions with customers brought to light CRM as a concept. According to Osarenkhoe and Bennani (2007), CRM has its foundations in the technology of sales automation and call center activities. Prior to the emergence of CRM, initial relationship marketing and customer interactions was undertaken to acquire data that relates to customers' buying preferences. This led to "one to one marketing" thereby serving as an enabler for organisations to create personalised and customized products and services for their customers. Therefore, Osarenkhoe and Bennani (2007) concluded that, in order for organisations to have a better and secure customer relationship management through the "one to one marketing", creating a lasting customer relationship and increased performance, CRM was developed.

According to findings from some of the research that has been carried out regarding the emergence of CRM, internet enabled mechanism and platforms such as e-commerce and internet marketing (Yang and Fang 2004), personalisation of products and services (Jun and Cai 2001) and customer self-service (Walters and Lancaster 1999; Parasuraman et al. 2005) were unfolding. Hence, from the technology point of view, CRM involves some sets of applications that fundamentally focus on customers' needs and provide a common database using business analysis tools (Osarenkhoe and Bennani 2007). Meanwhile, Veber (2009 p. 495, in Heczková and Stoklasa (2010, p. 83) viewed CRM development to be summarised by the stages of CRM utilisation. These stages are:

- Pre-pre-CRM stage: This is the stage where business initiative is up to the customer and the company is particular about fundamental technical and warranty requirements
- Pre-CRM stage: during this era, the sales department takes the leading role in the company while the marketing department follows. Performance in terms of profit stands as the key motivator putting pressure on the costs.
- CRM basis: This is the stage where conventional marketing is centred on product and marketing mix
- First CRM stage: This stage brings about reactive approach to the customers and evaluation of customer satisfaction
- Second CRM stage: unlike the first CRM stage, this stage witnesses a pro-active approach to the customers thereby creating a win-win relationship.

According to Heczková and Stoklasa (2010), the CRM systems have become so important now that companies have to direct all attention to customers' value.

### **2.5.1. Need for CRM**

The marketing evolution that leads to the emergence of CRM reflects a shift in business and marketing strategy thereby resulting in a shift of power from the seller to consumers (Goodhue et al. 2002; Wilson et al. 2002). Organisations are now aware that the medium to attain competitive advantage has gone beyond offering cheaper, better or different products, neither can competitive advantage be accomplished by just differentiated products and services (Teo et al. 2006). However, Puschmann and Alt (2001) argued that it could only be achieved through improved customer relationship practice. Also, the present buying behaviour exhibited among bank products and services customers shows that customers could effortlessly redirect their loyalty from their current bank to another because of low or no switching cost (Massey et al. 2001). Likewise, customers' service quality and product quality expectation over the years have increased and consequentially, this necessitates CRM implementation for present business

environment propelled by customers' needs (Pan and Lee 2003; Teo et al. 2006).

Similarly, scholars have indicated that it is more expensive to attract and acquire new customers than to keep existing customers due to high spending on advertising and marketing (Peppard 2000; Reichheld 1993; Reichheld and Sasser 1990). To this end, Nykamp (2001) and Peppers and Rogers (1993) argued that it is rather important for organisations to differentiate (segment) customers than to differentiate products as well as to cease from placing their emphasis on market share but to focus on customer share. Moreover, research has shown that organisations do not only need to keep their existing customers, in particular, they need to expand their customer buying relationship lifespan with the organisation (Zeithaml et al. 2002). The authors posit that this can be achieved through the use of an IT (CRM) platform capable of handling: one to one relationship, value creation, cost reduction and customer value analysis (Barnes 2001; Nunes et al. 2004; Nykamp 2001; Peppers and Rogers 1993; Storbacka and Lehtinen 2001).

Before examining the roles and benefits of CRM systems usage as service delivery channels, it is important to present the major perspectives on CRM. This is necessary in an attempt to clarify the stand of the current study, particularly regarding which aspect of CRM is being articulated. The next section therefore briefly presents a snapshot of the three key classifications of CRM.

## **2.6. Three viewpoints of CRM**

Different perspectives of CRM have been originated by researchers from varied but intently related definitions of CRM (Goodhue et al. 2002; Payne and Frow 2005; Romano 2000; Sathish et al. 2002). Peppers and Rogers (1993) considered CRM as a business strategy that represents a standard. On the other hand, Schultz (2000) classified CRM as service marketing implying that CRM enhances organisations' capacity to stimulate relationships with their customers. Schultz (2000) also identified another viewpoint of CRM to relate with the use of technology. From other definitions of CRM (See section 2.8.1), CRM can be classified into three key complementary perspectives. These are the technology

perspective, a business perspective and the customer perspective (Teo et al. 2006). This study focuses on the influence that the CRM systems has on consumer buying behaviour hence, the study reflects on the CRM particularly from the customer perspective and in section 2.18, consumer perception and knowledge of CRM is reviewed from previous research. The author's line of thought on CRM systems for this study as clearly rationalised in chapter two is covered under the customer perspective column in table 2.1.

**Table 2.1: Three perspectives of CRM**

	Technology perspective	Business perspective	Customer perspective
Definition	CRM as the underlying infrastructure and sophisticated applications to understand customers and analyze customer information.	CRM as the strategy of identifying, understanding and predicting consumer behavior to foster long-term profitable relationships.	CRM focuses on all interaction points of the customer with the organization.
Use of IT	High-level use of IT as the underlying infrastructure for information integration benefits the organization and customers.	Medium-level use of IT to analyze consumer patterns, customer segmentation and one-to-one marketing to generate win-win situations for both parties.	Medium-level use of IT for interactions such as personalization and customization of products and services for customers.
Organizational implications	Change management required for streamlining and re-engineering the organization's business processes due to adoption of integrated information systems and centralized databases.	Transformation required in business processes, organizational structure and culture. Mindset changes to the customer-centric as the emphasis is on long-term relationships with customers.	Changes in organizational structure to allow for more value adding interaction points for customers. Mindset changes such as employee empowerment to better serve customers.
Examples of IT used	Data warehouse, data marts, analytical tools such as OLAP, slice and dice and neural network.	Data warehouse, data marts, analytical tools such as OLAP, slice and dice and neural networks.	Call support center, Internet and wireless communication channels.

Source: Teo et al. (2006 p. 1616).

Table 2.1 shows the three perspectives of CRM classification by definition, IT usage, organisational implications and examples of how and what it can be used for. This indicates that CRM system centres on every company-customer relationship's interaction points. The section of the table on "customer perspective" precisely described the view that CRM system is technology-enabled channels. This perspective understanding represents the viewpoint of CRM that is being described and measured in the current study.

For the sake of clarity, it is important to highlight that CRM performs different functions through various implementation and usage processes. These functions cut across organisations' departments based on the purpose or the required need of CRM. The core features include using CRM as an enabler to capture and monitor customer's usage or buying pattern, customer data storage, which can be used for further buying behavioural analysis and for integrating or

setting up automated marketing strategies on technology-based service points. An instance of this is using the ATM screen to promote products and services. The data warehousing and analytical functions allow the banks to segment and target customers using the captured data to understand and predict their buying patterns. These functions of CRM are back-end business processes that customers are not aware of but, the process outcomes determine how the customers are serviced on the other technology-based platforms. Since the banks customers are not knowledgeable about the back end functionality of CRM systems and the current study considers CRM systems as an independent variable from the customer's perspectives, the study, therefore, examines CRM systems from the view of customer interaction platforms with CRM systems enabled service delivery channels. The view of CRM systems functions is rather front-office interactive channels banks engage their customers. The customer-bank relationship process entails all the CRM systems based points of contacts between the banks and the customers.

CRM concept has either been misunderstood to mean something different from what other company or person understands it to be or, it has been misinterpreted by the way a company or person implement CRM (Buttle 2009; Malik and Wood-Harper 2009). CRM is known to different firms as a database, marketing, as an IT related issues, as customer loyalty schemes, to be a business concept that can be adopted by any company and as a marketing process (Buttle 2009). This study without disregarding the other functionalities of CRM takes the position that CRM is a marketing process, which integrated technology application into customer service delivery activities. CRM as marketing process instance includes customer segmentation, customer acquisition, retention and customer development through cross selling and up selling.

## **2.7. Fundamental roles and benefits of CRM**

According to Rust et al. (2001) and Richards and Jones (2008), the roles and benefits of CRM as postulated by early researchers differ according to various industries because the procedure and technology linked with CRM implementation were developed towards particular

industry structure. Nevertheless, findings from the research of Reinartz et al. (2004) on CRM process, its measurement and impact on performance using cross-cultural and multi-industry approach contradict the argument that the expected benefits of CRM implementation vary by industry. Rather, they maintained that, if at all, it does vary, it is not in any significant degree across industry and countries. As stated by Richards and Jones (2008), this argument provides support for the notion that the benefits that associate with CRM system occur across context. From the list of CRM systems adoption benefits identified (see table 2.2), the study will develop the model that links CRM systems to the study selected mediating constructs (customer acquisition, service quality, satisfaction, retention and loyalty). The study positions each of the constructs listed above as mediating constructs. These mediating constructs represent the undertakings that would show the indirect effect of CRM system on consumer buying behaviour.

From the review of the literature on the benefits of CRM system, table 2.2 shows the summary of collated benefits from some studies on CRM. From among the several benefits of CRM implementation outlined in the table, the selected constructs were based on the criteria that each of the constructs suits the aim and research framework of this study, and the selected constructs are formed as major themes mentioned at least two times by different authors. This is to justify that the benefit is expected from various forms of CRM systems across industry and countries. Also, the benefits need to align with this research aim, which tend towards the influence of CRM system on buying behaviour from the consumer perspective.

Likewise, the chosen constructs will be employed as the analytical tool to substantiate the relationship connection between CRM system and the selected consumer buying behaviour constructs (detailed in section 2.27). Interestingly, the identified benefits are carefully drawn from novel and common CRM benefits from literature. Apart from measuring the direct associations between CRM system and the chosen CRM system benefits, which has been established by several but different previous studies (e.g. Payne and Frow 2006; Reinartz et al. 2004), customer acquisition, customer satisfaction, customer retention, service quality and customer loyalty have been

selected specifically to serve as mediating variables. In other words, their potential role as mediating variables will be examined. Hence, these variables will be discussed in detail in chapter four under theoretical framework development and operationalisation of constructs.

**Table 2.2: Collated summary of CRM benefits and indication of their support for research constructs**

List of CRM benefits and indication of their support for research variables						
Authors/date	Variable indicators					CRM benefits
	Acquisition	Satisfaction	Retention	Loyalty	Cross/up-buying/sales	
Aha et al. (2003)				✖		Increases customer loyalty and customer life time value
Amoako et al. (2011)	✖	✖		✖		Customized products and services, Improved capability to target profitable customers, Improved customer service efficiency and success, Integrated operations across platforms
Buttle (2004/2009)	✖	✖		✖	✖	Reduces cost to serve
						Increases revenue
						Increases customer satisfaction and loyalty
Chen and Popovich (2003)		✖			✖	Increases data sharing across selling organisation
						Improves customer service
						Improves cross buying/up buying
						Improves customer targeting
						Enhances greater marketing messages personalisation
						Enables customer better self service options
						Improves buyer -seller integration
Croteau and Li (2003)					✖	Enables customisation of products and services
						Provides customers a "one to one" experience
						Improves sales force efficiency and effectiveness
						Enables customisation of marketing plan for individual customers
Eid (2007)		✖	✖		✖	Enhances customer relationship quality and retention
						Increases customer satisfaction and sales
Hendricks et al. (2007)			✖			Enhances customer long term relationship (loyalty) and data warehousing
Hobby (1999)	✖		✖			Enables customer attraction and acquisition
						Enables customer retention



Jones, Brown and Zolltners (2005)						Improves customisation of products and services offerings
				*	*	Enables creation of long term relationship
						Improves salesperson efficiency and effectiveness
Jones, Steven and Chonko (2005)	*				*	Enhances finding, obtaining and keeping customers
						Increases salesperson efficiency
						Help in acquiring competitive intelligence
						Enables coordinated communication
						Enables marketers to have a lifetime value view
Jones and Sundaram and Chin (2002)					*	Improves sales force efficiency and effectiveness
						Improves pricing
						Reduces customer service cost
Kim and Kim (2009)	*	*	*	*		Enables customer acquisition, satisfaction, retention loyalty
Leigh and Tanner (2004)					*	Improves sales force effectiveness and efficiency
						Enables knowledge management
						Enhances knowledge sharing with an organisation
Laketa et al. (2015)	*	*	*	*	*	Attracting new customers, Retention of existing customer, Improves efficiency and effectiveness of sale, Increase possibility of cross-selling, Creation loyalty of customers and increase profit
Lin and Su (2003)			*	*		Enhances client retention, loyalty and profitability
Muro et al. 2013	*		*			Growing customer base, managing customer interaction, transparency in dealings hence retaining customers
Meyer 2010	*	*	*	*		
Park and Kim (2003)	*		*			Enables customer acquisition
						Reduces customer serving cost
						Improves product differentiation
						Customer retention
Payne and Frow (2006)	*	*	*	*	*	Enables customer acquisition, satisfaction, retention and loyalty
						Enables cross buying and up buying
Payton and Zahay, (2003)			*	*		Enhances customer retention, loyalty and profitability
Parvatiyar and Sheth (1995/2000,/2001)	*		*	*	*	Improves customer segmentation
						Enables key account management and business development

						Improves customer loyalty
						Improves cross buying/up buying
						Enhances customer acquisition and retention and
Rashmi 2015	*	*			*	Satisfied customer does not consider leaving, The ability to sell more products, Assess the lifetime value of customers, Understand how to attract and keep the best customers.
Reinartz, Krafft and Hoyer (2004)	*		*		*	Customer acquisition, retention and recovery
						Enables segmentation based on economic worth of customer
						Improves resources allocation to accounts
						Cross buying and up buying
Rigby, Reichheld and Schefter (2002)	*	*	*	*		Improves customer acquisition and retention efforts
						Enables ability to offer right product and services to right customer
						Motivates employees to foster customer relationship
						Enables organisation to practice "best processes" hence, tracks customer satisfaction
						Enables customer loyalty
Rigby and Ledingham (2004)			*		*	Improves information sharing within selling organisation
						Automates development of offerings, sales, retention, win-back and targeting
Rivers and Dart (1999)						Reduces administrative duties
						Improve pricing
						Improves sales effectiveness
Sabri (2003)						Enables products and services personalisation
						Improves sales force efficiency
						Enhances product development
Swift (2003)	*		*	*		Improves customer acquisition, retention, loyalty and profitability
Tanner, et al., (2005)	*	*	*			Improves customer segmentation and valuation
						Enhances acquisition, development and retention of customers
						Enhances customer satisfaction and firm profitability level
						Enhances communication across multiple selling channels
Teo et al., (2006)	*	*	*			Improves customer acquisition, servicing, retention and satisfaction
Thomas, Blattberg	*		*			Enables organisations to

and Fox (2004)						win back lost customers/acquisition
						Enables customer retention based on pricing
Thomas, Reinartz and Kumar ((2004)						Improves marketing effectiveness
						Enables products and services customisation
						Improves customisation of marketing efforts towards individual customers
Vazifehdust et al. (2012)	*		*	*		Identification and targeting customers, enables personalized relationships, identifying profitable customers
Verhoef (2003)		*		*		Improves customer commitment, satisfaction and loyalty
Wilson, Daniel and McDonald (2002)						Improves channel choice
						Enables multi-channel integration
						Allows individualised pricing
Winer (2001)	*		*			Enables greater customer attraction, conversion and retention of target customers
Zikmund, McLeod and Gilbert (2003)		*	*			Improves customer focus
						Improves customer retention
						Increases customer share
						Enhances long term profitability
						Enables continuity across channels
						Enables personalised services
						Enhances satisfaction

## 2.8. Defining the meaning of customer, consumer and client for this study

Many authors (e.g. Beerli et al. 2004; Storbacka et al. 1994) have used these three words interchangeably and in a different context, and there is no specific explanation as to what makes them vary and in what context. While a client is often used in the context of business-to-business, consumer is often used about fast moving consumer goods or retail sector and customer is rather generic and often used in both regards. Therefore, it is important that clarification is made as to what these words mean and how they are used in this study. Customers are the reason virtually every business is in existence. This is in line with the assertion of Ryals and Knox (2005) that it is now generally recognised that the original objective of business is to generate and

sustain customers with the intention of establishing a mutually beneficial relationship. According to Mohammadhossein and Zakaria (2012 p. 1), "customers are the critical factors in each business". Also, Drucker (1973,2007) states that the objective of business is to acquire customers. However, it is not enough for an organisation to acquire a customer rather, it is crucial that organisations find, create, keep as well as grow the appropriate customers (Kotler and Armstrong 2010; Levitt 1986; Pine et al. 2010). As stated by Kim et al. (2012), customers' position as stakeholders is fundamental for an organisation to keep operating effectively. For firms to continue to be in business as a potential company in any industry, acquiring new customers is very important (Alhawari 2012; Bhardwaj and Maharshi 2014).

Day (2000) and Kale (2004) opined that it is crucial for firms that aim to achieve competitive advantage, to acquire new customers, develop and maintain customer relationships. This perspective is in line with the assertion of Dubinsky (1999) and Kim et al. (2012) that customers are the "lifblood" of any firm. According to Xu et al. (2003), customers are the strategic component in a company's downstream supply chain. This is because it associates with the business environment required by companies to search for important information. Daft et al. (1988) define a customer from an environmental sector perspective as, the layer closest to an organisation's business environment that involves carrying out a transaction with an organisation. This implies that changes in the nature of customers' behaviour and pattern have the tendency to have a direct effect on the company's business operations and performance (Xu and Walton 2005).

In general, customers can be said to be one of the stakeholders of a firm (Ferrell 2004) and in this study, a customer is defined from the perspective of somebody who buys or patronises a company's goods and services. According to Imhoff et al. (2001 p. 460), "a customer is a party of interest to the organisation who is involved with the acquisition of the company's goods and services". From this definition, a customer can be an individual or an organisation. In this light, a bank customer is a person who patronises a bank by opening an account and using other services and products of the bank. Hence,

for the purpose of this research, a customer will be referred to as a bank client, customer or consumer.

### **2.8.1. What is Customer Relationship Management (CRM)?**

CRM has been known for more than three decades, but people and organisations' interest in its adoption started to grow in the 1990s (Ling and Yen 2001; Xu et al. 2002). Although the marketing term CRM has attracted the attention of many scholars, researchers and marketing professionals or practitioners who have given numerous definitions argue there is presently no definition that is generally acceptable (Payne and Frow 2006). This is because they have all defined CRM based on their different research perspectives and specialities.

CRM as defined by Swift (2001 p.12) is an "enterprise approach to understanding and influencing customer behaviour through meaningful communications in order to improve customer acquisition, customer retention, customer loyalty and customer profitability". Another comprehensive definition according to Parvatiyar and Sheth (2001 p.5) defines CRM as "a comprehensive strategy of acquiring, retaining, and partnering with selected customers to create superior value for the company and the customers. It involves the integration of marketing, sales, customer service and supply chain functions of the organisation to achieve greater efficiency and effectiveness in delivering customer value". CRM as defined by Payne and Frow (2005 p.168) "is a strategic approach that is concerned with creating improved shareholder value through the development of the appropriate relationship with key customers and customer segments".

CRM helps bring together possible relationships with marketing strategies and Internet technology in order to achieve profitability, long-term customer relationship by using data to deeply know customers and their needs so as to mutually create value for them (Payne and Frow 2005). In a relatively similar context but from a marketers' perspective, Anton and Hoek (2002) describe CRM as a detailed layout of marketing strategy that incorporates technology, marketing process such as sales and marketing automation, customer service call centre and every other area of the organisation's business

activities around their customers. Likewise, from the customers' perspective, CRM is defined by Brown (2000) as a process that involves the acquisition of new customers, retaining existing customers, as well as knowing, anticipating and managing the needs of both existing and potential prospective customers. These definitions are built on the opinion of Mylonakis (2009) who posits that CRM is a developing procedure that brings about a long-term mutual and beneficial relationship and gaining trust.

Some researchers have given CRM new definitions from a broader perspective. Peelen (2005 p.6) posits that "CRM is to be regarded as a business strategy that is aimed towards developing long-term, mutually profitable, individual customer-supply relationship and is placed on an IT infrastructure to be developed, one that enables well-defined and controlled processes, and place capable personnel in a position to function optimally". The view of CRM in this research is a significant business strategy, as expressed by Buttle (2009 p.22) who states that "CRM is a core business strategy that integrates internal processes and functions, and external networks, to create and deliver value to targeted customers at a profit". Albeit, some scholars have contended that CRM is not all that important as to re-define marketing. Payne and Frow (2006) and Swift (2001) argue that for CRM to be used efficiently and effectively, a firm will need to have personnel who have the customers' interest at heart and as their primary target. In the same view, Starzyczna and Pellešová (2007) opine that CRM is fundamentally based on customers that are exceptional to the firm and the culture of the firm. Therefore, CRM is to be acknowledged as a firm philosophy rather than just a mere computer programme.

As revealed in this section, many definitions have been given to CRM in the literature from a wide range of different perspectives. The key variances in these different CRM descriptions are technological and the relationship position of CRM (Onut et al. 2008). Onut et al. (2008) argue that while some of the scholars from marketing field put emphasis on the technological aspect of CRM, the other researchers intensify attention on the IT view of CRM. Albeit from the consumer behaviour perspective, CRM definition by Swift (2001) above aligns with the direction of CRM definition in this study. This is because the definition dwells on the important background of this study, which is to

understand and examine consumer buying behaviour based on their usage of technology. The definition also pointed out the fact that variables such as customer acquisition, retention and loyalty that will be used in the current study are linked with technology adoption.

#### **2.8.1.1. The philosophy of CRM**

The study of CRM has been covered extensively in the academic literature through the years and CRM applicability and adoption across industry has continue to advance (Berry 1995; Chen and Popovich 2003; Morgan and Hunt 1994; Padmavathy et al. 2012; Payne and Frow 2005; Sheth and Parvatiyar 1995). The nature of CRM evolution, which has transformed the dynamic ways customers are serviced explains the need for continuous investigations into CRM usage effectiveness. Particularly with respect to its impact on consumer buying behaviour, thus making this study relevant to marketing practice. This can be observed by looking into how many businesses are significantly investing in CRM (Kishor and Nagamani 2015; Lemon et al. 2002; Reinartz et al. 2004; Reinartz and Kumar 2003; Shiraz and Ramezani 2016).

Studies have shown that CRM brings about long-term valued customer relationships, which is customer-centric and service-centric (Eisingerich and Bell 2006; Gan et al. 2006; Gronroos 1990; Varki and Colgate 2001). It also involves managing customer complaints (Gilly et al. 1991; Achumba 2006), service delivery turnaround time (Reinartz and Kumar 2003), ease of account opening and customer satisfaction (Khalifa and Liu 2002; Morgan and Hunt 1994; Mokhlis et al. 2011; Torcy 2002), customer loyalty (Reichheld and Schefter 2000) and customer retention (Morgan and Hunt 1994; Payne and Frow 2005; Swift 2001; Zineldin 2000).

Essentially, it can be deduced from the above that CRM constructs are centred on customer acquisition, customer retention, customer satisfaction and customer loyalty (Meyer 2010; Ngai 2005). Therefore, as part of the process of achieving the aim of this study, these constructs or factors would be used as antecedents that would serve as a basis to determine if CRM systems have either negative or positive effect on the factors affecting consumer-buying behaviour.

According to Kristensen et al. (1992), McColl-Kennedy and Schnider (2000), Zeithaml et al. (1996), it has been substantiated that pleased customers are fundamental to long period business achievement (Gilbert and Veloutson 2006). This forms the basis for the introduction of CRM by businesses. Overall, the purpose of businesses which use CRM is to acquire effectively and efficiently, as well as retain profitable customers, through building and maintaining a good marketing relationship with their customers (Payne and Frow 2006). In response to the increase in competition in the banking industry, firms are actively employing CRM as a useful tool in order to develop, monitor and evaluate the quality of their products and service offerings to customers, so as to ensure they gain competitive advantage.

#### **2.8.1.2. Classifications of CRM**

To transfer CRM from a philosophical strategy to operational reality requires a classification of CRM aspects. As mentioned earlier, there are varieties of CRM definitions with different meanings. This is because the scholars' perspective stems from different CRM types. Perhaps, the differences in the scholar's opinion can be examined with the different categories of CRM (Buttle 2009). Researchers have established different forms of CRM. However, they all agree on the same theme for the classification. Buttle (2009 p.3) refers to CRM classifications as "types" while Dohnal (2002 p.59) described it as the "parts" (part of CRM application architecture). Despite the differences in the forms of CRM classification, the types of CRM given by the authors are identified as strategic, operational analytical and collaborative (Buttle 2009; Dohnal 2002; Dyché 2002; Reynolds 2002). The aforementioned are described in more detail in what follows.

#### **2.8.1.3. Strategic CRM**

Buttle (2009) establishes that strategic CRM is centered on the development of a customer-centric business culture. He posits that the business practice is to gain and keep customers through the creation and delivering of superior value service, which exceeds that of their



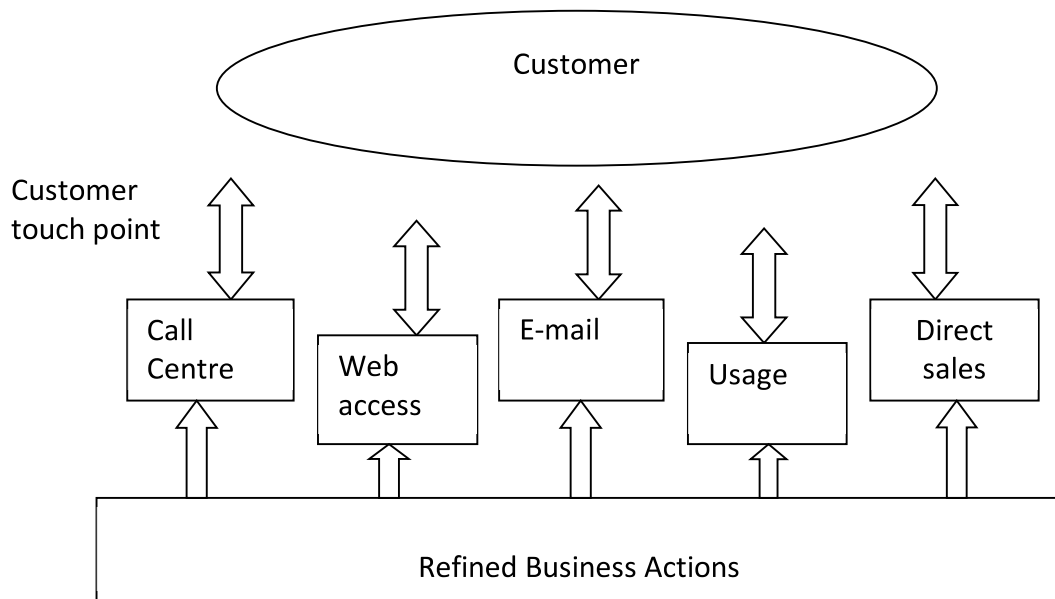
competitors. The author also states that the culture practice by a firm would be reflected in their leadership behaviour, the structure of the formal system of the firm and the myths and stories created within the firm. Furthermore, the strategic CRM business system has a tradition that allocates resources which are likely to increase customer value, as well as reward systems that will promote employee behaviour, which will in turn, promote customer satisfaction and retention (Buttle 2009). This will also enhance the customer information collection, shared and applied across the business.

#### **2.8.1.4. Operational CRM**

Buttle (2009) described operational CRM as an automation system that helps to improve customer-facing functions and supports business process for customers. Dyché (2002) sees operational CRM as a front office CRM where direct customer contact takes place. Operational CRM through CRM software enables marketing, selling and service functions to be automated and integrated (Buttle 2009). Operational CRM from a banking view would be an avenue that enables a customer to check his/her account status and make transfers online, through telephone applications (apps) and/or through a phone call (call centre) among others.

Furthermore, this type of CRM also helps through sales force automation, lead generation and management, account management, product configuration, service level management and market segmentation (Buttle 2009; Malik and Wood-Harper 2009). However, it is important to note that despite the enhancing capability of this form of CRM, it does not in itself guarantee or lead to customer satisfaction. Figure 2.1 shows the different levels of operational CRM, presents the typical ways of customer interactions with CRM systems.

**Figure 2.1: Levels of operational CRM**



Source: Adapted from Dyché, (2002 p. 13); Long and Khalafinezhad (2012)

#### **2.8.1.5. Analytical CRM**

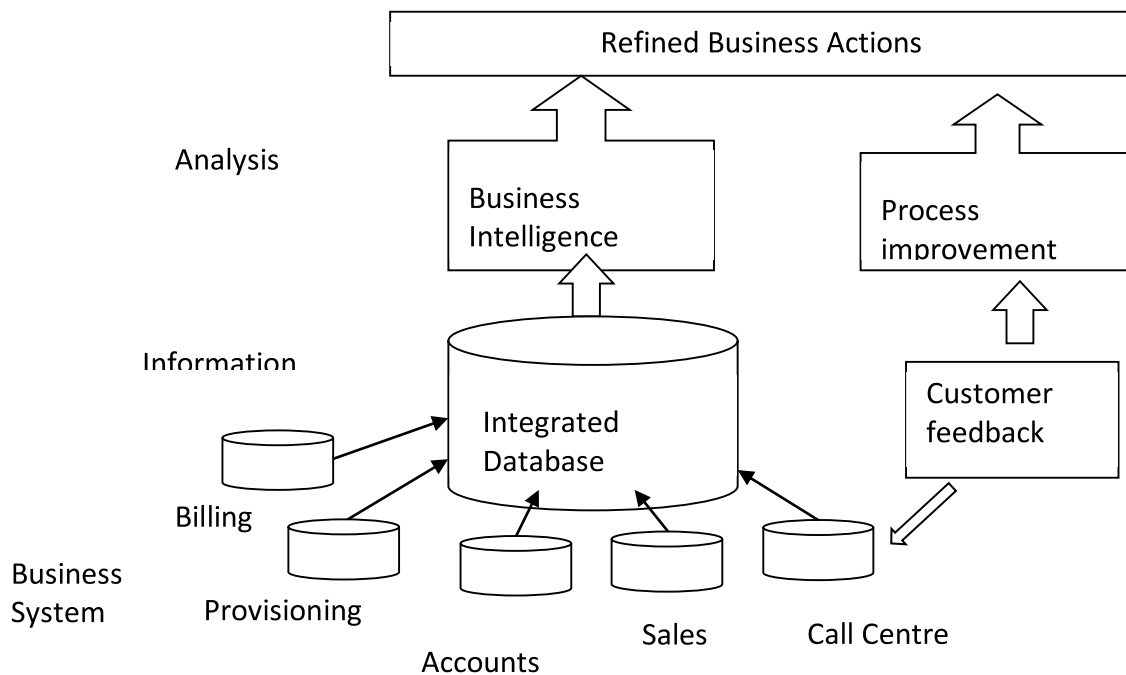
According to Buttle (2009 p. 9), analytical CRM focuses on "data capturing, storing, extracting, integrating, processing, interpreting, distributing, using and reporting customer-related data to enhance both customer and company value". This data relates to customer history on purchases, sales data, financial data such as payment history and credit score, marketing data such as promotional campaign response, loyalty scheme data and service data (Buttle 2009). The intent of analytical CRM is to help in analysing, evaluating and modelling of data that will help in predicting customer behaviour (Buttle 2009; Heczková and Stoklasa 2010).

Analytical CRM provides the techniques for data mining through the use of data mining tools. These tools can then be used to provide answers to questions such as knowing a company's most valuable customers, customers with the highest tendency to switch to competitors and customers who tend to have the tendency to buy into new products or offers (Buttle 2009; Dohnal 2002). Heczková and Stoklasa (2010) also suggest that analytical CRM assists in the decision-making process and in dealing with customer behaviour. Dyché (2002) describes analytical CRM as a back office CRM that

brings knowledge about customer activities that took place in the front office. The information gathered can be used for customer segmentation and new product development. Figure 2.2 shows the various elements of the analytical CRM.

Essentially, analytical CRM affects customer acquisition regarding cross-buying and up buying, retention of current customers and it effectively provides fundamental and useful information to the customers (Bolton and Tarasi 2007; Buttle 2009; Reinartz et al. 2004). From the customers' perspectives, analytical CRM according to Buttle (2009) impacts on timely service delivery, customised products and services, resolution of customers' problems, which lead to an enhanced customer experience/satisfaction.

**Figure 2.2: Elements of analytical CRM**



Source: Dyché, (2002 p. 14); Long and Khalafinezhad (2012)

#### **2.8.1.6. Collaborative CRM**

Collaborative CRM is described as a term that brings together the strategic and operational aspect of CRM processes, which are usually separated in order to identify more profit, attractive, retention and development of customers (Kracklauer et al. 2004). This type of CRM enables a company to communicate and transact business across various departments within an organisation through CRM applications (Buttle 2009). He supports that collaborative CRM allows separate

organisations to concentrate their efforts to service and manage their customers profitably.

In agreement with this view, Dohnal (2002) posits that collaborative CRM gives room for all firms who operate in the same distribution or department in a company to work in a team to share customer information from the same database. It can be argued therefore that collaborative CRM enables companies to maximise available customer information thereby, increasing service quality, customer satisfaction, sales level, customer retention and customer loyalty.

## **2.9. CRM system as the dimension for independent variable**

The review of the literature in the previous sections of this chapter has provided a broad understanding of what CRM is, and its classifications such as strategy, technology, analytical tool and a combination of tactical and strategic CRM. These different aspects make CRM as a dimension of an outcome in the current study rather vague. It is therefore, important to clearly identify a specific aspect of CRM used as a measure (independent variable). Bearing in mind that this study aims to evaluate CRM impacts on customer buying behaviour with respect to their perceptions of CRM system usage, for this reason, the conceptualised aspect of CRM to be measured in this study revolves around the main practical connections between the bank customers and the mediums through which the customers can interface or interact through CRM. These mediums enable a to-and-fro communication between the customers and the banks. The communication mediums in this regard, cut across interactions in terms of complaints logging and transaction handling points (e.g. email, automated services, POS), suggestions feedback platforms, products and services information search, banking related transactions touch points and other automated technology based platforms. On the basis of this understanding, a CRM system in this study is referred to as CRM enabled channels within the banking industry, which include point of sales (POS), Internet banking, telephone banking, call centres, automated teller machine (ATM).

CRM systems in this regard are technology-based systems, which allow for interconnection among transactions, through automated tools and banks' customer databases extending marketing and transactions to a segmented market. This is done through CRM data mining and analytical process, which allow for a different level of customer segmentation by identifying various classifications of customers. This enables the banks to develop appropriate products, service offerings and relationships with most profitable customers (Bolton and Tarasi 2007; Harrigan et al. 2015). Beyond this, CRM systems permit connections between banks and their customers as a cross functional, customer-driven and technology cohesive strategic customer management process while increasing transactionary interaction (Bolton and Tarasi 2007; Goldenberg 2000). Equally, CRM system permits connections between the front office marketing and transactional related business activities and back office customer service relating to financial, operations and logistics functions with respect to CRM enabled channels provided by the banks (Fickel 1999). In other words, CRM systems are an avenue that permits interactions between people (customers) and process (customer-bank transactional process) (Plakoyiannaki et al. 2008). Similarly, according to Xu and Walton (2005), a CRM system is customer transaction handling platforms, which may include data warehouse, call centres, customer contact management and customer management processes that permit existing customer retention and attraction and acquisition of new customers.

Besides, understanding the reviewed scholarly literature on CRM indicated that, the ultimate essential CRM concept is viewed as the process, the strategy, the philosophy, the ability and as the technology as presented in table 2.3 (Payne and Frow 2005; Solima 2011; Zablah et al. 2004).

**Table 2.3: The foremost concept of CRM**

Point of view	Description	Success requirement	Concept
As a process	Improving the relationships between the seller and the buyer; this relationships must be strong and enduring.	The institution should have the ability to discover the customer's desires and to respond to them.	CRM is creating and enhancing the engagement and relationships with the external parties, specially the agents and end-consumers.
As a strategy	The value of the life period of the customer with the institution determines the amount and kind of resources that the organization can invest in a relationship.	The institution should assess its relationship with the customer continuously. It should assign priorities in dealing with him/her on basis of the quantitative profitability during the life period of the customer.	CRM is the investment of the companies in the customers who are expected to be valuable for the institution, and the reduction of investment in the valueless customers of the company.
As a philosophy	Customer retention can be better achieved through focusing on establishing relationships and maintaining them.	The customer should be the focus of the attention of the institution, which should be oriented towards understanding the changeable needs of the customer.	CRM is not a temporary project, but a work philosophy, which aims at putting the customer in the focus of the attention of the organization.
As an ability	Profitable and long-term relationships only arise when the companies are able to customize its behavior continuously towards every customer.	The company should possess a group of tangible and intangible resources, which the company uses to flexibly remodel its behavior towards the customer continuously.	CRM means the desire and ability of the institution to custom its behavior towards every customer, on the basis of the information the customer tells and what the institution knows about that customer.
As a technology	Knowledge management and reaction represent the main resources that the institution needs to establish profitable and long-term relationships with the customer.	The institution should be directed with the functional method, and also the user's acceptance of the technology applied by the institution in order to establish the customer's knowledge and reaction management.	CRM is the technology used to integrate sales systems, marketing systems and information systems to establish relationships with customers.

Source: Adapted from Solima (2011 p. 168)

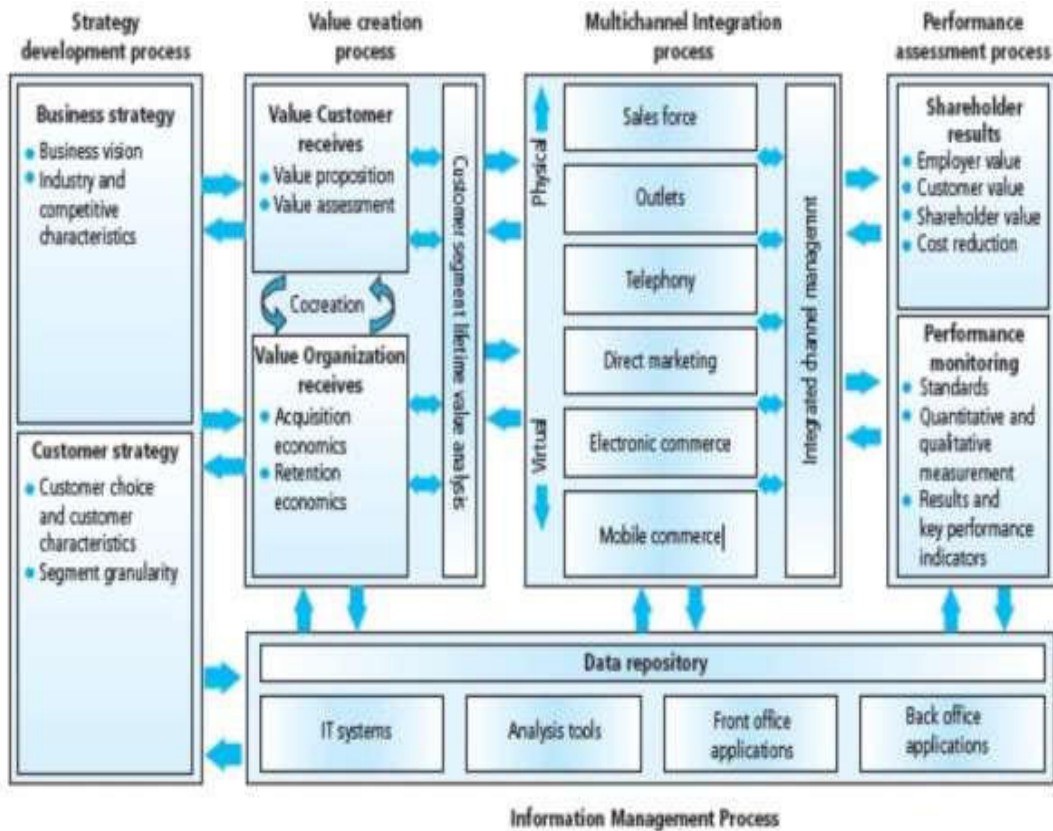
Based on the fact that the different definitions of CRM highlighted in this chapter are defined based on various authors' views on the CRM concept and, bearing in mind that the combination of the entire concept may form the total process of CRM adoption, the current study viewed CRM concept to be a technology.

Therefore, for the purpose of this study, CRM systems is defined as:

*technology-driven or CRM enabled channels that facilitate communication and transactional interactions between customers and their banks, forming strategic element of people, process and technology, regardless of customer's location and time to enhance customer satisfaction, service quality, acquisition, retention and loyalty that will lead to positive customer perceptions and buying behaviours.*

Strategically, CRM is viewed as systematic processes that focuses on the development and management of customer relationship initiation and continuous patronage. As detailed in the CRM strategic framework developed by Payne (2006) as shown in figure 2.3, CRM strategy involve five fundamental processes, which include developing strategy, creating value, multi-channel integration, managing information and assessment of performance (Lovelock and Wirtz 2011; Payne 2006). Strategy development revolves around banks' relationship strategic plan to acquire, maintain, retain and manage customers, customer retention and loyalty building and managing customer churn. Value creation relates to attempts by banks to use CRM systems to create personalised value for the customers and the bank in accordance with their initially planned customer relationship-based strategy (Payne and Frow 2006). This may be an instance of value created from acquired, satisfied and retained customers. Information management is a process within the integrated CRM system that permits the banks to manage a large customer base both through front and back office platforms. Performance assessment is the stage at which the banks assess their planned strategic relationship building and management improvement by matching present performance against budgeted performance (Lovelock and Wirtz 2011; Payne and Frow 2006). This process would help ascertain whether a CRM system brings about performance improvement and create value for all stakeholders. Multichannel integration, which is the main element of CRM measured in this study, is the stage of the CRM strategic process that creates the platforms/channels through which banks manage their customers. These platforms, which are regarded in the current study as CRM enabled channels, allow the bank to have self-service centres and to and fro inter-connections for communications between the customers and the banks.

**Figure 2.3: CRM strategic framework**



Source: Payne (2006 p. 1)

## **2.10. Adoption of CRM system by banks**

The banking sector in recent years has gone through a significant period of disturbances and liquidity problems Omarini 2011. At the same time, they are faced with more educated customers, who are demanding personalised solutions that can solve their financial needs (Omarini 2011). In addition, the banking sector is faced with hurdles of deposit generation competition across the global market, loan underwriting charges, rise in customer demands, reduced performance (profit), and keeping up to date with emerging technologies (SAP AG 2002). This has resulted in reduced customer confidence, fierce competition in the industry and low profitability. Relatedly, the emergence of increased customer dissatisfaction and disloyalty leading to customer churns in the financial sector instigates the recent and on-going awareness and increased strategic adoption of CRM systems in the Nigerian banking industry. To match up with their customer demands, the banks have rigorously embraced the adoption of CRM system to satisfy and consequently retain customers (Omarini 2011).



According to Peppers and Rogers (2004), the increase in marketing waste (waste of organisation's scarce resources), the high cost of delivering services to customers and the increasing numbers of displeased customers denotes some of the key challenges facing the financial institutions. DiVanna (2004) argues that banks need to wake up to the reality of the effect of globalisation, rise in financial regulatory requirements, increased customer expectations, technological advancement and data management techniques. Based on this, it appears that banks must adjust to the changing market situations and business needs. This will make banks able to gain more revenue and enhance their customer service operation efficiency. To achieve this, Onut et al. (2008) posit that banks have come to know the usefulness of CRM systems and what it can help them to achieve. The authors (ibid) state benefits such as the acquisition of new customers, retention of existing customers, as well as the potential to maximise customers' lifetime profitability. According to Foss and Stone (2002), in the last ten years, banks have directed their attention on CRM and the author states that this would continue. Dyché (2002) posits that the implementation of CRM by banks can help in tracking customer behaviour, predict consumer behaviour and their preferences as well as a better management of customer relationship. The author argues that this would lead to customer growth and enhanced satisfaction.

Furthermore, Foss and Stone (2002) argue that virtually all the banks across the globe are adopting the use of CRM in order to reap benefits such as creating consumer-centric culture, to securing better customer relationships, maximising customer value (profitability), and, ultimately, aligning and directing company resources towards the most profitable customer segments. Xu et al. (2002) also acknowledges that the adoption of CRM by banks will enable them to have a good knowledge of customer's present needs, their past buying patterns and to forecast how customers intend to buy in the future. Furthermore, Crosby (2002) supports that if information on customers' needs is well utilised, banks will be able to initiate long-term and mutually beneficial customer relationships.

Moreover, this argument is consistent with the objectives highlighted by Onu (2008) on the benefits of banks' adoption of CRM.

They stated that CRM allows banks to harness technology and human resources to have an insight into customer behaviours and their values. In line with the thoughts of Stone et al. (2002) who claims that the financial industry has been using CRM systems considerably as a technique to accomplish some benefits, Ogbadu and Usman (2012) and Onu (2008) argued that if banks use CRM effectively, the following key benefits could be attained:

- Improved customer service
- Enhancement of their call centres services efficiency
- Cross selling of their products and services
- Assistance to staff in order to close business deals in a timely fashion
- Simplified marketing and sales processes
- New customer discovery (lead generation)
- Increased customer revenue
- Support for channels management, pricing and migration

Aside from the argument for potential benefits of a CRM system as a medium of servicing their customers, equally important is the technological advancement that has impacted the dynamics of customer bank relationships, business and financial services rendering techniques. In the last 200 years, prior to the emergence of CRM, the only avenue for banks to service their customers was through branch based banking setups (Das 2012). Nevertheless, with the advent and implementation of technology-enabled channels in the banking industry, this has transformed not only how the bank relates to their customers in terms of two-way directional communication but also, the invention of multiple technology enabled channels for deposit and payment systems among other functionalities. Subsequently, these remote access technology-based banking service delivery channels have taken the place of face-to-face cash tellers and some elements of customer services functions (Sherif 2002).

Similarly, with particular reference to the Nigerian banking industry, increased competition arising from the deregulations, reforms and introduction of cashless policy, which has led to a massive reduction in numbers of operating banks, has been a major incentive

for the banks to embrace marketing philosophies (Das 2012; Durkin 2004). The adoption of CRM in the banking industry with the capability to store, manage and analyse customer information, is likely to enable the banks to have a complete understanding of their customers, including their needs, segmentation and development of personalised products and services. Therefore, as supported by Das (2012), the ability of the bank to understand and track its customers' behaviour would imply that the banks will be able to improve on service delivery through technology-enabled channels, and accurately predict successive customer behaviour and their preferences (Das 2012). This is believed to be an avenue for the banks to grow their customer relationship management strategy (Dyché 2002). In addition, adoption of a CRM systems is a technique for managing customer relationships, the inclusion of strategy, people, technology and process, which is likely to make the bank have a formidable relationships management. This is because according to Chary et al. (2012) and Das (2012), a bank that seeks to implement customer relationships needs to give consideration to some identified business goals. These are:

- Creating organisation and infrastructure that is customer focused
- Having accurate understanding of customer classifications
- Evaluating customer lifetime value
- Ensuring that each customer relationship cost-effectiveness is optimised
- Increased knowledge on how to attract and retain profitable customers
- Maximising levels of benefit obtainable from marketing promotions to customers and the bank

Adherence to these requirements would make banks have a comprehensive knowledge of the exhibited buying behaviour of customers. CRM systems are a key element in the current financial institutions' business strategy. Substantial attention on CRM systems appear to be the best alternative for banks to grow and guard its customer base (Das 2012; Shibu 2011).

In Nigeria, the banking industry's strategic position on increasing technology-enabled channels such as ATM, and POS, has become a reality (Olatokun and Igbinedion 2009). With the prevailing increased demand and knowledge of the customers, technology adoption competition, customer churn, multiple banking, bank switching and CBN policy of cashless policy, the banks in the industry have come to the realisation that their essence of being in business is to attract, acquire, satisfy and retain customers (Das 2012; Olatokun and Igbinedion 2009; Payne and Frow 2006). Achieving these outcomes however, will depend on how much they are aware of the customers' perceptions of CRM enabled channels. Such reactions maybe it in terms of usage perceptions, attitude and their experience in relation to CRM enabled channels impact on their buying behaviour. This is because banking business operations depend largely on technology thereby, making business success depend on CRM system success. Hence, achieving expected business outcomes is a function of CRM strategy based capability to recognise and realise customer's needs and their buying behaviour (Das 2012). Primarily, a CRM system harnessed with human resources is meant to assist banks in gaining understanding of customer behaviour and their profitability (Xu et al. 2002).

### **2.11. Categories of banks' customers**

Consumers in a general term are known to be dynamic and they exhibit various buying behaviours. According to Burnett (2001), there are four main categories of banks' customers. These are:

- Loyal customers, who have a favourable perception of a bank's products and services over the competitors'.
- Competitive customers, whose perception of a bank's products and services are less or marginally distinguished over the competitors.

- Switchable customers, who see a bank's competitors' products and services as marginally superior over his/her present bank's products and services.
- Competitor loyal customers, whose perception of competitors' products and services are considerably superior to his/her current bank's products and services.

Against the backdrop of the above classifications of customers, it is comprehensible that there are some customers who do not fall precisely into any of the three categories. This other form of customers is those who can be categorised as "promiscuous customers". This type of customer is not loyal, they do not have any bank's services or products distinguished and they do not consider any bank as superior.

In the same vein, some researchers categorise banks customers based on some segmented groups according to the numbers of products of the bank they have and according to their account balances (Day 2000). Furthermore, some bank customers have low numbers of the bank's products and low account balances. The author refers to this type of customers as transactional exchange relationship customers. While some customers who hold several products of the bank and significant account balances are classified to be having a value adding or collaborative relationship with their bank.

## **2.12. CRM system benefits to banks**

Aside from the generic benefits of CRM outlined in section 2.7, banks are rigorously adopting CRM system as a technology inclined technique to accomplish some benefits (Foss and Stone 2002). These benefits include:

- A CRM system allows banks to personalise services and products for segmented or individual customers. This helps the bank to build a strong relationship (i.e. the customer become locked in) with their customers by providing and meeting distinctive needs of customers (Adebanjo 2008).

- A CRM system enables an enhanced relationship between banks and their customers. Through the application of CRM-enabled channels into banking service delivery and the customer management process, it enabled swift, timely and uninterrupted interactions between the banks and the customers forge stronger relationships. The idea of long-lasting relationships under the influence of a CRM system availability to manage customer relationships can assist banks to have a long-lasting banking business relationship with their customers on the basis of a continuous business development and evolving process (Dyché 2001).
- The inclusion of a CRM systems in the banking process has led to better communication between the banks and the customers. Communications channels such as email, call centres and telephone are technology-enabled mediums that are considered low-cost channels of communication that foster customer-bank relationship building (Venugopal 2008).

In summary, the benefits of a CRM system to banks include the fact that it allows banks to focus on customers collectively, individually and according to different segments and increases profitability, increases customer satisfaction among others.

### **2.13. CRM system benefits to customers**

The availability of CRM enabled channels to service customers, is likely to benefit the customers in the following ways:

- It saves time by ensuring speed and turn-around time for transaction completion and eradicates the need to have to visit bank branches before transactions can be performed.
- Enhances customer experienced service quality
- Availability of alternative channels
- It brings about customer convenience in terms of time and location

- Effective and efficient interaction with their banks through various CRM enabled channels such as Internet banking, POS, ATM, phone banking.

This implies that bank customers can carry out banking transactions 24/7 throughout the whole year, including enquiries and complaints handling and services and products related to information search (Harris 2000/2002).

#### **2.14. Banks and their customer contact channels (regarded in this study as CRM enabled channels)**

Before the advent of electronic information communication technology (E-ICT), the only point of contact between banks and their customer was through the branch. However, in the new era, there are many channels through which contacts can be established. The various available interaction mediums are through the bank branches, Internet banking, telephone banking, e-mail, conventional mail (products and services flyers), social media (e.g. Twitter), Automated Teller Machine and (ATM) (Bergeron 2002; Hamilton and Hewer 2000). Consequent to the technology innovation and adoption in the banking industry and availability of collections of contact points, which has resulted in the emerged several technology-enabled channels as mentioned above, contact between customers and the bank can be established through individual customer preference. The CRM enabled channels are described as follows:

##### **2.14.1. Bank branch (Banking hall/office) as a point of contact**

Prior to the advent of technology adoption in the banking industry, point of contact was only through the branch banking. This was the conventional and well-known for cash and cheque based medium of interaction obtainable in virtually all banks. Branch network as a contact point often within a commercial building frequently called the retail branch where a bank offers a range of products and services to its customer on a face-to-face basis. These include acceptance of

deposits, bank transfers within and to other banks, cheque and draft payment and cash withdrawals. Generally, the basic banking transaction-based activities that can be carried out within a bank branch is classified into provision of main bank services to the customers. This is through physical contact with bank employees, provision of convenient financial transaction activities such as payment and withdrawal and the branch serves as a medium through which the bank maintains and build customer-bank relationships for continuous patronage and a means of improved customer service offering (Devlin 1995).

#### **2.14.2. Telephone banking/call centre as a point of contact**

With the emergence of technology advancement in the banking industry, the new medium of contacts such as phone banking have been developed (Agboola 2006; Akinyele and Olorunleke 2010). Telephone banking is a banking channel through which the customer can contact their banks to make enquiries, make complaints and conduct finance related transactions. According to Gunson et al. (2014), while internet banking has progressively become popular, the self-service telephone banking has turned out to be a common CRM-enabled service delivery platform for banks globally. This banking channel operates such that the customer places call to the bank, which is directed to a designated call centre through an automated call-purpose direction using voice/button instructions. The transactions that can be carried out through this channel includes balance enquiry, funds transfer within and between accounts, payment of the bills and resolving customer issues (Agboola 2006). This medium of contact is often accessible 24/7 for the reports on lost or stolen cards or account fraud related issues with the exception of some departments.

#### **2.14.3. Automated Teller Machine (ATM)/Cash Deposit Machine (CDM) as a point of contact**

Similarly, following the introduction of telephone banking as a bank customer contact channel, automated teller machine (ATM) known in some quarters as "hole in the wall" and bank/cash machine, is another



technology-enabled point of contact for customers to carry out an array of banking transactions (McAndrews 2003). Until recently, the only range of transactions that could be performed using an ATM were cash withdrawals, phone top ups/phone credit recharge, account balance enquiries, cheque book request, changing of bank cards PIN, and bills payment. However, further modern innovation in the technology application in the banking industry has unveiled Cash/cheques Deposit machine (CDM), an advanced automated machine, which has the capability to perform more financial transactions than ATM such as cash, cheques and draft deposit. Access to these points of contact is available in various public locations. Hence, customers do not necessarily have to visit their local bank branch before having access to their bank accounts. This channel operates in such a way so that customers are only required to have their magnetic stripe or plastic smart bank card distinguished by a unique card numbers alongside security code and their personal identification number (PIN). This channel is automated to function on a 24 hours basis thereby bringing about convenience to customers (Jegade 2014).

#### **2.14.4. Internet banking as a point of contact**

Internet-based banking as one of the CRM enabled channels has become the new most common platform for banking such as ATM in the recent time and particularly in Nigeria. Internet banking often referred to as E-banking is the process of providing customers with banks' products and services through technology-based channels (Chavan 2013). Technology-based banking platforms such as the Internet have continued to revolutionise noticeably the pattern and framework of bank related services (Claessens et al. 2002). Virtually every form of financial transaction can be performed through this medium with the exception of face-to-face customer services, opening of letters of credit (LC) and bank guarantee (BG) as well as raising a bank draft. While Internet banking serves as a medium for customers to carry out financial transactions anywhere in the world and at any time of the day, on the other hand, it serves as data warehouse where a bank can easily retrieve customer information for the purpose of new

products and services development and providing better customer service. Internet banking facility is available through smartphones, palmtops, laptop, tablets such as iPad, notebooks and other types of computers that can access the Internet. This channel is acknowledged to be faster (timeliness), aids information accuracy, cost effective, low transaction fees, helps banks with customer queue management, convenient and accessible around the globe regardless of customers' location (Brodie et al. 2007; Chavan 2013; Gonzalez et al. 2008; Kumar et al. 2012; Singh et al. 2010; Singhal and Padhmanabhan 2008). Similarly, Onar et al. (2010) used a multi-criteria decision aid-based (MCDA) model to establish Internet banking adoption and usage in the banking industry. Their study revealed reliability and security to be the most instrumental essential factors determining Internet adoption. Similarly, Harrison et al. (2014) conceptualised a universal model on internet banking adoption. Their study proposed that readiness of customers and web-channel readiness are the paired common determinants of a bank customer attitude and intention to use Internet banking. Other influencing factors found by these authors are: customer social-economic class, a higher level of education, age, accessibility of Internet facility, user friendliness and proficiency of Internet banking enabler infrastructure. Furthermore, the Internet banking platform has become a perfect technique for banks to satisfy customer needs and to build stronger relationships (Lamb et al. 2012; Poon 2008). Therefore, as more banks, particularly in Nigeria and other upcoming nations' banking industry continue to invest in technology-enabled channels, there is no doubt that the channels will completely overthrow traditional banking (branch banking) (Gbadeyan and Gbonda 2011; Kamel 2005; Masocha et al. 2011;). Moreover, internet banking at inception only can perform basic banking transactions such as customer account balance enquiry and interest rate information, the platform can now handle many more transactions including but limited to bill payment, fund transfer, account opening among others (Khan et al. 2009). A recent developing instance is the introduction of Twitter and phone contacts as platforms to make payment and transfer funds, a service that is not available yet in Nigeria and many developing countries.

Several authors have established that the use of Internet banking including other CRM enabled channels have been largely embraced by bank customers (e.g. Akanbi et al. 2014; Angenu et al. 2015; Erickson et al. 2005; Odumeru 2012). On the contrary, Zahir and Gharleghi (2015) maintained that although there appears to be an increasing trend in technology adoption in the banking sector particularly in the developed nations, there are several individual bank customers, who are remain sceptical. Consequently, they are not using these platforms but rather, the conventional branch banking. Similarly, the study of Hosein (2010) that empirically examined Internet banking adoption rates using the MidWest community, found that customers experience difficulties using the channels, which results in a decreased level of Internet banking adoption. In agreement with the above findings on the unfavourable level of Internet banking acceptance, Nasir et al. (2015) found that although technology-related factors are relevant, however, psychological barriers, specifically customers' concern about risks pose negative effects on internet banking adoption. The study, on the other hand, revealed that social risk did not have any significant effect on Internet banking usage by customers. This could be owing to customer level of technology literacy, lack of information and/or security and reliability (technology downtime) related issues (Cheng 2006).

### **2.15. The features and key components that constitute a CRM system in the banking industry context**

Xu et al. (2002) describe a CRM system as a huge multi-functional system that enables organisations' (banks') ability to manage various parts of the relationships with their customers. A CRM system, as mentioned earlier, functions through integration of many parts in the form of strategy (Payne and Frow 2006). Hence, Xu et al. (2002), West (2001) and Kincaid (2003) classify a CRM system into sales force automation which involves: a) integration of customer data recovery, b) products and services, c) request/order/complaints placement, d) automated customer self-service platforms, and e) customer service and support. All the above may give the banks an avenue to provide excellent services to their customers and prompt effective handling of

customer queries and superior field service. In turn, this is likely to foster communication between the remote staff and customer service department in meeting or resolving personalised customer needs and marketing automation. This is the aspect of a CRM system that provides most recent data on customers' buying behaviour thereby enabling the bank to know where to direct effective marketing operations towards cross-selling and generation of new customers.

Of importance to note from these characteristics of a CRM system with respect to the current study, is the fact that it further establishes the conceptualised idea that a CRM system is an integrated technology-based automated tools. These is a tool developed for the purpose of servicing bank customers, with the expectation of achieving CRM system benefits such as satisfaction, retention, loyalty, acquisition and improved service quality. In fact, Ngai (2005) and West (2001) argue that the CRM system components could be described as customer relationships management life circle, which transform from marketing automation through sales automation and field service to customer service and support. As depicted in figure 2.4, information technology (IT) and information system (IS) form the important supporting component in the management of the other three parts and the entire CRM process (Kincaid 2003).

**Figure 2.4: Underlying constituents of a CRM system**



Source: Lakshmi (2007, p. 22) and Doshi (2003, p. 68)

In the same way, Ngai (2005) reviews some collated studies on CRM and categorised the studies according to specific fields. As a consequence of this review, he outlines several CRM systems components, which he further classifies into four categories as presented in figure 2.4. He argues that in order to have a successful use of CRM system tools as an effective way of managing customers, both in terms of service provision and as mediums to carry out financial transactions, banks need to attentively incorporate the four aspects of CRM systems. Moreover, as shown in figure 2.4, marketing automation is initiated to relate with customer value, customer segmentation, targeting and positioning, customer behaviour, pricing and profitability and retention and loyalty of customers. Sales automation relates to account management, cross-selling and up-selling and sales force automation (SFA). While service centre relates to quality management and customer satisfaction, IT and IS has to do with customer database management, hardware and software, warehousing of data and security system. For the purpose of clarity,

section 2.9 presents an adopted CRM framework based on existing literature synchronising CRM system components, processes (back and front office operations), benefits and aforementioned CRM enabled channels used in the current study.

### **2.16. CRM enabled channels and banking in Nigeria**

Unlike the banking industry in developed countries such as UK and USA, the Nigerian banking industry is similar to other developing nations' banking sectors at the moment, as it still encounters the challenges attributed to cashless policy transformation process. This involves the adoption, acceptance and use of CRM enabled channels such as: literacy level, level of awareness, security issues etc. (Omosho et al. 2012). This is because of the backwardness of Nigerian banking sector regarding the challenges encounter as compared to the developed nation. This lies in the fact that the level at which Nigerian embrace technology usage handling their transactions is low (Odior and Banuso 2012). Previous studies (e.g. Agboola 2006; Chiemeké et al. 2006; Oni and Ayo 2010) have uncovered the rate of technology diffusion in the Nigerian banking industry. Although, prior to CBN introduction of cashless policy, some banks such as Guarantee Trust Bank (GTB), First Bank, Zenith among others have adopted technology enabled channels as media of servicing their customer to a certain level. However, following the CBN new directive on cashless policy, every bank in the industry has both for the purpose of staying up to the competition in the industry and under compulsion to comply with CBN directive has aggressively dive into the use CRM enabled channels (Ajayi 2014).

Although the adoption of technology has continued to grow, its presence has created a new phenomenon in the face of business operations and customer services quality as well as the ways the customers are served. The reality of the unfolding consequence is that the level of cash based transaction has fallen and it is believed that it will continue to fall as more and more people continue to use technology-based platforms to carry out banking transaction rather than cash based business exchange. Unlike before the rigorous adoption of technology, Nigerian bank customers can now use their

bank cards, credit cards and perform other local and foreign bank related transactions anywhere across the globe. As all the banks in the industry continue to offer virtually the same kind of products and services using branding to differentiate their names, gaining competitive advantage is now based on speediness of transactions and customer service/complaints handling timeliness, personalisation of products and services, profitable customer segmentation and upgrading of customer servicing channels to date (e.g. acquiring cash deposit machine, which has the capability to accept cash, cheque and draft deposit among other functions) (Agboola 2006; Oni and Ayo 2010).

The adoption of technology in the Nigerian banking system has also aided in the improvement of banks' services turn-around time with the use of automated bank clearing systems through the Nigerian Inter-Bank Settlement System Fund Transfer (NEFT) and Magnetic Ink Character Reader (MICR), which is used for faster cheque and draft processing with the capacity to encode, read and sort cheques (Oluwatolani et al. 2011). Similarly, through online banking platform, customers can now request for chequebooks and apply for draft purchase without having physically to visit the bank (Oluwatolani et al. 2011).

### **2.17. Challenges of CRM enabled channels usage in the Nigerian banking industry**

While many authors have established that CRM systems and generally technology adoption in the banking sector, has immense potential to the customers and the banks, there are known downsides. These downsides, although they do not overshadow the CRM system benefits, they may impair the level of customer perceptions of service quality and satisfaction, especially in the case of the Nigerian banking industry (Ajayi 2014; Omotoso et al. 2012; Oni and Ayo 2010). Technology adoption has been mentioned earlier to have some huge benefits, which include but are not limited to quicker resolution of customer complaints and banking transactional issues related resolution and faster identification of customers' needs as well as service quality. Conversely, the Nigerian retail banks encounter some

problems (Omotoso et al. 2012). According to Omotoso et al. (2012), the two most recurrent and disturbing challenges are the lack of adequate infrastructure, particularly with irregular and inadequate power (electricity) supply and lack of reliable and quality Internet network.

Consequently, this leads to increased operation overhead costs for the banks and recurring technology downtime. With respect to Africa nations, Akoh (2001) highlights little economic growth, low per capital income, limited technology know-how, illiteracy in terms of technology-based tools usage, cultural and religion practices, high implementation costs, security and perceived reliability of technology as the major impediments to technology adoption. With regard to Nigerian banks, Ovia (1997/2001) and Omotoso et al. (2012) outline low Internet connection (connection speed), low tele-density (number of connected landline telephone per 100 persons within a giving area), shortage of technology-based platform know-how and security (customer funds and data safety) as the challenges faced by Nigerian banks, and as an extension, to the customers being the users. Although there is a low tele density in Nigeria, on the other hand, there is a high mobile phone penetration, which has a bearing on the high level of technology-enabled channels usage (Albeit, most empirical studies on the adoption of technology by banks acknowledge that security is the main challenging obstacle that inhibits technology enabled channels acceptance and usage (Chiememeke et al. 2006; Odachi 2011).

### **2.18. Consumers' viewpoint of CRM systems**

This study focuses on the banking products and services consumers use hence; it is important to review their conceptions and how knowledgeable they are about CRM. Stemming from the banking policy and directives of the Central Bank of Nigeria (CBN) on the Nigerian banks, the CBN has just launched a reformation strategy tagged "cashless society" that will match the industry with what is obtainable in the developed nations banking industries. This implies that consumers in the industry are mandated by this new development to access their banks through the touch points and contact channels that



are powered by CRM. This development in the Nigerian banking industry also indicates that all the banks need to adopt CRM systems as a necessity to keep up with competition and to operate in the standard required by the CBN (Ajayi 2014; Itah and Ene 2014; Salihu et al. 2013).

Interestingly, most research on CRM implementation has concentrated on the company perspective (Jallat and Ancarani 2008; Kim et al. 2012). Consequently, not much is known about the knowledge of consumers in respect to CRM adoption and implementation by banks in Nigeria. According to Kim et al. (2012), researchers and marketing practitioners have not been able to substantiate what CRM means. Therefore, consumers are not expected to have a vast knowledge about CRM. Nevertheless, the consumers often relate with the components of CRM through which they have access to their banks. Kim et al. (2012) assert that consumers are presumed to have uninformed knowledge about CRM strategy. The authors noted that consumers might not be acquainted with CRM as a tool for banking process. Otherwise, consumers' concern is about how they are treated by their banking relationship officers (marketers).

The marketing relationship effort of banks to their products and services for consumers is improved by CRM adoption in their business process (Kim et al. 2012; Oladele 2012; Ogbadu and Usman 2012). The general knowledge of the consumers is that banks use technological approaches (CRM) to manage the relationship with them (Kim et al. 2012; Payne and Frow 2009). As defined by Payne and Frow (2009), relationship marketing is a better strategic approach to managing relationship with all company's customers and stakeholders. Studies have shown that relationship marketing is a significant medium for banks to initiate more robust efficient and effective relationships with their hard to please customers so as to gain better business advantages (Ellis-Chadwick et al. 2002; Tapscott et al. 2000). Singh (2002) research on innovation in e-banking reveals that CRM system stands for a paradigm change in banking.

Besides, the study of Lemon and Trust (2001) revealed that consumers of banks' products and services expect personalised products and services that should be known by their banks. Their study also shows that the banking sector CRM systems involve

enterprise-wide reprocessing and deployment in all the banks' multiple contact channels. Arguably, this explains that consumers' perception and knowledge about CRM systems is on their expectation of their bank, personalised products and services and availability of various ranges of contact channels through which they can carry out banking transactions aside from high street bank branches. Therefore, consumers understand that CRM serves as an enabler to banks' various touch points and contact channels. CRM according to Conduit and Mavondo (2001), Ryals and Knox (2001) and Sivaraks et al. (2011) necessitate that banking business processes align with customer relationship management to enhance existing customer organization interactions.

Research has shown that the fringe benefit of banks' application of CRM system to its service and marketing interaction ranges from quick service/quick response time, two-way interaction of customer service relationship and the potential capability to deliver service to customers from any location at any time (Lai et al. 2009; Pan and Lee 2003; Sivaraks et al. 2011). Notably, not many studies have been done on CRM systems effect from the perspective of customers. Pan (2005), Payne and Frow (2005) and Teo et al. (2006) considered CRM from three main points of view; the technology, business and customer perspectives. Pan (2005) in his study examines the customer view using a content analysis of data collected from a focus group. The author identified four major characteristics of an effective CRM implementation from a customer's view. These are: a) delivery of right product and service at the right time through the right channel, b) multiple value-adding customer interaction points with the organization, c) medium for customer to give valuable feedback that the organisation can use to provide personalised and customized product and, d) services and initiating customer trust in the CRM system. Specifically, Kimiloglu and Zarali (2009) in their study create a measurement tool through the use of a balanced scorecard for CRM implementation. Their study reveals that: improved customer awareness and perceptions, increased value and recurrence of purchase/repurchase and customer satisfaction and loyalty are important constructs from a customer perspective on CRM systems.

Similarly, according to Anderson and Kerr (2002) and Jutla et al. (2001), customers' view of CRM lies on their interaction points with the organisation and as stated by Anton (1996) and corroborated by Teo et al. (2006), customers are often uninformed and/or feel unconcerned about their bank's business processes. Nevertheless, the interactions opportunities that extend from organisations strongly influence customers. These interaction mediums according to Freeland (2003) and Pan and Lee (2003) include call centres, frontline sales personnel, the Internet, wireless communications channels, emails, among others. Besides, these interactions generate customer loyalty, bring about customer service efficiency and enhanced relationship between the customer and the organisation (Teo, et al. 2006). Notwithstanding, dissatisfied customers would discontinue their buying relationship with a company when bad service interaction is perceived (Johnson and Nunes 2003). It can be argued that customers' expectation from a CRM system is an avenue through which they can experience an enhanced interaction and efficient customer relationship with their banks. Accordingly, with the implementation of a CRM system, organisations should understand what their customers want as customers establish loyalty and purchase decisions as informed by their interactions with the organisation.

Arguably from the deliberations above, it can be deduced that customer perceptions and knowledge of CRM systems is an efficient business process that is orientated towards an organisation's customers, using appropriate technology that enables customer data storage, analysis, transaction process automation and dissemination to authorised personnel. Correspondingly, through the process of marketing and customer sales interaction processes, customers are aware that the data the organisation collected through their interactions are further used to tailor personalised products and services for them. Moreover, with respect to the view of this study, a CRM system is understood from customers' perspective to be an avenue for experiencing excellence service delivery. This is because the customers in their views expect to have perceived quality of service, ease of use and usefulness and perceived positive experience. It appears conclusive that the customers' perception of quality is the determinant of their intention to use the CRM-enabled channels. It is

also arguable from the above discussion that customer perceived quality determines if the benefits ascribed to CRM systems usage as service delivery channels are attainable. Therefore, delivery of the right or personalised products and services to the right target segment or class of customers through the automated service platforms fundamentally explain customers' view point of CRM systems.

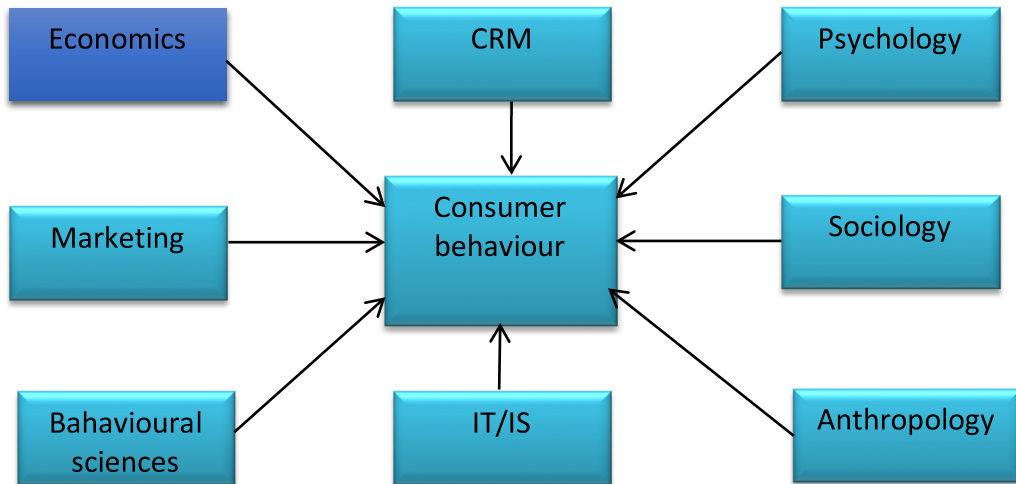
This section evaluates the literature with respect to the origins of CRM, description and understanding of CRM systems, the significance of CRM, CRM systems components and customer perceptions of CRM systems as well as banks' adoption of CRM. The next sections provide an overview of consumer behaviour.

### **2.19. The study of Consumer behaviour as a discipline**

The study of consumer behaviour and consumer decision-making has attracted the attention of researchers in different disciplines of consumer science (Erasmus et al. 2001). Consumer behaviour as a discipline, emerged in the 1960s and according to Schiffman and Kanuk (2006 p.6), most of the consumer behaviour theories propounded were established on the presumption that consumers behave thoughtfully to attain maximum satisfaction in their buying of goods and services. As depicted in figure 2.5, scholars in this field have established that consumer behaviour originated from other disciplines such as behavioural sciences, marketing and economics as mentioned earlier (Engel, Blackwell and Miniard 1995). In other words, the concepts in the field of consumer behaviour are borrowed from the concepts developed in science discipline ranging from psychology which deals with the study of individual behaviour, sociology which deals with the study of groups of people, anthropology which deals with the study of society influence on individuals, to economics which relates to the study of how people spend their limited resources and spending pattern (Blythe 2008; Smith and Rupp 2003). However, with the emergence, advancement and involvement of technology in marketing business operations through CRM system, information system and other research fields have contributed into consumer behaviour development. Although consumer behaviour as a concept has developed from other discipline as depicted in figure 2.5, this

study argues that CRM systems adoption and IT/information systems (IS) influence consume behaviour outcomes.

**Figure 2.5: The evolvment of consumer behaviour from other field**



Source: Author based on Smith and Rupp (2003 pp. 420-421)

Consumer behaviour, as an aspect of business marketing, has been given huge importance in the field of marketing globally. A number of developed products in the banking industry have thrived owing to appropriate structure and analysis of consumer behaviour, while some products never saw the “light of the day” due to lack of appropriate structure and analysis of consumer behaviour. An example of this is the hybrid debit/credit card product that allows holders to choose to spend from their debit or credit card (Kasavana 2010). The product remains unpopular with the consumers as evidenced by the fact that not many bank customers use or apply for the product.

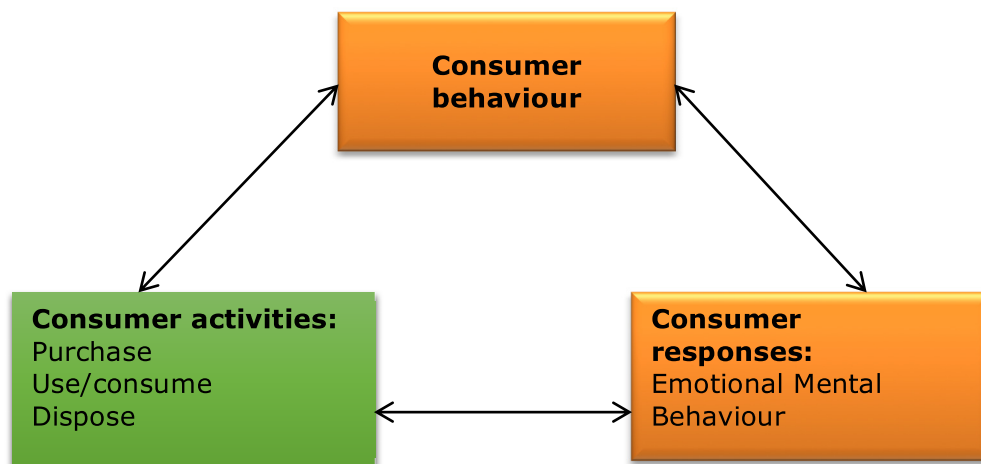
### **2.19.1. Defining consumer behaviour**

Consumer behaviour goes beyond the decision-making processes of consumers when making purchasing products or services. Therefore, defining consumer behaviour involves all the buying activities of consumers starting from need identification, pre-purchase, purchase stage, consumption stage to post consumption level. Consumer behaviour, as defined by Belch and Belch (2001) is the process and the activities that consumers engage in when they are searching for,

selecting, buying, using, evaluating and disposing of products and services in order to satisfy their needs and desires.

In a more concrete perspective, Kardes et al. (2010 p. 8), defined consumer behaviour such that it “entails all consumer activities associated with the purchase, use and disposal of goods and services, including consumer’s emotional, mental and behavioural responses that proceed, determine or follow these activities”. The components of this definition are shown in figure 2.6.

**Figure 2.6: What is consumer behaviour?**



Source: Kardes et al. (2010 p.8)

The American Marketing Association defines consumer behaviour as “the dynamic interaction of affect and cognition, behaviour and environment by which human beings conduct the exchange aspect of their lives” (Bennett 1995; Peter and Olson 2005 p.5). These definitions help to point out consumers’ buying processes including their feeling, thoughts, experiences and other things in their environment (Peter and Olson 2005). According to Kotler and Keller (2006) and Moutinho (1993), consumer behaviour is described as the behaviour a consumer exhibits in searching to buy, making use, evaluating and disposing of products and services, which are expected to satisfy their needs. Every consumer is different and peculiar and their peculiarity is reflective of their pattern of consumption and products buying process and pattern (Jobber 2010).

Consumer behaviour focuses on how consumers decide to spend their limited resources. This revolves around what they buy, why they buy, how they buy, when they buy and where they buy, how

frequently they buy and use the product and their sense of evaluation after purchase and how they dispose of it (Jobber 2010). The study of consumer behaviour occurs at every stage of the consumption process and it begins prior to purchase and goes on till the post purchase evaluation stage (Sarangapani and Mamatha 2008; Jobber 2010). It is known that the goal of any business is to ensure its survival and to achieve this; customers must be seen as important stakeholders whose presence can ensure the success of the firm (Maiyaki and Mokhtar 2011). Therefore, firms who want to succeed should pay attention to consumer behaviour based research and particularly, the impact of CRM on consumer buying behaviour.

In order to have adequate analyses of consumer behaviour, there is a need to consider the respective processes of both internal and external factors to the individual. The understanding of the study of the concept of consumer behaviour entails the examination of some factors that influence consumers' behaviour among which are environment, family and friends, brand and loyalty, demographic variables like age, gender, education, income, personal, psychological and culture (Jobber 2010; Moutinho 1993).

## **2.20. Consumers and their buying Behaviour**

The philosophy of consumer buying behaviour, as described by various marketing researchers relates to how consumers think in respect to their needs and their environment (Payne 1982; Solomon et al. 2010; Schiffman et al. 2008). Consumer buying behaviour involves the human thinking through a very complex process. This is because according to Clark and Goldsmith (2006), it has to do with not only economic factors but also emotional and social factors. Furthermore, as pointed out by researchers, the success or failure of any product or services is determined by the disposition of the human psyche and their individual preferences (Kauffman 1996). Therefore, having a good knowledge of consumers and their psychology of buying process will help marketers to develop innovative products and services mixes (Jobber and Fahy 2012).

Foxall (1998) stated that consumer buying behaviour is the study of intrinsic consumer values such as motivators, perceptions,

personality and learning the pattern. In a similar view, Hausman (2000) described it as the branch of knowledge that is involved with the study of individual behaviour and its mental thinking process.

### **2.20.1. Consumer decision-making**

Everyday life activities involve making decisions in one respect or the other. This varies from what to eat, what to wear, where to go for a holiday among others. The consumer makes decisions every time over what products or services to buy and where to buy giving consideration to their available resources and alternatives. With respect to Internet adoption, Moon (2004) posits that the fundamental issues in consumer behaviour relate to how consumers acclimate and make use of decision-making strategies. Consumer decision-making according to Du Plessis et al. (1991 p. 11) is the "behaviour patterns of consumers that precede, determine and follow on the decision process for the acquisition of need satisfying products, ideas or services". Peter and Olson (2005) submit that the major process in consumer decision making is demonstrated in the integration process through which consumers combine knowledge to assess two or more available alternative behaviours. They state that the consumer-decision making integration process results in a choice, which is represented cognitively as a behavioural intention.

### **2.20.2. Types of consumer decision-making**

According to Kardes et al. (2011), there are four basic types of consumer decision-making. These are shown with examples in table 2.4.



**Table 2.4: Consumer decision-making types with examples**

		Involvement	
		Low	High
Information Processing	Low	<b>1. Brand Laziness</b> <i>Commodity Products</i>	<b>2. Brand Loyalty</b> <i>Self-Concept Enhancing Products</i>
	High	<b>3. Variety Seeking</b> <i>Parity Products</i>	<b>4. Problem Solving</b> <i>Complicated big-Ticket Items</i>

Source: Adapted from Kardes et al. (2011 p. 183) based on Assael (1998)

#### **2.20.2.1. Brand laziness**

Consumers in this category do not worry about what they want to buy. Hence, they do not take the time to go through the buying thinking process while making a product or service purchase. Examples of products in the category includes commodity products such as butter, flour milk among others. When the consumer-buying process involves little or no information processing, consumers will naturally make purchase choices based on the usual habit (Kardes et al. 2011). Kardes et al. (2011) describe this habit as consumer’s passive action towards a product or service as a result of their familiarity and convenience as oppose to an intrinsic commitment to the brand. This type of consumer decision-making is described by Schiffman et al. (2008) as routinised response behaviour as consumers do not seek further information in the buying decision-making process.

#### **2.20.2.2. Brand loyalty**

This decision-making type shares features with brand laziness because the consumers in this category also do not exercise any rigid information process while making a purchasing decision. Consumers in this category are of the belief that they know the product, and

particularly that they already know the specific brand of a product or service they want. Perhaps, that is why Kardes, et al. (2011) state that consumers in this category are highly involved when making brand decision unlike in brand laziness. The decision-making process under this category requires a limited problem-solving level. This is because the consumers have earlier established the key criteria needed to evaluate the different products or service categories and the brand (Schiffman et al. 2008).

#### **2.20.2.3. Variety seeking**

Consumers in this situation are well aware of the products or services they want, however, they need to decide which brand of the product or service to buy. This makes the consumer process a high volume of information with little involvement in decision-making. Therefore, consumers in this category spend more time processing information (Kardes et al. 2011). It can be inferred that the consumer under this category will deal with large amount of information so as to make out a set of the basis upon which brands will be assessed (Schiffman et al. 2008). The consumers of this class are not loyal to any brand and as such, offerings, discounts as well as being captivated by advertisement and promotional activities could influence their decisions.

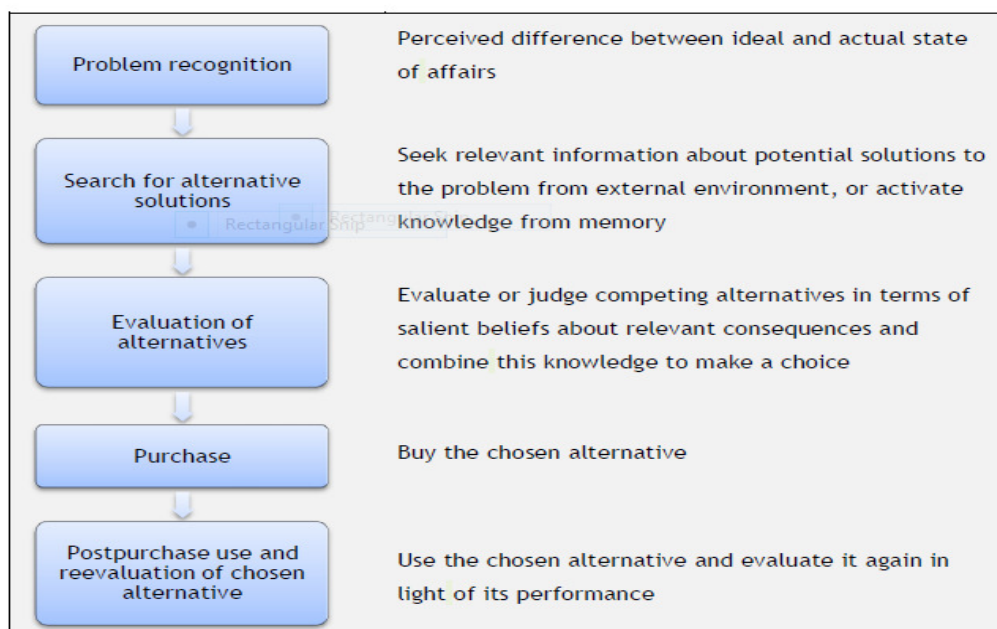
#### **2.20.2.4. Problem solving**

Consumer buying decision making under this class requires both high levels of involvement and information-processing. Consumers generally get involved in problem-solving decision situations when they are faced with unfamiliar products or services, expensive products and/or products or services purchase infrequently (Kardes et al. 2011; Peter and Olson 2005). As shown in table 2.4, examples of products in this category include furniture, automobiles, houses among others. Consumers deal with information on a large scale under this category ranging from pricing, quality, durability, brand choice, the technicality to maintenance cost information. Kardes et al. (2011) opined that consumers would have to identify some product features that would help them to make an informed buying decision.

### 2.20.3. Conventional model of consumer decision-making

The consumer decision-making process is divided into sections of input, process and output incorporating the external influences (Schiffman et al. 2008). This model is developed based on the cognitive or problem-solving consumer to demonstrate how consumers behave in the process of making purchases and post purchase evaluation (Engel, Blackwell and Miniard 1995; Peter and Olson 2005; Schiffman et al. 2008). Every typical purchase made by a consumer will often require going through the five underlying stages as revealed in figure 2.7.

**Figure 2.7: Generic model of consumer problem solving**



Source: Peter and Olson (2005 p. 169)

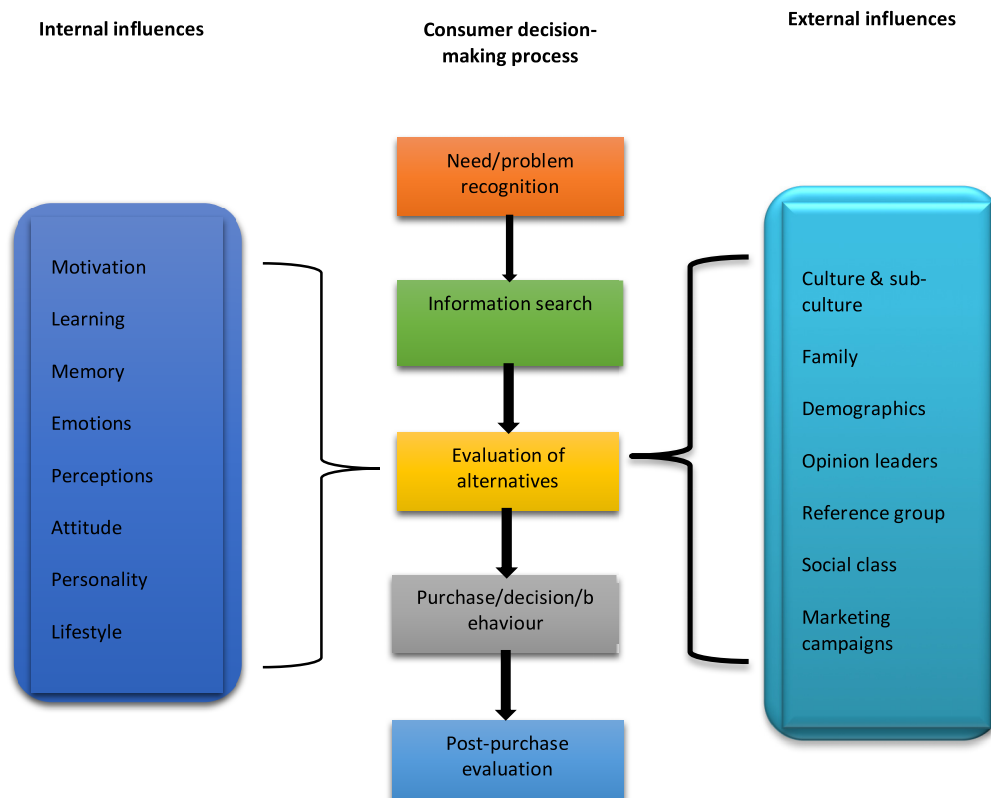
This generic consumer problem-solving model can be explained in the context of buying or opening a bank account following the illustrative example given by Peter and Olson, (2005). A consumer got his first job and required a bank account where his/her monthly salary and other benefits will be paid. This need for a bank account has created a need, which in turn becomes a problem that he/she has to solve. The consumer is now faced with looking for available alternative solutions seeking information on potential solutions, which may cut across information such as, where do I open the account? what type of account is best for me? among others.

At this point, he may ask his friends and family about where he/she can open an account. At the next stage, the consumer evaluates the alternatives available and from there he/she would choose where to open the account and what type of account to open. At the purchase stage, the consumer opens the account by providing the necessary documents required for account opening purposes. At the last stage of the model, the customer re-evaluates his/her option to see if the right decision was made or otherwise. This explains typically how consumers go through a problem-solving process.

#### **2.20.4. Influences on consumer buying behaviour**

Consumer buying decisions are subject to influences that are attributable to both internal and external factors (Fahy and Jobber 2012; Solomon et al. 2014). The internal factors also referred to as personal influences as revealed in figure 2.8 consist of consumers' motivations, learning, memory, emotions, perceptions, attitudes, personality and lifestyle. The external (social) factors include culture and sub-culture, reference group, opinion leader, social class, family and friends, values and norms, demographic variables and marketing campaigns (Fahy and Jobber 2012; Peter and Olson 2005; Solomon et al. 2014). According to Murali et al. (2005), the environment is described as the external situations that impact consumer-buying behaviour. They listed factors such as demographic, economic, technology advancement, political instability and globalisation as some of the external factors that affect consumer-buying behaviour.

**Figure 2.8: Internal and external influences on consumer buying behaviour**



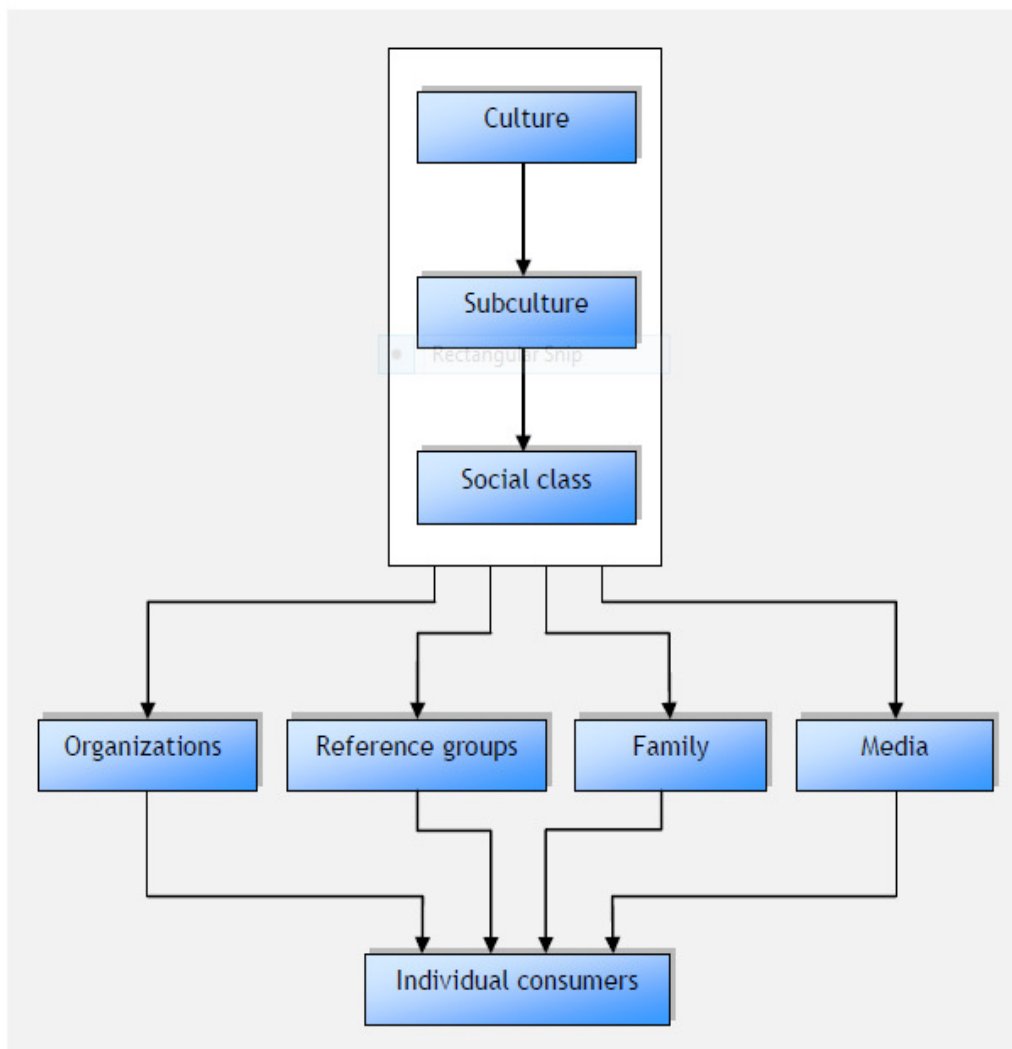
Source: Author based on Fahy and Jobber (2012), Jobber (2010) and Solomon et al. (2014)

#### **2.20.4.1. Social environment influence on consumer behaviour**

Peter and Olson (2005) posit that the social environment has an impact on consumers' behaviour, cognitions and their affective responses, which in a great deal leads to the decision-making process. The social environment is involved with all the social inter-relationships that take place between and among people (Peter and Olson 2005). The social environment is classified into macro and micro social environment. The macro social environment refers to the circumstances of indirect and proxy social interactions among a large group of people (Schiffman and Kanuk 2010). Research findings have revealed that culture, sub-culture and social class have a huge influence on individual consumers in those groups' values, beliefs, attitude, emotions and behaviours (Rani 2014; Bray 2008).

The micro social environment, on the other hand, involves consumers having direct or face-to-face social interactions among smaller groups of people such as family, and reference groups (Peter and Olson 2005). They opine that the micro social environment factors also have a powerful influence on the feelings of consumers and their knowledge about products or services, stores and promotional campaigns. Researchers (e.g. Lawan and Zanna 2013; Rani 2014; Solomon et al. 2012) have said that the various influencing factors have different degrees of impact on consumer behaviour. This is shown in figure 2.9 below.

**Figure 2.9: The flow of social environment influence**



Source: Peter and Olson (2005 p. 268)

By and large, it is imperative for banks to be conscious of all the factors that influence consumers and their buying behaviour.

Additionally, within the scope of the above figure, which does not include technology as an influencing factor, scholars suggested that extra attention should be given to culture as it has a higher degree of impact on consumer buying behaviour (Baker and Saren 2000; Lancaster and Massingham 1993).

### **2.21. Customer buying behaviour within the context of banking sector**

The behaviours exhibited by customers are rather complex hence, any bank that aspires to have an edge within the industry will need to study actively and continually their dynamic behavioural act (Aliyu and Tasmin 2012; Mittal 2008). It can be argued based on the above that the complexity in the banks' customers' buying behaviour can be attributed to their increased knowledge level, available products and services of banks, unfolding bank deregulations and globalization, as well as the civilisation of the approaches to banking (technology advancement and adoption). All of the above factors exert a significant influence on their buying preferences (Aliyu and Tasmin 2012). This has made the banks competitively dynamic and up-to-date with what products and services are offered to their customers and the mode of services delivery channels. Based on the emergence and adoption of CRM systems by the banks and the complexity of customer demands and needs, it has become imperative that the banks routinely monitor the ever-changing customer buying behaviour. This would enable the banks to have a comprehensive understanding of what the customers need and ensure that products and services are offered and delivered to target segmented customers as well as offering personalised products and services appropriately.

Bank customers display a distinctive buying behaviour that they exhibit with respect to their patronage to banks. These identified behaviours include banking with more than one bank (multiple banking), cross/up buying, repurchase of the same banks products or services (e.g. travel insurance, money transfer (FX), car finance (loan), bill payment etc.), switching banks and word of mouth. Consequently, understanding individual customer buying behaviour will be a move in the right direction, to know what products and services

to offer, as well as how they could be offered. This will be the case in order to get the customer to exhibit positive buying behaviour that could lead to achieving satisfaction, retention and loyalty of customers. As stated by Aliyu and Tasmin (2012), observing and monitoring customer behaviour would enable banks to tailor their products and services to the customer such that products and services offered aligned with specific customers' needs. With the adoption of a CRM system with the capability to store and analyse customer data, the process of studying how customers' buying behaviour (i.e. to what extend they buy, where they buy and how they buy) can easily be analysed. Such outcomes would be valuable for management in the process of making strategic decisions on customer relationship management. From the ongoing discussion, it appears that relationship management, as an interactive platform for banks and their customers is the bedrock to studying and understanding customer buying behaviour.

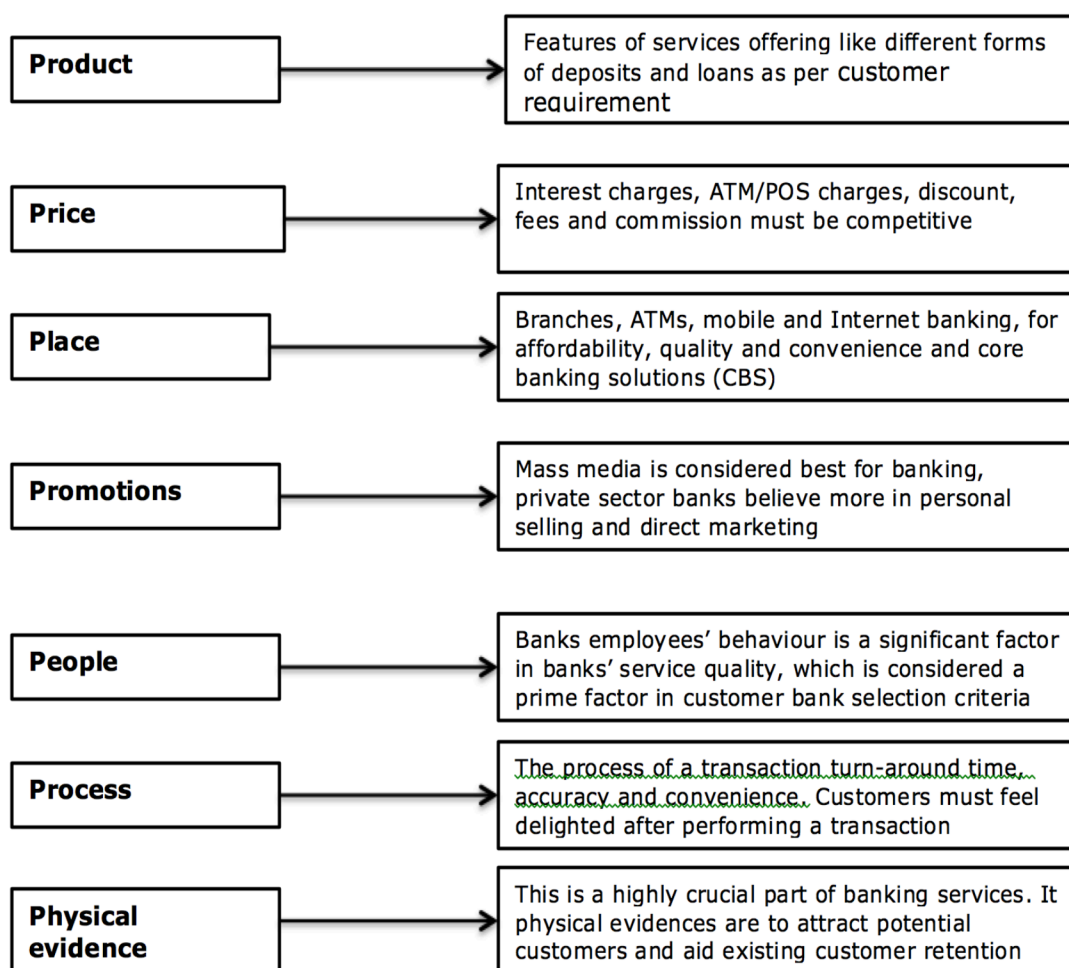
Aside from the extraction of customer buying knowledge through relationship interactions, their perceptions on the usage of a CRM system to perform banking transactions is another factor that could influence their buying behaviour. Previous studies (e.g. Adesina and Ayo 2010; Ahmad and Al-Zu'bi 2011; Birch and Young 1997; Gerrard and Cunningham 2003) suggest that customers whose experience and perceptions with the use of technology platforms for banking are positive are after qualities such as a) convenience, b) timeliness, c) transaction efficiency, d) availability of choices of varieties of bank services through the platforms and, e) low or no transaction charges as factors that may positively shape their buying behaviour. Reasons such as perceived usefulness and ease of use, customer confidence, relationship services and reliable technology enabled channels (online resources) are identified as factors that could help improve customer-buying behaviour (Aliyu and Tasmin 2012; Bashir and Madhavaiah 2015; Jahangir and Begum 2008; Rizwan et al. 2014).

Furthermore, based on the idea of Mittal (2008) on understanding customer behaviour with regards to using marketing mix while making management decision on customer relationships, how the 7Ps of marketing are strategically used and managed could



influence customer buying behavioural outcomes. As shown in table 2.5, the features and benefits of the products and services offered by the banks to the customers, competitiveness of fees and interest charges, numbers and reliability of available customer service channels, nature of brand, products and services promotion, employees' attitude and reactions towards customers requests and complaints, accuracy and timeliness of transactions and physical appearance are the attributable factors that if well-tailored and managed could yield positive customer buying behaviour (continuous patronage). Observing customer reactions and perceptions on these factors can help banks unveil customer buying behaviour particularly in terms of customer churn (switching), multiple banking (disloyalty) and positive word of mouth.

**Table 2.5: Marketing mix linked to customer behaviour**



Source: Mittal (2008 p. 225).

## **2.22. Concise development of consumer behaviour**

The next sections of this chapter provide a summary of the evolution of consumer behaviour. This is necessary to match up with the increasing need to be knowledgeable about the concept of consumer buying behaviour. This growing need for understanding consumer buying behaviour is orchestrated by the transformation in the nature of marketing evolution due to considerations such as transformation in business environment; change in consumer tastes and needs as well as the emergence and adoption of technology. Interestingly, these factors have continued to position customers at the centre of banks' strategic plans regarding the development and offering of products and services. As noted in section 2.4, although the manifestation of consumer behaviour as an element of the marketing discipline can be traced back to the period between the 1950s and 1970s, the first set of contributions to the idea of consumer behaviour began in the 1920s (Blackwell et al. 2001; Wright 2006). Blackwell et al. (2001) characterised this period as the time when manufacturing firms were compelled to change from the notion of what they want to sell, to the selling concept. This means that the companies will need to undertake a persistent selling and promotional activities in order for customers to buy enough of a company's products. Nevertheless, consumer behaviour during this era was based on selling and marketing or products campaign undertakings, which was rather a single directional outcome from the firms to the customers.

Conversely, selling concept experienced a twist when marketing ideas became the order of the day in the 1950s; a period where what is produced and the mode of offering to customers is being influenced by consumer behaviour. This was a season when the one-way directional effect changed to a two-way interaction channels. Besides, the firms began to incorporate factors that may influence consumer buying behaviour (Jobber 2010). Kotler and Keller (2006) explained this period as finding appropriate products and services for customers rather than force-matching customer to products and services.

Subsequent to the nature of marketing in the 1950s to the present time, different influencing factors have surfaced to instigate understanding consumer behaviour as a necessity for firms. These

influencing factors include a high degree of competition between the products and services offered to customers, particularly in the banking industry, which is characterised by the same forms of products and services disguised in different names. Interestingly, this highlights marketing constructs such as service quality and customer satisfaction, which are some form of dimensions of consumer behaviour attributes. Similarly, the emergence and adoption of technology-enabled channels within the context of business and marketing relationship processes have reformed every bit of how marketing activities are being performed. This improvement cut across communications and interaction channels between the firms and the customers, products and services development and offering platforms as well as bringing about the modern approach to customer service. Remarkably, this has helped banks to understand further consumer buying behaviour including technology-enabled channels acceptance and usage. This is evidenced in the banks' experience of an increase in their level of customer acquisition thereby increasing their customer base, reduce customer churn, leading to repurchase and reducing bank switching.

Another factor that necessitated the need to understand consumer-buying behaviour specifically in the banking industry is the need for banks to maintain and guard their customer base, which is only achievable by retaining existing customers. This is of utmost importance to any bank that desires to survive because it is five times more cost effective to retain existing customer than to gain new customers (Cheng et al. 2011; Ranaweera 2007; Reichheld 1996). Likewise, the study of Hansemark and Albinsson (2004) found that it is easier and more economical for banks to retain current customers as opposed to signing new customers. In the same line of thought, while Brown (2004) specifically mentioned that performance is dependent upon how long a company is able to retain its existing customers, Hank (2007) claims that achieving a 5% increase in the level of retained customers, the firm can attain up 95% rise in profit (performance). Consequently, in order for any bank to have a competitive edge over its competitors, it is imperative that the bank creates, develops and builds mutually beneficial and consistent long-term relationships (Inkumsah 2013; Kumar et al. 2011; Ranaweera 2007; Verhoef 2003).

Thus, in bank-customer relationship management, which includes products and services offerings that are technology-enabled channels driven, it will not be adequate for the banks to only be knowledgeable about why customers accept and use offered services delivery platforms. They should rather be inquisitive and further their consumer buying behaviour understanding to the way technology enabled channels can enhance all-encompassing bank-customer relationships management, through their understanding of customer technology driven channels usage. Specifically, banks should be interested in what impact customer acceptance and usage of the offered technology driven channels have on consumer identified customer-buying behaviour unique to Nigerian banking industry in particular.

The last paragraph pointed out one of the objectives of this study, which is to establish the effect of CRM enabled channels on consumer buying behaviour. Hence, examining existing literature on consumer behaviour with respect to CRM systems becomes necessary so as to achieve this objective. While theories of consumer behaviour serve as the underpinning base to understanding customer buying and technology usage behaviour, there is no agreement among these theories as to what nature or number of factors should be used to explain consumer behaviour (Beckett 2000; McKechnie 1992). This is because the theories of consumer buying behaviour are mainly based on the principles of different discipline such as psychology, sociology and economics (Blythe 2008; Smith and Rupp 2003). Although several consumer buying behaviour models have been propounded and criticised, an example of which is the Engel-Kollat-Blackwell model (Engel et al. 1991), an instance of consumer behaviour theory that cut across different discipline was based on Kotler's framework. Kotler noted five models that are common to the study of consumer behaviour. These are: The Marshallian model with emphasis on economic prudence and that buyers act in their best interest, the Pavlovian model with attention to brand reinforcement, the Freudian model on the basis of psychological motivation, the Veblenian model which stems from anthropology and considered social factors and the Hobbesian which considered organisation buyer factors (Dibb and Carrigan 2013; Kotler 1965). These various models from different

fields have been the foundation on which the advancement of consumer buying behaviour has thrived, and has continued to inform how contemporary researchers with interest in consumer behaviour describe the concept (Solomon et al. 2013; Wright 2006). The next sections present an overview of relevant theories of consumer buying behaviour that relates to behavioural intention and how the selected theories can be used to uncover the Nigerian banks' customer usage of CRM enabled channels as well as its influence on their buying behaviour.

### **2.23. Synopsis of underlying consumer buying behaviour, behavioural intentions and technology usage theories**

This section presents a summary of the underlying theories and models that are often applied in describing consumer buying behaviour. Typically, the dimensions through which consumer buying behaviour, technology acceptance and usage are most commonly drawn from the underpin constructs of these theories and models (Bryson and Atwal 2013; Kim and Crowston 2011). Though most of these theories (e.g. Technology Acceptance Model TAM, Theory of Planned Behaviour TPB) relate to attitude and consumer buying behavioural intention prediction, the theories can also be used to illustrate and measure consumer buying behaviour within the context of technology enabled channels adoption generally, and particularly in the banking industry (Safeena et al. 2013; Sentosa and Mat 2012). While the measuring constructs from these theories in explaining consumer buying behaviour and technology usage differ under various study context, there is a point of mutual consent, which is their agreement on the application of attitude as a construct that can be used in the context of consumer behavioural intentions and usage.

The unanimous adoption of attitude from these theories as a medium of measurement could be on the basis of consequential effects of some identified antecedents or controlling factors. As submitted by Quester et al. (2007), attitude as an element of the cognitive, emotional and behavioural process, forms the foundation on which marketing approach is planned and executed. The marketing strategy includes marketing promotions of brands to influence consumer

perceptions about the brand. An example of this was demonstrated by the Batra and Ray (1986) model, which posited that exposing consumers to marketing campaigns towards a particular brand has consequences of initially affecting the buyer regarding the promotions, after which buyer's buying intention is affected (Mackenzie and Lutz 1989; Wei 2015).

Foxall (1990) acknowledged that the most commonly recognised and prominent generic consumer buying behaviour models originated essentially from cognitive aspects of psychology such as the Howard-Sheth (1969) theory of consumer buying behaviour and the Engel-Kollat-Blackwell model (1968/1973) among others. The theories and models that are concerned with consumer behavioural intentions and technology acceptance and usage are based on the Theory of Reasoned Action (TRA) propounded by Fishbein and Ajzen (1975) and the Theory of planned behaviour (TPB) developed by Ajzen (1985). These theories proposed that consumer actual exhibited behaviour is dependent on their behavioural intentions being underpinned by attitude and subjective norms (Ajzen 1985; George and Kumar 2013; Wu et al. 2008). The theory of planned behaviour has been used by previous researchers to measure e-banking and consumer acceptance of Internet banking in the perspective of telecommunications (e.g. Balabanoff 2014; Fathima and Muthumani 2015; George and Kumar 2013; Lee 2009; Martin et al. 2014). Other models that were developed as an extension of TRA to explain models of technology adoption include Technology Acceptance Model (TAM) developed by Davis (1986/1989) and Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh et al. (2003). Each of the principal consumer buying behaviour models that relate to behavioural intentions and technology usage theories are explained in more detail in the next sections.

### **2.23.1. Summary of common theoretical models to the study of consumer behaviour**

A good number of researchers have developed some models on the study of consumer behaviour particularly about their buying decision-making (Bray 2008; Foxall 2011). These theories originated from

various branches of psychology and the approaches have been adopted in the study of decision-making to date (Du Plessis et al. 1991; Foxall 1990; Schiffman and Kanuk 2007). As stated by Bray (2008), each of these approaches have their strength in the evaluation and analysis of different variables. The areas where the theories are developed are:

- The economic man
- Psychodynamic
- Behaviourist
- Humanistic
- Cognitive

According to Du Plessis et al. (1991), researchers' interest in developing models for the study of consumer behaviour study has reduced. Therefore, the conventional models have been recognised as "ultimate and flawless". Hence, researchers should use these models as an avenue to examine current issues in consumer buying behaviour (Boshoff and Rousseau 2001).

Based on the argument above and the benefits stated below, this study follows the line of thought of the cognitive approach to exploiting the aspect of it that relates to behavioural intention and technology usage, as an extension to explain and analyse the influence of consumer buying behaviour in the Nigerian banking industry. Although consumer behaviour models under cognitive psychology have suffered some criticism from some scholars, they remain part of most used consumer behaviour theories (Du Plessis et al. 1991; Foxall 2011).

Foxall (1990 p. 18), whose perspective of consumer behaviour approaches stems from behavioural view, distinguishes four major strengths of this model under cognitive as an approach to explaining consumer behaviour. These include:

- Cognitivism nearness to the rational descriptions of daily conversation makes it an intuitively appealing ways of giving explanations about everyday behaviours such as buying and product usage or consumption

- Through cognitivism, the consumers' ability to describe their involvements, interactions and understanding regarding their attitudes, wants, needs and motives ensure that the explanation provided within the context of a situation describes what is explained
- Cognitivism brings about a measure of unified and unanimity to an early subject of investigation
- The wide-ranging application of cognitive explanation by other social science and humanity disciplines has helped the theoretical formulation of this area of consumer study by making feasible the extension of existing theoretical-methodological contributions.

In addition, Foxall (1993) posits that cognitive models have the capability to analyse complex behaviours, an attribute that has acknowledged the weakness of the rivalry behavioural view. Despite the strength identified for cognitivism, some criticism has however been highlighted by some scholars. Foxall (1990) states that cognitive approach is of the assumptions that consumers are rational, discerning, logical and active in decision making. However, researchers have contested these speculations (e.g. Bozinoff 1982; Solomon et al. 2006; Schiffman and Kanuk 2007). The cognitive stand is followed based on the overpowering strengths of cognitive over the others and nature of the current study regarding customer's decision making process complexity in selecting bank, technology-enabled channels usage and products and services.

### **2.23.2. Models of consumer behaviour**

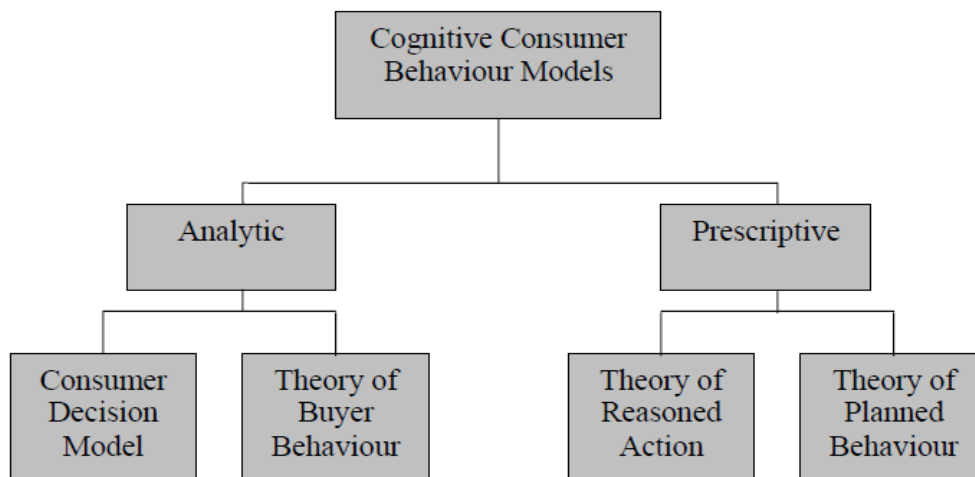
Researchers have identified two main classifications of consumer behaviour models (See figure 2.10). The first category is the analytical models with a framework that contains the major variables. These variables are believed to help in explaining consumer behaviour while the second type is not (Bray 2008). These models highlight the various stages of the consumer decision-making process, the internal and external influencing factors and how they inter-relate in the decision-making process (Bray 2008).



According to Kassanjian (1982) and Du Plessis et al. (1991), these models classified under analytic and prescriptive are often regarded as the “grand models” of consumer behaviour. Moreover, these models incorporate the conventional five stages of consumer decision-making process such as need recognition, information search, evaluation of an alternative, purchase and post-purchase evaluation (Erasmus et al. 2001; Peter and Olson 2005; Schiffman and Kanuk 2007). The major and most cited models under this category are the Nicosia model (1966), the Howard-Sheth Theory of Buyer Behaviour Model (1969) and the Consumer Decision Model by Engel, Kollat and Blackwell (1968) (Blackwell et al. 2001).

The second category of the cognitive model is termed prescriptive models (Bray 2008). These models, unlike the analytical models give frameworks that can be used in structuring the study of consumer behaviour (Moital 2007). Examples of the most popular models under this category are the Theory of Planned Behaviour (Ajzen 1985) and the Theory of Reasoned Action (Fishbein and Ajzen 1975).

**Figure 2.10: Classifications of cognitive models**



Source: Bray (2008 p. 10), Fawcett and Downs (1992), and Moital (2007)

The earliest and most common of the theories identified under the classification illustrated in figure 2.10 are the Howard-Sheth Theory of Buyer Behaviour (Howard and Sheth 1963/69), Engel-Kollat-

Blackwell's Model, and the Nicosia model. The Howard-Sheth theory according to Foxall (1990 p. 10), presents "a sophisticated integration of the various social, psychological and marketing influences on consumer choice into a coherent sequence of information processing". The Engel-Kollat-Blackwell (1968) theory shares some of the variables presented in the Theory of Buyer Behaviour by Howard and Sheth (1969). Bray (2008) established that the structure of the model and how the variables are linked is quite different. This model is built on the consumer decision-making stages later discussed in this chapter. The Nicosia model has been recognised as one of the first consumer decision-making process theories that gained researchers' attention. The model's significant characteristics are that it gives organisation's message (through advertisement, promotions etc.) and marketing efforts are tailored towards consumers. This implies that the model is centred on the inter-relationship between the organisation and its consumers. The model showcases four main fields. These are the consumer attitude formation, information search and evaluation, purchase and post-consumption feedback (Nicosia 1966). The model indicates that attitude, motivation and consumer experience have effects on the consumer at each level of their decision-making process.

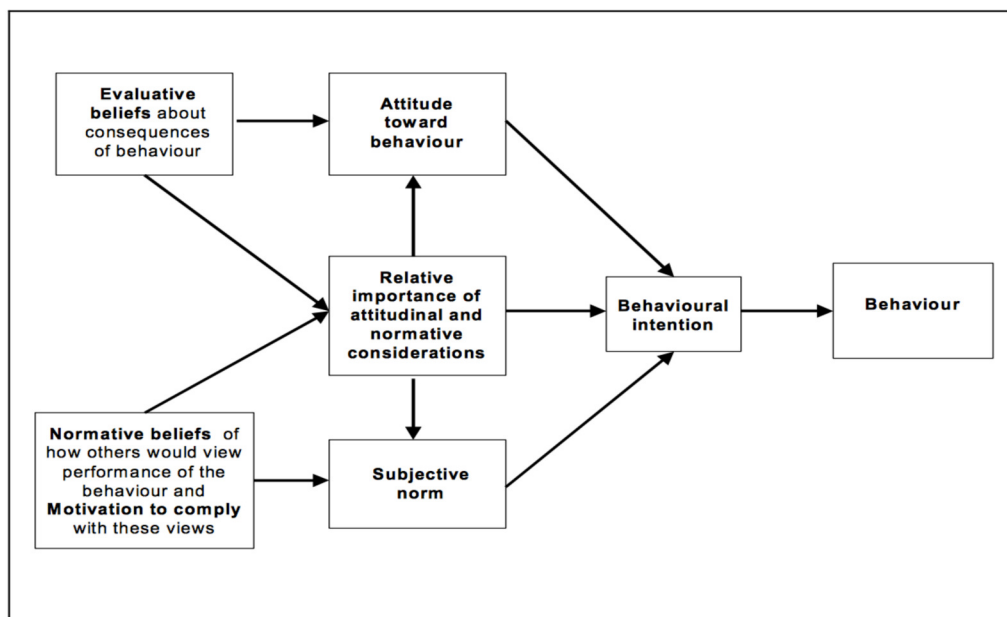
By and large, the entire first set of the grand models have been criticised on the basis of the amount of making efforts it takes to incorporate all the constructs that relate to consumer behaviour in a single grand model. Likewise, the grand models were criticised by scholars in consumer decision-making rationality approach, generalization of decision-making process across sectors, products and services and weakness because of their positivist approach inclinations (Bozinoff 1982; Burns and Gentry 1990; Erasmus et al 2001). Consequently, this led to diminished attention of grand theories in the 1980s (Erasmus et al. 2001; Mohammadi and Mohamed 2011; Simonson et al. 2001).

While the early grand models have been briefly discussed above, the next sub-sections and mainly the remaining sections provide details of the more pertinent theories to the current study.

### 2.23.3. Theory of Reasoned Action (TRA)

This model as propounded by Fishbein and Ajzen (1975) focuses on four major behavioural attributes, which include consumer behavioural attitudes, consumer subjective belief norms, consumer behavioural intentions to buy or use and their actual behaviour or usage (See figure 2.11). Within the contextual interpretation of the model, the subjective norm infers to each consumer's perceptions of the acceptance and use of technology (Shih and Fang 2004). As opposed to the above impression on TRA, other scholars such as Pikkarainen et al. (2004), assert that the TRA is based on the assumption that consumer behaviour is rational and that information gathering and processing pattern of consumer buying behaviour follow a systematic path. The systematic process is understood to involve examination of buying or usage action risks and making a decision on the next step of the decision-making process by a rational consumer (McNeil 2012; Balabanoff 2014). This model upholds that individual beliefs regarding the outcomes of their behaviour and how the individual evaluates the outcomes are the consequence of his or her displayed attitude to the behaviour in the first instance (Darnton 2008). The model hence brings together the gap between attitudes and behavioural outcomes by including intention as a unifying construct that leads to actual behaviour.

**Figure 2.11: Theory of Reasoned Action (TRA)**



Source: Darnton (2008) based on Fishbein and Ajzen (1975)

Based on the drawbacks of TRA and TPB (for example, its their incapability to describe attitude under a different context or a specific behaviour), the Theory of Decomposed Planned Behaviour (TDPB) was developed as a remedy to the insufficiency of the TRA (Davis et al. 1989; Taylor and Todd 1995). TDPB extended each of the constructs of TRA by decomposing attitude/belief into relative advantage, compatibility and complexity, efficacy and facilitating conditions were introduced to measure perceived behavioural intention and normative influence was introduced to subjective norm construct. This enables TDPB to offer a more accurate and improved clarification on attitude and behavioural intention unlike the TRA (Taylor and Todd 1995). Albeit, the TRA potentials is weakened by its assumption that each consumer's buying behaviour is entirely regulated by the consumer (Hale et al. 2003). It also fails to include other known consumer buying behaviour such as impulse buying attitude but rather, dwells on the consumer buying habits that engage thought evaluation through the decision-making process prior to purchasing (Langer 1989). Other criticism aimed at this model focuses upon its rigid idea that consumer intention to showcase a buying behaviour is ever continuous as unrelated to the natural act of human behaviour, since the tendency to exhibit a behaviour is subject to change within a certain period due to any of the decision making and behavioural influencing factors effect (Olsen et al. 1993). Lastly, the model also does not entertain the inclusion of factors such as social, technological and demographic variables as consumer buying behaviour influencing factors. These factors have been established by existing studies to be fundamental causes of consumers' buying behavioural actions (Venkatesh et al. 2000; Watson 2007).

#### **2.23.4. Unified Theory of Acceptance and Use of Technology (UTAUT)**

The unified theory of acceptance and use of technology (UTAUT) model developed by Venkatesh et al. (2003), modified to UTUAT2 Venkatesh et al. (2012) is among the more recent theoretical models that are relevant to explaining and estimating consumer acceptance and usage

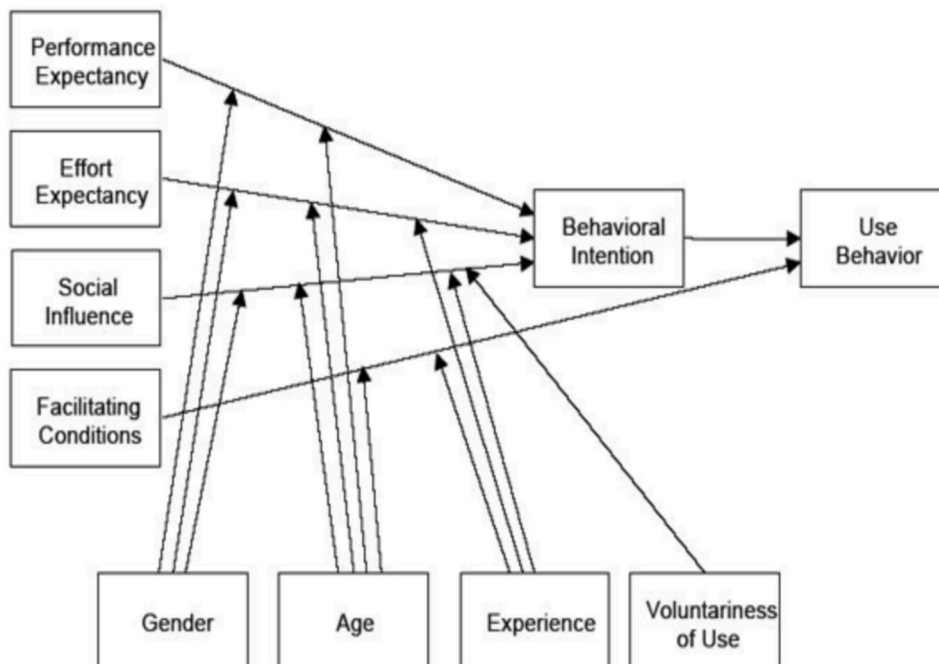
of technology. Following the development of TAM2 by Venkatesh and Davis (2000) and in an attempt to improve on the deficiencies of TAM, constructs of the existing models and addition of some external factors that span from other disciplines were uncovered (Wu et al. 2008). After the rigorous exploitation of literature from pertinent studies, Venkatesh et al. (2003) identified that earlier models have their individual merits, which have been substantiated in their various fields. Consequently, the UTAUT model was propounded based on an examination of various eight notable models as well as integrating the factors of technology usage with respect to the consumers into all in one model, which is termed unified model with more predictability capacity than the use of the eight models individually (Agarwal et al. 2009; Venkatesh et al. 2003). The theories incorporated in the development of UTAUT are TAM, TRA, TPB, Motivational Model (MM), Combine TAM and TPB (C-TAM-TPB), Model of PC Utilisation (MPCU), Innovation Diffusion Theory (IDT) and Social Cognitive Theory (SCT). While table 2.6 shows the sources of the variables that constitute each of the UTAUT model constructs, the summarised imported constructs from the eight models that form and explain UTAUT model is presented in figure 2.12.

**Table 2.6: Foundations of UTAUT model constructs**

UTAUT constructs	Root constructs	Models	References
Performance expectancy	Perceived usefulness	TAM	Davis (1989), Davis et al. (1989)
	Extrinsic motivation	MM	Davis et al. (1992)
	Job-fit	MPCU	Thompson et al. (1991)
	Relative advantage	IDT	Moore and Benbasat (1991)
	Outcome expectations	SCT	Compeau and Higgins (1995), Compeau et al. (1999)
Effort expectancy	Perceived ease of use	TAM	Davis (1989), Davis et al. (1989)
	Complexity	MPCU	Thompson et al. (1991)
	Ease of use	IDT	Moore and Benbasat (1991)
Social influence	Subjective norm	TRA, TPB, C-TAM-TPB	Ajzen (1991), Fishbein and Azjen (1975), Mathieson (1991), Taylor and Todd (1995)
	Social factors	MPCU	Thompson et al. (1991)
	Image	IDT	Moore and Benbasat (1991)
Facilitating conditions	Perceived behavioral control	TPB, C-TAM-TPB	Ajzen (1991), Taylor and Todd (1995)
	Facilitating conditions	MPCU	Thompson et al. (1991)
	Compatibility	IDT	Moore and Benbasat (1991)

Source: Agarwal et al. (2009 p. 342)

**Figure 2.12: UTAUT model**



Source: Venkatesh et al. (2003)

Each of the various consumer buying behaviour theories and technology acceptance and usage models as pointed out above has an attribute of some of the variables to be measured in this study. However, because the current study's main aim is not to measure technology acceptance but rather to measure the impact of the usage on consumer buying behaviour, consumers' experience regarding attitude towards technology enabled channels' usage, perceived ease of use and perceived usefulness have been used to measure CRM system within the context of the study. Similarly, there are existing studies within the context of Nigerian banks, particularly on Internet banking acceptance (e.g. Oni and Ayo 2010; Owoseni and Adeyeye 2014; Solomon et al. 2013). Therefore, TAM and TPB form the basis on which the research questionnaire was developed. TAM and TPB are discussed in the chapter four in a relevant manner to the current study theoretical framework and hypotheses development.

Other reviewed relevant recent literature is presented in Appendix 2. The summarised studies relate to CRM implementation and consumer behaviour. It indicates the authors, research objectives, the methodology used, research geographical locations and findings. It can be inferred from Appendix 2 that there are variations in how CRM is studied. Some studied CRM as technology and strategic while other studied it from consumers' view. Though some used customers as respondents, the studies are mostly on organisations' performance and not from customer perspectives. The measuring variable used for CRM outcomes also varied among the studies. While some measured through customers' satisfaction and loyalty, others measured it using return on investment. Moreover, the results varied as some studies concluded there are positive links, others findings are contradictory.

This chapter have reviewed literature regarding specific topics that relate to CRM systems, consumer buying behaviour as well as the theories and models that are commonly used in similar studies of this nature. Prior to the chapter that presents the research conceptualisation and hypotheses development, the next chapter provides the discussions and the process of qualitative study (exploratory study) carried out for confirmatory purpose.

## **Chapter three**

### **Confirmation of research constructs through initial exploratory study**

#### **3.0. Introduction**

Following the review of literature in chapter two, this chapter presents the exploratory qualitative element of the research. Before this stage of the study, the researcher has identified some variables specifically relating to the research aim and objectives from the literature. This chapter, therefore, deals with conducting of the first stage of the mixed method approach. The outcomes of this phase will help in refining the conceptual framework. It will also aid in the confirmation of the variables that will be deployed and measured in the second phase for hypotheses tests and confirmation using Structural Equation Modelling (SEM) and Process- a Regression-Based Approach.

The reviewed literature in chapter two revealed that CRM system adoption in the banking industry has some potential benefits. The benefits identified include the enhancement of customer acquisition, service quality, satisfaction, retention and loyalty (Payne and Frow 2006; Reinartz et al. 2004). The literature also indicated that CRM implementation is likely to be linked to some behavioural intentions, which are referred to in this study as consumer buying behavioural attributes (Mishra et al. 2011; Padmavathy et al. 2012). As recognised in the literature, these characteristics include cross/up-buying, repurchase, bank switching, multiple banking and positive word of mouth (WOM). Nevertheless, although there is research which has explored possible effects of CRM adoption on consumer behavioural intentions within different research contexts (e.g. Alnassar 2014), few empirical studies have been carried out particularly in the Nigerian banking industry. Consequently, not much is known about the applicability or even existence of the variables or whether the identified variables are peculiar to the Nigerian bank-customer relationship setting. Moreover, questions on the nature of buying behavioural attributes, under what circumstance CRM systems usage as service delivery channels impacts CBB and the reality of achieving



the CRM benefits require a clear understanding. This means it is unclear in what circumstances CRM systems might impact buying behavior, and this requires further investigation. Furthermore, there exist measures of the selected variables from empirical research relating to CRM and consumer behavioural intentions outside the current study context and setting. However, the measures and the variables have not been previously ascertained in terms of the hypothetical dimensions of the mediating role of CRM benefits and the Nigerian banks' customer buying behavioural attributes.

Based on the reason that one of the needs for using qualitative research relates to when there is no existence of an acceptable, valid and a reliable qualitative measurement on conclusions made from a certain phenomenon (Patton 1990; Korobilis-Magas 2011) and, if what is known about the phenomenon under examination is relatively little or unverified (Churchill 1991), a qualitative study was conducted primarily for the purpose of confirming the identified research constructs and their applicability as well as their peculiarity to the research context. As detailed in section 3.3.1, a qualitative study was carried out with bank managers, including those responsible for IT (managers) and CRM as well as bank employees who interact with customers from eight Nigerian banks. Purposely, this is to check if the interview respondents are of the opinion that the selected variables apply to the Nigerian banking industry and, if they feel anything is missing from the initial conceptualisation based on the literature reviewed. Based on the fact that the research constructs and their measurements have been previously established as mentioned in the literature review chapter, the qualitative study manner did not require the implementation of a purely inductive or grounded theory method (Glaser and Straus 1967).

The exploratory design stage of the current study functioned in two ways; it was mainly confirmatory because it seeks to clarify further the existing conceptualisation of CRM systems, its benefits and buying behavioural attributes. Likewise, this phase of the study is partially exploratory with the intention to advance understanding into the research variables of interest. This phase is to help corroborate the relevance of the variables to be measured from the practitioner's point of view. In order not to pre-empt the practical situation in the Nigerian

banking industry on the applicability of the variables, the exploratory study is to expose any new variable(s) not identified from the literature. The data obtained during the qualitative study stage were analysed in a deductive manner using a deductive thematic approach (Braun and Clarke 2006). This was done in order to extract themes that confirm the constructs identified from the literature and to broaden the scope of the research hypothesis development. That is, to give a firm foundation for the hypotheses development.

### **3.1. Qualitative methodology**

#### **3.1.1. Research design overview and objectives**

The key purposes of the exploratory research are:

- To obtain information that gives more insight into the applicability of the research constructs from the bank managers in such a way as to:
  - a) Confirm from the bank/CRM systems practitioners that the identified CRM benefits are actualised in the Nigerian banking industry
  - b) Confirm that the Nigerian bank customers actually display the buying behavioural attributes drawn from the literature
- To gain insight into the links between CRM systems and consumer buying behaviour
- To help in hypothesis development

#### **3.1.2. Sample design and data gathering process**

The population of interest that represents the unit of analysis in this part of the research comprised of the middle and top management level as well as the IT/CRM practitioners in the Nigerian banking industry. Given that the total population (number of banks) is 21, the interviewed banks were selected based on some of the criteria as

demonstrated in section 3.3.1. Similarly, the interviewed individuals were selected based on their eligibility but in a purposive manner.

Prior to selecting and conducting the interview, the potential respondents were initially contacted through telephone and e-mail (with the primary supervisor copied in the mail). This process allowed the researcher to evaluate and ratify the respondents' appropriateness to participate in the study in terms of his or her position, job function in relation to the study area, years of experience within the bank and the industry. Subsequent to the first contacts, a formal confirmation letter detailing the research purpose, the anonymity of the respondents and their consent confirmation was sent to the banks. Following the first contacts and the respondents' agreement to participate in the study, interviews were scheduled. See appendix 1 for a copy of the letter.

Although it was important that the individual banks and respondents met some criteria mentioned in section 3.3.1, there were no stringent prearranged criteria in choosing the sample units' location (particularly the individual respondents), since the entire population is 21 banks. This is based on the understanding that qualitative studies do not necessarily require pure representativeness (Miles and Huberman 1994). Furthermore, the selection was not restricted to a specific area because the field work was conducted in Nigeria and, locations suitable for the respondents. Hence, the researcher went through the rigors of traveling from one state to the other without giving much consideration to convenience and time, allowing data collection from across states within the country. Although the sampling process appeared to be specific, it does not undermine the quality of the qualitative study. This is because it follows the idea of what Burns and Bush (2003) explained as "convenience sample". Considering the exploratory dynamics of the qualitative study, the sample size was considered adequate. This is because the exploratory phase in this study is not intended for the purpose of generalising the research key findings, but for advancing initial understandings (Burns and Bush 2003; Denzin and Lincoln 1994).

### **3.1.3. Qualitative research instrument**

Recalling that one of the purposes of the exploratory research is to confirm the variables identified from the literature as well as to gain further insights, the literature on CRM systems and consumer buying behavioural elements were used to formulate the questions that were included in the semi-structured interview guide. The use of an interview guide was necessary so as to avoid deviation from the specified study objectives (see Appendix 3 for a sample of the interview guide). The researcher expected to hear the interviewees utter or express selected "words" or "phrases" that suggest or are connected with the identified variables. The interview questions were therefore developed based on the sequence of the study constructs.

In order to ensure that each of the variables was confirmed, the interview guide was arranged in such a manner that each of the questions relates to a specific construct measurement. Nonetheless, the content of the question guide was devised in a semi-structured fashion such that it provides an opportunity for flexibility to discover potentially new variables pertaining to CRM systems usage and consumer buying behavioural attributes dimensions. The questions were deliberately designed in this way to allow participants the opportunity to discuss the benefits of adopting CRM systems, peculiar customer buying behavioural attributes and the links among the variables. The questions also open up a discussion that gives room to uncover potential CRM systems challenges, the level of adoption, success and improvement. Particularly, through probing and a final general question that engendered an open discussion, the respondents were encouraged to freely share their opinions and experiences regarding what pertains to the topic. This helped to uncover a new variable and gave an indication of a new way to explore the possibility of new findings in the following interviews. Conceivably, the final open question was asked because the researcher has some openness of mind that some of the variables identified in the literature may not be mentioned by the respondents in the exploratory stage.

Before the proper interviews were conducted, the interview guide was subjected to test through the supervisory team and through practice (pre-test) (Bowden et al. 2002). This was done purposely to

improve validity and quality of the qualitative data gathering process. Following this exercise, the interview guide was attested to be focused and appropriate, requiring few amendments. The modifications required related to a few questions which were slightly ambiguous, so these were clarified.

Considering the circumstance that the interviewees were bank managers who operate under a tight schedule and have many other responsibilities and duties, the interview was designed such that each interview would last for about 30 minutes. The length of this interview was justified based on the nature of the exploratory examination, which was primarily to gain confirmatory insight on the variables that have been derived from the literature review and not for the purpose of gaining in-depth understanding of complex associations.

### **3.2. Qualitative data analysis strategy**

As mentioned earlier, the major objective of the qualitative phase is to primarily confirm the existence and applicability of the study variables extracted from the literature. The confirmation can simply be performed in theme extraction manner without having to go through a rigorous qualitative data analysis process (Braun and Clark 2006). Regardless, the researcher made effort to perform a meticulous qualitative data analysis as demonstrated in this chapter. This form of qualitative analysis was conducted based on the fact that the variables are already established from the literature, which implies that coding was predicated on the existing variables rather than from the interviews. Albeit, an effort was made to adopt an analysis technique that demonstrates variable confirmation and a deeper level of collected data analysis for gaining more insight into the relationship between CRM systems and consumer buying behaviour within the Nigerian banking industry. Moreover, although the stages that precede data gathering (such as determination of sample size and interview process design) had considered and integrated a certain level of subjectivity, a thorough qualitative data analysis was undertaken. This was done particularly in order to obtain approaches that are credible, dependable and could be replicated (Miles and Huberman 1994). Accordingly, each

of the interviews carried out were properly recorded and transcribed in detail (please see appendix 4 for a sample).

### **3.2.1. Deductive thematic approach**

According to Braun and Clarke (2006), a thematic analysis involves the process of identifying, analysing and reporting the sequence of themes (pattern) in a dataset. As this is a broad definition of a thematic approach, it is important to note that its applicability depends largely on the nature of interpretations intended from the research topic and or questions. Essentially, this technique enables the researcher to identify relevant themes (research variables of interest) from the data, which could be based on an inductive or a deductive manner (Harding 2013). The thematic technique takes a process of interview transcription, coding and reading the transcribed data to arrive at the intended findings (Harding 2013). The above is based on the six stages of conducting thematic analysis suggested by Braun and Clarke (2006). These are:

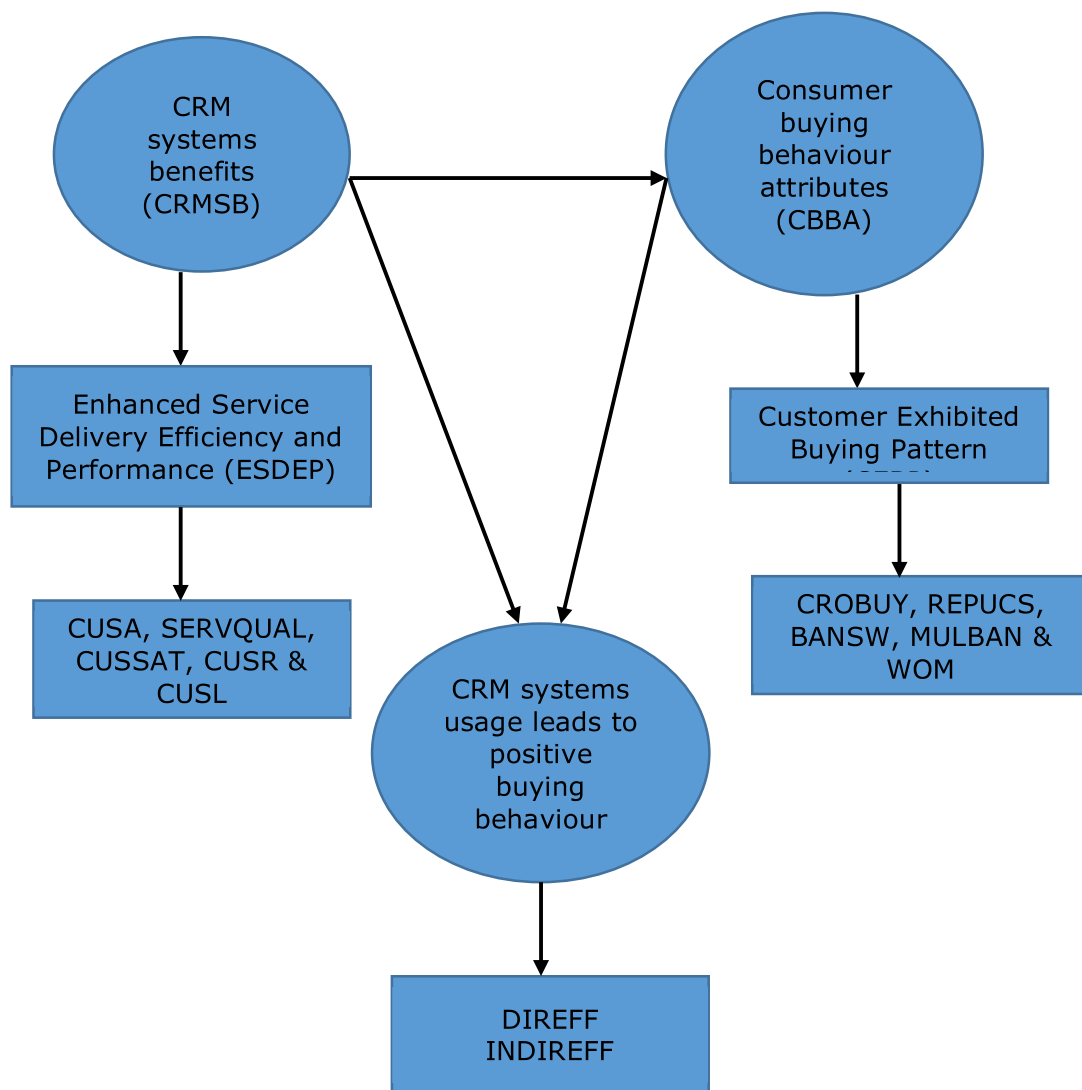
- Familiarisation with the data
- Producing first codes
- Identifying themes
- Review of themes
- Themes definition and naming
- Report generation

The purpose of the current study first phase was to confirm the variables that were identified from the literature before the interview. The interview was also developed based on the literature-induced variables. Given the nature of the exploratory study and the obtained data, a deductive, apriori codes (variables) was conducted, rather than using inductive method (Harding 2013). Apriori coding was employed based on the fact that it reflects the research's focal interest on the topic (variables) or when the variables of interest are considered essential in the prevailing literature on the study area (Gibson and Brown 2009). Although this form of thematic analysis is driven by the researcher's analytic interest and it does not produce a full description

of the whole data, it produces confirmation and some insights into the aspect of the data that is fundamental to variable confirmation (Braun and Clarke 2006). Following the core principle of a thematic design according to Braun and Clarke (2006), if a new variable is exposed during the interviews, a new code (variable) can be added to the list of codes. Figure 3.1 shows a sketch of the extracted coding arising from the literature-induced variables.

The approach employed in this phase follows the guideline described by Harding (2013) as using “existing theory and literature as the starting point and the data collection and analysis are then planned to test a hypothesis or answer a research question”. The author stated that for this technique to be used, the hypothesis or the research question must arise from the literature. In this research, a deductive thematic based approach was adopted, fundamentally enforced by its analytical capability to detect and identify variables that impact a particular topic engendered by the interviewees (Alhojailan 2012). Therefore, the key informants’ interpretations and explanations confirming the key CRM benefits and buying behavioural variables are significantly consequential to the study second phase (Quantitative study). The exploratory study analytical process is represented in figure 3.2.

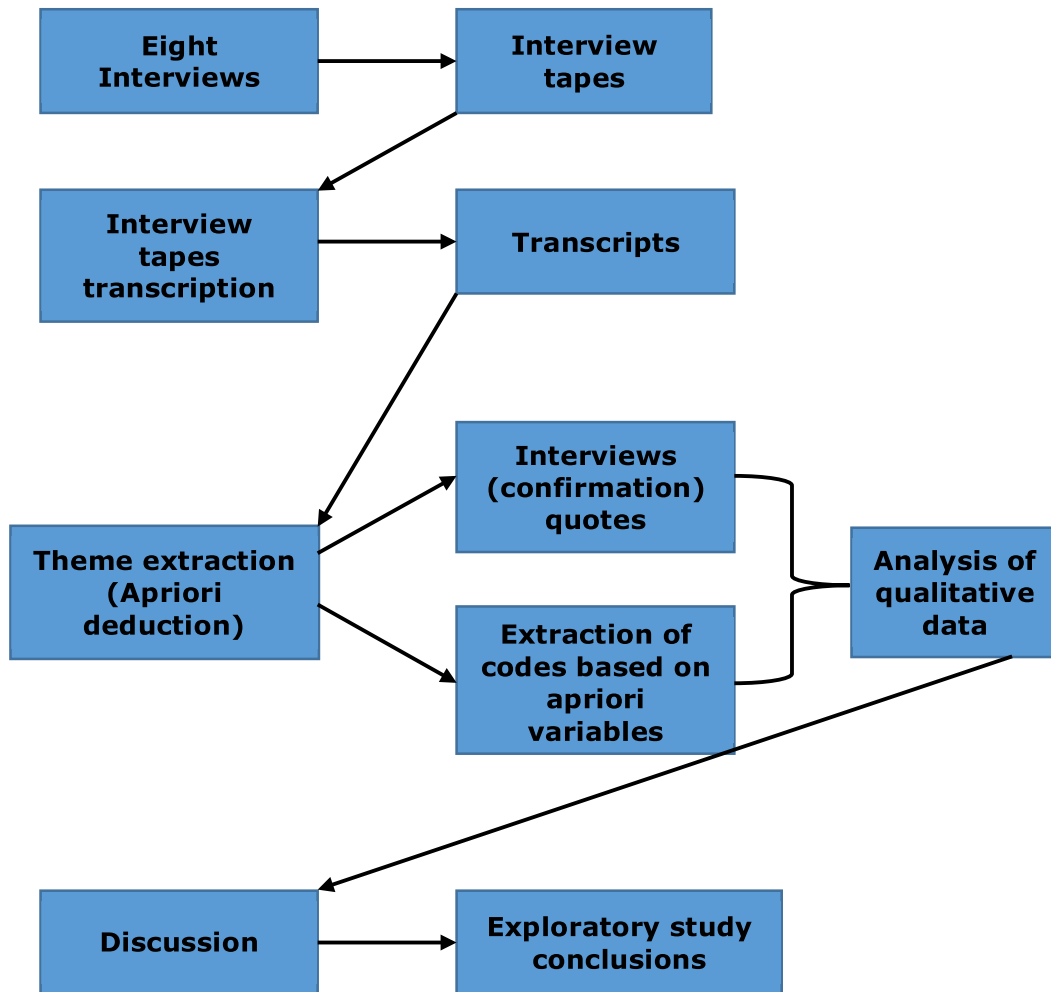
**Figure 3.1: An extract of variables coding based on provisional apriori construct from the literature**



**Note:** CUSA – Customer acquisition, SERVQUAL – Service quality, CUSSAT – Customer satisfaction, CUSR – Customer retention, CUSL – Customer loyalty, CROSBUY – Cross buying, REPUCS – Repurchase, BANSW – Bank switching, MULBAN – Multiple banking, and WOM – Word of mouth.



**Figure 3.2: Qualitative study analysis process**



### **3.3. Execution of qualitative interviews for validation of research constructs**

Recalling that the methods for data collection selected for this study involve carrying out interviews to verify and confirm the questionnaire content, semi-structured interviews were used to as a means to generate confirmatory results as often applied in mixed method studies (Creswell 2014; Curry et al. 2009; Harris and Brown 2010). Therefore, Hoinville et al. (1978) averred that in order to develop a comprehensive structured questionnaire, it is valuable to use exploratory approach such as interviews to obtain information that would help recognise, clarify and extend knowledge on the research constructs. Similarly, using informal interviews (research dialogue) can

be conducted using specialists, professionals or key informants alongside literature reviewed (Oppenheim 1992; Teddlie and Yu 2007). This will avail the researcher with a detailed and comprehensive knowledge to develop the questionnaire.

In an attempt to use interviews to confirm the research constructs identified from literature, the researcher conducted interviews with bank technology (IT) system specialists, bank strategic technology deployment managers and bank customer relationships managers (Kumar et al. 1993; May 2011; Tremblay 1957). This exercise was necessary in order to perform a face confirmation of the initially identified constructs. The outcomes of this process in addition to feedback received from two doctoral colloquiums attended and review feedback on a paper submitted to British Academy of Management (BAM) (Published in BAM proceedings: see appendix 16), enabled the researcher to have a conclusive understanding and hence the operationalisation of the constructs. The next subsections present the outcomes of the interviews.

### **3.3.1. Interview participants**

There are currently 21 retail banks in Nigeria. Ten interview participants were selected from across ten banks out of the 21 banks. The selection criteria for the interviewees/bank for this exercise was based on how the Central Bank of Nigeria (CBN) categorised the banks in terms of liquidity, customer share, numbers of deployed technology facilities (CBN 2013). As demonstrated in table 3.1, the researcher further categorised the banks into high, medium and low users, as extracted from the CBN report, level of technology adoption, operating on full or partial online real time (CRM usage level) and numbers of branch networks and if the bank is a regional bank - banks with branches in more than one region but does not cover the whole country and national banks. The names and associated banks of the interviewees are not provided in this report in order not to violate the anonymity agreement with the participants. The information ethically allowed to share is supplied accordingly. Out of the ten contacted banks, the researcher was able to gain access to eight which are First Bank, Guarantee Trust Bank (GTB), Eco Bank, Access Bank, Union Bank, Wema Bank, Fidelity Bank and United Bank for Africa.

However, it is important to mention that the participants are specialists and customer relationships management professionals who have related job experience between 10 and above 20 years in their field. Having chosen the banks based on the categories, the individual interviewees were selected based on their selection by their bank to represent them, purposive selection through direct contact and, the interviews took place at their various offices as agreed by the interviewees. Out of the ten interview appointments secured, the researcher was only able to conduct nine and, out of the nine, one was considered unusable due to participant's disengaged and nonchalant attitude. Meanwhile, the researcher was able to collect information (through a full interview) from the same bank but with another participant. Although ten interviews were proposed, the researcher was mindful that should "saturation" not be reached at the end of the ten interviews, there may be need to conduct more as it implies that there is more information yet to be uncovered (Ritchie 2003; Mason 2010; O'Reilly 2013). Saturation means the point at which the researcher reached a counter productive stage and the new data from subsequent interviews does not necessarily contribute new information (Mason 2010). Furthermore, the researcher also was conscious to collect data from both management level and customer facing level however, no significant information bias was observed (Hebert et al. 1996; Sterne et al. 2008).

**Table 3.1: Interviewed banks classification**

<b>Grouping</b>	<b>Participating bank</b>	<b>National</b>	<b>Regional</b>	<b>Level of CRM adoption</b>
<b>Group A: High</b>	First Bank	√	×	High
	Guarantee Trust Bank (GTB)	√	×	High
	Eco Bank	√	×	Medium
<b>Group B: Medium</b>	Access Bank	√	×	Medium
	United Bank for Africa (UBA)	√	×	Medium
<b>Group C: Low</b>	Wema Bank	×	√	Low
	Union Bank	×	√	Low
	Fidelity	√	×	Low

Source: Author based on CBN bulletin (2013) and Interviews outcome (2015)

### **3.3.2. Interviews**

Prior to the development of the questionnaire, semi-structured interviews were conducted through a face-to-face medium and with an open-ended discussion (See Appendix 3 for the sample). In addition to the aforementioned reasons for these interviews, the researcher intended to first establish from the interviewees that the banks have employed the use of CRM enabled channels for their customer usage, the types of such channels available, benefits of adopting technology, establish customer buying behaviour in the Nigerian banking industry and providing meanings to the identified constructs from literature.

The questions of the interviews were centered on why the banks adopt technology enabled channels to service their customers, the benefits expected from these channels and known peculiar characteristics of Nigerian banks customers' buying behaviours. The interviewees were also asked to mention CRM enabled channels available for customers and confirm if these channels impact or lead to increased acquisition, customer satisfaction, retention, loyalty and service quality. In a couple of the interviews, the interviewees did not mention some of the constructs identified from the literature and, therefore the interviewer probe further by introducing the construct and asked the interviewees to discuss the constructs in relation to CRM tools.

### **3.4. Interview findings**

This section presents the discussion of the key issues and conclusions uncovered from the exploratory phase of this research. This is followed by the chapter conclusion.

A systematic method of qualitative analysis (apriori deductive approach) of the taped interviews was carried out. This took a form of thematic transcription approach which was used to extract relevant "statements, assertions, comments or opinions" that confirm research constructs and their definitions according to the interviewees. The analysis of qualitative data followed the approach of Braun and Clarke (2006) whom proposed that a thematic method is an approach that

involves identifying, analysing and reporting themes pattern in a set of data. Thematic underlying pattern was used in identifying and reporting the themes that explain the variables included in the questionnaire. This approach was deemed valid based on the understanding that it can be used "when the study aims to understand the current practices of any individual". Which would allow the investigation and identification of how the current situations affect individuals' view (Alhojailan 2012 p. 41; Braun and Clarke 2006). Following this principle, the constructs mentioned by the interviewees were consistent and depicted what in fact are events and phenomena that are manifesting within the industry.

It is fundamental to note that the findings from the interviews agreed and confirmed the identified constructs from literature. This does not only help confirm the identified constructs from literature, it, in addition, helped the researcher in operationalisation of the study constructs as well as providing credence to the process of the literature review. Interestingly, "technology downtime" was mentioned by six of the interviewees as a fundamental factor that impairs the level of banks' CRM enabled channels effectiveness. Technology downtime was not identified from the literature as CRM enabled channels outcome, benefit or consequence and was not one of the constructs considered in this study. However, the construct was understood to be fundamental. Hence, it was included in the final questionnaire. Albeit, the researcher was able to confirm this factor both from the interviewees and through personal observation, which exposed the researcher to experience the downtime during the data collection exercise. The inclusion of this factor in the research model was carefully considered without jeopardizing the idea of allowing the theory to determine the nature of the study. Technology downtime was included in the research model at the analysis stage to see what effect it will have on the results. The confirmation of these variables is expressed in the qualitative analysis stage in the next sections based on the extracted interview quotes presented in table 3.2.

**Table 3.2: Interview quotes/excerpts indicating variable and relationship confirmation**

Construct	Interview Quotes	Sampled Banks
<b>Customer Relationship Management Benefits (CRMB)</b>	<p><i>...that's why you can actually stay in your house and do all the transactions you need to do. You know...The benefits really are that one, time saver, it saves time, quicker resolution, customer satisfaction, because, for some customers, they may not need to come to the bank, to get whatever information they need from you or to get a problem resolved... it also, it brings emm the customers and bank relationship tighter (<b>retention/loyalty</b>) ... I will talk about one, which is customer service excellent I'll also say emmm I'll say effective deliverables using these mediums, basically the customer <b>service excellent</b> leads to close nested relationship...I would go to the bank (ATM) where you are rest assured that when you put in your debit card the machine will dispense...</i></p>	A
	<p><i>Technology usage in my bank allow emm.... give our customers the benefit of enjoying <b>timely issue resolution and convenience</b> .... (coughs)... which leads to <b>satisfaction</b>. The adoption of technology also allows us to enjoy some competitive advantage although I must say that GTB and Zenith bank has more <b>competitive advantage</b>, which enhances their <b>customer base (acquisition)</b>. For instance, customer often will prefer to use GTB being one of the leading tech-savvy bank in the industry. It also enables us to "<b>wow</b>" our customers by providing <b>excellent service delivery</b>. The use technology does lead to enhanced <b>retention and loyalty</b> but ...you ...see, that is if the technology channels are functional and robust</i></p>	B
	<p><i>Yes, CRM adoption does lead to new <b>customer acquisition</b>...emm. it does... you will agree with me that customer takes a decision and they want to get the best service from their bank, so the service that you render through your channels will determine who a customer would choose.... For instance, first bank lunched a platform called "first money" about two years ago has brought in about 2 million new customers. the relationship between CRM and service excellence is directly proportional am mm ...you could imagine yourself coming to the bank and you are not</i></p>	C

	<p>able to use the channels available, you will be discouraged and move to other bank so I will say that effective technology adoption is imperative to the bank's ability to render <b>excellent service</b>. On retention: once you have those things (effective service delivery channels), you are not just <b>bringing in new customers</b>, you are retaining the old customers in short, you even go from the level of <b>retaining to the level of up-selling</b> the customer so the customer will be willing to do more business with you and jettison the relationship they have with other banks. ...hum mm one thing we need to get right is customer loyalty comes out of <b>customer experience</b>. Loyalty entails giving referrers. You want to stick with the brand and when you get it right technologically and with <b>service delivery excellence</b>, then the <b>loyalty</b> is a given.</p>	
	<p>... it enables the banks to manage their customers better and the customer data which emmm allow the bank to know about their <b>customer buying patterns</b> and to know how best to service the customer. It also enables the customers <b>cross-sell</b> to the customers. It enables them to increase their share capital, to increase their wallet share of the sector. The available of mobile bank for example influences a bank selection chances. It also gives their customer a <b>wow experience</b> giving their customers the reason to come back to bank with them (<b>retention/loyalty</b>). in fact, the adoption of the technology has really helped the bank to improve the kind of service they deliver to the customer because customer <b>acquisition and retention</b> depends on the kind of services they render to this customer when they are properly serviced and satisfied then they option for coming back again(<b>retention/loyalty</b>)... technology gives the leverage to retain our customers ...</p>	D
	<p>The use of technology avails the customer more control over their banking activities and if the service delivery process is effective, it will improve their <b>satisfaction</b>. With respect to <b>acquiring new customers</b>, Well, emmm, I won't say there is a direct impact because all banks have adopted CRM but the differentiating factor is the way you use it, which is the differentiator and not the bank. The</p>	E

	<p>customer would rather open an account with a bank with higher level of technology adoption. The banks that are perceived as tech-savvy have more people especially the youth e.g. GTB</p> <p>CRM systems lead to <b>customer loyalty</b> but to achieve this means having a cutting-edge technology and technology that is relevant to this age.</p>	
	<p>customer that are IT savvy will want to open an account with a bank with high technology platforms. A customer would choose a bank with a bank perceived to have a reliable channel</p> <p>Well, technology adoption will have impact on <b>loyalty</b> but ... emmm... it is the effectiveness of your platforms that will make the customer to want to be loyal</p>	F
	<p>It (technology) has an impact on the number of customer the bank has <b>acquired and in acquiring new customers</b>. Technology has a lot of impact on that...</p> <p>the turn around time has been reduced due to the technology usage which impacts on our service quality</p> <p>...definitely, I haven't seen a customer who have migrated to internet banking who will not want to <b>continue to bank with us</b> (retention/loyalty) the level of complains generally has reduced because the level of human interaction has greatly reduced</p>	G
	<p>Technology helps the bank in generating new customers, because for example, the customer emmm... you could open an account from the comfort of your phone, now it means that customer...don't have to come to the bank to make payment or maintain their facility (loan) account. A lot of customers prefer that, and that has increase the number of accounts the bank has been able to open (<b>new customer acquisition</b>) ...</p> <p>... it has impact on the <b>quality of service</b> and you know, even for the banks, we don't have the choice than to monitor the quality of service ... <b>service is now technology driven</b> and it's been able <b>to up the service</b> and people are more alive to their responsibility.</p> <p>it has impact on the quality of service and you know even for the banks we don't have the choice than to monitor the quality of service</p>	H



	<p>... Yea, there is a relationship (between CRM and satisfaction), because your customers are <b>satisfied</b> when you meet their needs. So if your platforms don't get to meet their needs, customers don't get satisfied ... So that platform is supposed to bring about customer satisfaction...</p> <p>..Yes, it does, because if your customer is actually satisfied with what he gets from your platforms then he doesn't have a reason to look elsewhere and he wants to remain there (<b>retention</b>) ...</p> <p>We expect that technology is supposed to make our operations more effective and efficient (<b>service quality</b>) and then when a system is more effective and efficient, definitely, you are expected to one ... there will be <b>increase in patronage</b>, which will bring about increase in profitability and there increase in <b>retention</b> where you don't have most of the account going into dormancy - when people no longer use their account and there moving away then you have <b>customer loyalty</b></p>	
<p><b>Consumer Buying Behaviour Attributes</b></p>	<p>...We it is actually common that customers are loyal to themselves, they only go to whichever banks will solve whatever problem they have. We have some that will give only 20% to a bank and 80% to other banks. <b>They cross buy and exhibit multiple banking behaviour.</b> They also have the habit of <b>referring</b> people (<b>WOM</b>) to the bank like I mentioned earlier that they spread information... I also do believe that they have <b>bank-switching behaviour.</b></p>	A
	<p>Technology permits me to have access to my customers' information about where they work, hubby and if the customer has children, this enable us to <b>cross-sell</b> to the customer. ... Commonly <b>word of month</b>, a lot of people complain about service but they still patronise, unlike abroad but in Nigeria we like fashion and buy where people buy...</p>	B
	<p>Talking about our customers buying behaviour, a typical Nigerian bank customer would have <b>banking relationship with more than one bank</b> silence ... It's just a common thing. ... it won't be naïve to feel that your customer bank with you alone so it's a known and common thing in the industry.</p>	C
	<p>... there are some other customers who have flair for operating more than one banking due to service</p>	D

	<p>nature. There are also customers who as a result of <b>cross sell</b> of the bank product for example emmm WOM... in fact, our products have been doing that for us. As some of our customer refer their friend and family (<b>WOM</b>) to us having enjoyed our products and services</p>	
	<p>... Most customers in Nigeria has more than one banks (<b>Multiple banking</b>) ...</p>	F
	<p>We have a lot of customer that have <b>multiple account</b> with other banks. I think it's a peculiar thing in Nigerian. Although you may have account with more banks but you only use a particular one as your primary bank...</p> <p>Our customers also <b>cross buy</b> our product but this not only in GTB but across the industry</p>	G
	<p>We do have customer who concurrently have accounts with my bank and with one or two other banks (<b>multiple banking</b>). Yes, I have a couple of them, you know for customers, if you are able to satisfy and exceed their expectation, what you expect from them is a <b>repeat buy</b>. And apart from respect buy, there is <b>referrer</b> for example, if somebody has a seamless mortgage finance, he would <b>recommend</b> others to our bank. Well, Well, for Nigeria, that's very very common to customer having account with more than on banks.</p>	H
<b>Relationships between CRM and CBB</b>	<p>... I do believe that technology adoption has impact on the customer buying behaviour. In my opinion, using technology as service delivery channel on its own does not lead to em... favourable patronage behaviour without first getting the customers to be loyal after all, it takes a customer to be loyal before he/she can engage in any umm... continuous purchase...</p>	A
	<p>Technology implementation has impact on the way our customers patronise us but emm... cough...you may need first provide <b>uninterrupted service</b> to get the customer satisfied or get them to <b>continue to use your bank continuously</b>. After this you can expect <b>constant buying (repurchase)</b>. ...let me tell you, people talk about the convenience our competitors deliver, definitely, it brings about <b>WOM</b> .... it's a tool for harvesting customers (<b>customer acquisition resurfaced</b>).</p>	B

	<p>you even go from the level of retaining to the level <b>of up-selling</b> the customer so the customer will be <b>willing to do more business with you (repurchase)</b> and jettison the relationship they have with other bank (<b>bank switching/multiple banking</b>)</p>	C
	<p>Yes, in a way it does has effect on the CBB because... Basically, from my opinion, what I think is technology <b>motivates or initiates</b> the <b>buying behaviour customers display</b> which depends on the nature of the service they receive. Although <b>switching</b> is not very common despite the fact that the bank does not meet your demand. What is obtainable is reducing your funds and transactions with the bank to the minimum level and move to another bank. Unlike the developed nations' such as the UK and USA, there is no such law or policy that regulates customer movement across banks.</p>	D
	<p>Customers actually follow trend. A lot of customers follow trends and the social medial controls customer buying behaviour through WOM. Social medical is a platform where perceptions are formed on a brand/bank service efficiency.</p>	E
	<p>Yea ... Yea ...(confirming that CRM system affect CBB) because as an individual, I don't see any reason why I should have multiple account since technology has enabled me to male transfer to other banks seamlessly without carrying cash around.</p>	G
	<p>On a general note, I will say to you that the banking landscapes has drastically improved with the introduction of the technology based platform and we have been able to meet the needs of the customers to a reasonable extent and though that has also increase the level of competition and has raised the bars in terms of the quality of service the customers expect from you, emmm, its so interesting that with the platform you can actually <b>know the behaviours</b> of your customer ...</p>	H
<b>New variable (Technology Downtime)</b>	<p>... I wouldn't want to go to this bank because every time you get to this bank "A" ATM, it takes your card without dispensing cash and or it's never on (functional) that is, <b>down time..</b></p>	A
	<p>.... Using technology leads to service quality 100%. it helps you to deploy your service faster/efficiently if you have little <b>downtime</b> ...</p>	B

	<i>... I do accept that there is <b>service failure (Technology downtime)</b> in the industry regarding technology so I can not exempt my bank. Another impediment to technology service delivery inconsistencies is due to internet and power (electricity) supply. First bank at the moment takes the lead as far as technology adoption and reliability is concerned in the Nigerian banking sector.</i>	C
	<i>As much as technology has helped in easy of banking, at times technology itself could be a headache for instance, the network would make it imposible for you to get your money (<b>technology downtime</b>).</i>	E
	<i>... when there are no downtime, the rate at which we attend to the customers is a lot seamless when handling customer transactions ...</i>	F
	<i>What has to be mentioned is that when you have all the technology applications but the platforms are <b>not up and running effectively</b> at all time, so <b>reliability</b> is very important before any benefit can be achieved.</i>	G
	<i>Well, there are so many factors that affects the effectiveness of emmm these platforms ... For example, <b>your internet banking could be down</b> if your service providers are down, and you have the likes of the telecommunications providing us with support for some of the things that will do ...</i>	H

The obtained Qualitative data exploration for variable confirmation is presented in Table 3.2. The variables subjected to confirmation as identified from the literature are grouped according to the construct the variables measure. The words and phrases in bold denote how the respondents in their own words described (in confirmation) each of the variables on CRM systems benefits (CRMSB) as the mediating factors and consumer buying behaviour attributes (CBBA) variables.

Specifically, on the CRMSB variables, each of the anticipated variable (customer acquisition, service quality, customer satisfaction, retention and loyalty) were mentioned many times in different context throughout each of the interviews. This further indicates that the variables indeed corroborate with what is obtainable from the

literature. What appeared to be interesting from the interviews is that service quality and customer satisfaction were mentioned more than the other CRM benefits variables. In many occasions, service quality was described by almost all of the respondents as (wow service, service excellence, effective service delivery, timely issue resolution and convenience) as evidence in the quote from Bank A respondent below:

*... I will talk about one, which is customer **service excellent**, I'll also say emmm I'll say **effective deliverables** using these mediums (referring to technology-enabled channels); basically, the customer **service excellent** leads to close nested relationship...*

By implication, it can be concluded that achieving a high service quality and customer satisfaction through the use of CRM systems as service delivery platforms are more pivotal to other variables. Without making a conclusive evidence or preempting the likely findings from the quantitative study, it can be implied that service quality and customer satisfaction are precedents to gaining new customers, retaining and getting the existing ones to be loyal. This also predicts that service quality and customer satisfaction has higher tendencies to have more indirect effects on the relationships between CRM systems and consumer buying behaviour. This implies that for a bank to use CRM systems in achieving positive buying behavioural outcomes, the bank has to ensure that the service delivery channels avail customers positive perceptions on service quality and usage experience that leads to satisfaction.

On the relationships between CRM systems and CBB, seven out of eight of the interviewees acknowledged that there are connections between the two constructs. Their opinions gave some insight into the conceivable relationship between CRM system usage and CBB. For example, as pointed out by the interview quotes in table 3.2, bank B in agreement with the other banks stated that:

*"Technology implementation has impact on the way our customers patronise us but emm... (cough) ...you may need first provide **uninterrupted service** to get the customer satisfied or get them to*

***continue to use your bank continuously. After this you can expect constant buying (repurchase). ... let me tell you, people talk about the convenience our competitors deliver, definitely, it brings about WOM) ...."***

Aside from the insight provided on the direct relationships, the exploratory study also provided some understanding, which reported that the relationships between CRM systems and CBB appeared to be somehow indirect. In particular, 5 out of 8 of the interviewees indicated that the tendency for a bank using CRM systems to achieve positive customer buying behaviour is dependent on service quality, customer satisfactions, retention, and loyalty. Interviewee D, in support of this point, stated that:

*"Yes, in a way it does has effect on the CBB because... Basically, from my opinion, what I think is, technology **motivates or initiates** the **buying behaviour customers display** which depends on the nature of the **service** they receive..."*

Although not all the interviewees acknowledged the indirect effect of CRM systems on CBB, each of them is of the opinion that CRM systems usage as service delivery channels influence the patterns and determine the attributes of the Nigerian banks customers buying behaviour.

### **3.5. Qualitative study general conclusion**

The overall fundamental findings revealed from this study exploratory phase are as follows:

- The interviewees (bank managers/practitioners) provided some confirmatory evidence that supports the literature-induced variables
- The qualitative study also provided evidence that help solidify construct conceptualisation and hypothesis formulation in chapter four.

- It further conveyed an insight into the direct and indirect relationships between CRM systems usage and consumer buying behaviour. The nature of the relationships will be empirically established in the quantitative phase of this study since, the extent and the statistical description of the effects could not be determined in the exploratory stage.
- The exploratory study also introduced a new variable (Technology Downtime, TDT), which was subsequently included in the research model as shown in the data analysis chapter.

In conclusion, through the methodological process employed in this chapter, the findings uncovered provided solid confirmatory foundation upon which the quantitative study phase was developed and carried out.

This chapter describes the first stage of the exploratory sequential missed method, which prepares the way for the quantitative phase. The details on the research methods and statistical analysis approaches are discussed under methodology in chapter five. Following the reviewed literature in chapter two and the qualitative study presented in this chapter, the next chapter presents the discussions on the study's conceptual framework, the selected underlying theories for this study, and explanation of the main study constructs as well as the formulation of the research hypotheses.

## **Chapter four**

### **Research theoretical framework and hypotheses formulation**

#### **4.0. Introduction**

The chapter two provides an insight into the core areas of the study subjects through review of the extant literature. It also presents discussions on selected various pertinent theories to the study field. Based on the outcomes of the literature reviewed and the confirmatory conclusions from the the exploratory phase in chapter three, this chapter discusses the particular theories, which underpin and explain how the latent and the dependent constructs are derived and measured within the context of the current study. It also provides explanations of the inferred meanings of the mediating variables in accordance with existing literature as well as hypotheses development. Prior to the formulation of the research hypotheses, the Theory of Planned Behaviour (TPB) and Technology Acceptance Model (TAM) are discussed. Informed by the constructs of these theories, the understanding derived from the literature reviewed and the confirmation evidence from the exploratory investigation, the research variables are defined. This is followed by the main hypotheses development of the study which are depicted in figure 4.3.

#### **4.1. Overview of theoretical framework development**

In the past decades, many relevant theoretical models that include variables such as attitude, usage and buying intention have been advocated. These models have been examined to establish consumer behavioural outcomes regarding technology usage (Oni and Ayo 2010; Balabanoff 2014). Scholars have applied these models in testing for consumer behaviour intention, in order to predict the level at which consumers use technology in the course of carrying out buying activities or performing banking related transactions. These consequently, help determine positive or negative actual exhibited consumer usage and buying intention such as, social and cultural



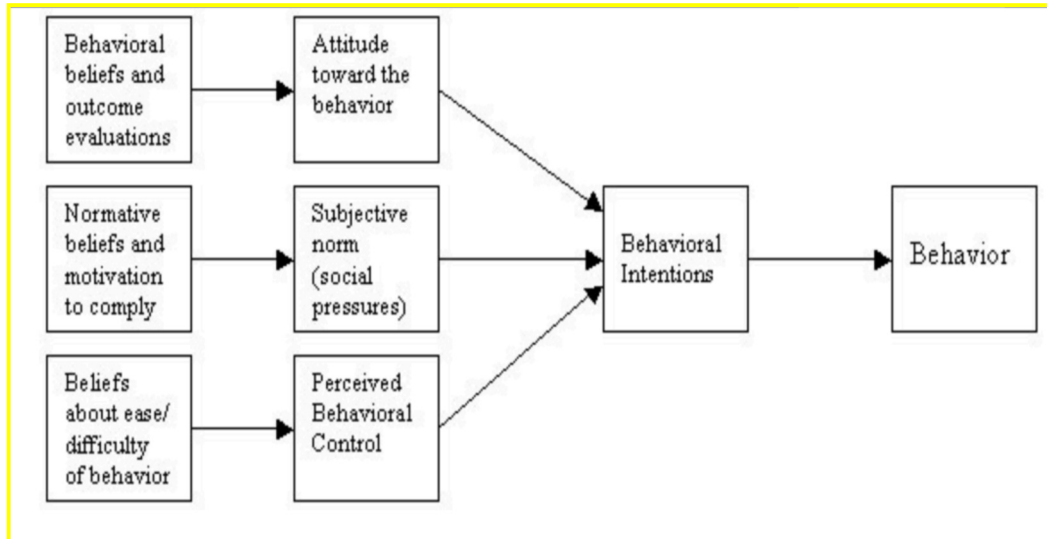
influences, usefulness and ease of use of technology and attitude towards usage (Alharbi and Drew 2014; Teo et al. 2008; Taylor and Todd 1995).

Although the existing studies on consumer behaviour intention mostly address the use of the mentioned models to examine consumer technology acceptance and usage, particularly in the banking industries, there is no indication of any study that has investigated the impact of technology on the basis of these models on consumer buying behaviour in a single study. Similarly, the studies have only considered attitude, behavioural intention and subjective norms as measuring factors that can lead to consumer behaviour but with respect to usage behaviour, rather than buying behaviour (Brown et al 2003; Fathima and Muthumani 2015; Jaruwachirathanakul and Fink 2005; Oni and Ayo 2010; Solomon et al. 2013). In accordance with the above argument, it appears that there are several studies that give adequate empirical evidence regarding technology acceptance and usage intentions however, there is no study in the area of the selected buying behaviour in the current research. Those existing studies considered one of the variables each in different research, under different dimensions and research purpose. Therefore, this study in addition to the extracted constructs from TAM and TPB models such as attitude, perceived ease of use and perceived usefulness dimensions, considers customer experience, technology down time and customer technology orientation to measure technology impact on consumer buying behaviour. The TPB and TAM models are discussed below.

#### **4.2. The Theory of Planned Behaviour (TPB)**

TPB was developed by Ajzen (1985/88/1991) as an improved version of the Theory of Reasoned Action (TRA) so as to account for the weakness of TRA and the introduction of another construct to measure consumer thought-out behavioural intention (Truong 2009). The constructs that constitute the TPB model include consumer attitude towards intention and actual behaviour, subjective norms, perceived behavioural intention and perceived behaviour control. Ajzen (1991) conceptualised TPB model to predict consumers' real behaviour based on the constructs defining the model as shown in figure 4.1.

**Figure 4.1: Theory of Planned Behaviour (TPB)**



Source: Based on Ajzen (1991 p. 182)

Furthermore, TPB central objective lies in the prediction and understanding of consumer behaviour while relying on the model's constructs influence (Armitage and Christian 2003). While other constructs of the model remain the same with TRA, the perceived behavioural control construct, reveals consumers' opinion on the easiness or otherwise of exhibiting a certain behaviour in a given context (Solomon et al. 2013). This controlling attribute of consumer beliefs about this situation is about the way individual consumer has perceived how his or her behaviour is controlled (Ajzen 1991; Ajzen and Fishbein 2009). While many other studies have used this model widely in the past to further attest the constructs and use the constructs as dimensions to measure consumer behaviour related variables, research by Mathieson (1991) on predicting user intention using TPB established that the TPB adequately explained the consumer intention to use technology as predicted by attitude and perceive behavioural control. However, the research found that subjective norm did not support the prediction of intention.

Despite the criticism accorded to TPB model, for instance, the model postulates that a formed intention remains constant and performing a particular behaviour is virtually unavoidable (Ajzen 1991). This underlying assumption indicates that in the same manner with TRA, the application of TPB by researchers from various academic fields such as marketing, technology, health and general social behavioural discipline has received success stories (e.g. Chau and Hu

2002; Pederson 2005; Solomon et al. 2013; Venkatesh et al. 2012). It has also experienced some shortcomings. The key criticisms of the TPB is that a) all behavioural attributes are not rational or logical, a shortcoming that claims TPB exclusively emphasizes rational reasoning without considering uninformed influences on behaviour and b) behavioural intentions are not only determined by attitudes, subjective norms and perceived behavioural control (Ajzen 1991; Elster 2000; Sheeran et al. 2013; Sniehotta et al. 2014). On this note, this study does not rely entirely on the potential of TPB constructs alone in the course of investigating the impact of a CRM system on consumer buying behaviour. Hence, the study conceptualises the use of multiple theory by adding TAM model potentials to TPB. Examples of previous studies that have used multiple or combination of TAM and TPB models include Al-Smadi (2012), Lu et al. (2010), Safeena et al. (2013), Wu et al. (2008) and Yang and Zhou (2011).

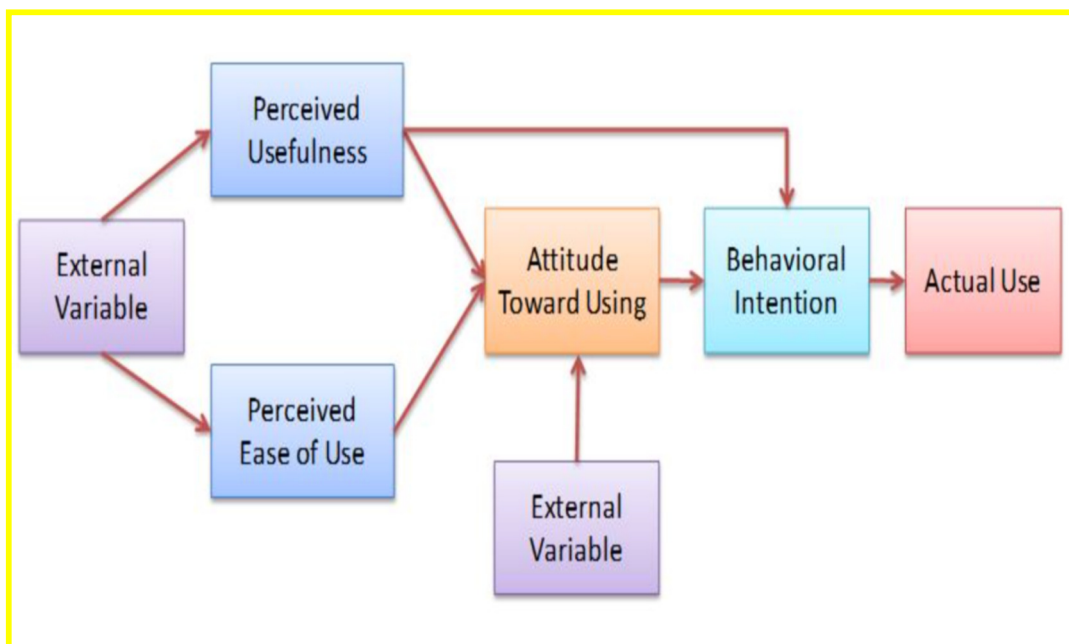
### **4.3. Technology Acceptance Model (TAM)**

TAM, as developed by Davis (1986/89), is a redeveloped version of TRA, which draws upon the tenets of TRA. Its fundamental assumption is that social consumer behaviour is determined by consumer behavioural attitude (Balabanoff 2014). This implies that TAM can be used to investigate consumer intention to use technology-enabled channels (Davis et al. 1989). While TRA is considered to be generic in nature, TAM application in measuring a phenomenon is described to be more definite (Davis 1989). As compared to other models, TAM is the most commonly used and referenced model and has been recognised for its capability to predict consumer acceptance and usage of technology (Taylor and Todd 1995; Venkatesh et al. 2012; Wu et al. 2008).

The potential of TAM model, which has led to the model being widely applied, is based on its powerful approach through which the consumer technology acceptance and usage framework is designed. The framework exploited the factors that influence consumer behavioural intention on technology usage by using consumer perceptions on technology ease of use and perceived usefulness as shown in figure 4.2. Positive perceptions of consumers on these factors

regarding technology acceptance and usage reflect validation, indicating consumer satisfaction and technology system achievement (Oni and Ayo 2010; Pikkarainen et al. 2004). TAM explains a consumer's (user's) belief through perceived usefulness and perceived ease of use of technology enabled channels, their attitudes and actual technology usage. These two factors (PU and PEOU) as will be used in this study as part of the measuring constructs are the underlying factors that define TAM model.

**Figure 4.2: TAM Model**



Source: Davis et al. (1989)

Although the potentials and acceptance of the TAM model cannot be disputed, there are previous studies that have argued that other variables can be considered while using TAM factors in a study. These other variables are factors that could impair or impact consumer perceived ease of use and usefulness of technology on behavioural intention (Amin 2007; Lallmahamood 2007; Pikkarainen et al. 2004). According to Davis (1989), ensuring a good level of TAM validation in a study may involve using particular factors that may impact the extent to which a consumer uses technology-enabled channels. These may be influences such as technology installation reliability, uninterrupted availability, low or no downtime among others. A study that aimed to evaluate the factors that establish intention with the use of mobile

credit cards in the Malaysian banking industry revealed that although perceived usefulness and ease of use were predicting factors nevertheless, technology self-efficacy impacts on perceived ease of use (Amin 2007). It can be inferred therefore that if technology enabled channels are not reliable with minimum out of service time (down time), the level at which customers would accept and use the channels would be reduced. Equally, the level of effectiveness and efficiency of the channels would defeat the essence of technology adoption.

Similarly, other previous studies have attempted to apply the two main constructs of TAM that is, ease of use and usefulness, based on their strengths and reliability combined with other variables to measure consumer behavioural intention and buying behaviour. For instance, Lallmahamood (2007) employed the use of the extended TAM to evaluate Malaysian' banks customer perceived security and internet usage privacy, Chan and Lu (2004) combined the extended TAM and Social Cognitive Theory to examine factors that impact adoption and continuous usage of internet banking in Hong Kong, Venkatesh and Davis (2000) applied TAM and other variables such as subjective norm, job relevance, result demonstrability and experience among others. TAM model has been demonstrated to be a model that is worthwhile in evaluating consumer technology acceptance and usage. In addition to TAM variables, including other variables in a study framework is necessary and would serve as a way to further substantiate the viability of the model and accuracy of consumer behavioural intention and buying behaviour (Arunkumar 2008).

Typically, the adoption of technology in any business sector involves three likely manners, which takes the process of diffusion, adoption and application (Arunkumar 2008; Vijayan et al. 2005). The diffusion stage as modeled and described by Rogers (1995) explains momentum and the cumulative rate of technology adoption process given a period and level of usage. He outlined new technology (innovation), social system, communication mediums of the social system and time as diffusion progressions. The adoption stage on the other hand depicts and elucidates consumer decisions regarding technology acceptance and usage while the application stage refers to how the technology enabled channels are being used and its

applicability to different purposes, business sectors and individual disposition level towards the channels. Consequently, the current study has used other factors alongside ease of use and usefulness to measure CRM enabled channels. This will enable the researcher to include the examination of perceived customer experience, disruption in service delivery through the channels (technology downtime), attitude and their orientation towards the channels. This is because perceived usefulness and ease of use as maintained by Oni and Ayo (2010), may not be enough to fully establish consumer behavioural intention and buying attributes. Hence, the addition of other factors may help in achieving adequate prediction of consumer attributes in a study of this nature.

Venkatesh and Davis (1996) amended TAM to become TAM2 by removing attitude from the model because they claimed that attitude did not fully mediate the association between ease of use and consumer behavioural intention. In the same manner, the study of Brown et al. (2002) disregards the mediating function of attitude on the association between ease of use, usefulness and consumer behavioural intention. On the contrary, the improved the TAM model (TAM2) with the exclusion of attitude was proven to be successful in various studies (e.g. Ndubisi et al. 2001; Venkatesh and Davis 1996/2000). In contrast, there are several previous studies that have employed the TAM model in measuring consumer behavioural intention with the inclusion of attitude as a full mediating variable (e.g. Chau and Hu 2002; Chen et al. 2002; Kim et al. 2009; Rizwan et al. 2014; Lin and Lu 2000; Shih 2004).

This study has included attitude as one of the CRM system measuring constructs because notably, attitude is not used as a mediating variable in this study, but rather directly measuring the effect of attitude on consumer buying behaviour. This is a measure of how a consumer acts towards CRM enabled channels usage. Moreover, bearing in mind that this study is not entirely on technology acceptance and usage but rather about its influence on consumer buying behaviour, particular theoretical reference can be made to established opinions of scholars within the field of consumer behaviour positioning attitude as an important variable when predicting consumer buying behaviour (Bagozzi and Warshaw 1990; Fishbein and Ajzen

1975; Howard and Sheth 1969; Sharma et al. 2014; Olson and Boyer 2002; Sheth 1967).

#### **4.4. Discussions of a CRM system effectiveness measuring constructs**

Several constructs have been selected as the dimensions through which CRM systems will be measured in this study as presented in chapter two and five. Interestingly (as it is demonstrated in the next sections), these constructs have been confirmed by several previous studies to be positively significant and having influencing relationships with technology system usage by consumers. Therefore, while it is fundamental that these constructs (mediators) are established in the current study to have a significant association with a CRM system and consumer buying behaviour CBB, the study did not particularly specify any hypothesis regarding the constructs. This is a requirement that satisfies the assumptions of Structural Equation Modeling (SEM) and mediation analysis process, which is the core approach of data analysis in this research (Baron and Kenny 1986; Zhao et al. 2010). Although these constructs have been used and verified in previous studies, there is no study that has combined them together in a single study to measure technology adoption generally and of a CRM system in particular.

##### **4.4.1. Attitude**

Attitude is described with respect to the consumer as their personal feeling regarding performing a specific behaviour, which could be negative or positive when using technology channels (Davis et al. 1989; Venkatesh et al. 2000). Attitude, as mentioned in the previous section, is one of the most examined constructs in the consumer behaviour field. It is defined as consumer absorbed predispositions that influence his or her reaction towards an object or event (Bose and Sarker 2012). Interestingly, marketers are hoping to increase their consumer behaviour understanding because the consumers possess different dimensions of attitudes towards several factors that crucially determine marketers' success. Based on the common psychological

idea, each person's attitude about an object is a representation of summarised notion in agreement with his or her cognitions or beliefs (Bose and Sarker 2012). Examples of this are the different technology-enabled channels through which bank customers could perform their banking transactions. Every object has a belief that associated it with a particular attribute, and the accumulated attitude of an individual is a function of the subjective values relating to the attributes (Ajzen 2001; Malhotra 2005).

Attitude is a concept that could be negative (unfavourable) or positive (favourable) and is subject to change owing to different influencing factors such as cultural, social environment, geographical situation and products and services features (Bose and Sarker 2012; Solomon 2014). Likewise, Loudon and Della Bitta (1993) states that there is a direct link between attitude and behavioural intention and changes occur in behavioural intention in relation to changes in attitudes. Therefore, any of the changes will have an influential impact on consumer buying behaviour. While some argue that attitude changes, Schiffman and Kanuk (2007) maintain that if consumer behaviour equals consumer attitude, then attitude could remain unchanged or permanent. Meanwhile, Bose and Sarker (2012) stated that although attitude could be moderately permanent reflecting consumer behaviour coherency, it does not imply that attitude remains constant per individual indefinitely. Based on these arguments in line with technology adoption in the banking industry, attitude may be considerably constant however, this study follows the view that attitude can be influenced to change. The study also holds that given the influenced of the above listed factors, attitude is associated with buying/usage intention.

Furthermore, from the perspective that attitude is the desirability of consumers to make use of technology (Davis 1989; Karjaluoto et al. 2002), scholars have indicated that attitude serves as a key determinant of consumer usage of technology enabled channels (Clemes et al. 2012; Oni and Ayo 2010; Raida and Neji 2013). This implies that attitude shows consumers' perception towards usefulness, reliability, credibility and each consumer's preference (Jahangir and Begum 2008). They further contend that attitude strongly, directly and positively influences consumer behavioural intention towards actual



usage of technology. Therefore, attitude is a crucial construct in consumer behaviour studies, particularly when dealing with understanding how consumers make decisions (Lutz 1980). Furthermore, attitudinal belief in technology advancement perspective as referenced by Taylor and Todd (1995) based on Rogers (1983/2010) theory, involves perceived components such as relative advantage, complexity, compatibility, observability and trialability.

From the perspective of the TAM model, the overall potential technology users' attitude to using the available technology-enabled channels signifies attitude as a predictor of the system usage or otherwise (Davis 1993). Based on this and the affirmation of Fishbein and Ajzen (1975) that attitude is about the degree to which individuals perform favourable or unfavourable evaluation prior to exhibiting certain behaviour. This study rationalised in line with the assertion of Andrews et al. (2007) that bank customers' attitude towards CRM enabled channels usage, as the extent to which a customer's disposition of negative or positive attitude with respect to their perceptions and judgments about CRM enables channels. Notably, the effect of attitude on intention to use a technology system has been established by the technology system usage in the banking industry including Nigeria (e.g. Agarwal et al. 2009; Akinyemi et al. 2013; Jaruwachirathanakul and Fink 2005; Oni and Ayo 2010; Shamsuddin et al. 2013; Solomon et al. 2013; Tan and Teo 2000). Equally, technology system users' attitude depends on their beliefs, which is a product of individual decision-making dispositions regarding the actual exhibited behaviour and its consequences. The banks customers' attitude towards adoption and usage of technology enabled channels differs with respect to their views on the types of available technology enabled channels, the benefits of those channels, number of transactions that could be performed through those channels, reliability of the channels, product information, kind of service delivery conditions, privacy, possible risks, security issues, visual appeal, ease of use (navigation) and accessibility (Oni and Ayo 2010). This study does not particularly specify any hypotheses between attitude and the CRM systems as the relationships have been confirmed by various previous studies (already referenced in this paragraph), this study

however, has adopted attitude as one of the measuring construct to the CRM systems.

#### **4.4.2. Perceived ease of use (PEOU)**

Perceived ease of use is described as the extent of ease of use associated with technology system usage by consumers (Venkatesh et al. 2012). The construct is also defined in a more specific and simple manner as the extent to which a user perceived the use of a certain technology system to be effortless and uncomplicated (Davis et al. 1989; MD Nor and Pearson 2007). Similarly, PEOU has been established to have a relationship with technology system usage within and outside the banking sector (e.g. Fathima and Muthumani 2015; Oni and Ayo 2010; Shamsuddin et al. 2013; Yang and Maxwell 2011). Likewise, Moon and Kim (2001) reveal in their study that PEOU significantly associates with the behavioural intention to use technology, and particularly online banking. Ramayah et al. (2002) in their research also revealed that there is a positive relationship between PEOU and customer intention to use online-based technology. Other studies such as Abeka (2012), Erikson et al. (2005), Jahangir and Begum (2008), Huam et al. (2008) and Solomon et al. 2013 have unveiled positive effects of PEOU focusing on different technology-enabled channels such as Internet banking and ease of website navigation, usage intentions, continuous usage of technology channels and electronic banking. Based on these established relationships, PEOU has been chosen as one of the CRM system measuring variables in this study.

#### **4.4.3. Perceived usefulness (PU)**

This construct is defined to mean the extent to which a person believes that the use of a technology system would assist in the attainment of some benefits to the users during execution of certain activities (Venkatesh et al. 2012). Davis et al. (1989) see PU as the extent to which someone believes that using a certain technology-based system would improve job performance. Similarly, Zhou et al. (2010) affirm that perceived usefulness suggests technology users' perception of

technology functionality enhancement. These improvements may include transaction convenience, the effectiveness of service delivery and quick transaction turn-around time. Therefore, it is invariably the case that bank customers would be willing to use technology-based system to perform their bank transactional activities if they are certain that some benefits in terms of enhanced performance are guaranteed. PU has been acknowledged by several studies such as Davis (1989), Wang et al. (2003) to be a predominant variable that has an impact on consumer usage of technology and buying intention. There are other empirical studies that have revealed PU to have influence on consumer perceptions in terms of the various technology-enabled channels in banks such as e-banking or Internet banking (Agarwal et al. 2009; Akinyemi et al. 2013; Fathima and Muthumani 2015; Pikkarainen 2004). The research by Wang et al. (2003) on Taiwan bank customers found that PU significantly influences their intention to accept and use e-banking system. Similarly, Eze et al. (2013) uncovered in their research that customers would naturally accept the use of a technology-based systems, as long as they perceived them to be helpful. These findings suggest that PU is an established variable that has a substantial relation to bank customers' behavioural intention. Hence, PU has been chosen as one of the measures of CRM system in this study.

#### **4.4.4. Customer experience (CE)**

While it is imperative that customer perceptions regarding technology acceptance and usage based on usefulness, ease of use and attitude, as seen in other studies, is adequate to measure a CRM system, this study attempts to further measure the CRM systems with customers' usage experiences and their possible effect on their buying behaviour, as a measure of CRM system. This construct, as initially used, is based on the study of Padmavathy et al. (2012) theorising and verifying that customer perception with respect to their perceived experience using a CRM system is equally crucial. Bearing in mind Venkatesh et al. (2012) acknowledge that the users could experience technology failure during usage (facilitating condition, reliability and output quality), they rationalise customer experience regarding CRM systems on the basis of

prompt customer complaints resolutions, effective communication, evaluation of customer needs and banks' genuine interest in customers' problems resulting from technology failure. This study theorises that if customers' experience using these channels is significantly positive, then it will have a positive association with the CRM systems usage, which will indirectly influence customer-buying behaviour positively (or negatively if their experience is negative).

Customer experience from a more broad-spectrum perspective is defined as a company's combined offerings and service activities to their customers. This is in terms of quality of customer support, promotions, packaging, features of products and services, ease of use, usefulness and reliability (Meyer and Schwager 2007). They state that customer experience is the personal response of customer contact with their service provider, which could be direct or indirect. According to Payne and Frow (2005), one of the purposes of CRM activities is to collect and strategically use data through an information management process in order to achieve reliable customer experience using multichannel integration process. Customer experience within the scope of this study, is described to imply how banks effectively and efficiently act or attend to their customers in conforming with CRM system operations, through provision of timely solutions to customers' issues through proactive customer support (Padmavathy et al. 2012). The authors state that this would improve the level of customer experience in terms of trust and reliance on the system and the assurance that their encounter challenges with the channels are satisfactorily resolved. Padmavathy et al. (2012) in their study used customer experience as one of the dimensions to measure CRM effectiveness and its relation to customer satisfaction, loyalty and cross-buying. While the study establishes and justifies customer experience to be a consistent CRM dimension, the research only found that customer experience among other CRM effectiveness dimensions has a positive influence on customer satisfaction. However, they did not examine any direct relationship between customer experience and cross-buying. Therefore, customer experience has been selected to form part of the CRM systems measurement in the current research.

#### **4.4.5. Customer technology orientation (CRM orientation)**

In as much as customer experience is important as one of the variables used as CRM systems dimensions, the underlying factor in getting the customers to have an interaction with technology systems in the first place is for the customer to have an interest. Without this, there would be an outright rejection of a technology system. Therefore, understanding and measuring the CRM systems based on customers' orientation with technology adoption becomes essential. Similar to customer experience, customer technology orientation as initially used by Padmavathy et al. (2012) based on Jain et al. (2007) and Yim et al. (2004) examines the construct by evaluating customer orientation regarding their perception of their bank's technology enabled channels. These include channels such as ATM, Internet banking, mobile banking, effectiveness and reliability, availability of up to date or modern technology channels and availability of customer information at every point of contact. The process of conceptualising this construct from a consumer perspective is based on Reinartz et al. (2004) and Richards and Jones (2008) idea of CRM. According to the authors, CRM orientation is a systematic process of customer management development through customer generation to the end of customer life cycle. Padmavathy et al. (2012) avers that customer technology orientation relates to the effective performance that results from the use of the latest technology enabled channels by banks. Similar to customer experience, this construct has been reliably established and justified in previous studies to serve as a CRM dimension (Padmavathy et al. 2012; Yim et al. 2004). Therefore, this study is also of the school of thought that in order to examine a CRM system effect on consumer buying behaviour, aside from using ease of use, usefulness and attitude, assessing a CRM system based on customer opinion about their orientation on available technology channels will not only provide robust findings, but will also be likely to contribute to the existing body of knowledge.

#### **4.4.6. Technology down time (TDT) Reliability**

Technology down time is the extent to which customers frequently experience unexpected channel breakdown. This could mean entire

system shut down or limited availability of selected system functions. These inconsistencies could impair customer usage satisfaction, thereby leading to a negative effect on technology acceptance and usage. This could also result in an unfavourable indirect effect on consumer buying behaviour (Venkatesh and Davis 2000). In previous studies and related theories such as TAM and TAM2, the technology downtime has been referred to as technology reliability. According to Venkatesh and Davis (2000), reliability is the degree to which a customer perceived a technology system to be reliable and ready for use within its stated operation time. Similarly, Padmavathy et al. (2012) described technology reliability to mean the level to which banks constantly and precisely render service delivery to the customers as pledged. The authors have confirmed the dependability of using reliability (TD) to measure a CRM system effectiveness. Their study also found that technology reliability positively affects customer satisfaction and customer loyalty. This rationalisation for measuring the effect of service down time on technology usage is in accordance with the conclusions of Zineldin's (2005) research, which indicates that reliability among other variables is an indispensable factor in achieving excellent service delivery by banks to their customers.

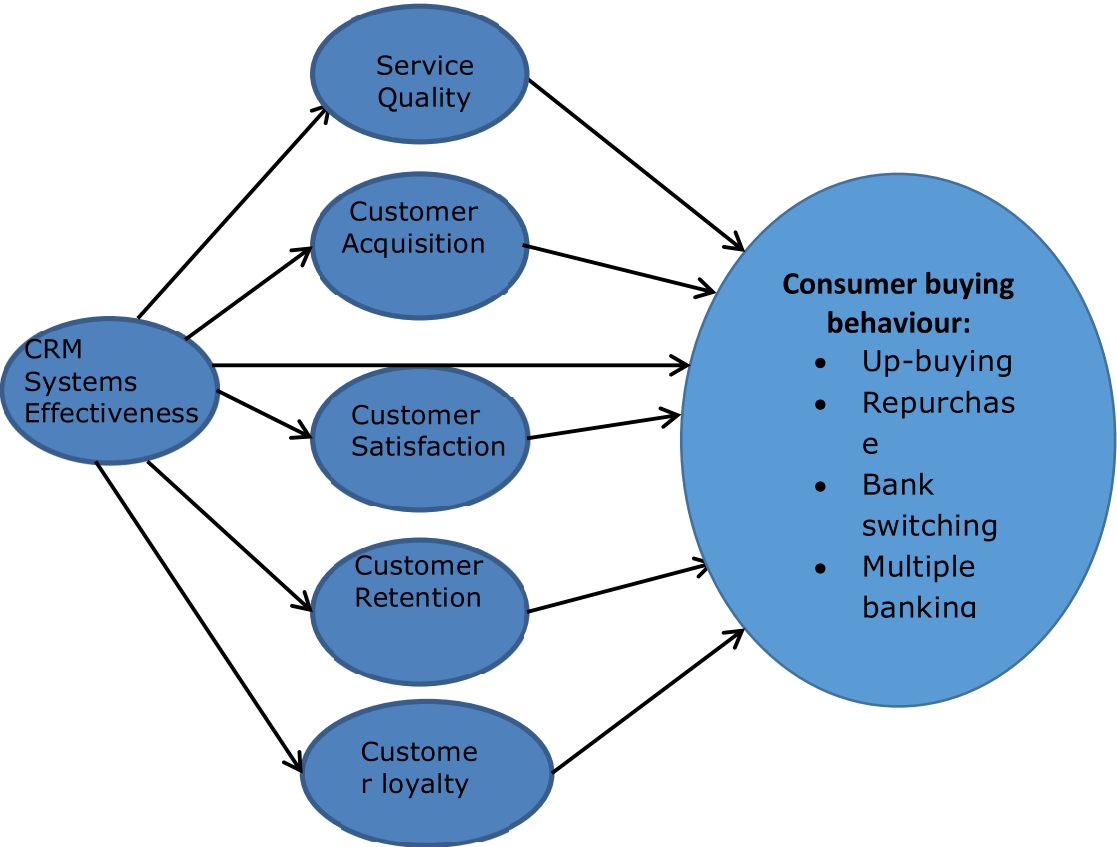
Furthermore, previous studies (e.g. Babatunde and Ajayi 2010; Odusina 2014) within the context of the Nigerian banking sector and technology acceptance have identified constant technology downtime as a peculiar issue faced by customers. Hence, it is conceptualised that if available technology channels for bank customers in Nigeria are too regular thereby causing negative perception of technology usage, it likely would not have a significant association with the CRM system. However, the inclusion of this factor in the model in addition with the other CRM system dimensions, will help explain the nature of the CRM systems effect on consumer buying behaviour.

#### **4.5. Research conceptual framework development**

A theoretical framework for any study is the map or travel plan that gives direction as to how the study will be carried out (Sinclair (2007)). It is crucial for the researcher to put into consideration the related theories that underpin the knowledge base of the phenomenon that is

studied. This research aims to evaluate the influence the CRM systems have on consumer buying behaviour in terms of its service quality perception, acquisition, satisfaction, retention, and loyalty. These factors will be measured in line with customers' buying behaviour such as cross-buying, up buying, repurchase, bank switching, multiple banking and word of mouth (referrers). The conceptual framework is developed to describe the relationships that exist between CRM system and the five factors mentioned above as well as the direct and indirect effect of CRM system on consumer buying behaviour as shown in figure 4.3. The constructs included in this framework are based on the extracted variables from the TAM and TPB models and other measuring constructs from existing literature as discussed in sections 4.2 & 4.3. The full model is presented in chapter five.

**Figure 4.3: Research conceptual framework**



Source: Author designed for the study based on Padmavathy et al. (2012) and Ennew and Waite (2007)

#### **4.5.1. Review of selected CRM system benefits as mediating constructs**

According to Kamakura et al. (2005), conducting a study on CRM can be carried out in the direction of the customer lifecycle. These processes include customer acquisition, development and retention. Ansari et al. (2008) posits that customer acquisition develops from the mediums through which customers access the organisation. Kamakura et al. (2003) argued that organisations could enhance value through cross selling. In addition, Ansari and Mela (2003) submit that an organisation can increase customer value by developing customised products that suit their needs.

Virtually all the banks are making attempts to acquire, satisfy and retain customers (Das 2012). They also claim to implement customer-oriented programs that can bring about customer loyalty (Gilaninia and Ghashlagh 2012). They opined that the programs were focused towards customer repurchase agenda than customer loyalty. Arguably, retaining and creating loyal customers is a function of the level of satisfaction they derive from their bank's services and products. What determines customer satisfaction or otherwise is the difference between primary customer expectation and actual performance (Bolton and Drew 1991; Gilaninia 2011). Therefore, it is important that customers are given a worthy and satisfying experience during their buying process. This will bring about positive word-of-mouth (recommendation), satisfaction and retention (Armstrong and Kotler 2009; Cheng et al. 2011). The significance of CRM adoption by banks is to increase adequately long-term customer satisfaction and customer loyalty (Adjei et al. 2009; Armstrong and Kotler 2009; Cheng et al. 2011).

According to Gilaninia and Ghashlagh (2012), customer satisfaction and loyalty is a significant element in a firm's business operation. This is because as stated by Kandampully and Suhartanto (2000), satisfied and loyal customers enhance a firm's profitability, low marketing cost, boost a firm's sales and revenue. In addition to these benefits, a bank with highly satisfied and loyal customers can gain a competitive advantage over its competitors (Ranjbarian and Barabari 2009).



#### **4.5.2. Customer acquisition and CRM process as an inclusion to the study framework (mediating factors)**

For the sake of clarity, mediating and moderating factors are defined before the mediating factors in this study are discussed in the next sub-sections. A mediating factor postulates how or why a specific effect or relationship occurs (Little et al. 2007). It explains the underlying nature of the relationship between dependent variable and the independent variable through the inclusion of mediating factors (MacKinnon 2008). On the other hand, a moderating factor changes the strength of the relationship between dependent and independent variable through its influencing power, which is often regarded as an interaction (Cohen et al. 2013). The moderator may increase or decrease the effect size or change the direction of the specified relationship.

As stated by Alhawari (2012), CRM systems implementation processes take place in most of the developed models of CRM. Park and Kim (2003) developed a dynamic CRM framework that has three stages. They gave the first division as the customer acquisition stage. This explains the stage at which a bank discovers an untapped market (potential customers). These potential customers are believed to be looking for information about a bank or a product by searching through various information mediums. They established that the second stage involved customer retention phase. This is the period where firms attempt to satisfy the customers in order to convert them to the valuable customer that would be loyal to the firm. The last phase is described as the customer expansion stage, via which they opined that firms could achieve through existing customer recommendation, word-of-mouth and effective firm and customer interactions (Alhawari 2012; Park and Kim 2003).

Another framework suggested by Ganapathy et al. (2004) stems from the perspective of visualisation technology divided into parts of CRM to include customer attraction, customer acquisition and customer analysis. They are of the view that firms need first to attract customers through their products and services offerings and various channels of promotional campaigns. Thereafter, firms can initiate

marketing strategies to acquire the customers. In a contrary view to Park and Kim (2003) model, Ganapathy et al. (2004) argued that the third stage is rather involved with analysis of customer data so as to have a good knowledge about customers' buying behaviour. This will help in the segmentation of customers accordingly. Other studies on the CRM process include Berndt et al. (2005) whose stages of CRM process are acquisition, retention and profitability.

From the above, it can be argued that satisfying existing customers is conspicuously important for attracting potential and prospective customers, customer acquisition, retention and loyalty. Hence, the process of attracting, acquiring, satisfying and retaining customers is fundamentally of a prime value for firms (Alhawari (2012). In addition, customer behaviour from a CRM perspective has been confirmed by various researchers (Aspinall et al. 2001; Fitzgibbon and White 2005; Kim et al. 2003; Mithas et al. 2005; Reinartz and Kumar 2002; Seeman and O'Hara 2006; Winer 2001) to improve customer satisfaction, retention and loyalty.

Based on the consumer behaviour theoretical models and reviewed literature on both CRM and consumer behaviour, a conceptual framework is developed as a basis to examine and measure the relationship between CRM system and consumer buying behaviour (cross-buying, up buying, repurchase, bank switching, multiple banking and word-of-mouth) in the Nigerian retail banking industry. The next sections present discussions on each of the study constructs.

#### **4.5.3. Service quality and E-service quality**

In the present financial institution business practices era, service quality delivery has become an important element that drives the ongoing banks' strategic intention to get customers to have positive perceptions towards their brands (Ang and Buttle 2006; Ulwick and Bettencourt 2008). Service quality has also been said to be a crucial component, which could guarantee any bank's survival (Parasuraman et al. 1985; Zeithaml et al. 1990). The concept of service quality has gained the attention of many researchers in the areas of what defines service quality and the dimensions to measure it (Saghier and Nathan 2013; Zeithaml 2000). Positive perceptions of customers about their

bank's service quality could enhance the relationships between customers and their banks (Somasundaram and Krishnamoorthy 2013; Zeithaml and Bitner 1996). Service quality has been established in previous studies to be customers' attitudinal outcomes that proceed from their expectation from quality of services offered and the actual performance (Cronin and Taylor 1992; Parasuraman et al. 1985). It has also been proven to have an association with customer satisfaction, word of mouth and retention (e.g. Boulding et al. 1993; Caruana 2002; Rust and Zahorik 1993).

Service quality according to Zeithaml and Parasuraman (2004) is the distinction between customers' expectations and perceptions of service delivered. While some define the concept as the total assessment of service as perceived by customers, others see the concept as the extent to which service offered matches customers' expectations (Eshghi et al. 2008; Saghier and Nathan 2013). Agreeing with this notion, Gronroos (2000), described service quality as the excellent service instinctively observed by customers in the course of their interactions with their service firm. In the same manner, Parasuraman et al. (1988) defined service quality to mean an individual customer's opinion on general superiority attributed to a service received. Therefore, the experience that customers encounter during the process of service delivery, which includes the medium of the delivery determines customer perception and their evaluation of service quality (Parasuraman et al. 1988). Service as observed by Asubonteng et al. (1996) is believed to have quality attributes when it is constantly in accordance with the expectations of customers, which Parasuraman et al. (1985) claimed to be the measure of delivered services versus anticipated service outcome. Service quality is among the main determinants of successful application of technology in business (Yang 2001; Yang et al. 2004). Hence, the results of customer perceptions during the use of technology enabled channels offered by the banks, as mediums of service delivery could be a strong determinant of usage and buying behaviour.

Service quality has been widely assessed in previous research using Parasuraman et al. (1988). The authors developed five dimensions on the basis of which the concept has been measured and upon which a further framework is formulated. These dimensions are

reliability, tangibility, empathy, responsiveness and assurance. SERVQUAL has been used to assess service quality studies relating to the information system and e-commerce system (e.g. Carr 2002, Jiang et al. 2002; Kim and Lee 2002). While service quality based on these dimensions has been largely adopted in various industries such as the banking sectors (Caruana 2002; Herrington and Weaven 2008), because banking service delivery operation has shifted tremendously from traditional banking to technology based service delivery system, SERVQUAL has been adjudged by some authors not to be adequate or accurate for measuring e-service delivery channels. Mainly, the criticism is based on the fact that a technology-based service delivery approach differs from a traditional customer service method (Li et al. 2002). Hence, E-SERVQUAL among other models has been developed (Parasuraman et al. 2005; Santos 2003).

E-service quality emerged out of the rise in usage of technology based service delivery mediums as interaction platforms between customers and their banks. It is defined as the total judgment and assessment of customers about the quality and service delivery through virtual platforms (Santos 2003). Following the traditional SERVQUAL measurement developed by Parasuraman et al. (1988), table 4.1 presents the various E-SERVQUAL measurements approaches that have been developed by different authors from the perspective of online service delivery and e-service delivery (technology-based). Although there are arguments from different authors regarding the nature of study that should use either SERVQUAL or ESERVQUAL, studies carried out in different contexts such as e-servicing, online retail, online shopping, and online financial services took either or combinations of the traditional SERQAUL and E-SERVQUAL dimensions (Li and Suomi 2009).

**Table 4.1: A summary of reviewed dimensions of e-service quality**

Author (s)	Dimensions	Context
Dabholkar (1996)	Website design, reliability, delivery, ease of use enjoyment and control	E-service
Zeithaml et al. (2000)	Efficiency, reliability, fulfillment, privacy, responsiveness, compensation and contact	Online retailing
Yoo and Douthu	Ease of use, aesthetics design, processing speed and security	Online retailing

(2001)		
Cox and Dale (2001)	Website appearance, communication, accessibility, credibility, understanding and availability	Inline retailing
Jun and Cai (2001)	Website design, information, ease of use, access, courtesy, responsiveness and reliability	Online banking
Yang (2001)	Website design, security and information	Online retailing
Wolfenbarger and Gilly (2002)	Website design, reliability, security and customer service	Online shopping sites
Zeithaml et al. (2002)	Security, communication, reliability, responsiveness and delivery	E-service
Madu and Madu (2002)	Performance, features, structure, aesthetics, reliability, serviceability, security and system integrity, trust, responsiveness, service differentiation and customization, web store police, reputation, assurance and empathy	E-service
Loiacono et al. (2002)	Information, interactivity, trust, response time, website design, intuitiveness, flow, innovativeness, integrated communication, business process and sustainability	Online retailing
Aladwania and Palvia (2002)	Technical adequacy, specific content, content quality and web appearance	Online retailing
Yang and Jun (2002)	Website design, security, reliability, responsiveness, accessibility and customisation	Online retailing
Surjadaja et al. (2003)	Security, interaction, responsiveness, information, reliability, delivery and customisation	E-service
Santos (2003)	Ease of use, appearance, linkage, structure, content, efficiency, reliability, communication, security, incentive and customer support	E-service
Yang et al. (2004)	Reliability, responsiveness, competence, ease of use, security and product portfolio	Online shopping sites
Field et al. (2004)	Website design, reliability, security and customer service	E-service
Yang and Fang (2004)	Responsiveness, reliability, credibility, competence, access, courtesy, communication, information, responsiveness and web design	Eservice
Field et al. (2004)	Web appearance, entertainment, information, transaction capability, responsiveness and trust	Online retailing
Gounaris et al. (2005)	Website design, information, trust, responsiveness and reputation	Online retailing
Parasuraman et al. (2005)	Efficiency, availability, fulfillment, privacy, responsiveness, compensation and contact	E-service
Lee and Lin (2005)	Website design, reliability, responsiveness, trust and personalisation	Online retailing
Kim et al. (2006)	Efficiency, fulfillment, system availability, privacy, responsiveness, compensation, contact, information and graphic style	Online retailing
Fassnacht and Koese (2006)	Graphic quality, layout, attractiveness of selection, information, ease of use, technical quality, reliability, functional benefits and emotional benefit	E-service
Bauer et al. (2006)	Responsiveness, website design, reliability, security/privacy and customer service	E-service
Cristobal et al. (2007)	Web design, customer service, assurance and order management	E-service
Sohn and	Trust, speed of delivery, reliability, ease of use,	Online

Tadisina (2008)	customized communication, website content and functionality	financial service
Chang et al. (2009)	Customer perceived value, customer satisfaction, reliability, responsiveness, competence, accessibility, courtesy and communication	E-service
Sutarso and Suharmadi (2011)	Credibility, security, understanding, tangibility, convenience, information accuracy, functionality, accuracy and product	E-service
Zhang et al. (2014)	Security, functionality, accuracy, product completeness, failure prevention, failure recovery and service guarantee	E-service
Agrawal et al. (2014)	Reliability, responsiveness, ease of use, personalisation, security and trust, website aesthetic, efficiency and contact	E-service

Source: Author updated based on Li and Suomi (2009 pp. 2-4)

Subsequent to the development of E-service quality, other authors (Table 4.1) have made arguments that both counter and support the concept with the introduction of one or two more variables. Contending that the variables in E-service quality is not sufficient enough and it is not an accurate measure of other forms of technology based service delivery channels. An example of these are WEB-QUAL for website service quality, which considered dimensions such as information fit to ask, interaction, trust, response time, intuitiveness, visual appeal, innovativeness, flow, integrated communication, business process and substitutability (Loiacono et al. 2002; Yang et al. 2005) and SITE-QUAL by Yoo and Donthu (2001) with variables focusing specifically on website usage and features measured through ease of use, aesthetics design, processing speed and security. It is important to note that each service quality measurement dimension developed is based on the measurements of the traditional SERVQUAL. Moreover, all the subsequently developed models include at least two of the original SERVQUAL dimensions, responsiveness and reliability in particular.

It is obvious from the different ideological approaches on the dimensions of quality of service offered that the adoption of any of the dimensions would be dependent on the context of the study in question, the extent to which service quality is to be measured and the position of service quality as a construct in the research model. Although the current study is involved with service delivery that is technology based, the various technology-enabled channels considered in this study have an element of human involvement. This research philosophy is such that although bank customers could complete a transaction entirely without having any form of interaction with an

employee, some of the platforms operate such that there is need to interact with the employees. For instance, transactions performed through call centres, telephone banking and interfaces that handle customers' complaints. Additionally, the current research did not hypothesise to measure the effect of service quality on CRM systems, except to use service quality as a mediating factor (being one of the identified benefits of CRM system). Furthermore, various authors have satisfactorily studied the effect of service quality on CRM, customer loyalty, satisfaction, including in a Nigerian context (e.g. Habidin et al. 2015; Ogunnaike 2010; Osotimehin et al. 2015; Rizka 2013; Somasundaram and Krishnamoorthy 2013). Notably, Wahab et al. (2010) investigated the association between service quality and ease of use on CRM performance. The study revealed that service quality has a significant positive effect on CRM performance. Therefore, this study has applied the five dimensions of service quality developed by Parasuraman et al. (1985, 1988). The dimensions are presented in table 4.2. The scales used in this research to measure this construct are based on the validated scales on each of the dimensions and not the 22 scales (See section 5.2.3.1/5.3.1). Examples of previous studies that have applied service quality in this manner using single scales include Habidin et al. (2015), Lewis and Soureli (2006); Ogunnaike (2010; Parasuraman et al. (1991), Taylor and Baker (1994) and Yang (2001). Similarly, Ranaweera and Neely (2003) used one statement to represent each of the service quality factors based on Cronin et al. (2000) and Parasuraman et al. (1985).

**Table 4.2: Traditional service quality measurements**

Service quality dimensions	Explanation
Reliability	Reliability is the extent to which the service provider can perform the service dependably and accurately. This dimension is important for clients using banking, transport and delivery services, for example, motor vehicle repair services.
Responsiveness	The willingness to help clients and to provide prompt service refers to the responsiveness dimension of a service provider. This dimension is particularly important when clients have requests, questions, complaints and problems surrounding the service.
Assurance	Assurance refers to employees' knowledge and courtesy and the service's ability to inspire trust and confidence in the clients. Specifically, assurance is prevalent for clients of health, financial and legal services.
Empathy	The caring, individualised attention from a service provider to its clients refers to its empathy. Clients of service providers, both small and large service firms, require personalised attention.
Tangibles	The tangibles of a service firm include the appearance of the physical facilities, equipment, employees and communication materials. These tangibles project the image of the service firm to clients and are specifically important where the physical presence of the client at the service firm is necessary for the purchasing of the service, for example, at a hotel.

Source: Parasuraman et al. (1988. p. 23).

Owing to the fact that human presence (employee) has not been entirely removed from the use of technology to service the customer, this study rationalised reliability in terms of how customers perceived the various CRM enabled channels to be reliably available when needed with little or no break down, responsiveness relates to how the customer perceived service received by all means to be prompt including transaction requests and complaints handling, assurance in terms of the customer being assured that the provided channels are secured, trustworthy and any resulting issues are re-assuredly resolved. This is particularly the reality in the Nigerian banking sector as customers almost on a daily basis encounter an issue such as trapped debit cards, trapped cash in the ATM and debit to customer account without receiving cash among others (Okafor and Ezeani



2012; Tijani and Ilugbemi 2015). This requires an interaction with the bank's staff for reconciliation. Hence, the employee needs to be equipped with adequate service knowledge and customer assurance ability to empathise with the affected customers individually. Tangibility is referred to as how the customers perceived the various technology channels to be visually appealing. The nature of this customer service delivery explains the notion of self-service, which implies that customers do not have a direct point of contact with a bank employee when carrying out financial transactions (Khanna and Gupta 2015). According to Meuter et al. (2000), technology based self service channels is classified in terms of technology interface.

#### **4.5.4. Customer acquisition**

In the last decade, many researchers have claimed that a firm's worth and its anticipated prospects can be comprehended by evaluating its customer base (Blattberg and Deighton 1996; Gupta and Lehmann 2003; Rust et al. 2000). As argued by Bolton and Tarasi (2007), acquiring the customer is the first step in the right direction to build a customer base. Customer acquisition has turned out to be one of the prevailing bones of contention in every business industry (Alhawari 2012). This arguably is traceable to the benefits anticipated by practising the strategy of customer acquisition by firms.

It can be argued that the increased awareness of customer acquisition is linked to the performance of the organisations (Kamakura et al. 2005; Payne 2005). According to and Payne (2005), acquiring new customers by banks is important because it allows banks to expand their customer base and boost their profit level. Apparently, this inclination expanded by the sudden advance in CRM development and its adoption by organisations (Alhawari 2012; Stefanou et al. 2003). Based on the argument above, acquiring new customers has turned out to be an avenue for organisations to intensify their level of competitive advantages in their business environment. According to Alhawari (2012) this has resulted in organisations realising the need to begin to recognise and identify the significance of having knowledge about their customers. This will potentially help organisations to improve how to provide services and

online information services considering the dynamic and continued change in their internal and external business environment.

Additionally, customer acquisition relates to defining what the needs of customers are and achieving their needs so as to obtain new customers. In other ways, customer acquisition can arise if an organisation identifies un-market consumers or a newly identified consumer segment (Alhawari 2012; Ganapathy 2004; Park and Kim 2003). Furthermore, banks would adopt the customer acquisition strategy if they find the need to generate new customers for newly developed products or services (Berndt et al. 2005). In this instance, banks need to bring about customer acquisition strategies to entice potential customers. The process of new customer acquisition takes place in different dimensions and through a variety of routes. These include: television adverts, direct mail, the internet, telemarketing and mass marketing (Ang and Buttle 2006; Kamakura et al. 2005). Some researchers have carried out studies to assess the effectiveness of the different means of customer acquisition approaches and their subsequent impact on customer behaviours (Bolton et al. 2004; Thomas 2001; Verhoef and Donkers 2005). An example of this is Bolton (2004) who posits that customers won through the medium of channels using price, as the convincing factor are often less loyal.

The classic behavioural models of consumer adoption which stem from customer needs recognition, information search, purchase to post-purchase service according to Blattberg et al. (2008) are valuable in understanding the impact of multi-channel customer acquisition approach. This is because some channels are more suitable for searching for information while some are more suitable for purchase or service. Hence, Blattberg et al. (2008) suggest that companies adopting the customer acquisition strategy in a multi-channel situation need to put into consideration the relationship and interplay between the different acquisition channels. Although, just as the adoption of CRM system is expensive, so is a customer acquisition strategy. Consequently, it is imperative that banks make sure that the strategy they employ is successful (Datamonitor 2012). For instance, some of the great examples of acquisition strategies banks can use are brand strategy, product innovation and service delivery excellence. These according to Datamonitor (2012) are the three main methods

used by the UK's largest banks to develop a comprehensive acquisition strategy. Likewise, the report of Datamonitor best practice customer acquisition showed that mobile banking service is an essential differentiating factor and has an effect on customer decisions.

By and large, the rationale behind the acquisition of customer is to generate new customer that will become profitable (Kamakura et al. 2005; Payne and Frow 2005). The acquired customer management process has been argued to involve the framework of customer life cycle. This includes customer acquisition, customer development and customer retention (Kamakura et al. 2005; Malik 2009). Arguably, CRM is recognised in the present banking era to be widely employed by organisations including banks, to help handle customer information management (Malik 2009; Stanley 2012; Swift 2001). This is believed to enhance the banks' ability to use customer data in customer segmentation and gaining understanding regarding their buying behaviour. Essentially, this has been argued mostly from the banks' side rather than the customer because it is imperative to draw on the understanding of how the banks plan to acquire new customers.

#### **4.5.4.1. Customer acquisition process**

The firms that operate in the banking industry practically sell the same varieties of products and services with different brand names. This implies that the firms share and compete to gain the same set of customers and their various segments. Based on this, the fierce competition in the industry has compelled the firms to contend on customer acquisition (Alhawari 2012; Ganapathy et al. 2004).

**Table 4.3: Classification of customer acquisition process**

<b>Main dimension/ customer acquisition</b>	<b>Sub dimension/ Parts of process</b>	<b>References</b>
Customer Acquisition Process	Customer Relation	Ganapathy et al. (2004); Alryalat and Alhawari (2008).
	Customer Attraction	Winer, (2001); Ganapathy et al. (2004); Body and Limayem, (2004).
	Customer Knowledge Capture	Parikh, (2001); Deng and Yu, (2006); Bouthillier and Shearer (2002).
	Customer Data Analysis	Winer (2001); Ganapathy (2004).

Source: Alhawari (2012 p. 5).

As mentioned earlier, an organisation that can launch and grow its customer acquisition level has the potential to expand and maintain a competitive advantage (Payne, 2005; Alhawari 2012). As advocated by Alhawari (2012), the process of acquiring new customers as evidenced in table 4.3 takes four sub-stages. These sub-stages are further explained below.

#### **4.5.4.2. Customer relation**

This stage of the customer acquisition process is the initiating period. It relates to how organisations connect, engage and communicate with their existing and prospective customers. The reason for this stage stems from the advantage of knowing how to deal with the customers. Also, because different customer segments have their peculiarity, this phase is where organisations devise the method suitable for different customers (Ganapathy 2004). Alryalat and Alhawari (2008) argue that many banks do not take cognisance of the imperativeness of customer relations in their acquisition strategy and as such have failed in their customer acquisition process. Similarly, Alhawari (2012) pointed out that organisations that involves customer relations in their acquisition process will be able to picture out the level of relationship between the firm and its customers. A good knowledge of the customer will enable the firm to know what the customers need and how best to meet their

needs. This can be in terms of developing a new product tailored towards a particular segment or suggesting an existing suitable product or service to their current and prospective customers. This phase is referred to as customer identification by some authors (Kracklauer et al. 2004; Ngai et al. 2009; Woo et al. 2005).

#### **4.5.4.3. Customer attraction**

Having engaged with the customers and knowing about their specific needs, this phase entails organisations devising and performing marketing activities that will capture customer attention. Organisations at this stage can focus their efforts and resources on attracting the identified customer segments (Ngai et al. 2009). Furthermore, in attracting customers, marketing approaches like direct marketing and mass marketing through TV, radio, advertisement can be used (Liao and Chen 2004; Prinzie and Poel 2005; Winer 2001). Customers are attracted to a company from the point when they visit company's website for information and their products and services (Ganapathy et al. 2004). Based on this, Alhawari (2012) posits that for banks to meet their customers' needs, it is crucial that they are aware of their expectations.

#### **4.5.4.4. Customer knowledge capture**

This is the phase in the customer acquisition process where organisations find out a great deal of information about customers. Customer knowledge is defined by Rowley (2002) as the knowledge about the customer that consists of potential information about the customer, customer segments, individual customers and the knowledge of the organisation that the customers have. According to Parikh (2001), organisations need to make a concerted effort to perceive, search and define pertinent knowledge to capture about customers. This phase enables organisations to gather and represent customer information and knowledge into computer usable format (Deng and Yu 2006).

#### **4.5.4.5. Analysis of customer data**

This is the final stage of the customer acquisition process where customer data obtained through different sources by the organisation is analysed. This enhances an organisations' ability to fathom out customers' different behaviours as well as what attracts and interests the customers. The customer database is analysed with the intention of establishing a different set of customer segments. An example of how this can be done is by using a cluster method suggested by Winer (2001). Hence, analysis of customer is carried out to help the company develop an advanced understanding of their customer buying behaviour, activities and patronage pattern (Ganapathy et al. 2004).

#### **4.5.4.6. Customer acquisition metrics**

Blattberg et al. (2001 p. 57) recommended the following metrics for customers at the acquisition stage:

- Number of newly acquired customers vs. goals
- Acquisition rate (acquired vs. targeted)
- Cost of acquiring vs. projected retention and add-on revenues
- Total investment in new customer vs. other investment
- Ratio of acquisition cost to customer equity in the first period after acquisition
- Total new customer investment as a percentage of sales and profits
- The net present value (lifetime value) of a new customer

After a customer has established purchasing history with the bank, then customer-focused data is used to:

- Determine customer retention and defection rates
- Identify opportunities for add-on selling
- Understand and evaluate response rate of marketing programs
- Track and analyse customer buying patterns

- Measure the actual economic value of the customer
- Forecast and manage future customer behaviour
- Develop more effective customer focused strategies (Blattberg et al. 2001 p. 58).

As it can be deduced from this section, customer acquisition literature tends to extend predominantly from the company's view. But as it is in reality, the problem of customer acquisition is a challenge faced by the banks and not of the customers. However, customer acquisition from the customer's perspective if re-defined in a reverse manner would, be the willingness of a prospective customer to buy a product or service of a bank (i.e. selecting a bank) resulting from his or her attraction or perception of the bank's available technology enabled channels. Therefore, this study intends to establish from the customer's point of view, whether the acceptance and use of technology-based platforms to perform banking transaction influences their choice of bank when opening a bank account or buying other products and services of the bank.

#### **4.5.5. Customer satisfaction**

According to Churchill and Suprenant (1982) and Giese and Cote (2000), the customer satisfaction definition has been debated without agreeing on a commonly accepted one. Notwithstanding, scholars consent that customer satisfaction concept indicates that fulfilling customer desire is a necessary condition (Molina et al. 2007). Customer satisfaction is widely acknowledged among researchers as a strong consumer behavioural variable indicator (Liljander and Strandvik 1995; Ravald and Gronroos 1994). From a broad view according to Boulding et al. (1993), customer satisfaction is conceptualised into at least two, which are: transaction-specific and cumulative.

Various authors (e.g. Oliver 1997; Peterson and Wilson 1992; Spreng et al. 1996; Yi and Zeithaml 1990) have described customer satisfaction in different ways. Customer satisfaction relates to the perception customers have about a firm's service quality (Blanchard and Galloway 1994; Heskett et al. 1994). Khan (2012)

stated that satisfaction could be achieved out of consumer expectations. Gerport et al. (2001) opined that the degree of customer satisfaction a firm can attain depends on the rate of their supplies that meet customers' demand and expectations. Based on the studies of Anderson et al. (1994) and Crosby et al. (1990), Verhoef (2003 p. 33) defined satisfaction as "the emotional state that occurs as a result of a customer's interactions with the firm over time". While Bagram and Khan (2012) see satisfaction as a component that leads to the fulfilment of customer's needs more delightfully over a firm's competitors.

Findings from literature have indicated that customer satisfaction is a strong determinant of customer future buying behaviour, retention and loyalty (Anderson and Mittal 2000; Mittal et al. 1998; Zeithaml et al. 1996). This concurs with the assertion of Guo, et al. (2009) that customer satisfaction is the essential bedrock through which a firm can retain present customers. Arguably, dissatisfied customers would not be retainable by a bank and would not be loyal (Lin and Wu 2011). On a positive note, Auh and Johnson (2005) posited that a significant relationship exists between customer satisfaction and loyalty. This agrees with the opinion of Bodet (2008) that there is a positive link between customer satisfaction and loyalty. Other researchers who admitted that customer satisfaction has an effect on retention and loyalty include Kim et al. (2007); Shankar et al. (2003); Vesel and Zabkar (2009). Similarly, studies have found that a strong relationship exists between customer satisfaction and customer future buying patterns and intentions such as retention and profit level (Anderson and Sullivan 1993; Boulding et al. 1993; Mithas et al. 2005; Payne and Frow 2006; Seeman and O'Hara, 2006; Yi and Zeithaml 1990).

Furthermore, according to Wang et al. (2004), customers with high levels of satisfaction and loyalty will not defect from the company's products. This can be illustrated with the study of Reichheld and Teal (1996), which revealed that a 5 percent increase in customer retention could have between 30 -95 percent consequences on customer net present value as well as a similar effect on profit. In the same way, Wang et al. (2004) and Bolton (1998) substantiated that satisfied customers will exhibit a strong tendency to be loyal,



repurchase and cross buy and up-buy products and services. They argued that this would enhance the company's market share and profit increase hence, helps achieve competitive advantage in the prevailing customer business oriented period. Also, satisfied customers are found to have the tendency to recommend company's products and services by spreading positive word of mouth.

On the relationship between customer satisfaction and retention, scholars (Bloemer and Lemmink 1992; Bloemer and Kasper 1995; Sharma and Patterson 2000; Jones et al. 2000) have established that the connection that exists between them to a reasonable extent is subject to some antecedents. The antecedents they identified include the level of competition, switching cost, (switching barriers), technology ownership and individual customer buying behaviour (characteristics). Furthermore, on customer satisfaction as an antecedent of loyalty Beerli et al. (2004) concluded in their study that, customer satisfaction alongside its switching cost are the major elements that impact loyalty. Some scholars argued that satisfaction is a precedent to service or product quality (Parasuraman et al. 1988; Bitner 1990; Carman 1990). On the other hand, some researchers (Anderson and Sullivan 1993; Fornell 1992; Oliva et al. 1992; Spreng and Mackoy 1996) hold a contrary view that service or product quality is the antecedent of customer satisfaction.

#### **4.5.5.1. Customer satisfaction components**

Based on the fact that there is no unanimous definition of customer satisfaction, Oliver (1997 p. 13/2014 p. 7) asserts that "everyone knows what satisfaction is until asked to give a definition, then it seems nobody knows". From this argument, Giese and Cote (2000 p. 2) identified in their work on the definition of customer satisfaction the three fundamental components of satisfaction. These elements are described below as:

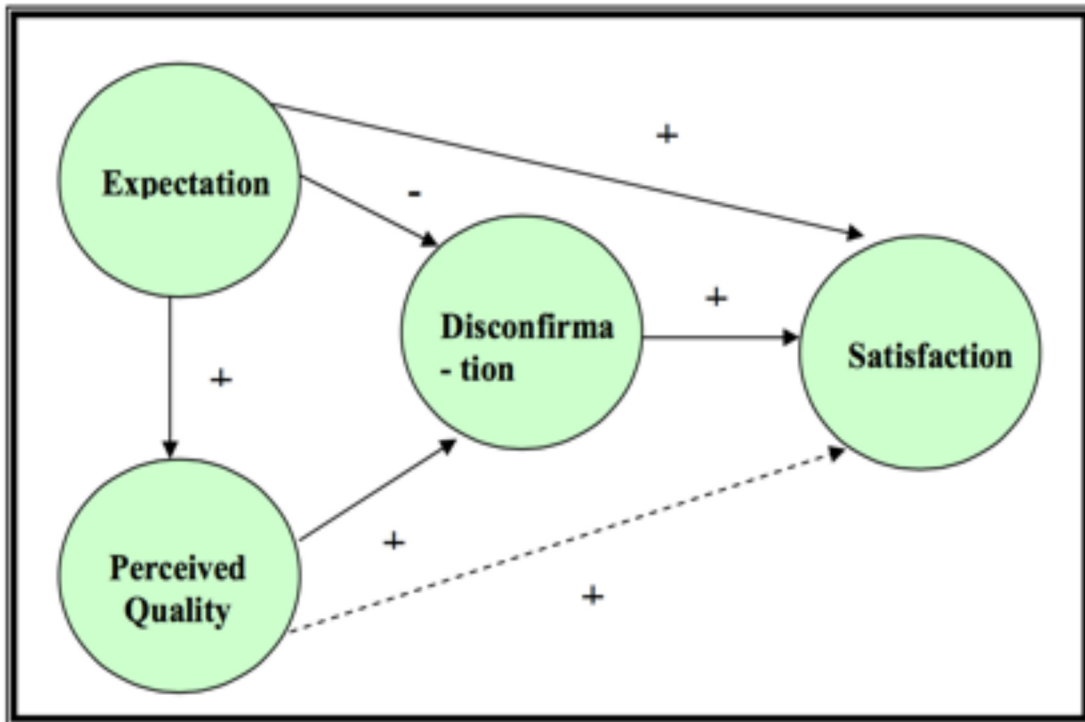
- Customer satisfaction as a response. They suggested that customer satisfaction involves emotional or cognitive process. Their research findings revealed that satisfaction has a summarised effective response with varied intensity.

- The response relates to a specific focal point such as customers' expectations, products or services, consumption experience among others.
- The response takes place during a specific period that can be after consumption, after the decision has been made and after customer experience has taken place.

#### **4.5.5.2. Customer satisfaction development**

Several satisfaction models such as Perceived Performance Model, Norms Models, Multiple Process Models have been developed over time but the Expectation Disconfirmation model has gained dominance in satisfaction studies (Hom 2000; Mattila and O'Neill 2003). The model embraced the buying attitude formation process of customers, by comparing post-consumptions experience with pre-consumptions experience towards products and services, through which perception of satisfaction or dissatisfaction in a brand is formulated (Hom 2000). Based on the premise of this theory as depicted in figure 4.4 comprising four constructs (expectation, performance, dissatisfaction and satisfaction), satisfaction is argued to be the differences that occur through the size and direction of disconfirmation, which exist between products and service usage performance and customers' expectation (Churchill and Suprenant 1982; Ekinci et al. 2004; Jiang et al. 2012; Mattila and O'Neill 2003). This implies that satisfaction is a direct function of how service is delivered to the customers, which is considered more vital compared to the service outcome. On this note, Mattila and O'Neill (2003) stated that customer interaction with products and service that does not meet their expectation result in dissatisfaction experience.

**Figure 4.4: The Disconfirmation Model of consumer satisfaction**



Source: Anderson and Sullivan (1993 p. 127) and Oliver (1997) based on Churchill and Suprenant (1982)

By the understanding of this model and the perceptions of CRM systems by customers as discussed in sections 2.18/4.4, bank customers' expectation from technology-based platforms are determinants of the nature of their attitude outcomes. These determinants within the scope of information system as postulated by DeLone and McLean (2003) are:

- Information quality
- System quality
- Service quality

When customers use a CRM system with these expectations in mind, they will make use of the factors during the interaction and the outcome could either lead to the satisfaction or otherwise. With respect to the current study, bank customer will be satisfied if they ultimately perceived CRM systems usage to be come with information, system and service quality.

#### **4.5.6. Customer retention**

Following differently conceptualised meaning of customer retention, the concept is described to be a major motive for banks that engage in relationship marketing (Ang and Buttle 2006; Coviello et al. 2002; Grönroos 1991). Many researchers have defined customer retention from various views (Khan 2012). Gerpott, et al. (2001) defined customer retention to mean the existence of a business relationship between a firm and customer for a considerable long period. Lin and Wu (2011) argued that a quality relationship between customer and a service provider will lead to quality retention. According to Ahmad and Buttle, (2001 p. 33), customer retention can be seen as the “mirror image of customer defection, where a high retention rate has the same significance as a low defection rate”. Invariably, it can be inferred that a satisfied customer would remain with his/her financial service provider (bank). Therefore, a bank with a high customer retention rate will benefit from increased market share, profit growth, repurchase, cross-buying/up buying and above all, loyalty.

It is believed that retaining an existing customer is a lot more cost effective as opposed to getting new customers. Thus, when a bank experiences a loss of customers to competitors, the bank will be faced with a decrease in revenue, new customer acquisition investment, decrease in market share, profit level and especially a loss of competitive advantage (Dyché 2002). Though the exact definition and measurement of customer retention may vary across industries and firms (Aspinall et al. 2001), general consensus indicates that effective customer retention will lead to many economic benefits (Buttle 2004; Reichheld 1996). The longer a customer remains in a buying relationship with a bank, the higher the level of patronage (repurchase, cross/up buying), rise in revenue, increase in customer referral through positive word of mouth (Ang and Buttle 2006). The authors argued that customer retention would also reduce customer relationship cost. In this vein, Lindgreen et al. (2000) posits that it is rather ten times costlier to gain a new customer than to retain existing one. This assertion goes in line with Kotler (2003) who stated that it costs about five times more to acquire a new customer than to satisfy and retain existing customers.

Retaining valuable customers, according to Aspinall et al. (2001) and Payne and Frow (2005) is believed to be an important area while studying consumer behaviour and relationship management. The concept of customer retention has been established to be an essential target by organisations that incorporate CRM system into their bank-customer relationship business processes (Coviello et al. 2002; Grönroos 1991). Although Aspinall et al. (2001) opined that different firms employ various parameters to measure retention, firms that give attention to customer retention can attain many economic benefits (Buttle 2004; Reichheld 1996).

#### **4.5.6.1. Relationship between customer retention and loyalty**

Many researchers (Kocoglu and Kirmaci 2012; Mohsan et al. 2011;) have carried out studies to analyse the connections that exist between retained customers and their loyalty. While some of the authors established that there is a significant relationship between the two constructs, some authors' findings disagree, as they revealed a negative relationship existed between them (Khan 2012). Patterson (2004) conducted a study on a contingency model of behavioural intention in service context considering retention and loyalty of customer as constructs. His study revealed that though there is a relationship between customer retention and customer loyalty, however, this link depends on factors such as switching cost, setup cost, psychological cost and economical cost. These factors were identified as switching barrier elements (Burnham et al. 2003; Jackson 1985; Guiltan, 1989).

Similarly, findings from the study of Wang et al. (2010) showed that a firm that has an established exceptional relationship with their customers would have a significant effect on its customer loyalty. Researchers such as Bolton et al. (2000), Hallowell (1996) and Rust and Zahorik (1993) found that customer retention has a positive relationship with customer loyalty. On the contrary, findings from the study of Smith and Chang (2009) submitted that there is no connection between customer retention and customer loyalty regarding shareholders' value.

#### **4.5.7. Customer loyalty**

According to Beerli et al. (2004), customer loyalty broadly has been seen as the frequency of customer repeat purchase behaviour of the same brand. A more comprehensive definition of loyalty from brand view was given by Jacoby and Kyner (1973 p. 2). They categorised the definition into six conditions which explains that loyalty is (1) the biased (i.e. non-random), (2) behavioural response (i.e. purchase), (3) expressed over time (4) by some decision-making unit (5) with respect to one or more alternative brands out of a set of such brands and (6) is a function of psychological (decision-making, evaluative) processes. This definition points out that customer loyalty is connected to consumer decision making and buying behaviour through the psychological and cognitive process.

Moreover, Oliver (1999 p. 35) defined customer loyalty as “a deeply held commitment to rebuy or re-patronise a preferred product /service consistently in the future, thereby causing repetitive same brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviour”. It can be inferred from these definitions that when a customer has a good perception of a brand or product with a level of satisfaction that exceeds or at least meets their expectations, regardless of any factors that can influence their buying pattern, they remain glued to that brand in loyalty. Loyalty in this sense could be out of inertia or out of genuine brand loyalty (Dick and Basu 1994; Jacoby and Chestnut 1978; Solomon 1992). This idea concurs with the view of Coyles and Gokey (2002) who categorised loyalty as emotive loyalty, inertial loyalists and deliberate loyalists.

Customer loyalty is also described as the voluntary behaviour of a consumer to buy the same product or service from the same company for a mutually benefiting relationship (Khan 2012; Kim and Yoon 2004). Arguably, when a firm meets or exceeds the need of a customer, the customer will in turn commit to repurchase with the same firm. Customer loyalty has been confirmed by researchers to be a fundamental instrument for firms to gain a competitive advantage in the present market conditions (Lin and Wang 2006). A satisfied customer therefore will be ready to recommend the brand through

word of mouth to family and friends (Khan 2012; Kim and Yoon 2004). Furthermore, Khan (2012) stated that customer loyalty is a crucial factor that can help a firm to grow its sales and revenue. Therefore, a firm that has a goal to be leader in its industry and continue to grow its profitability level will need to take customer loyalty as a focal point for their business growth (Vesel and Zabkar 2009; Chang and Chen 2007). In agreement, Chen and Hu (2010) opined that to gain customer loyalty towards gaining competitive advantage, it is imperative that firms understand customer thinking and buying behaviour.

#### **4.5.7.1. Measuring customer loyalty**

In as much as the importance and benefit of customer loyalty has been established, it is crucial to understanding how customer loyalty can be measured. Some scholars gave some parameters as measuring tools. According to Kim and Yoon (2004), customer loyalty can be measured through customer repurchase intention, how often customers recommend company products or services to users of competitor's products or services and price forbearance. In a similar view, Auh and Johnson (2005) hold that customer loyalty can also be measured by repeated repurchase and price tolerance.

#### **4.6. Discussion of consumer buying behaviour variables**

Earlier studies on consumer buying behaviour in the service industry and particularly, within the financial sector have identified some general forms of buying behavioural attributes, that are common to the banks' customers (e.g. Beckett et al. 2000; Khan 2013; Reinartz et al. 2003; Santos 2000; Verhoef 2001; Wang et al. 2004). Specifically, while Wang et al. (2004) in their investigation of the integrated framework for customer values and customer-relationship management from China perspective, identified three buying behaviour such as cross-buying, repurchase and word of mouth. The authors classified these variables alongside retention as customer behaviour-based CRM, which within the theoretical research framework was the research outcome (dependent variable). Similarly, Reinartz et

al. (2003) measured CRM constructs and its connection to performance outcomes. The authors in their study identified cross and up selling (buying from customer perspective) from the company's point of view as buying behaviour, which form part of the process of customer management.

Moreover, a study by Aher (2014) in the book titled *redefining management and marketing in modern age on the application of information technology towards CRM in banking sector* (Dilip and Bhakkad 2014), noted customer switching in banks as a peculiar buying behaviour. They stated that the customer switched to another bank habitually to access better technology based facilities available in the other banks. Multiple banking as a type of customer buying behaviour has been termed by researchers (Chan 1993; Denton and Chan 1991; Gerrard and Cunningham 1999). Although these various identified customer buying behaviours have been established, no single study has combined them to measure buying behaviour as a construct. In accordance with Wang et al. (2004) based on Blattberg et al. (2001), Reichheld and Teal (1996) and Bettencourt (1997) and Wahab et al. 2009), these variables have been selected as the main buying behaviour indicators, which they regarded as CRM performance indicators. These variables are briefly discussed below.

#### **4.6.1. Repurchase behaviour**

Repurchase is an attitude based buying behavioural outcome that is preceded by loyalty, retention and satisfaction (Chung and Lee 2003). Repurchase is described as the intention of a customer to repeat purchases of the same banks' products and services over a considerably long period (Jesus and Filipe 2012). Repurchase intention is therefore, an individual customer's judgmental attitude about buying a service repeatedly followed by a decision to continuously engage with the same bank as well as the process of the service delivery channels (Hellier et al. 2003; Li and Hong 2013; Zeithaml et al. 1996). Repurchase intention has been investigated by different researchers from various views. Instances include the fundamental impact of CRM/ICT, satisfaction and service quality on repurchase intention (Khan et al. 2015; Winston and Inkumsah 2013; Yu 2007). Service



quality among other variables such as complaints handling and commitment are indicators that prove customer satisfaction to influence repurchase behaviour, being a consequential effect of relationship quality (Ndubisi 2006; Winston and Inkumsah 2013). Invariably, customers repurchase intention is a function of the value or satisfaction achieved from past transactions (Li and Hong 2013; Wathne et al. 2001).

if using CRM enabled channels to perform banking transactions leads to a positive attitudinal intention or experience for the customer, which customers could relate to as perceived superior value, customers would continue the use of the channels as well as continuous repurchase of the bank's services (Mols 1998). Therefore, as averred by Khan et al. (2013) in agreement with the view of Beckett et al. (2000), customers in the present banking service delivery system era, are keener on changing their buying behaviour in the process of selecting banks' products and services. Beckett et al. (2000) stated that the unending deregulation and evolving of technology in the banking industry have brought about high competition, which is having a serious influence on repurchase intention as well as other customer buying behaviour indicators.

#### **4.6.2. Cross/up buying behaviour**

Cross buying as a buying behaviour indicator is customer's view from the concept of cross-selling, which is the act of promotion more of a bank's products and services to current customers adding to the services the existing customer already bought or subscribed to (Ansell et al. 2007; Butera 2000; Maenpaa 2012). Banks' desire to cross-sell, however, can only be achieved if the customers have the willingness to cross-buy (Fan et al. 2011; Maenpaa 2012). According to Ngobo (2004) cross-selling involves customers largely agreed to buy varieties of products and services from a specific bank or service provider. Therefore, many scholars (e.g. Liang and Chen 2009; Ngobo 2004; Soureli et al. 2008; Verhoef et al. 2001) have investigated cross-buying with respect to its association with satisfaction and loyalty. Additionally, Verhoef (2001) defined cross-buying as the purchase of numbers of products and services from the same provider, implying

that cross-buying is a buying behaviour exhibited by customers by purchasing from the same bank (Soureli et al. 2008; Verhoef 2001). Fan et al. (2011) based on existing literature outlined some of the major factors that could influence customers' chances of exhibiting cross-buying behavioural intention. These factors include the image of the bank (Ngobo 2004; Soureli et al. 2008), service convenience (Berry et al. 2002; Liu and Wu 2007; Ngobo 2004), interpersonal relationships (Jeng 2008; Reinartz and Kumar 2003), trust, payment equity, experience, pricing and availability of varieties of products and services (Kumar et al. 2008; Liu and Wu 2007/2008; Soureli et al. 2008) and technology (Jasola and Kapoor 2008).

As noted by Maenpaa (2012) while existing literature on cross-buying has some restrictions regarding banks' services, and its associations with the mentioned antecedents have been well-defined, not all factors influencing customers to cross-buy have been uncovered (Ngobo 2004; Reinartz and Kumar 2003). There is evidence that customers prefer to buy from a single service provider, which is often described as one-stop shopping (Maenpaa 2012; Vyas and Math 2006). Cross buying as a concept has been averred to be more of an outcome of value creation for customers, which could be achieved through multi-channels service delivery platforms (Liu and Wu 2007; Ngobo 2004; Soureli et al. 2008). Although cross-buying has been largely assessed with respect to customer satisfaction and loyalty being the antecedents, some authors' arguments are based upon whether cross-buying should be considered as antecedent or an outcome of behavioural loyalty (Meanpaa 2012; Reinartz 2008). Nonetheless, studies in the banking sector on cross-buying tend to consider it as exhibited buying behavioural outcome of loyalty and retention (Liu and Wu 2007; Meanpaa 2012; Wang et al. 2004).

#### **4.6.3. Bank switching behaviour**

Many scholars have made attempts to define customer-switching behaviour also called customer defection by some authors (e.g. Garland 2002). Given that this concept has been researched and defined with respect to how it applies to various sectors such as, manufacturing or related firms and service provider industries, attempt

is made in this study to provide some definitions of switching behaviour, as it might be relevant to this study to give clear description of the term. Pirzada et al. (2014 p. 135) described customer switching as the act of displaying loyalty to one service provider such as banking services, however a switch in the displayed loyalty may occur from a service provider to another due to consequential effect of dissatisfaction or other associated plights (Keaveney and Parthasarathy 2001; Kura et al. 2012; Sathish et al. 2011). According to Garland (2002), customer defection suggests the customer forsaking his or her primary service provider to buy from another. Other authors defined switching behaviour as a reflection of a decision made by the customer to end buying a certain service or patronising a service providing company entirely (Bolton and Bronkhurst 1995; Boote 1998). Switching behaviour signifies a vigorous process engaged in by customers, which grows over a certain period of time with an outcome of buying relationship termination (Bejou and Palmer 1998; Stewart 1998), replacing the current service provider with another service provider (Bansal and Taylor 1999) and Oyeniya and Abiodun (2010) observed switching behaviour to mean buyers stopping transactional relationship and initiating a new buying relationship with other firms. Drawing from these definitions, it can be inferred that be it a process or a mere decision, it is evident that switching behaviour entails putting an end to a buying relationship with a service provider as a consequence of some factors, which lead to stopping buying products and services and starting buying of the same service from a competing company (Vyas and Raitani 2014).

In identifying factors that could be the causes of switching behaviour from various sector perspective, Keaveney (1995) validated a model that can be generalised in investigating reasons for customer defection. The factors, which could be service or non-service related reasons identified were:

- Pricing
- Inconvenience
- Core service failure
- Response to service failure
- Ethics

- Competition
- Involuntary switching

The outlined factors were based on service sectors such as restaurants, hotels, airlines and travel agents, hence the Keaveney (1995) model and the identified factors are argued not to be completely applicable to the banking sector (Clemes et al. 2010; Keaveney 1995; Mitta and Lasser 1998).

Therefore, from the banking sector perspective, customer switching behaviour studies have investigated other combinations of factors that could influence customer switching behaviour (e.g. Clemes et al. 2010; Colgate and Hedge 2001; Gerrard and Cunningham 2004). While it was acknowledged that the influencing factors on customers' intention or decision to defect are many and complicated, Stewart (1998 p. 8) outlined the following:

- Charges and their implementation
- Facilities and their availability
- Provision of information and confidentiality
- Services issues relating to customer treatment.

Evidently, the factors that are reported from both perspectives consider some common ground. These are regarding service costs, service reliability, service delivery related hitch and reliability of the provision of services. Fundamentally, the common ground deduced largely on service delivery reliability create the justification for the inclusion of technology downtime in the current study.

Other authors who investigated banks' customer switching behaviour uncovered that pricing issues and location inconvenience (Lévesque and McDougall 1996), price, service failure and denied service (Colgate and Hedge 2001), customer commitment, reputation and service quality (Clemes et al. 2010) and Gerrard and Cunningham (2000) study on the Asian banking sector revealed that service failure, pricing and inconvenience are the main factors that influence customers to switch their banks. Considering technology systems as means of service delivery in the banking industry, some authors identified factors such as response to service failure and service products as the

customer switching influencing factors. Service failure regarding response time involves problems arising from the use of technology-enabled channels to carry out banking transactions and handling service failure results from customer interaction with channels such as ATM, online banking among others (Clemes et al. 2007; Vyas and Raitani 2014). On the other hand, service product relates to the use of technology platforms as service delivery channels to speed service delivery time, reduce costs, minimise customer defection rates and create customer self-service platforms (Bitner et al. 2002; Vyas and Raitani 2014). On the contrary, Zhang et al. (2014) noted that a less service technology innovation orientated bank would not be able to deliver services to its customers timely, conveniently and may not be able to offer comparative quality service, which may result in exhibition of switching behaviour by its customers.

#### **4.6.4. Multiple-banking behaviour**

Many authors (Gerrard and Cunningham 1999; Santos and Farinha 2000; Ullah and Shah 2014) have defined multiple banking both from a general banking perspective and from a product specific view. According to Denton and Chan (1991), multiple banking occurs when a customer uses more than one bank in handling his or her financial transactions. On the other hand, a customer is said to display multiple-banking behaviour if he or she uses two or more banks as service providers for the same service (Burnett and Chonko 1981; Yee-Kwong Chan 1993). Similarly, Denton and Chan (1991) stated that customers' behavioural act of using more than one bank implies employing multiple banks to handle their personal banking affairs. In line with these definitions and that of Gerrard and Cunningham (1999), this study rationalised multiple banking to mean when a customer operates savings or current accounts with two or more banks within the same period.

Although multiple banking has not been exhaustively researched, particularly in Nigeria, it has been empirically established to be a known form of customer buying behaviour in the banking industry (e.g. Burnett and Chonko 1981; Gerrard and Cunningham 1999; Kaynak and Kucukemiroglu 1992). This was also confirmed

during the data collection stage of this research through interviews, confirmation and validation of research constructs (detailed in methodology chapter). A rather recent study by Mokhlis et al. (2009) on bank selection comparing single and multiple bank users in Malaysia found that the buying behaviour of customers who use more than one bank unlike the single bank user, are being influenced by availability of technology-based service delivery channels (e.g. ATM, POS Internet banking), location and convenience, attractiveness, financial benefits and feeling secure.

Customers with multiple buying behaviours have been noted to enjoy some benefits, which include free access to larger number of technology-based facilities such as ATM, accessing varieties of financial services in term of loans and the availability of choices of financial services charges, which could give the customer some bargaining powers and getting better financial service deals, for example, lending rates (Mokhlis et al. 2009; Gerrard and Cunningham 1999). In some countries such as the United Kingdom, some of the benefits have been eroded with the current unfolded possibility of using any bank ATMs without any charges. Notably, the current situation in the Nigerian banking industry is such that customers get charged when they use ATM machines other than that of their financial service provider (a term understood among Nigeria banks as "Remote on us ATM transactions") (Alawiye-Adams and Awoyemi 2014; Mohammed and Dada 2014; Okafor and Ezeani 2012).

#### **4.6.5. Word of mouth behaviour**

The term word of mouth has been defined by various researchers. For instance, Westbrook (1987) defined it as the customers' opinion communicated through unofficially following their experience with the use of a product or service of a firm. Derbaix and Vanhamme (2003) described word of mouth as the most crucial informal method of communication among users of a bank's products and or services. The definition by contextual meaning makes inference to the nature of communication as being informally focused on other potential products or services users about the ownership, certain products and services features and the seller or firm (Shirsavar et al. 2012). Similarly,

according to Lovelock and Wright (2002), word of mouth is a positive or negative feedback as an outcome of a customer's encounter or engagement with a bank's services or the channels through which the services are offered, transferred to other people. Positive word of mouth is defined as an oral or written recommendation given by a satisfied service user to a prospective user or consumer of certain goods and services (Keiningham et al. 2007).

Based on its importance as an influence within the marketing field, word of mouth is regarded as one out of the several elements that influence customers' perception of quality service and service delivery channels (Mohammad and Al-Tarawneh 2014). Although word of mouth has a particular weight being an information source, especially if it is not biased, however, because word of mouth could be positive or negative and the information carriers are not paid, companies need to exercise caution as the information passed is strictly based on customer's personal experience (Mohammad and Al-Tarawneh 2014; Zeithmal et al. 2006). With respect to technology adoption and usage in the banking industry, achieving the positive word of mouth is key to increasing its usage and gaining customers' confidence. This claim is affirmed by the opinion of Murray (1991) quoted in (Mohammad and Al-Tarawneh 2014 p. 73) that "customers rely on word of mouth communication to reduce the perceived level of risk and uncertainty associated with the purchasing decisions of the product".

Word of mouth having been identified as a form of customer behaviour (Wang et al. 2004), it is one of the major customer buying and technology channels usage decision-making influence. Particularly in the service buying decisions, which assist in fast-tracking customer adoption cycle, improved speed of acceptance or rejection and indicates buying intention (Lampert and Rosenberg 1975; Martinez and Polo 1996; Barrot et al. 2013). Word of mouth as a buying behaviour has been established to benefit service provider in term of its merits as a strong and effective marketing platform for customers starting from the first phase of product and service information generation through services and technology channels/provider selection and post purchase (Gilly et al. 1998; Barrot et al. 2013). This notion agrees with the confirmation established by Thakor and Kumar (2000) that word of

mouth is crucial in the light of customer information search and decision-making process. Interestingly, customers acquired through word of mouth are said to have a high tendency of being loyal to their selected service provider as against conventional marketing and other forms of customer acquisition promotions (Jan et al. 2013; Villanueva et al. 2008).

To a large extent, word of mouth is considered to have an effect on customers' choice of service provider and with respect to their service delivery channels and the consequential post-purchase perceptions that may follow (Bone 1995; Salehnia et al. 2014). As a matter of fact, when the nature of the service involves intangibility and complexity, customer experience with pre-purchase or usage attempt becomes difficult or impossible. This is the case with bank services and technology-based service delivery channels, word of mouth intervening to play an important role (Shirsavar et al. 2012). Other researchers who have confirmed the importance of word of mouth as a customer purchasing behaviour-influencing factor include Chung and Darke (2006), Lee and Youn (2009), Sweeney et al. (2008) etc. Specifically, the study of Wong and Zhou (2006) founded that CRM adoption avails banks of some invaluable benefits in term of their relationships with customers regarding gaining customer loyalty through word of mouth as a source of product and service promotion opportunities.

It is imperative to note that customer's word of mouth could be in form of positive or negative feedbacks and recommendations to friends and family through online channels (e.g. social medial, company's web site). This kind of word of mouth is classified as electronic word of mouth (E-WOM) (Batineh 2015).

In conclusion, the discussed identified customer buying behaviour variables in the preceding sections are regarded as an outcome of CRM system performance. This implies that if all things work well with the adoption and usage of CRM enabled channels as medium of service delivery, up/cross-buying, repurchase, positive bank switching attitude, positive multiple banking attitude and positive word of mouth would be achieved (Wahab et al. 2010; Krasnikov et al. 2009; Wang et al. 2004).



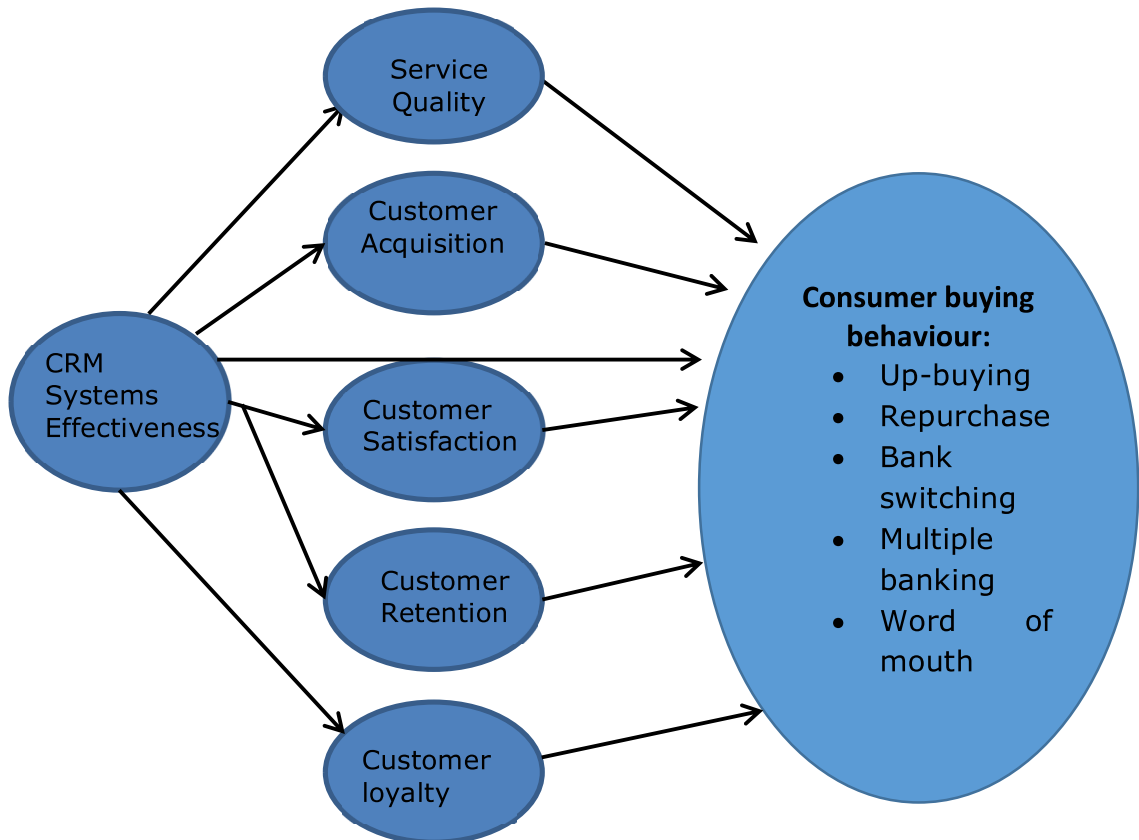
#### **4.7. Research hypotheses development**

The previous sections in this chapter provide the conceptual research framework with some description of the main study constructs. This forms the background used upon which the research hypotheses are developed. The literature reviewed has established that the CRM system is a core business strategy adopted by banks to sustain valuable customer relationships. This involves an inclusive set of banking relationship processes used by banks to interrelate with their customers thus, leading to customer satisfaction, retention and loyalty in the long run (Payne and Frow 2006; Rootman et al. 2011). From the knowledge gained through secondary data, the variables shown in figure 4.5 have been identified as independent, dependent and mediating variables for the empirical study.

Moreover, it is indicated that consumer buying behaviour is a form of buying habit exhibited by customers in the process engaging in a buying relationship with their banks (Kardes et al. 2010 Kotler and Keller 2006). In order to achieve the objectives of the study that link CRM system to consumer buying behaviour, the consumer buying behaviour variables identified as dependent variables for this experiential research as discussed above include cross/up-buying, repurchase, bank switching, multiple banking and word of mouth (Wang et al. 2004).

For ease of reading and reference, the hypothesised model represented as figure 4.5 stipulates consumer-buying behaviour as the dependent variable, CRM system as the independent variable while service quality, customer acquisition, customer satisfaction, customer retention and customer loyalty stand as the intervening or mediating variables.

**Figure 4.5: Research hypothesised model**



Source: Author developed for the study

#### **4.7.1. Relationships between the CRM systems and consumer buying behaviour**

According to Akinci et al. (2004) attitude and motives are some of the essential factors that influence consumer buying behaviour however, CRM systems engagement has been established by scholars to be a cogent impacting factor on consumer buying behaviour (Mishra et al. 2011; Payne and Frow 2006; Padmavathy et al. 2012; Patrick 2012). Chen and Popovich (2003) stated that CRM implementation enables firms to evaluate customer loyalty and performance in terms of repurchase, amount spent and relationship longevity. Furthermore, Wang et al. (2004) described CRM performance as “customer behaviour-based”, which should be measured with respect to customer behaviour since they can potentially add value to the firm in area such as increased profit, market share and revenue stream. They argued in agreement with the position of Bolton et al. (2004) and Grant and Schlesinger (1995) that CRM implementation is to guarantee revenue maximisation, customer life circle and good customer behaviour,

implying association between CRM system and consumer behaviour. On the contrary, the research of Ejaz et al. (2013) on the impact of CRM practise on customers' behaviour revealed that, although there is an indirect relationship between CRM and consumer behaviour (word of mouth), there is no direct effect. In the same vein, Feinberg and Trotter (2001) exploited the unexpected negative impact of CRM. The authors submitted that CRM often does not fulfil its promises particularly when the implementation process is an ineffective channel thereby leading to customer frustration. Feinberg and trotter (2001) stated that when a CRM system is poorly or inadequately implemented, it will fail to bring about service and customer relationship improvement. Moreover, although Harorimana Sr (2012) found that CRM systems positively contributes to a bank's performance, the author's study also discloses that CRM system has negative consequences. Table 4.4 Presents summary of studies that established negative but significant CRM system/implementation effects.

**Table 4.4: Summary of research that reveals CRM negative effects**

<b>Author(s)</b>	<b>Research objective</b>	<b>Research approach</b>	<b>Extracted results</b>
Colgate & Danaher (2000)	The research looked at the effect of CRM Implementation strategy on customer satisfaction and loyalty within the context of banks domain	The study used 1917 data extracted from telephone directory in New Zealand through a systematic random sampling	The research revealed positive and negative relationships. The effect is positive if CRM system is implemented in a highly skilful manner thereby improving satisfaction and loyalty, and negative effect if CRM system is deficiently implemented and managed.
Mithas et al. (2005)	The research assessed the impact of CRM on customer knowledge and satisfaction	Used archived data from a cross section of US companies	Among other findings, the study uncovered that when CRM application is controlled, the relationship between IT (CRM) investment and customer satisfaction is negative but statistically significant
Reinartz et al. 2003	The study measured the links between CRM and	The study used data collected from cross	Aside from positive and significant findings, the research

	performance	sectional survey from Austria, Germany and Switzerland though mail survey	concluded that the moderated effect of CRM compatible incentivisation on the link between CRM implementation and market-based performance was slightly significant and negative. Also, CRM implementation direct effect was found to be negatively related to performance
Yim et al. (2004)	The objective of the study is to clarify the relationships between CRM and performance as customer outcomes	The author used a random sampling extracted from work directory in Hong Kong service companies along side data obtained from 215 senior managers	The study found that Key customer, organising around CRM and managing knowledge direct and indirectly impact satisfaction, retention and sales growth while technology does not lead to improvement in satisfaction and loyalty

Source: Author developed for the study based on Solima 2011.

Furthermore, scholars have substantiated that length, depth and breadth of relationship with regard to customer retention, loyalty and products and services delivery channels usage level in the long run as an antecedent of cross-buying, repurchase, up buying and word of mouth, which represent consumer buying behaviour (Blattberg et al. 2001; Bettencourt 1997; Howard and Sheth 1969; Reichheld and Teal 1996; Wang et al. 2004). Similarly, Mithas et al. (2005) posit that banks adopt CRM system mainly to keep track of customer buying behaviour so as to understand their needs and tastes. This will allow the banks to come up with products and services that match customer needs (Kohli et al. 2001; Nambisan 2002). Likewise, Mithas, et al. (2005) opine that CRM implementation enables firms to analyse their customer buying behaviour across transaction using various banks' touch points such as online banking, branch, ATM, telephone banking among others. Therefore, based on this discussion, the study hypothesised that:

**Hypothesis I** – The CRM system has a direct and positive effect on consumer buying behaviour, leading to up/cross-buying, repurchase,

positive word of mouth with positive outcomes on multiple banking and bank switching.

#### **4.7.2. Relationships between CRM and customer acquisition**

The procedures through which customers are acquired involve management of large quantities of data and as such require computer and software to handle it. As mentioned earlier, this will enable organisations to delineate customer segments and maximise customer data in their possession. CRM has been implemented by many organisations to tackle this process. Swift (2001) describes CRM, as a process that is configured to collect data that relates to customers, understand customer characteristics and the application of those features in specific marketing and business activities. Also, Choy et al. (2003) suggest that CRM acts as an information industry that is termed for methodology and software with Internet ability that enables an organisation to handle customer relationships effectively.

Therefore, from the above views It can be argued that, CRM can help organisations to relate, attract, acquire and manage customer data and to increase customer acquisition. Several researchers indeed have confirmed that CRM serves as an instrument that facilitates customer acquisition (Kumar 2010; Payne 2005; Ryals 2005; Verhoef 2003). Based on this discussion, this study intends to find out if there is any relationship between CRM system usage and customer acquisition specifically in the Nigerian banking industry. Lix and Berger (1995) provide an instance that a firm can use CRM to compare the profiles of product users to generate their level of willingness to buy. It can be inferred that banks that implement CRM can use it to segment and profile both existing and prospective customers in terms of their demographic variables such as income, age, education, work status among others.

In the light of the use of CRM enabled channels as service delivery platforms to service banks' customers, customer perception of using and being aware of the availability of these channels (customer's readiness to use) could influence a prospective customer's decision to buy a certain bank's products and/or services (Ahmad and Al-Zu'bi 2011; Harrison et al. 2014). Bose (2002) describes CRM systems as

the integration of technologies and business processes used to satisfy the need of a customer during any given interaction. It is therefore implied that CRM system channels usage by bank customers involve acquiring new customers, which is followed by analysis of customer information for the purpose of establishing selling relationships with the customers more efficiently (Bose 2002; Buttle 2004/2009).

Therefore, given that a) the availability of CRM systems-enabled channels would logically influence prospective customers (and existing customer for cross/up buying) to choose a bank and/or a product/services (Yao and Khong 2011), b) readiness of customers to use the channels, which will lead to customers' positive service delivery perceptions on the bank's corporate brand value proposition to increase brand awareness and channels familiarity (Harrison et al. 2014; Kim 2012) and, c) based on the above deliberations and the established fact by various scholars that CRM systems adoption and usage leads to increased customer acquisition as a benefit (e.g. Alhawari 2012; Kim and Kim 2009; Max 2004; Payne and Frow 2006; Parvatiyar and Sheth 2000/2001; Popli and Rao 2009), the study hypothesises that:

**Hypothesis II** – The CRM system has a direct and positive effect on customer acquisition.

#### **4.7.3. Relationships between the CRM systems and service quality**

A CRM system provides some interaction points for banks' customers to perform their transactions. These platforms form the basis for which customers subjectively develop their perceptions about their service provider's service or service delivery channels quality (Grönroos 2000; Valmohammadi and Beladpas 2013). Through the interaction stage, customers form their judgments based on the service provider's overall service delivery channels performance (Parasuraman et al. 1988). Also, technology adoption in the banking industry has enabled the banks to enhance the level of service quality by providing more secure platforms to perform their transactions, protecting customers'

information regarding their transactions, thereby leading to trust. As substantiated by previous studies, if customers perceived the CRM enabled channels to be reliable and responsive and, if their interaction with employees in terms of complaints handling is characterised by empathy and assurance, then positive perception would be the outcome of using a CRM system as a service delivery channel (Parasuraman et al. 1988; Seth et al. 2005; Valmohammadi 2011). Zhu and Chen (2002) investigate the relationships between IT-based service (e.g. online banking, ATMs, Internet banking etc.) and service quality in consumer banking, considering fundamental variables such as ease of use, conservation of time, convenience, privacy, accuracy and multifunctional capabilities of the technology based service delivery platforms. The research indicates that IT-based services have a direct effect on service quality as well as indirect impact on banks' customer perceived service quality. The research of Al-Hawari and Ward (2006) on the effect of automated service quality (e.g. ATM, Internet banking, telephone banking among others) and financial performance within the context of the Australian banks support these findings and proves that customer satisfaction mediates the effect of automated service quality on service quality and financial performance.

On the contrary, some scholars claimed that the provision and use of technology-based service delivery channels in itself, does not guarantee customer satisfaction, because the perception formed based on using the service could be either positive or negative (Brown 1996; Hall 1998; Johnson 1998) Moreover, service quality is understood to explain the variation between customer expectations about his or her encounter using a service delivery channels and the perceptions eventually received as an outcome of the actual interaction experience (Gronroos 2001; Parasuraman et al. 1988). Similarly, considering the fact that literature has indicated an association between a CRM system adoption and service quality (e.g. Chadichal and Misra 2014; Cho et al. 2001; Girinath and Ravi 2013; Somasundaram and Krishnamoorthy 2013; Wahab et al. 2015), it is therefore, put forward based on the above argument and the findings from the study of Jeong et al. (2014), which is corroborated by the claims of interviewees B and C respectively from the exploratory study that:

... It (Technology-enabled channels) also enables us to "**wow**" our customers by providing **excellent service delivery**

... so I will say that effective technology adoption is imperative to the bank's ability to render **excellent service**

**Hypothesis III** - The CRM system has a direct and positive effect on service quality.

#### **4.7.4. Relationships between the CRM system and customer satisfaction**

CRM developed from firm's need to increase customer retention and increased satisfaction as outcome of effective customer relationship management (Robert-Lombard and Du Plessis (2011). According to Reinartz and Kumar (2003), the approach of customer relationship management has been adopted by marketers to highlight the significance of customer lifetime value and long-term relationships (customer retention) over time. Empirically, customer satisfaction has been established to be the prevalent measuring parameter used to identify and achieve a customer's tendency to remain in buying relationship or defect (Capraro et al. 2003). Though customer satisfaction is described to be an inclusive assessment of service quality attributes (Boulding et al. 1993; Fornell et al. 1996; Johnson and Fornell 1991), CRM system implementation has been found to lead to a service quality improvement and enhances customer satisfaction (Sigala 2008; Zineldin 2005).

Bolton et al. (2004) and Morales (2005) affirm that there is a significant relationship between customer satisfaction and firms' financial performance. In particular, Bolton (1998) and Fornell (1992) publicise that customer satisfaction has a positive effect on numbers of customer complaints and buying behaviour. Customer satisfaction may also help banks to be assured of future revenue, reduce customer defection and cost effectiveness (Anderson and Sullivan 1993; Mithas et al. 2002; Rust et al. 2000).

CRM system implementation has a tendency to have impact on customer satisfaction because it enables banks to customise and develop products that match the needs of individual and segmented (targeted) customers, individual customer product and service



offerings. According to Mithas et al. (2005) and Sadek et al. (2012), products and services personalisation improves customer perceived quality of their banks, which is a determinant of customer satisfaction from customer perspectives. Moreover, CRM enables banks to manage customers' information such as: accessing, storing, sharing across department/branches and using the same for effective customer relationship process management, upkeep and general accounts management (Reinartz et al. 2004). This process helps the bank to render services to customers in such a manner that satisfaction can be achieved. Similarly, Yao and Khong (2011) studied the effectiveness of CRM on customer satisfaction in the commercial bank of Taiwan. The study found that CRM is positively associated with customer satisfaction. The examination involves the inclusion of the interactions among technology capability including other variables.

In agreement with these findings, the study carried out on the relationships between E-CRM and customer satisfaction and loyalty by Khan and Khawaja (2013) reveal that E-CRM has a significant positive relationship towards customer satisfaction. A more specific study on the effect of CRM based platforms on customer satisfaction was conducted by Mithas et al. (2005) considering CRM application, which was rationalised to mean the mediums of managing customer interaction in line with the view of existing literature (e.g. Bitner et al. 2000) and the CRM application validation (e.g. Jayachandran et al. 2005; Reinartz et al. 2004; Saeed et al. 2013). The research concluded that the use of CRM applications is positively associated with customer satisfaction. Very recent research on the impact of CRM application on customer satisfaction within the banking industry of Iran conducted by Taleghani (2015) in a like manner unveil in agreement with the studies of Feliks and Panjaitan (2014), Lacej and Ermira (2015) and Long et al. (2013) that, CRM application has an effect on customer satisfaction. Thus, as uncovered from the reviewed literature regarding resulting customer experience from their interaction with CRM enabled channels, i.e. their perceptions in terms of attitude formation, orientation, usefulness and ease of use of the channels, as it seems, it can be inferred that CRM systems implementation appear to have an impact on customer satisfaction.

Therefore, given that a) customer satisfaction is dependent on post technology-enabled channels usage (consumption) level evaluated perceived fulfilments (Henning-Thurau and Thurau 2003; Mburu et al. 2013), b) that the CRM systems permit banks to gather customer information obtained through numerous CRM enabled service delivery interaction platforms, which enable products/services customisation in line with individual tastes and preferences (leading to satisfaction) (Padmavathy et al. 2012) and, c) the fact that existing literature indicates customer satisfaction as an associated benefit of CRM system adoption (e.g. Buttle 2009; Eid 2007; Payne and Frow 2006), the study hypothesised that:

**Hypothesis IV** – The CRM system has a direct and positive effect on customer satisfaction.

#### **4.7.5. Relationships between the CRM system and customer loyalty**

According to Wilmshurst and Mackay (2002) and Mudie and Cottam (1999), the justification for CRM implementation strategy dwells on business performance improvement through increased customer satisfaction and customer loyalty. As mentioned earlier, successful CRM system implementation can bring about several benefits for the banks however, the level of CRM implementation influence on customer loyalty increase is a function the perceptions of the customers. The inferred perceptions are determined by customer experience, customer orientation, ease of use, usefulness of CRM enable channels. Additionally, inferring from Swift (2000) description of a CRM system implementation as a tool through which consumer behaviour is understood through strong communication that leads to customer loyalty. To a large extent, researchers have justified that the basic outcome of CRM system adoption by firms is achieving improved performance (Long et al. 2013; Payne and Frow 2006; Reinartz et al. 2004). Performance in this sense has been rationalised to be in the form of increased satisfaction, loyalty, service quality and retention.

Loyalty as one of the organisational performance dimensions has been affirmed to be an outcome of a successfully implemented

CRM system (Lacej and Kalaj 2015). Several past studies supported the notion that CRM adoption, particularly in the banking industry leads to a higher degree of customer loyalty (e.g. Buttle 2009; Farquhar 2004; Kocoglu and Kirmaci 2012; Long et al. 2013; Payne and Frow 2006). Similarly, Amir et al. (2014) examined the effect of CRM system on customer loyalty on Ansar bank in Azerbaijan. The study revealed that using CRM system to manage and deliver service to customer has an impact on the loyalty of the bank's customers. Examples of other scholars whose studies on CRM system effect on customer loyalty in the banking industry confirming a significant relationships include Lacej and Kalaj (2015), Cengiz et al. (2007), Robert-Lombard and Du Plessis (2012), Lam et al. (2013) and Kahn and Khawaja (2013). On the other hand, Ejaz et al. (2012) uncovered that CRM practices only have an indirect effect on loyalty (Indirect effect is defined in section 4.5.2).

Therefore, since a) banks' effective management of customer interactions with CRM enabled channels will enhance customer loyalty (Long et al. 2013), b) CRM systems adoption as service delivery channels lead to building a long time relationship with customer (Bhakane 2015; Vasiliu 2013) and, c) based on this argument, the understanding that bank customer interactions with CRM enabled channels influence their attitude, perceived usefulness and ease of use of the channels and the idea of Chen and Popovich (2003) that firms with successful CRM system implementation stand to gain customer loyalty and long-term profitability, the study proposes that:

**Hypothesis V** – The CRM system has a direct and positive effect on customer loyalty.

#### **4.7.6. Relationships between the CRM system and customer retention**

As mentioned earlier, CRM system implementation enables banks to collect, store, process and manage customer data thereby aiding products and services offerings. This will enhance banks' knowledge of their customer needs and how to meet them. According to Zineldin

(2006 p 434), "A retention orientation approach requires companies to be responsive to customer concerns by keeping open dialogues with them". Then, as postulated by Zineldin (2006), achieving customer retention comprises effective procedures for obtaining and acting on customers' complaints, customer satisfaction data analysis and developing long-term customer relationship. The relationships between CRM system usage as service delivery channels has been empirically confirmed to improve the level of customer retention as a direct effect, which is influenced by customers' interaction with CRM enabled channels (e.g. Nwankwo and Ajemunigbohun 2013; Tauni et al. 2014).

Hence, based on: a) the claim that CRM systems usage positive perceptions outcome and through the use of CRM applications to enhance retention strategy (Boateng 2014) and, b) on the basis of the assertions and established associations above (also see section 4.5.6), it can arguably be inferred that the CRM system adoption is a tool that can be said to help banks achieve customer retention. Consequently, the study hypothesises that there is a link between the CRM system and customer retention.

Therefore:

**Hypothesis VI** – The CRM system has a direct and positive effect on customer retention.

#### **4.7.7. Relationships between the mediating variables and consumer buying behaviour**

The relationship between CRM systems adoptions as service delivery medium and performance, as well as its influences on some elements of consumer behaviour has been established in several previous studies (e.g. Yao and Khong 2012). As discussed earlier the usage of the available technology-based channels to service bank customers, and the outcome of customer experience subsequent to their interaction with the channels may result in different reactions. In addition, it could tailor customers' mindsets to form different attitudes and perceptions (negative or positive) towards each of the mediating

variables (service quality, acquisition, satisfaction, loyalty and retention) as well as exhibiting different purchasing behavioural patterns (Amoako et al. 2012; Eid 2007; Krasnikov et al. 2009; Reinartz et al. 2004; White and Yu 2005; Yao and Khong 2012). The association between CRM system and consumer behaviour within the different contexts have been evidenced in past research (e.g. Padmavathy et al. 2012; Payne and Frow 2006).

Regarding the established effect of the mediating variables on consumer buying behaviour, previous studies indicated evidence that it has a positive relationship with consumer behaviour. For example, the study of Cronin et al. (2000) empirically noted that service quality and satisfaction are directly and indirectly associated with consumer behavioural intentions. Particularly when the variables are collectively included in the examination. These findings support the findings of other renowned researchers such as (Anderson and Fornell 1994; Athanassopoulos 1999; Boulding et al. 1993; Fornell et al. 1996). Similarly, the study of Zeithaml et al. (1996), which examined consumer behavioural intention consequence of service quality, found that there is strong evidence that consumer behavioural intention is influenced by service quality. These findings have been the basis on which many empirical studies' theoretical concept is founded. Invariably, as argued by Wu and Lin (2014) and Bolton (2009), consumers' intention to display future usage of technology channels or buying would be a determinant of the quality of service and satisfaction received, measured against perception prior to purchase or use. Arguably, since scholars have substantiated the fact that customer satisfaction and service quality are individually and collectively antecedents of customer loyalty and retention (Athanassopoulos et al. 2001; Ehigie 2006; Khan and Rizwan 2014; Khan and Fasih 2014; Kheng et al. 2010; Rizan et al. 2014; Sheth and Parvatiyar 1995; Woo and Ennew 2004), it can be inferred that loyalty and retention also would be influencing factors on consumer behaviour.

Furthermore, as mentioned earlier and also affirmed by Gronholdt et al. 2000) and Wu and Lin (2014), what constitute consumer buying behaviour or future intention to purchase is: a) repurchase intention, b) price tolerance, c) cross-buying intention and

d) customer recommendations (word of mouth). Therefore, as stated by Kotler and Keller (2009), consumer behavioural intention towards the outlined behavioural factors is subject to their experience, which could be satisfaction or dissatisfaction and positive or negative perception of service quality after purchasing or using technology channels. Moreover, since it takes a customer to be retained and loyal to a service provider before he or she could display future purchase behavioural intentions, it can be implied that retention and loyalty are predictors of consumer buying behaviour. This claim is validated by existing studies whose findings have established that satisfaction, service quality, retention and loyalty are directly associated with consumer buying behaviour (or in some cases referred to as behavioural intention towards future purchase) (e.g. Athanassopoulos 2000; Dennis et al. 2009; Onditi 2013; Ladhari 2009; Lee and Lin 2005).

Based on these empirically evidenced findings, this research proposes that the mentioned mediating factors are each theoretically powerful foundations to predict and reveal their associated influence on consumer buying behaviour. Although evidence from some literature indicated a direct effect of these variables on behavioural intentions, however, as mentioned and referenced in the last paragraph, other authors reported indirect effects. This indicates that these variables also function within the existing theoretical models that they are mediating variables. Consequently, the impact of each of the intervening variables on consumer buying behaviour within the context of this study-conceptualised model can be indicated as direct relationships. On this basis, hypotheses specifying direct associations are first stated prior to formulation of their indirect effect on consumer buying behaviour:

#### **4.7.7.1. Relationships between customer acquisition and CBB**

Building on the arguments in section 4.5.4 and the argument that acquiring new customers impacts long-term company success regarding performances (Zorn 2009), there is the need to ensure that customer acquisition is planned with the aim to achieve positive

consumer behaviour (Blattberg et al. 2001; Villanueva et al. 2008). This will involve focusing on profitable prospective customers (Zorn 2009). As argued by Villanueva et al. (2008) and Reinartz and Kumar (2002), an organisation needs to plan towards acquiring new customers that will make their customer base stable, which has the potential for maximum values. These obtainable values relate to customer lifetime value (CLV) that is rationalised to include how long a customer patronised a bank from acquisition time to defection stage (Bolton et al. 2002; Onut et al. 2012; Zorn 2009). They suggest that customer acquisition (concerning CLV) relates to customer marketing activities that involve retention outcomes, which lead to customer formulation of relationship perceptions. These perceptions are customer beliefs regarding a bank's service brand and performances and buying behaviour (Bolton et al. 2004). They maintain that involvement of customer acquisition in business-customer relationship management process reveals customer buying behaviour in terms of: a) frequency of purchase, b) length of patronage and c) average worth of purchase.

Similarly, Gupta et al. (2004) and Bolton and Tarasi (2007) suggest that the CLV process is categorised into customer acquisition (customer initiation stage), retention (repeat purchase behaviour) and enhanced performances, which is determined by cross-buying and cost reduction strategy. Based on the discussion above, it can be argued that there is an influencing link between customer acquisition and consumer buying behavioural acts.

Therefore, based on the above deliberations and the fact that customer acquisition by all indications relates to how to identify, retain and customer management process, which results in some buying behavioural attributes (e.g. cross-buying, repurchase) (Gupta and Zeithaml 2005), this study, consequently, hypothesises that:

**Hypothesis VII** - Customer acquisition has a direct and positive effect on consumer buying behaviour.

#### **4.7.7.2. Relationships between service quality and CBB**

As pointed out in section 4.5.3, service quality has been the core determining factor that aids achieving excellent business performance by banks (Auka et al. 2013). Whereas cognitive evaluations on behavioural intention is believed to have the strongest conceptual factor that explains behavioural intention (Zeithaml et al. 1996; Renaweera and Neely 2003), there have been many studies that have revealed a direct relationship between service quality and buying behaviour (e.g. Cronin et al. 2000; Gounaris et al. 2010). Specifically, Gounaris et al. (2010) found that e-service quality positively affects customer buying attributes such as repurchase, positive word of mouth (WOM) and website revisit. Relatedly, Sanayei and Jokar (2013) examined the effect of e-service quality on satisfaction and positive WOM as a customer behavioural factor. Their study discovers that e-service quality influences WOM. Other researchers who have empirically established positive and significant relationships between service quality and various consumer buying behavioural attributes include: a) repeat buying and WOM (Bitner 1990), behavioural intentions (Saha and Theingi 2009; Zeithaml et al. 1996), and repurchase and recommendation (Park et al. 2006). In agreement with the above empirical findings, a study conducted by Maiyaki and Mokhtar (2011) in the Nigerian retail banking sector also reveals that service quality is a determinant of consumer behavioural intention.

Therefore, based on the understanding that: a) several studies have established a direct relationship between service quality and buying behaviour, b) the ability of a bank to render excellent service quality will ensure increased market share and performances of a bank, c) service quality and customer buying intentions are closely related, but the buying behaviour attributes displayed by a customer depend on his/her experience of service quality (Parasuraman et al. 1988; Du and Tang 2014), and d) positive service quality perception has the potential to decrease customer switching behaviour (Auka et al. 2013), this study in consistency with previous studies hypothesises that:



**Hypothesis VIII** - Service quality has a direct and positive effect on consumer buying behaviour.

#### **4.7.7.3. Relationships between customer satisfaction and CBB**

Achieving an effective and a positive customer buying behaviour is largely dependent on the level of customer satisfaction (Khan et al. 2011). This implies that in order for a bank to accomplish customer disposition of positive buying behaviour, there is the need to have satisfied customers and evaluate customer satisfaction level (Woo and Fock 2004). A study conducted by Athanassopoulos et al. (2001) upholds that there is direct effect between customer satisfaction and customer behavioural response particularly in the banking sector. Likewise, this claim is consistent with the opinion of Morgan and Hunt (1994) that a higher level of customer satisfaction enhances customer attractiveness. By implication, this means that satisfaction leads to a customer's commitment to their service provider. Commitment in this sense relates to customers' decisions to continue to patronise a bank by exhibiting buying attributes such as cross-buying, repurchase, non-switching and positive WOM (Khan et al. 2011). In agreement with the above, Freed (2005) suggests that a satisfied bank customer is likely to buy additional products and services from their service provider. Similarly, the findings from the study of Choy et al. (2012) affirm that service quality directly and positively affects customer behavioural intentions.

Furthermore, several studies (e.g. Cronin et al. 2000; Khan et al. 2011; Li and Yan 2015; Raza et al. 2012; Wang et al. 2004; Wu and Lin 2014) have empirically confirmed satisfaction to be an antecedent of buying behavioural intentions in terms of WOM, repeat purchase, bank switching.

Therefore, based on the above which builds on section 4.5.5, within the context of using technology-enabled channels to service customer, this study proposes that derived satisfaction is likely to influence customer buying behaviour.

Hence, this study hypothesises that:

**Hypothesis IX** - Customer satisfaction has a direct and positive effect on consumer buying behaviour.

#### **4.7.7.4. Relationships between customer loyalty and CBB**

Achieving customer loyalty is important to a bank's performance regarding continuous patronage and profitability (Li and Green 2011; Padmavathy et al. 2012). Essentially, the business process elements that relate to performance are: a) frequency of buying, b) repurchase intention, and c) recommendation of products and services (WOM) (Reichheld and Sasser 1990). Moreover, Zeithaml et al. (1996) in their study developed a detailed framework that contains customer loyalty measurements. They propose that in addition to the above variables that loyal customers are likely to display a high buying intention, do more business and display non-switching behaviour. Given that these variables are buying behaviour attributes, this study in agreement with previous studies (e.g. Eakuru and Mat 2008; Ibrahim and Najjar 2008) argues that customer loyalty is linked to consumer buying behaviour. This argument is empirically confirmed by the study of Padmavathy et al. (2012) which found that customer loyalty relates to buying behaviour (e.g. cross buying). Other studies that have consistent empirical findings to confirm that there is positive link between customer loyalty and customer behaviour include Ejaz et al. (2013), Gounaris et al. (2007) and Curtis et al. (2011).

Therefore, based on the fact that a) loyal customers are likely to purchase more products and services and spread positive WOM (Kumar and Shah 2015), and b) since many studies have empirically established that customer loyalty outcomes are measured by behavioural loyalty (repeat purchase) elements mentioned in the last paragraph (Li and Green 2011; Zeithaml et al. 1996), this study postulates consistent with past research and within the context of the present study that:

**Hypothesis X** - Customer loyalty has a direct and positive effect on consumer buying behaviour.

#### **4.7.7.5. Relationships between customer retention and CBB**

According to Odindo and Devlin (2007), achieving a high customer retention is a determinant of gaining competitive advantage in terms of performance (market share, repurchase, WOM and willingness to buy). Ennew and Binks (1996) suggest that an organisation that can retain their customers is likely to accomplish long-term buying relationships with their customers over time. Arguably, it can be implied that a long-term buying relationship would mean that customers have the tendency not to switch banks and/or engage in multiple banking (Buying behavioural attributes). Some scholars (e.g. Gupta and Lehman 2005; Keiningham et al. 2007; Reinartz and Kumar 2002) have linked customer retention to organisation profitability. Consequently, given that customer buying behavioural outcomes to be measured in this study are determinants of profitability, it can be argued that customer retention is likely to have an associated effect of customer buying behaviour. The above claim is supported by the proposition that customer retention results in a company's profit increase through a) positive WOM, b) increased and repeated buying, c) reduced service cost and, d) premium charges (Cooil et al. 2007; Zeithaml 2000).

Furthermore, there are ample studies that have demonstrated within the context of the relationship between retention and performance that there is a link between customer retention and customer buying behavioural outcomes (e.g. Ryals and Knox 2005; Singh 2006, Trasorras et al. 2009). Thus, it is reasonable to conclude that an increase in customer retention level is likely to enhance positive customer buying behavioural attributes (profitability) (Gengswari et al. 2013). Similarly, a customer who engages in a continuous buying relationship (retained customer) with his/her service provider contributes to the bank's performance (Ang and Buttle 2006; Gupta and Zeithaml 2006). The authors (ibid) suggested behavioural, attitudinal and composite as the means to measure customer retention outcomes. According to Ang and Buttle (2006 and

Bowen and Chen (2001), the behavioural outcome is measured in terms of a) repeated buying (buying activities volume).

Likewise, customer retention measured through attitudinal factor reflects a customer based on emotions and his/her psychological attachment and purchase commitment as well as repeated patronage (Bowen and Chen 2001; Trasorras et al. 2009). In contrast with behavioural and attitudinal, the composite dimension measures retention by combining behavioural and attitudinal dimensions (Bowen and Chen 2001; Larivie're and Poel 2005). These measuring factors motivates customers to be willing to engage in positive WOM communication to their friends and family (Ang and Buttle 2006; Gengswari et al. 2013; Woo and Fock 2004).

Therefore, based on the above arguments, this study hypothesises that:

**Hypothesis XI** - Customer retention has a direct and positive effect on consumer buying behaviour, such that retained customer will exhibit a positive behavioural buying habit by buying more products and services from the same bank, spread positive word of mouth about the bank, continuous repurchase and would not switch or engage in multiple banking.

#### **4.7.8. Mediated relationship between CRM system and consumer buying behaviour (Based on indirect effects)**

##### **4.7.8.1. Joint mediating effects of CRM on CBB**

As pointed out in the reviewed literature, the adoption and usage of CRM enabled channels to service bank customers could lead to either positive or negative perception, which would result in positive customer display of behavioural intentions or otherwise. According to Eid (2007), CRM approach can help to enhance banks' capability to comprehend their customers' immediate and future needs and buying behaviour, as a result of understanding their past buying habits. Achieving this however, involves that the service provider is able to provide services to its customers, in such a manner that would make

the customers form a positive impression about the service received. Thereby leading to attaining satisfaction, high service quality, intention to buy from the bank, retention and loyalty. As can be deduced from literature, the relationships that have been proven to exist among these variables are not always direct. Therefore, implying that getting customers to act favourably towards a certain service provider as a consequence of using CRM enabled channels, require that the customers feel satisfied with high perception of service quality post interactions with the service delivery channels before a positive buying intention can be displayed.

Additionally, while some researchers have reported a positive direct effect of CRM on consumer behaviour intention and organisational performance (e.g. Adeyeye 2013; Hart et al. 2004; Kim 2012; Reinartz et al. 2004; Solima 2011; Verhoef 2003; Xu et al. 2002), there are other studies that have demonstrated that the relationship is either direct and indirect or both (e.g. Bataineh 2015; Liu and Wu 2007). Specifically, it was evidenced by the study of Wang et al. (2004) that customer and functional values are main drivers of satisfaction but they appear to drive customer-based CRM performance indirectly but significant through loyalty. They stated that other dimensions could transfer indirect effect on customer-based CRM performance such as through customer satisfaction or loyalty. In agreement with the above, Ejaz et al. (2013) empirically established that CRM effect on behavioural intention (WOM) is indirect through customer satisfaction, customer loyalty and customer experience (service quality). In agreement with the above, other studies have included one or two each of service quality, satisfaction, retention and loyalty in their model with positive and significant outcomes (e.g. Eskafi et al. 2013; Rizka and Widji 2013; Vikkraman and Duraikannan 2015).

Furthermore, in support of the argument above, Xu et al. (2002) stated that the main objective of using CRM systems is to improve customers' experience regarding the way they interact with these channels, which the authors said would hopefully as a consequence, increase satisfaction thereafter leading to higher loyalty. Furthermore, given that displaying behavioural intentions (continuous buying) by a customer depends on his/her previous purchase/usage experiences

(perceptions), a high service quality, enhanced customer satisfaction and loyalty are necessary prerequisites to achieve positive buying behaviour (Sanzo and Vasquez 2011; Trasorras et al. 2009). Ultimately, it can be inferred that in order to use CRM systems to get customers to display favourable behavioural intentions, there is the need first to achieve customer satisfaction and increased service quality, which in turn leads to loyalty and retention. Based on this premise, it appeared reasonable to propose that the association between CRM system and consumer buying behaviour is mediated by some factors. Based on these arguments, to specify hypotheses on the indirect effects of CRM system on consumer buying behaviour, it is essential that the joint and individual variable mediated effects be distinctly examined. By these insinuated indirect effects, which is in agreement with evidence from the current study exploratory study as stated by bank B respondent that:

*"Technology implementation has impact on the way our customers patronise us but emm... cough...you may need first provide **uninterrupted service** to get the customer satisfied or get them to **continue to use your bank continuously (loyalty/retention)**. After this you can expect **constant buying (repurchase)**. ...let me tell you, people talk about the convenience our competitors deliver, definitely, it brings about **WOM** .... it's a tool for harvesting customers (**customer acquisition resurfaced**)"*

the study hypothesises that:

**Hypothesis XII** - CRM has an indirect effect on consumer buying behaviour, but its effect is jointly mediated by customer acquisition, service quality, customer satisfaction, customer loyalty and customer retention.

#### **4.7.8.2. Indirect effect of customer acquisition on CRM systems and CBB**

As argued in section 4.5.4, the process of acquiring a new customer using CRM is associated with an organisation's performance (Kamakura et al. 2005). Going by the customer acquisition process in

relation to CRM, the first two stages (customer relation and attraction) is involved with prospective customer knowledge about a bank's service delivery channels (Ganapathy et al. 2004; Alryalat and Alhawari 2008). Their knowledge about available options among competing banks tends to determine what perceptions an intending customer would form and what bank a customer would select eventually. It is, therefore, conceivable that when a customer chooses a bank that he/she perceived to have the best CRM-enabled channels, the customer is likely to display positive outcomes regarding buying behavioural attributes. However, the customer would likely exhibit adverse buying behavioural outcomes if he/she feels dissatisfied with the technology-enabled service delivery systems. Similarly, given that CRM process is argued to align with customer life cycle (CLC) based on extrinsic customer-centric approach (Park and Kim 2003; Santouridis and Tsachtani 2015), it can be proposed that customer acquisition mediates the link between CRM system and behavioural intentions. Given that CLC is the entire period a customer engages in transactional activities with an organisation (Imhoff et al. 2001), this argument would hold on either of two conditions:

a) if a newly acquired customer would continue to patronise his/her bank for a long time e.g. over 10 years (Leverin and Liljander 2006; Kasum et al. 2006) by displaying loyalty to brand/product and services, cross and up buying the same bank products, engaging in positive WOM and without practicing multiple banking

b) if the customer will only engage in business activities with a selected bank for less than 4 years (Gremler and Brown 1998), which implies disloyalty, eventual bank switching, multiple banking and likely negative WOM.

Furthermore, Park and Kim (2003) identified three stages of CLC (acquisition, retention and expansion) within the context of CRM dimensions. The authors indicate that at the final stage, the organisation relies on the customers to play a crucial role in growing the organisation's customer base e.g. through positive WOM (Santouridis and Tsachtani 2015). Thus, if a bank provides customers with technology-enabled service delivery channels that bring about positive perceptions (value propositions) above a competing bank, a

customer would begin a banking relationship with such a bank (Johnson and Selnes 2004; Kim 2012).

Therefore,

Based on the above and the propositions of previous authors (e.g. Parvatiyar and Sheth 2001; Reinartz et al. 2004; Swift 2001; Zineldin 2005) that the relationship management process entails acquiring customers, which is linked to enhancing business performances through customer behaviour analysis (measurements), this study hypothesises that:

**Hypothesis XIII** - CRM has an indirect effect on consumer buying behaviour, which is mediated by customer acquisition

#### **4.7.8.3. Indirect effect of service quality on CRM systems and CBB**

As argued in section 4.5.6, CRM systems usage in the banking industry as service delivery channels has the likelihood of affecting customer buying behaviour (e.g. Mishra et al. 2011; Padmavathy et al. 2012). Based on the prevailing understanding that getting a customer to display positive behavioural outcomes depends on the customer's perception of the service received (Anderson and Mittal 2000; Parasuraman et al. 2005), it can be claimed therefore that there is an indirect effect on the relationship between CRM system and CBB. According to Zeithaml et al. (1996) and Zeithaml (2000), service quality is a determinant of customer behavioural intentions (e.g. repurchase). Similarly, Anderson and Mittal (2000) posit that a customer's perception of service quality will ascertain if the customer will recommend his/her bank through positive WOM.

Jeong et al. (2014) developed a model that includes service quality as a mediating factor on marketing and financial performance. In agreement with the study of Chadichal and Misra (2014), the study concluded that service quality has a direct and an indirect effect on the hypothesised relationships. Likewise, Rizka and Widji (2013) conceptualised and empirically tested the indirect effect of service quality on behavioural loyalty outcomes (such as positive WOM,



recommend family and friends, continuous buying and buying supplementary products/services) via customer relationship marketing. The study findings indicate that mediating effects exist in the specified relationship. Notably, these two studies empirically establish that service quality is a vital influencing factor for a bank to achieve positive customer behavioural outcomes using CRM systems. Within the context of the current study, the availability of CRM-enabled channels on its own does not appear to necessarily lead to positive perception neither would it directly result in positive customer behavioural outcomes. In essence, customer interaction with the service delivery platforms ultimately becomes the controlling factor. This is because the customers would form their perception based on their experience.

Therefore,

Based on the above discussion and the claim that service quality is one of the key factors theorised in relationship marketing as a fundamental antecedent in establishing and maintaining long-term relationship with customers (Berndt 2006; Kuo et al. 2009; Parasuraman et al. 1985; Rootman 2006), this research postulates that:

**Hypothesis XIV** - CRM has an indirect effect on consumer buying behaviour, which is mediated by service quality

#### **4.7.8.4. Indirect effect of customer satisfaction on CRM systems and CBB**

It is evident from the literature that satisfaction is a key predictor of behavioural intentions attributes and it has also been empirically established that CRM system adoption and usage leads to customer satisfaction (e.g. Ejaz et al. 2013-See section 4.5.5). According to Boulding et al. (1993) and Gustaffsson et al. (2006), an overall evaluation of customer satisfaction influence on company performance based on transaction-specific measures, which have the tendency to affect customer behavioural outcomes such as WOM and repurchase. While Verhoef (2003) claims that longitudinal data combined with

survey procedures and post-buying behaviour should be adopted to ascertain a causal effect on customer perceptions and their behaviour, Gustaffsson et al. (2006) opine that satisfaction is often used to describe behavioural intentions. Martin et al. (2008) maintain that customer satisfaction functions as a moderating factor, particularly between customer perceptions of service delivery benefits and buying behavioural outcomes. Thus, suggesting that there is the need for a bank to satisfy a customer through their service delivery quality and associated benefits, before which a customer can display active buying behavioural intentions. Relatedly, customer satisfaction has also been established to serve commonly as a mediating variable regarding customers' perceptions on service delivery quality and buying intentions (Al-Hawari and Ward 2006; Cronin et al. 2000; Cronin and Taylor 1992).

For instance, Al-Hawari and Ward (2006) examined the mediating role of customer satisfaction in the relationship between automated service quality (e.g. ATM, Internet banking and telephone banking) and financial performance within the context of the Australian banks. The study empirically confirmed that customer satisfaction mediates the hypothesised relationships, among other findings such as the direct effect of satisfaction on financial performance. The study explains that automated service channels determine customers' perceptions, satisfaction and, in turn, affects customer buying behavioural outcomes. Invariably, if customers perceived the automated service delivery channels to be easy to use, useful and reliable, there is a high chance that customers would become satisfied and engage in positive behavioural intentions (Al-Hawari and Ward 2006). Similarly, Baksi (2013) explored a nomological interaction between automated service quality, satisfaction and behavioural intention in the context of CRM performance. The study also reveals that satisfaction indirectly influences the link between CRM and behavioural intentions. McKay et al. (2015) in a relatively analogous manner studied the link between relational benefits, service quality, customer satisfaction and behavioural intention in the South African insurance sector. In agreement with the findings above, their research reveals that customer satisfaction is a potential mediating factor on behavioural outcomes.

Therefore,

Based on a) the above precedents, b) the notion that CRM performance describes that development of creation of customer value that results in customer behavioural outcomes (Noor et al. 2009), c) the fact that the mediating nature of customer satisfaction on the relationship between CRM systems and CBB is still not well-defined, and d) the understanding that mediating connection postulates the presence of an intervening variable, which further explains the link between independent and dependent variables (Chumpitaz and Paparoidamis 2004). This study theorises that:

**Hypothesis XV** - CRM has an indirect effect on consumer buying behaviour, which is mediated by customer satisfaction

#### **4.7.8.5. Indirect effect of customer loyalty on CRM systems and CBB**

Having substantiated from extant literature in section 4.5.4 that there is a direct relationship between CRM system and customer loyalty, and the direct effect of loyalty on CBB, it is reasonable to suggest that customer loyalty is likely to mediate the link that exists between CRM system and CBB. Customer loyalty has often been characterised into stochastic and deterministic approaches (Majid 2013). Although these approaches share a different view on loyalty, they both rationalised loyalty to indicate the various buying behavioural attributes manifested by customers (Madjid 2013; Xu et al. 2007; Zeithaml et al. 1996). They acknowledged elements such as buying re-occurrence level, repurchase, willingness to recommend, intention to repurchase to explain loyalty. These items as mentioned earlier are the core factors that are recognised as customer behavioural attributes. It can be inferred therefore that if CRM affects customer loyalty, for a bank to accomplish positive customer behavioural outcomes, loyalty may tend to influence CRM impact on CBB. As a precedent from the literature, Ejaz et al. (2013) experimentally establish that CRM effect on CBB is indirect through customer loyalty. This evidence is also supported by

the confirmation from the qualitative study as stated by bank A respondent who claimed that:

*"...In my opinion, using technology as service delivery channel on its own does not lead to em... favourable patronage behaviour without first getting the customers to be loyal after all, it takes a customer to be loyal before he/she can engage in any umm... continuous purchase..."*

The interviewee indicates that utilising CRM to achieve positive customer behavioural intentions within the bank was argued to be related indirectly to consumer buying behaviour through the mediating role of customer loyalty.

Therefore, this study theorises that:

**Hypothesis XVI** - CRM has an indirect effect on consumer buying behaviour, which is mediated by customer loyalty

#### **4.7.8.6. Indirect effect of customer retention on CRM systems and CBB**

As discussed in section 4.5.5, CRM systems usage as service delivery channels will lead to customer retention so long as the customer perceived their interactions with the channels to be effective and efficient (Nwankwo and Ajemunigbohun 2013). The effectiveness of a CRM system is measured in terms of the value created for the purpose of delighting the customers (Roberts-Lombard and Nyadzayo 2013; Wahab et al. 2009). The authors argue that CRM systems create customer retention, which in turn leads to repurchase and WOM (behavioural intentions). According to Hu et al. (2009), customers are of the opinion that using a CRM system would enhance their retention rate. On the other hand, a company views a customer retention achieved using CRM system usage as a way to attain and/or enhance a never-ending relationship (Halimi et al. 2011). Based on this, Wahab et al. (2009) maintain that effective CRM systems usage will result in enhanced business customer profitability through measures such as

repurchase, transaction value and longevity. In line with the above, Dubihlela and Khosa (2014) conceptualised retention in a model as a mediating factor between e-CRM implementation and customer profitability. Their research reveals that customer retention poses an indirect effect on the hypothesised links. Arguably, it appears from the literature that in order to achieve positive buying behavioural outcomes, it is imperative that a customer remains in a long-term transactional relationship with his/her bank.

Therefore,

**Hypothesis XVII** - CRM has an indirect effect on consumer buying behaviour, which is mediated by customer retention.

The synthesis of the sections on literature chapter and research conceptualisation in this chapter is such that presented the descriptive and critical review of relevant theories and existing literature. The identification and subsequent selection of the TAM and TPB to underpin the study forms the basis on which the fundamental research theoretical model was conceptualised to advance this study. The association paths specified during the model formulation, which was in accordance with reviewed literature, gave an insight into the development of the research hypotheses as presented in the last part of this chapter. The chapter presents the research philosophical idea selected, the methods and comprehensive discussion on analysis approach.

## **Chapter five**

### **Methodology**

#### **5.0. Introduction**

The previous chapter presented the underlying theoretical framework and hypotheses development for this study. This chapter identifies the research strategy and approach employed in the study giving attention to the numerous research philosophies, paradigms and methodological frameworks as well as the research design and data collection process.

Based on the fact that this study is aimed at confirming relationships between variables, the methods employed in this study primarily come from a post-positivist point of view in line with research undertaken made based on deductive methodology. Without deviating from general practice within the social sciences on research approaches, within a mixed method design following the sequential mixed method approach according to Creswell and Plano (2011) and Creswell (2014), qualitative techniques as an inductive based approach were also used within the research methodology. Doing this helped the researcher in the achievement of study objectives and confirmation of the advanced research hypotheses. When empirical research is being carried out, it is imperative that different research paradigms and relating concepts of ontology and epistemology are considered because these terminologies illustrate the beliefs, assumptions and nature of reality of the researcher with respect to truth and his or her knowledge about the research. Following the discussions on research philosophical approaches, the chapter additionally provides a general overview of the research methodology and philosophy as well as the data collection approaches. The research methodology and approach deemed suitable for this study is selected after thorough consideration of the research paradigm and philosophy. Issues pertaining to questionnaire design and administration as well as the sampling are then discussed. The chapter then provides the data analysis approach chosen to test the research hypotheses. The next sections explain the key philosophical paradigms and their associated main sources of data collection.

### **5.1. Brief research philosophical approaches**

It has been averred as essential that a well-defined research philosophy is determined prior to the formulation of research strategy which will, in turn, drive the data collection and analysis (Creswell 2014; Dawson 2007). According to Creswell (2014), this stage is necessary, as any philosophical assumption about the research subject will have an effect on the understanding of the subject dimensions and as such, the assumptions should be applied during the course of the study process. Conventionally, ontology, epistemology and methodology make up the three fundamentals in a research process. These perspectives of research philosophy are often classified as the most important particularly when describing the selection of study philosophy (Aliyu et al. 2014; Dawson 2007).

Ontology as a research philosophical concept deals with the nature of reality (Hudson and Ozanne 1988). By extension, it deals with the nature of existence. According to the Sage dictionary of research methods (Jupp 2006), ontology is concerned with the existence of the relationships between various parts of society. The concept is concerned with the issues around which questions are related to the things that exist in the society, while epistemology relates to the issues of knowledge. From this, it can be argued that epistemology is concerned with the relationship between the researcher and the reality and how a fact is known (Carson et al. 2001; Sobh and Perry 2006). Therefore, a researcher's epistemological position reflects their views concerning the most suitable manner in which enquiry can be made about the nature of the world or a subject matter (Easterby-Smith et al. 2008; Flowers 2009). It also seeks to answer the question of what knowledge is as well as its sources and limitations, informing, as a result, considerations about the appropriate research methods (Eriksson and Kovalainen 2008). In social science research, many paradigms such as critical theory, empiricism and constructivism have become known (Guba 1990). However, the most common of them are positivism, interpretivism and realism. Albeit, the choice of selection among the three is dependent on particular approaches, research strategies and method of data collection used in a study. This is because some methods tend to be more suitably

combined with an explicit philosophy than others (Saunders et al. 2007). In order to make a clear understanding as to which viewpoint should be selected, the three major research philosophical concepts and the methods that align with each one is described below.

#### **5.1.1. Positivism and post-positivism concept**

Positivism is known to stem from the quantitative purist view (Johnson and Onwuegbuzie 2004, Onwuegbuzie 2002). People from this school of thought are of the opinion that social observations are like physical phenomena and as such can be considered in the same manner as scientific inquiry (Cohen et al. 2013). This process allows the researcher to be in a position of an independent observer while the researcher is also detached from the object or things under observation. This philosophical process enables the researcher to explore cause and effect relationships of the variables under study in a reliable and valid manner. According to Flowers (2009), the concept of positivism stems from natural sciences and thereby shares the feature of the test of hypotheses advancing from prevailing theory by using the dimension of social reality that can be observed. This concept supports the view that the existence of the social world is external and can be observed and, also, that the validity of knowledge is dependent on the observations of the outer reality. From the understanding of these general laws, a theoretical model that can be generalised is developed with the capacity to describe cause and effect relationships that can lead to predicting outcomes (Flowers 2009; Mertens 2014).

The idea of positivism fundamentally relies on values of reason, truth and validity that are based purely on evidence obtained by means of direct observation and experience, (measured with quantitative approaches) and surveys and experiments (measured with statistical analysis methods) (Blaikie 1993/2007; Eriksson and Kovalainen 2008; Saunders et al 2007). From a positivist's view, the steps a researcher takes are to identify theory arising from previous research outcomes, develop hypotheses for assessment and proceed to the data collection stage (Creswell 2014). Although positivism has been seen to be popular in the social sciences discipline, it has been criticised on the basis that it increases barriers in robustness of studies



because it is inadequate in terms of result precision to the concept of science (Johnson and Onwuegbuzie 2004). According to Onwuegbuzie (2009), while the positivists encourage the notion of objectivity regarding confirmation and falsification, this view neglects the reality that a lot of human decisions are made while carrying out a study, and these researchers are themselves a participant in the social context prone to subjectivism. The decision as to what to study, how to develop the research instrument and interpret the research findings are instances of the stages at which the researcher gets involved in the decision-making (Creswell 2014).

According to Guba (1990), within the social science research field, positivism has been substituted by post-positivism. He identifies the dissimilarity between the two concepts to be that the researcher does not make any assumption with respect to the reliability of the results for their theory but rather to hold these outcomes as speculative. The most important principles of post-positivism are about the fact that there is no particular mutual reality, neither is there any diverse difference between the person who knows and what is known (Guba 1990; Onwuegbuzie 2009). They maintain that, while the positivists use findings obtained from the data to uphold a theory, the post-positivist operates based on the idea that theory can be formulated, tested and confirmed using empirical data. Similarly, positivists are of the opinion that theory should be founded on theory-free observed data and the post-positivist believes that theory should only be tested through scientific research approach but a theory is not required to be drawn from data (Gray 2014). Prior to starting research, post-positivists have a real knowledge of what is to be studied, the procedures of how the study will be implemented which include formulating hypotheses and thoroughly defined methods. Post-positivism concept is based on a deterministic idea that there are cases of causes and effects or outcomes (Creswell 2014). This implies that the research problem undertaken by post-positivists requires the need to recognise and evaluate the causes that sway an outcome.

As pointed out above, positivist and post-positivist views are based on deductive epistemology which follows four steps; structure that flows from theory formulation, development of research hypotheses, empirical data collection (observation, survey and

experiment) and analysis of data to test and confirm or otherwise the advanced hypotheses (Bryman and Bell 2007; Saunders et al 2007). When a deductive approach is employed in a study, quantitative and traditional scientific techniques (Surveys and experiments) are often used. Consequently, this study adopts the post-positivist approach procedure because the study process involves the formulation of a theory, hypotheses development, test and confirmation of developed hypotheses. The next sub-section discusses surveys and experiments techniques in relation to positivism, and as the research design approaches used in data collection process for this study (research design is further discussed in section 5.2).

#### **5.1.1.1. Experiments**

Experimental study can be used to examine the effect of one variable (independent variable) on another variable (dependent variable) (Creswell 2014; Bell 2005). This approach aims to find out if a specific behavioural action will influence an outcome. Experimental research is often applied to determine if causal relationships exist among a set of variables when control is placed on the effects of insignificant variables. Moreover, this concept allows the investigator to manipulate circumstances or environments in order to determine their effects on behaviour. Therefore, experimental research permits the researcher to draw conclusions about cause and effect associations but cognisance must be given to sound research design and a large group/data is required (Bell 2005). Although experimental research has been mostly applied in medical and psychological researches, the technique has also gained credibility and relevance in marketing where it has been used in studies relating to advertisement effectiveness, decision-making and consumer behaviour (Churchill et al. 2004; McGivern 2013).

It has been argued that the application of experimental research is often challenging to organise and implement. However, the approach has been suggested to be an acceptable way to measure and ascertain cause and effect (Aaker et al. 2011; Chisnall 2005). Experimental research is classified into experimental designs, quasi-experimental designs and action research (Aaker et al. 2011). And as

stated by Crawford (1997) and Chisnall (2005), the application of these three categories can be actualised through actual experiments that can be carried out within the context of field experiment, (implemented in natural environment) or laboratory experiments (executed in an artificial setting). The various categories can be applied in accordance to how and when the experimental variables are controlled. The option of how and when could be "after only" design, "before-after design", "before-after with control group" design and "after-only with control group" design (Aaker et al 2011; Crawford 1997). All these design categories can be applicable to measurement of a single variable but when the independent variables are from two and above, a factorial design is used.

The downside of this technique is that it usually entails significant monetary costs and is also confined by time constraints and pressure. There is also difficulty in real life application in terms of possibility to account for complexity of variables, problems with security in terms of likely exposure of marketing program to competitors, which could lead to imitation, inconsistency of results and implementation problems. These challenges however can be overcome through the use of simulations often called simulated test marketing (Aaker et al. 2011).

#### **5.1.1.2. Survey**

A survey is a method of data collection for quantitative study in marketing and social sciences. This approach allows for a quantitative or numerical explanation of event trends, attitudes, or opinion of a population through a sampling study of a portion of the population (Creswell 2014). The results from the data obtained from the sampled population help the researcher to understand behaviour due to its fact-finding characteristics by asking questions on respondents' personal perception on attitudes and opinions. According to Fowler (2014), it involves cross-sectional and longitudinal studies with the use of questionnaires or structured interviews for collecting data for the purpose of generalising from the sampled portion of a population to a population. As stated by Moser and Kalton (1971. p. 1) also observed by Bell and Waters (2014),

“A survey may be occasioned simply by a need for administrative facts on some aspect of public life, or be designed to investigate a cause and effect relationship or throw fresh light on some aspect of the sociological theory. When it comes to subject matter, all one can say is that surveys are concerned with the demographic characteristics, social environment, the activities, or the opinions and attitudes of some group of people”.

Surveys can be classified as factual, opinion or interpretive (Baker and Foy 2008). While factual surveys relate to actual behaviour and attributes and opinion surveys are particular about the participants' views, interpretive surveys are particular about describing the reason for an action, peoples' beliefs or opinion (Baker and Foy 2008; Gray 2014). Factual and opinion surveys are often referred to as descriptive and, on the other hand, the interpretive approach is classified as analytical. As mentioned earlier, the survey method has gained credence and has been commonly used in the quantitative methodology as it offers the platform through which factual, attitudinal and behavioural data can be obtained. This is coupled with the argument that surveys permit the researcher to access high response rate and sample size (Aaker et al. 2011; Baker and Foy 2008). Nonetheless, this technique is known to have the tendency to go towards the negative especially when there is poor questionnaire design, deceptive and inaccurate information from respondents or total refusal or reluctance of respondents to participate in the survey (Aaker et al. 2011). If these downsides occur during survey administration, they may result in non-response error. In turn, non-response error has the potential to violate the validity of the study (Aaker et al. 2011; Clark and Creswell 2011). Similarly, surveys are known to have disadvantages in terms of internal validity due to their reliance on the use of statistical procedures to regulate insignificant variables, thereby making the process of assessing consistent cause and effects relationship problematic (Bryman 2015). Albeit, these known demerits can be overcome by testing and confirming reliability and validity of data during the data analysis process but prior to descriptive and inferential data analyses and proper thoughtfulness must be applied

when designing and implementing the research survey instrument (Bryman and Bell 2015; Creswell 2014).

Conventionally, in social and marketing research, one of the standard approaches employed in data collection on subject areas such as attitudes, lifestyles, behaviours and decision-making is surveys (Aaker et al. 2011; Crawford 1997; Creswell 2014). Based on this empirical precedence coupled with other factors among which are respondents' characteristics, costs, time and accessibility of respondents and available means of data analysis, surveys are considered suitable for this study, which is on consumer buying behaviour and involves customers' perception of attitudes, customer acquisition, satisfaction, loyalty and retention in the Nigerian banking industry.

### **5.1.2. Interpretivism**

This research paradigm is considered to be anti-positivist because it contends the fundamental dissimilarity between natural and social science subject matter (Blaikie 2007; Hatch and Cunliffe 2012). Interpretivism is also described to be a leading anti-positivism position based on the understanding that it deals with culturally derived and historically placed interpretations of the social life (Crotty 1998; Gray 2014). Central to this paradigm view, is the belief that the world is constructed, interpreted and experienced by people in the course of their interaction with themselves and the broader social world (Ulin et al. 2005). The researcher is provided with the possibility to see from outside of objective variables but importantly on the particular meaning attached to the variables by other people. This implies that interpretivists believe facts to be an outcome of human interactions, signifying products of shared knowledge and meaning. Likewise, interpretivists are of the opinion that individuals and groups develop an understanding of events according to their personal experience, beliefs, perceptions and expectations (Collis and Hussey 2013). Therefore, interpretivists are positioned to find out and comprehend the meanings and circumstantial factors that influence, determine and affect the meanings associated with a particular situation by individuals or groups (Flowers 2009). Under this paradigm, it is

essential to have the knowledge of peoples' thinking, feelings and how they communicate orally as well as through other communication means such as eye contact and body language/signs.

In the light of the inherent characteristics of this paradigm, it has been adjudged to be inductive or theory building as the aim of the investigator is to unveil the meanings of and interpretations of social actors and to have a knowledge of their world from their perspectives (Hatch and Cunliffe 2006/2012; Saunders et al. 2007). From this discussion, it is obvious that interpretivists are qualitative purists and follows the approaches that align with constructivism, idealism, realism, humanism and hermeneutics (Blaikie 2007; Johnson and Onwuegbuzie 2004; Saunders et al. 2007). Because the view of this paradigm is opposite of positivism, the inductive pattern of describing subject variables follows through from theory formulation, tentative hypotheses development, thematic analysis of data pattern and observations (Saunders et al 2003). Being a qualitative inclined research paradigm, the major avenues to obtain data if one adheres to an interpretivist approach are in-depth interviews, focus group, action research and observation (Creswell 2014; Gill 2008).

#### **5.1.2.1. Interviews**

Interviews as a technique to obtain data in the qualitative research method are a flexible but normally non-standardised approach. The structured nature of an interview under this context is different from the interview as a method of data collection in quantitative method as the questions are usually structured, thereby not allowing the interviewee to give a comprehensive account of the situation which may lead to derailing from the specific focal point of discussion (Creswell 2014). Subsequently, explorative or descriptive oriented studies are opened to options of collecting data through structured interviews or focus group (Bryman and Bell 2015).

While an in-depth interview is a form of research technique that has to do with carrying out rigorous interviews with relatively lower number of respondents, a focus group involves arranging discussion on a subject matter with a particular group of persons in order to acquire information with respect to their views and experience (Gibbs 1997;

Morgan 2013). On the other hand, a semi-structured interview approach is often planned in advance and these are often scheduled based on some prearranged open-ended questions (Galletta 2013). As a way to have research data and results robustness, interviews have been argued to be a useful tool used for either item generation or to generate information that would help confirm the survey instrument content during the early phase of several quantitative studies (e.g. Bowling 2014; Curry et al. 2009; Harris and Brown 2010). This idea has been established to be valuable as it helps researchers to achieve better validity and reliability in designing the research instrument and measurement scales (Bryman 2006; Creswell 2014; Johnson and Onwuegbuzie 2004).

#### **5.1.2.2. Observation**

In the qualitative approaches to collecting data, observation has traditionally been classified under the category term of "ethnographic technique" (Kawulich 2005). This approach involves a systematic way of noting and recording events, behaviours and objects in the selected social environment for the research. This technique also entails that the researcher seeks to understand the traditions of a specific setting on a particular subject (Curry et al. 2009; Marshall and Rossman 2006). The researcher under this method will need to get involved with the selected group so as to be able to accomplish a robust and comprehensive understanding of the particular issue and, be able to give a detailed descriptive analysis. While it is imperative that the researcher provides a robust and in-depth account of respondents' perceptions of consumer buying behaviours, the use of this approach to achieve this is considered to be too expensive, time consuming and mostly unsuitable considering the research respondents, method of analysis and the research aim to explore cause and effect relationships. Moreover, achieving robust and detailed results can be achieved using a range of mixed approached such as a concurrent method with dominance on quantitative or sequential approach with a quantitative dominant (Creswell 2014; Johnson and Onwuegbuzie 2004).

### **5.1.3. Realism**

The third philosophical view stems from the gap between positivism and interpretivism. This gap evolves around the thinking about how social and natural science studies can be used together in order to gain a comprehensive knowledge of a phenomenon under study. As noted by Flowers (2009), realists have shared features with positivist and interpretivists' positions. The basic view of realists is that there is an actual structure that is in place independent of human awareness, which is only known to be socially created (Flowers 2009). However, Saunders et al. (2007) contended that researchers' understanding of reality emanates from social conditioning. Blaikie (1993/2007) posits that similar to positivism, realism is based on the assumption of external reality in which researchers should direct their attention. Though, realists are characterised to have shared beliefs that the same approach can be adopted in data collection for a specific phenomenon with natural and social sciences, realism paradigm explanations and findings are generally acknowledged not to be directly observed in theoretical terms (Gorski 2013; Phillips 1987). Realism has been categorised into critical realism and epistemology realism.

While critical realism as emerged from the work of Roy Bhaskar (1997) is described as an approach that follows the idea that social science success is dependent on discovery and description of actual properties and causal influences of social procedure, epistemology realism evolved from procedures of reproductive conclusion about a given phenomenon and its understanding is mediated by information obtained from history and culture (Al-Amoudi and Willmott 2011; Gorski 2013). This ideology holds that in the same manner as in business and management process, there are social forces that impact humans without their knowledge (Costello 2000). Realism attempts to understand how these forces influence people, their perception of their social world and the consequent resulting human actions and behaviours (Saunders et al. 2007)

### **5.1.4. Alternative philosophy appraisal**

As mentioned earlier, criticisms have been extended to both positivism and interpretivism. Positivism has been criticised on the basis that it



applies the use of scientific approach to measuring human affairs in research (Marshall 2006; Smith 1998). This idea is believed by some opposing scholars not to be achievable in a classroom context. Furthermore, the notion of value-free character in research and the use of deductive-nomological approach to account for human actions and behaviours being interpreted in relation to "cause and effect" (Keat 1980; Mack 2010; Marshall 2006; Smith 1998). Similarly, there is awareness and acknowledgement that the use of scientific understanding has boundaries and limitations. Hence, it does not provide the answer to all questions (Nudzor 2009). On the other hand, interpretivism has received criticism on the account of abandoning scientific approaches which tests and verify relationships, results from which can be generalised (Nudzor 2009). Nudzor (2009) also argues that the ontological assumption should be subjective rather than being objective. Implying the fact that interpretivism does not accept knowledge and reality can be influenced by political and ideology factors. Besides, findings from interpretivism are believed to lack reliable generalisability, and the claim that interpretivism approach can give deeper and meaningful understanding to a particular phenomenon as compared to findings from scientific methods (Mack 2010; Nudzor 2009; Sayer 2000).

Though both positivism and interpretivism schools of thought have advocates and detractors indicating conventional differences and disagreements, in the current methodological approaches and practices, there seems to some agreement amidst the various main philosophical dissimilarities. As remarked by Johnson and Onwuegbuzie (2004), the things that seem reasonable vary according to individuals and going by the theory-laden perception. Equally, what people notice and observe is induced by their background, knowledge, theories, experiences and inherent or inherited beliefs and values. Thus, observation does not lead to a faultless and straight window of "reality", and that there is an alternative way to explain a phenomenon given that hypotheses are tested in accordance with fundamental assumptions (Johnson and Onwuegbuzie 2004).

Following the argument above on the established different perspectives and critiques of the positivists and interpretivists that underpin social science research, it appears that the dichotomies

between them certainly are about matters relating to the nature of social reality and the ways to conceptualise it (Nudzor 2009). Researchers who are described as “mono-methodic researchers” habitually choose a research method simply on the basis of their individual adherence to a particular method. The balance acknowledged between these two philosophical positions provide possible justification to combine the two views together as a means to verify the credence acclaimed and attributed to mixed method as the greatest suitable method for research in social life (Creswell 2003; Gorard and Taylor 2004; Nudzor 2009; Tashakkori and Teddlie 2003).

Furthermore, in order to compensate for the weaknesses of each of these approaches, mixed methods in the form of concurrent and sequential mixed method designs has gained attention from researchers (Creswell 2014; Johnson and Onwuegbuzie 2004; Nudzor 2009). For instance, the social and marketing research field is experiencing increased acknowledgement that obtaining data through quantitative and qualitative means are complementary and supportive in carrying out research (Creswell and Plano Clark 2011; Johnson and Onwuegbuzie 2004; Tashakkori and Teddlie 2009). One of the examples described by these mixed method advocators is the use of components of qualitative techniques to give preliminary exploration of issues under study in a primarily quantitative study through sorting and screening of variables or ideas and behavioural model development (Creswell 2014).

#### **5.1.5. Selecting a research method and design**

Following the appraisal of different research ideas and paradigms in the last sub-section, a research approach and structured design theoretically suitable for the study objectives is selected. A typical research design is often based on the study objectives and as such, it is described as “a set of advanced decisions that makes up the master plan specifying the methods and procedures for collecting and analysing the needed information” (Burns and Bush 2002. p. 120). In a more simplified form, Creswell (2009. p. 5) refers to research design as a “plan or proposal to conduct research”. This study’s objectives were used as a basis to design a post positivist paradigm mindset

according to a preliminary derivation of theoretical premise from the extant literature.

Many authors have described the mixed method as a research approach that combines qualitative and quantitative data into a single study (Creswell 2014; Harrison and Reilly 2011; Johnson et al. 2007). A paradigm establishes an extensive set of philosophical assumptions about the attributes and understanding of the world, which includes ontology, epistemology and methodology (Guba 1990; Mingers 2001). However, the conventional qualitative and quantitative research approaches associate with different ideas. Many scholars have debated the superiority between these two designs, however since neither of the approaches could apply to all studies, there has not been any headway to it (Fitzgerald and Howcroft 1998). Therefore, the mixed method approach has been identified as the third fundamental research method (Creswell 2014; Johnson et al. 2007). Albeit, the mixed-method research approach is greatly practiced in the social sciences, Hanson and Grimmer (2007) and Harrison and Reilly (2011) maintain that the approach has not been substantially used in the marketing field. Some of the reasons associated with this assertion include different authors' conformity and greater faith in a design, time and other resources, the type of data available/accessible (numerical or textual), structure and methods of analysis (Bryman 2007).

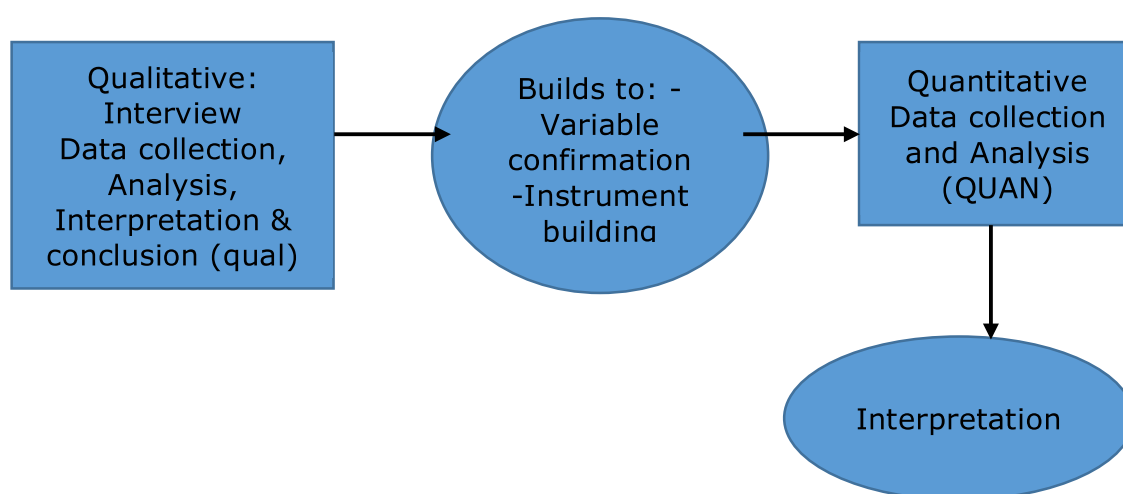
Selecting a suitable research design is crucial because it influences the nature or type of data to be collected, approach to obtain data, sampling method, planning and cost (Hair et al. 2003). Predominantly, it serves as a means to align the premeditated research methodology and to identify study problems (Creswell 2014; Iacobucci and Churchill 2015). In designing the methodological framework for this study, the process described by Creswell (2014 p. 107) based on Mertens (2003) is followed. The first stage involves searching and identification of research problem from the existing body of knowledge. After this, the researcher develops hypotheses that can be statistically tested based on the research objectives, then identify a suitable technique to assess proposed theories. Moreover, the researcher presents the hypotheses test results with evidence and the outcomes must be interpreted and examined for reliability, validity and generalisability of the findings.

Within the precept of common practice, the comprehensive design for this research centered on validation of relationships between variables that can be observed, and unobservable variables within the context of consumer behaviour as specified in this study. Variables that cannot be observed are not tangible according to their nature and as such cannot be presented to stand for direct universal reality. The possibility of using these variables to confirm and establish reality by using latent constructs has permitted social science field studies and marketing, in particular, to use quantitative approaches effectively (Aaker et al. 2011; Byrne 2013). Using this method enables the researcher to understand consumer behaviour because it serves as an underpinning for using the scientific approach for model specification and assessment of hypotheses that provides more accurate outcomes. On this basis and in line with precedence established from previous studies, this study has employed a quantitative approach as the primary technique for obtaining empirical data.

Nevertheless, it is important to recall, as mentioned earlier, that this study employed a sequential form of mixed method (qual – QUAN) as described and suggested by Creswell (2014) and Johnson and Onwuegbuzie (2004). Therefore, some components of qualitative approach were in addition used, specifically prior to and during the research instrument design period. This step was undertaken in order to clarify and confirm from bank technology specialists and bank relationship managers, the constructs used in this study and their associated latent indicators as identified from the literature. Purposely, this is to help ensure that the content of the questionnaire is not only developed based on theoretical literature-based findings from the literature but, also from the perspectives of the professionals in the Nigerian banking industry and to also make sure the intended respondents are familiar with the research variables. Although the scales used in this study have been earlier used in previous studies, this step was also deemed necessary because the Nigerian banking industry is peculiarly different from other nations banking industry across the globe and as mention in chapter one, the industry is such that is largely cash-based.

This approach is in accordance with the social science research methods custom as advocated by methodologists (such as Aaker et al. 2011; Creswell 2014; Johnson and Onwuegbuzie 2004; Morse 1991; Tashakkori and Teddlie 2009). Albeit, it is important to emphasise that the use of this form of sequential qual - QUAN explorative approach does not in any way attenuate the hypotheses confirmatory viewpoint of this research. This is because the proposed quantitative method aspect of the research design as presented in chapter three is the main measure through which the researcher can obtain the necessary evidence that can be used to provide confirmatory solutions to the proposed research hypotheses, and meet the study objectives. This aspect of the study and the results are from the bank managers' perspective and not from the customers' opinion. As depicted in figure 5.1, the nature of the exploratory sequential mixed method is such that is used to draw some insightful conclusions to inform and shape the quantitative study. Therefore, unlike the convergent parallel and the explanatory mixed techniques, the findings from the qualitative study is not transferred to the final findings in the quantitative phase (Creswell 2014). Essentially, this design was used in developing data collection instruments that best reflect the study sample, identifying suitable instruments and variable specification (Creswell 2014; Tashakkori and Teddlie 2009).

**Figure 5.1: Research mixed method design (Exploratory sequential)**



Source: Author based on Creswell (2014 p. 220)

## **5.2. Research design and data collection approach**

This study research method is designed having the problem identified, the objectives and hypotheses in mind. The research objectives as outlined in chapter one tend towards confirmatory and explanatory position. Hence, they attempt to describe and validate the behavioural attributes of bank customers on CRM enabled channels and to establish, substantiate and explain the pattern of the effect of CRM on consumer buying behaviour. On this note, the researcher applied the use of a cross-sectional self-administered survey strategy with the use of questionnaires for gathering data on bank customers' perception of CRM enabled channels usage and its impact on their buying behaviour. This process helped resolve the descriptive and explanatory parts of the study. After the data collection process, as will be discussed later on in section 5.5, the obtained data was analysed using structural equation modeling (SEM) approach. Through this technique, the researcher was able to gain understanding and inferences that address the confirmatory purpose of this study.

It is worth mentioning that there are two basic approaches to descriptive studies that are quantitatively inclined: cross-sectional and longitudinal (Burns and Bush 2002; Hair 2003; Iacobucci and Churchill 2015). While the cross sectional data collection method involves obtaining data from a given set of a sample of a population at one point in time, the longitudinal, involves multiple (at least two) measurements over a long period of time (over years) (Creswell 2014). Based on the nature of this study, time constraints and the target respondents, the cross-sectional technique was deemed appropriate (Fowler 2009).

Having selected surveys as against the experiment as a means to obtain data, justification can be made for extrapolative relationships when the survey is designed having SEM in mind as the technique for data analysis (Hair 2010; Iacobucci and Churchill 2015). Although SEM as the data analysis technique was considered before selecting as a survey approach, the main reason for selecting surveys is based on the fact that the study has a number of variables to be empirically tested. Moreover, because the technique does not involve any manipulation. The survey design process will ensure that the path coefficients in the

model are evidently established, by adopting existing knowledge and theory (Kaplan 2000).

### **5.2.1. Survey technique selected**

According to Aaker et al. (2011), deciding to choose a survey approach could be on the basis of some factors such as population type, form and content of the question, expected response rate, costs and period of gathering data. In order to achieve useful outcomes from the survey, it is imperative that the population is defined, the sample is demonstrative of the population, the chosen participants are readily accessible and prepared to participate, the respondents understand the studied phenomenon and the questions, the participants are knowledgeable about the opinion, attitudes and or evidence needed and the interviewer comprehends and records the answers accurately (Aaker 2011). Considering the nature of this study and based on the aforementioned criteria for selecting a survey method, the survey approach that appeared most suitable and therefore used is face-to-face personal questionnaire administration process (Fowler 2009; Fink 2012). This approach has been selected based on the justifications outlined as presented by different authors (Aaker et al 2000; Bryman and Bell 2007; Burns and Bush 2002; Fowler 2009; Malhotra 1999):

- The selected respondents for this study can easily be met through the various bank branches and clustered business places using the systematic sampling approach (see section 5.5.2)
- The respondents can answer quickly by tick or circling each question in the interviewer's presence and clarifications can be sought and made if needed without any form of bias
- This approach is easy and a higher response rate can be achieved because the completed questionnaires are collected immediately
- The approach permits a high level of control over sample selection
- It is cost effective, appealing questionnaire structure, yielding less or no questions without answer and invalid questionnaires.

It is acknowledged that it can be time consuming and less economical if the respondents are across a wide geographical location. This is the case in this study as the researcher needed to obtain data from across the country (due to suggestions from previous studies, generalisability of the results and possible banking differences in banking culture). Nevertheless, the researcher was able to allocate more funds to ensure data was collected from the four notable ethnic groups (North, South, East and West) in Nigeria.

### **5.2.2. Research unit of analysis**

Unit of analysis in a simple term is a basic element in a scientific study and it is about the subject of “who” or “what” of research about which the study outcomes may generalise (Long 2004). The unit of analysis for this study is the individual (Della Porta and Keating 2008), who has been chosen based on required criteria that the individual is *a Nigerian bank customer who is a sole signatory to his or her account*. The set of individuals with this characteristic have been selected because this study is aimed at understanding bank customers’ individual perceptions, attitudes and behaviour with respect to CRM enabled channels, CRM systems’ known benefits and linked consequential effects on their buying behaviours. These selected respondents were told through the questionnaire instruction that their answers are required on opinion and perspectives. The method of face-to-face survey administration enabled the researcher to verify that the responses obtained did not deviate from the set requirements.

### **5.2.3. Operational definition and measurement constructs**

Following the discussion and selection of survey technique for this study, applicability of the variables used need to be considered and clearly defined prior to designing the instrument for data collection (Davis and Cosenza 1993). Burnette (2007) refers to variable operationalisation as the process through which a concept is defined, measured, observed or manipulated in a study by the researcher. The author stated that defining a variable within the context of a study



helps transform the theories from literature and the conceptualised variables that interest the researcher to some particular operations, which give meaning to the variables in a certain study. It also involves the specific questions that would be asked in a survey when measuring what a variable means, which constructs are measured and give understanding on how questionnaire items are developed (Burns and Bush 2002, Burnette 2007; Sekaran 2006). The constructs in this study such as CRM (measured based customer attitude, customer experience, perceived usefulness, perceived ease of use and technology downtime), customer acquisition, customer satisfaction, service quality, customer loyalty and customer retention are defined in accordance with the reviewed literature. These constructs produced meanings in accordance with this study, which are conceptually explained in the next sub-section. Although these constructs were identified from existing literature, their definitions and sources have been properly referenced in Appendix 5. The researcher has decided to use these variables as appropriate tools to measure CRM system based on precedence from literature and in line with the aim to build on existing factors that explain CRM system usage, building upon the research of Padmavathy et al. (2012) and Wang et al. (2004). The next sub-sections present the defined meanings of each of the measuring variables.

#### **5.2.3.1. Variables operationalisation and scales: CRM systems**

As discussed in the literature review in chapter two, this study adopted dimensions and theories from previous studies to develop multi-level scales (second order factor) to measure CRM. For the purpose of clarity, CRM systems in this study is referred to as CRM enabled channels. These channels are technological facilitated platforms or mediums through which bank customers can carry out their banking transactions and a communication mode between the bank and their customer for complaints and feedback purposes. Therefore, the aspect of CRM measured in this study is CRM systems effectiveness as a means to support, automate and integrate delivery channels, which are referred to in this study as CRM enabled channels (tools).

Similarly, this study is from customer perspectives rather than from organizational perspectives. Thus, CRM is measured by accessing their attitude, experience, opinions about usefulness, ease of use and reliability of the automated channels. Referenced definitions from the literature, as interpreted for each of the constructs and their measuring questions scales are presented in Appendix 5.

#### **5.2.3.2. Customer relationships management orientation (CRMO)**

CRMO as one of the dimensions to measure CRM system in this study is interpreted as individual bank customer's perceptions towards CRM enabled channels provided by their banks. CRM orientation means banks' strategic operational techniques or platforms enabled by technology to serve their customers. Examples of these are automated cash machine (ATM), Internet banking, call centres, mobile banking and point of sales (POS). Hence, a customer with a more positive perception towards technology inclined or automated services would be more motivated to display or exhibit positive buying behaviour and consequently would tend to be satisfied, loyal and retained (See Appendix 5).

#### **5.2.3.3. Customer experience**

Customer experience is referred to in this research as individual Nigerian bank customer personal experience, with respect to his or her perception towards how their banks, through CRM enabled channels, attend to their complaints promptly and effectively solve them as well as effective two-way communication mediums.

#### **5.2.3.4. Perceived ease of use**

This dimension of CRM is defined in this study as how individual Nigerian bank customers perceived CRM enabled channels to be easy to use, non-technical and understandable. Based on the research framework, this dimension is developed from the technology acceptance model.

#### **5.2.3.5. Perceived usefulness**

Perceived usefulness is defined in this study to mean how individual Nigerian bank customers perceived CRM enabled channels to be convenient, advantageous and fast to use when carrying out their banking transactions. This dimension is also used to measure CRM system as adopted from technology acceptance model.

#### **5.2.3.6. Technology downtime**

Technology downtime is referred to in this research as how often individual Nigerian bank customer perceived CRM enabled channels to be out of use (breakdown) as a result of technical failure or Internet unreliability other than pre-announced maintenance period. An example of these could be online banking web down time, ATM cash and/or card trapped.

#### **5.2.3.7. Service quality**

Service quality is defined in this study to mean individual Nigerian bank customer impression on overall evaluation of CRM enabled channels performances and, the level at which they observe discrepancy about quality of service the customers normally expected from CRM enabled channels and customers' actual perception of CRM enabled channels performance. This is measured in terms customers' perception of quality service received in the process of using CRM enabled channels for transactions on reliability, tangibility, empathy, assurance and responsiveness.

#### **5.2.3.8. Attitude**

The attitude was used as a second order factor dimension to measure individual Nigerian bank customer's impression about CRM system. Therefore, attitude in this study is defined as customer exhibited acceptance or disposition towards CRM enabled channels as mediums of conducting their banking transactions. These attitudes could be if the customers consider technology-automated channels to be a good

idea, desirable and more pleasant to use for banking making banking transactions.

#### **5.2.3.9. Customer satisfaction**

Customer satisfaction in this study is defined as individual Nigerian bank customer's opinions of expected pleasure or dissatisfaction arising from the use of CRM enabled channels as compared to the CRM enabled channels' perceived performance. This definition follows the satisfaction description of post-usage (post-purchase) evaluation of the perceived inconsistency between before and actual (after usage or availability) performance of CRM enabled channels.

#### **5.2.3.10. Customer loyalty**

Customer loyalty is defined in this research to mean a customer buying behavioural outcome resulting from consistent positive passionate experience, physical attributed inclined satisfaction and perceived values of usage experience that developed from the use CRM enabled channels by the Nigerian bank customers. This definition originated from customers' act of repurchase, recommendation through positive word of mouth and intention to continue purchase or usage.

#### **5.2.3.11. Customer retention**

Customer retention as one of the theoretically identified benefits of CRM system in this study means, a decision-based outcome of Nigerian bank customers to continue to patronise, buy more products and services from the same bank without switching to other banks as a result of positive perception formed or satisfaction received from the use of CRM enabled channels.

#### **5.2.3.12. Customer acquisition**

Customer acquisition is defined in this study to mean the desire or decision made by potential or existing Nigerian bank customers to remain or choose a bank based on the availability and reliability of

CRM enabled channels provided by the bank to effectively carry out their banking transaction. The decision to open an account with a particular bank will be dependent on the perception of the potential customers on the bank's CRM enabled channels.

#### **5.2.3.13. Consumer buying behaviour**

Consumer buying behaviour is seen in this research as the actual behaviour the Nigerian banks' customers exhibited in the course of purchasing products and services from their banks with respect to the specifically identified buying behaviour in the banking industry. These identified buying behavioural attributes include up/cross-buying, repurchase, bank switching, multiple banking and positive word of mouth. The actual displayed behaviour could stem from having a positive perception towards CRM enabled channels or through an indirect effect of CRM system through either all or each of the mediating variables.

### **5.3. Questionnaire development**

Once the method of data collection and research constructs have been put in place, one can progress to design an appropriate questionnaire through which data can be obtained, that can help address research objectives and advanced hypotheses as developed from the literature. The steps to plan and design a questionnaire involve a) defining measurement constructs, b) wording, and c) questionnaire content formulation among others. It also involves pretesting the questionnaire which is an important step. The aim of this study is to establish the relational direct and indirect effect of CRM systems on consumer buying behaviour while using the theoretically derived CRM benefits such as customer satisfaction, service quality, customer loyalty, customer retention and customer acquisition serve as intervening variables. This is by following the contribution of Little et al. (2007) that a key consideration in determining support for mediation is through the assessment of the indirect pathway from the independent variable to the mediating variable and to the dependent variable. I.e. for instance, from  $X$  to  $M$  to  $Y$  ( $aXb$ ) are significant (Shrout and Bolger

2002). Based on the research objectives and measured variables, the questionnaire was categorised into different sections to capture data from individual Nigerian bank customers on the study constructs. These would help obtain information that on the account of the self-reported opinion of individual Nigerian bank customers' perceptions on CRM enabled channels, CRM benefits that serve as mediators and consumer buying behaviour elements.

Furthermore, a section was dedicated to obtaining information that relates to respondents' demographic variables and their habitual usage of CRM enabled channels for their banking transactions. During the design stage of the questionnaire, it is important to be mindful of the inaccuracies and biases that may erode or affect the reliability, validity, interpretability and simplicity of collected data, hence, the research was careful at the instrument design to ensure succinct data was captured (Oppenheim 1992; Peterson 2000). In order to be able to present truly empirical research findings obtained from a study questionnaire as acceptable, it is imperative that reliability and validity are achieved using suggested indices (discussed in chapter five) (Bagozzi et al. 1991; DeVellis 2003).

The questionnaire (Appendix 1) was divided into three sections with an introductory paragraph, which explained the purpose and basic details of the study to the respondents so as to gain their trust and assure them that their anonymity is guaranteed. For the purpose of gaining respondents' attention, ability to test for conflicting answers and to eradicate possible bias, the reverse questions were included in the questionnaire and this was properly treated during the entering into SPSS. As suggested by Peterson (2000) and Oppenheim (1992), the sections of the questionnaire follow the sequence of asking the questions that relate to the research constructs first after which the demographic questions were asked. They averred that using this design structure would enhance capturing important data first and facilitate a high response rate, as respondents may be disinterested if the first section probes for personal information. Considering the peculiarity of Nigerian shared characteristics of not being disposed to revealing their incomes, the researcher deliberately did not ask any questions on income, in order to avoid massive rejection, doubt and disengaged responses.

The first section of the questionnaire (Section A) captions questions that help familiarise the respondents to the study and to ensure that the person filling the questionnaire has the features of the intended respondent for the research. Section B, which consists of 46 questions, deals with the constructs in the study consisting of the independent variable, intervening variables and the dependent variable. The section was designed according to the research model and the selected mode of data analysis (SEM) so as to enable the research to gather relevant data about the Nigerian bank customers' opinions on CRM system, CRM system benefits as the mediators and their buying behaviours. The last section (section C) focused on the respondents' demographic variables such as age, gender, education level and occupation. These questions took the format of multi-choice and Likert scale and one open-ended question. The questionnaire was designed in English language and there was no need to translate into other languages. This is because although there are three major languages in Nigeria (Hausa, Ibo and Yoruba), the official language of the country is English hence, all respondents (as indicated in the descriptive analysis section with lowest education being undergraduate) can read and write in English. Arranging the instrument in this sequence allows the coherent flow of the questionnaire and simplifies the completing process for the respondents (Creswell 2014; Peterson 2000).

**Reliability** simply signifies the extent or ability of a scale to generate the same outcomes repeatedly and produce accurate representation of the population used in a study with a repeated measure of the same constructs using the same methodology (Peterson 2000; Golafshani 2003). In order to evaluate reliability, the researcher needs to examine internal consistency, which is often assessed based on scale items using conventionally recommended measures such as Cronbach's alpha coefficient (Cronbach 1951). On the other hand, **validity** of research scale items is the extent or the ability of the scales used to measure the study constructs it is primarily designed to measure (Peterson 2000; Kimberlin and Winterstein 2008). One type of validity is **face validity**, which is often conducted by physical review of the items rather than statistical examinations, **content validity**, which refers to how well item design

purposely to operationalise research constructs gives sufficient and demonstrate sample for the items that may measure the research constructs (Kimberlin and Winterstein 2008), **Construct validity** is traditionally judged on the basis of accumulated evidence from previous studies with the use of a particular measuring scale items (Kimberlin and Winterstein 2008) while **Criterion validity** refers to the extent to which a measure associates with other measuring scale items of that particular construct.

In order to ensure that the scale items used in this study instrument are reliable and valid, the researcher followed an existing framework and questionnaire development procedure suggested (e.g. Oppenheim 1992; Peterson 1994; Radhakrishna 2007). The prescribed steps entail selection of study respondents, specification and testing or operationalising the constructs, clarifying information needed, making decisions on the questionnaire content, question wording, arranging the questions in a logical and sequential manner, ensure the questionnaire is not too lengthy, carry our pilot test and developing the decisive survey instrument. The author of this research also met with Parasuraman and Bagozzi at the November 2015 Society for Marketing Advances conference in US. Their comments and suggestions on the research variables as well as the conceptualisation are instrumental to further confirmation of the study's scales, analysis technique and model fitness.

### **5.3.1. Measurement scales and scales item range used**

The choice of measurement scale item range employed in a study will depend on the research objectives, research methodological paradigm, method of data analysis and measured variables. This study is concerned with measuring the level of relationships and associations hence the multi-item scale was deemed suitable as it is often employed in marketing studies to measure attitudes (Parasuraman et al. 1991). Another crucial factor that frequently determines the scale item range to use in research is the underlying constructs to be assessed. This study as required used a nominal scale to collect data relating to demographic variables which is classified as categorical variables such as age, gender, education, occupation and respondents'



banks, while an ordinal scale was employed to access information on respondents' length of patronage of their bank or banks as the case may be. The interval scale was applied to gather information that was used to measure behavioural and attitude constructs. For the purpose of this study, a Likert-scale was used as a means of adopting the interval scale.

The use of a Likert scale has been established to be a robust approach that can be deployed in exceptional situations of interval measurement (Allen and Seaman 2007; Cooper and Schindler 2006; Malhotra 1999). It is worth mentioning here that there are different arguments as to how the Likert scale is treated. While some scholars such as Clark and Wood (1998) and Vickers (1999) consider it as merely ordinal level measurement, others argued that differences exist between Likert scales and Likert items and the disagreement stemmed from absence of fundamental knowledge (Brown 2011; Jamieson 2004). In order to uphold the position of Likert scale and balance the differences argued to exist between Likert items and scales, Brown (2011. p. 13) resolved that "Likert scales contain multiple items and can be taken to be interval scales so descriptive statistics can be applied, as well as correlational analysis, factor analysis, analysis of variance procedures etc. (if all other design conditions and assumptions are met)".

Moreover, on the numbers of scales to be used, according to Rasmussen (1989), using a multi-item scale that has a minimum of five points is sufficient enough to achieve uncompromised statistics results accuracy. The author added that applying parametric process on the scales would not have detrimental consequence to the conclusions originated from the research. In line with this, a good number of recent ranking scales such as Likert scales and other scales that can be used to measure behaviour, attitudes and opinions often comprise either five or seven Likert scales having the middle point and neutral and the two extreme ends represent the positive towards the right and negative in the left direction (Preston and Colman 2000; Norman 2010). In this study, the researcher takes the view that Likert scales if constructed properly can be used for measurement of an interval. This view has been taken based on the stand of existing

scholars and studies (e.g. Cummins and Gullone 2000; Yusoff and Janor 2014).

Similarly, there are disputes about what number of responses is considered best in terms of points. Both five point and seven-point scale item range are said to be useable with some levels of non-significant difference in reliability (Norman 2010; Preston and Colman 2000). Russell and Bobko (1992) established that the 5-point Likert scale appeared to be a too coarse an approach to obtain accurate data for studies that examine moderating effects. Essentially, Cummins and Gullone (2000) argued that higher Likert scale above 7-points will not necessarily improve reliability and in the same manner, Nunnally (1978) supported the case for higher Likert scale but upheld that with the addition of one point to the scale, there will be a rise in reliability but the increase in reliability attains its maximum at 7 points, and adverse reliability begins to set in at 10 to 11 points. Although Preston and Colman (2000) discovered that respondents test reliability does not improve with scales above 10 points. On this note, Finstad (2010) observed that there are other arguments that 7 point may be optimal. In making a case for 7 point Likert scales, Lewis (1993) and Sauro and Dumas (2009) established that 7-point scales lead to stronger correlations t-test outcomes and robust measure. Similarly, Diefenbach et al. (1993) investigated a range of Likert scales from 2 to 12 and the results revealed that 7-point Likert scale turned out to be the overall best. The existing literature sources of the adapted constructs in this study for measuring CRM system and other variables applied 7-point Likert scale therefore, in order to be consistent, gain reliability of results and for respondents' ease of use, the 7-point Likert scale was selected in this research.

### **5.3.2. Content and wording of question**

In order to ensure that the questionnaires used in this study are devoid of ambiguity, technical terms and jargons, vagueness, generalization, leading double-barreled and presumptuous questions, the researcher designed the survey such that the questions were reasonably short, simple and easily understandable (Krosnick and Presser 2010; Oppenheim 1992). This and developing the survey such

that questions on the same variable are grouped together, removing or placing uncomfortable or sensitive questions at the last part and setting the first sets of questions to be easy and pleasant characterised the instrument hence, helped to achieve the optimum outcome.

### **5.3.3. Survey pre-testing**

The importance of performing a pre-test and pilot test for research surveys has been long established to be a necessary task with the process of empirical data collection. This helps to ensure the questions provide the responses needed, discovers ambiguities in question wording and errors including other necessary tests for research instruments prior to survey administration (Burns and Bush 2002; Calitz 2009). Debriefing and protocol being the most frequently employed pre test methods were used to address questionnaire quality (Diamantopoulos et al. 1994). While debriefing takes place following when the questionnaire has been developed (purposely to disclose questionnaire precise objectives), protocol on the other hand, involves the researcher to ask the respondents to critically think (think aloud) while answering the questionnaire (Diamantopoulos et al. 1994; Koskey 2016). Both techniques were used so as to achieve a highly effective questionnaire.

At the early stage of this study prior to survey development, the researcher wanted to be sure that the intended Nigerian banks customers would be the suitable source of empirical data for this study. The uncertainty was if they are familiar enough with CRM system as a concept and have a good knowledge of the research variables. Consequently, the researcher carried out a first preliminary pre-test experiment (protocol) in February 2013 to find out if a typical Nigerian bank customer has knowledge of CRM and if they can provide data that would be required for this study. The participants for this exercise were ten (10) newly arrived postgraduate students from Nigeria for January start in Aberdeen. Likewise, pilot telephone chats were conducted with two Nigerian bank relationship managers for the same knowledge confirmation purpose. The outcomes from this exercise proved that the intended sample location is adequate and

suitable enough for robust data and the method selected for data collection is adjudged suitable.

Furthermore, as the study progressed, the first draft of the questionnaire was developed. Although the items used in this study have been previously used in existing studies and have gone through rigorous tests, because these items are being applied to a different sample population with diverse and peculiar banking habits and owing to the fact that some of the questions are being re-worded to suit the current study, the researcher further put the items to test. After the first draft, five marketing and management academic staff were requested to evaluate the questions and provide their judgments with respect to content validity and wording. The content of questions was validated and a few coinciding and wrong wording (ambiguous) questions were identified and necessary adjustments were made. The adjustments made are exemplified below. Given that sample size for pilot group may be between 25 to 100 (Cooper and Schindler 2006), following this in July 2014, a small group of 30 participants were selected using a convenience sampling approach, as a popular method for the next stage of questionnaire test (Bryman and Bell 2007; Sekaran 2000). The participants for this exercise were fellow colleagues (Nigerian doctoral researchers). Precisely, this set of respondents were particularly asked to look out for ambiguities, wording errors, typographical errors and leading questions (Saunders et al. 2007; Zikmund 2003). Suggestions such as using "technology" rather than "CRM", providing full meanings of abbreviated terms such as "ATM" as "automated teller machine" among others were put to the researcher. These suggestions were appropriately considered. This exercise also helped the researcher to know how long it will take to complete the questionnaire, which was between 10 to 15 minutes. In effect, the adjustment was deemed important to avoid ambiguity, wrong rationalisation of variables thereby indicating unintended meanings to respondents and given full consideration to the applicability of the research instrument to the Nigerian setting.

The final pilot study was carried out prior to the final administration in Nigeria in September 2015. 35 randomly selected Nigerian bank customers were given the questionnaire to fill. The 35 pilot respondents were selected in a certain bank branch in Ibadan city

as a pilot bank based on a purposive approach. The researcher handed out the questionnaires to the respondents that were willing to part take in the pilot exercise but in the order selecting one after the other. This process allowed the potential respondents to have equal chances of being selected. In a few cases where a targeted participant declined, the researcher skipped the next three people before handing out the next questionnaire. The survey was personally distributed and from the 35, only one was incomplete and 1 with missing values implying that 33 are usable. A reliability test was conducted with the piloted data using SPSS and in line with the recommendation from literature, a benchmark of 0.7 reliability coefficient was used and the Cronbach alpha result was above 0.7. Moreover, an effort was made to ensure that the data obtained can be assessed using SEM approach. As a prerequisite in SEM, there is a need to have a model that is "over-identified". An example of an over-identified model is presented in Appendix 17. Therefore, a model was developed using AMOS™ software with the data in hand and the outcomes showed that the data fit the model and the model was over identified as required (Arbuckle 2008). These outcomes imply that the researcher can go ahead to use the instrument to collect data, which can be effective for further model examinations for the study. The described procedures above helped reveal and improve the quality of data collected and used in this study.

#### **5.3.4. Reliability and validity of questionnaire**

**Reliability** is the random error that is present in measurement and shows the exactness of the measurement instrument (Norland 1990; Radhakrishna 2007). The purpose of conducting questionnaire test-retest for reliability is to gather data pertinent to this study and ensure that the data is collected in a reliable manner. Testing for reliability is considered important in this study (as it is the case in other related studies) because of the nature of the questionnaire structure taking the form of multiple measurements for each of the research measured variables. As mentioned in the previous section, in order to assess internal consistency, Cronbach alpha, which is often used, was applied (Field 2013; Hayes 1998). Cronbach coefficient results between 0 and 1 suggest homogeneity among a group of items, but the minimum

acceptable coefficient is 0.7, indicating a high level of consistency (Hair et al. 2010; Pallant 2013).

**Validity**, unlike reliability, is the extent in which systematic error is built into a measurement (Norland 1990). It helps to determine the appropriateness of the survey instrument used in a study. Giving consideration to the nature of the research, questionnaire validity can be found with the use of expert panel and field test (Norman 1990). While validity is typically categorised into the content, construct, criterion and face validity and, the application and usage of each of the categories will depend on the objectives of the research under consideration. A study questionnaire that is considered to have been tested valid using a panel of experts and in the field should confirm that the questionnaire is valid in terms of it measuring what it is meant to measure, the questionnaire represents the content, it is suitable for the research population or sample, the questionnaire is comprehensive to obtain all necessary information required to achieve the research objectives and the instrument physically looks like a questionnaire (Radhakrishna 2007).

The researcher of this study made every effort to ensure validity of the questionnaire. Firstly, content validity was applied based on the fact that the variables used in the study have already been defined from marketing and technology relevant extant literature. For clarity purpose, content validity addresses how well the items applied to operationalise a construct give a sufficient and representative sample of what could possibly be used to measure a given construct (Kimberlin and Winterstein 2008). They state that since there is no statistical examination to establish if a measure sufficiently covers or represents a construct, content validity usually depends on the judgement of experts within the field. Other forms of validity such as discriminant, construct, convergent and nomological validity are discussed and examined in section 6.4. Similarly, other than from the literature, at the interview stage, the various types of validity were also confirmed with the selected interviewed and consulted experts. The pretest validity carried out during the pilot phase was to further attest and have a reassurance that the questions are a true reflection of the variables, the questionnaire is based on the research objectives,

the questionnaire requested only data required for the study and it provides respondents with clear instructions as to how to attend to the survey (Caramines and Zeller 1997). In order to have a good reliable and valid questionnaire, existing items and scales previously used to measure the research variables were adapted and modified where necessary as suggested by the experts to properly suit the current study and improve the scale sensitivity (Churchill 1979). Other pretests were carried out prior to the pilot as mentioned in the last section, including the use of peer review using the academic and non-academic staff within the business school. The researcher met on a one-on-one basis to give them a copy of the questionnaire and asked for their views regarding the questionnaire. Following a few recommended modifications to wordings and rephrasing of some parts of the instruction section, and followed by these amendments, the response received indicated that the questionnaire was understandable, logical, void of ambiguity and it is easy to complete. This process helped in achieving good accuracy and consistency.

The experts used during the validity pretest period were selected using a purposive approach but the criteria for selection was based on their expertise within the research subject scope literature, knowledge of statistical methods, associated research methods as well as the researcher's and project team judgment (Fowler 2002/2009; Onwuegbuzie and Collins 2007; Patton 1990; Teddlie and Yu 2007).

### **5.5. Sampling process: Process of questionnaire administration**

The implementation phase of the study questionnaire is fundamental in order for it to be successful. This success is dependent not only on having proper distribution and administration of the questionnaire, but also having a well-designed research structure (Creswell 2014). The researcher on a face-to-face basis personally administered the questionnaires by handing it out to the respondents. The questionnaires were handed out to the respondents who are representative of criteria given in section 5.5.1 using a systematic sampling approach of every 5<sup>th</sup> person on the queue. However, in the case that the next 5<sup>th</sup> person refuses, the researcher continued on the

basis selecting the next 5<sup>th</sup> person rather than the immediate next person. This is because there were more than enough potential respondents. This approach was preferred given cognisance of the Nigerian environment and the fact that it may be difficult to access the targeted respondents through internet mediums such as e-mail and because it is easier, quicker, more convenient for the researcher and different cities and ethnic groups across the country have been selected as groups to represent the population (Bryman and Bell 2007).

The questionnaires were distributed to individual bank customers aged between 18 – 65 and are the sole signatory to their account. In order to obtain balanced perceptions of customers on the research constructs, the researcher decided to conduct the distribution of the questionnaires to the respondents during banking transactions as well as at a time when they were not carrying out banking transactions. Hence, the questionnaire administration was conducted across retail banks branches, concentrated ATM houses/centres and clustered business areas. It is worth mentioning that the data collection locations were initially planned to be only within banks' branches and major cities. Following the eligibility criteria for the respondents discussed in section 5.5.1., the researcher filtered for each respondent's eligibility at the point in time when a respondent is filling out the questionnaire. As a way to check for eligibility, the first section of the questionnaire (as discussed in section 5.3) serves as a guide to checking if a respondent meets the listed criteria or not. As a checking procedure, the researcher examined the questionnaire immediately after the respondent had completed it and confirmed that the participant meets the criteria. In cases where this was not the case, such questionnaires were discarded. However, it was observed during the first day of the implementation that the condition of the locations in term of long queues and long transaction turn-around time (being the current experience of the respondents) could impair their responses. Thus, other locations where the respondents are not interfacing with any of the CRM platforms such as cluster business areas, university environment and villages (rural areas) were later included. Prior to the start of administration of the questionnaires, proper arrangements were made with the branch managers for



permission to conduct the survey within their bank premises through a physical visit and telephone.

The survey took place between September 2014 and December 2014. This length of time was considered sufficient given that it was possible to meet between 40 and 80 people in a particular branch. This was also possible because the Nigerian economy as mentioned earlier is mostly cash based and, as such, most transactions are carried out in the bank branches leading to a high volume of customers within any branch on a daily basis. At the end of the questionnaire administration process, the sampling procedure involved selecting an adequate number of elements from the sample population. This was on the basis of the data obtained from a subgroup, so that inference can be made from the entire population characteristics (Churchill and Iacobucci 2004; Sekaran 2000; Zikmund 2000). The sampling procedure for this study involved defining the population, determining the sampling frame, stipulating the sampling approach, establishing the sample size and selecting the sample (Aaker et al. 2011; Creswell 2014; Fowler 2009). The stages of the sampling process are discussed in the next subsections.

#### **5.5.1. Research population**

A population is described as the aggregate of all subjects that represent or agree to a set of specifications, containing the whole group of persons that interests the researcher and to whom the study outcomes can be generalised (Polit and Hungler 2013). On the other hand, a sample is the subset of the study population that represents the total population chosen to take part in the study (LoBiondo-Wood and Haber 2013). The research population for this study encompassed individual Nigerians, who have at least one account with a Nigerian bank and are the sole signatory to their accounts within the age of 18 – 65 years. In addition, the individual respondent must be knowledgeable about CRM enabled channels as means of carrying out their banking transactions. The criteria do not indicate that the respondent must be a member of a certain region or ethnic group of the country because, data was collected in the four major ethnic groups in Nigeria (North, East, West and South). Additionally, in order

to have research findings that can be generalised within the context of the Nigerian banking industry, respondents were selected from these ethnic sets with diverse differences in cultural practices, beliefs and religion. This population is adjudged appropriate for this research because it is representative of the total elements that contain the entire population for the purpose of the research problem (Malhotra and Birks 2007).

### **5.5.2. Sampling frame**

A sampling frame is a collection of the total population, which could be included in a survey and out of which a sample can be selected (Oates 2006). In order to establish the sample frame for this study, retail bank branches and clustered business areas in major cities and towns that fall under the four ethnic groups were used as a basis to group the respondents based on their cultural norms, beliefs and religion, which are the known factors that may influence their perceptions of the research constructs. Although permission was sought from the banks to conduct the survey in their bank premises, it was clearly said to the respondents that their opinion should be reflective of their personal experience with CRM enabled channels usage and their exhibited buying behaviour. It was also mentioned to the participants that though they are filling the questionnaire in a particular bank, the study is not about any specific bank but on the whole retail banks in Nigeria.

### **5.5.3. Sampling approach**

This study intended to make an inference from the selected sample and generalise the findings to the entire population hence, the probability sampling technique was used (Bryman and Bell 2007). Sampling can either be probability or non-probability (Bryman and Bell 2007). While probability sampling involves choosing participants based on the assumption that the sample is a fair representative of the research population, non-probability sampling involves selecting the survey participants prior to the survey administration on the basis of some specific characteristics (Saunders et al. 2007). Probability

sampling is considered suitable because it allows the researcher to draw conclusions and predictions can be made on the variables' effects on the whole population (Bryman and Bell 2007).

Similarly, probability sampling allows for random selection with every member of the population having an equal chance of being selected. Probability sampling can be simple random sampling, stratified sampling, systematic sampling and clustered sampling (Aaker et al. 2011; Bryman and Bell 2007). Systematic sampling as the selected sampling approach for this study involves selecting respondents randomly from a chosen set of people at every  $n^{\text{th}}$  regular interval starting with a random person (Aaker et al. 2011). A systematic sampling approach was adopted because it is quicker, economical, produces evenly distributed sampling, it is more efficient and its outcome is a better representation of the research sample (Creswell 2012; Elsayir 2014; Hayes 1998).

#### **5.5.4. Sample size**

Having established the sampling approach, the next stage is to determine the sample size for the research. Since there is no clearly unified appropriate sample size for studies on consumer behaviour, the desired sample size will depend on factors such as the researcher's knowledge and judgment, empirical precedence, proposed method of data analysis, available funds, access to sampling frame and research objectives (Jankowicz 2005; Malhotra et al. 2007; Maxwell et al 2008; Westland 2010). Notably, using a large sample size comes with its advantages, but achieving a large sample size is dependent on cost and time constraints. Consequently, the researcher gave consideration to what is considered an achievable, realistic sample size for this study and at least meets or surpasses the minimum sample size empirically required to achieve meaningful deduction statistically.

As suggest by Hair et al. (2010/2013), sample size can be determined by factors such as the degree of significance, the statistical power, the minimum coefficient of determination i.e.  $R^2$  values used in the model and the maximum number of arrows pointing at the unobserved variable. For instance, as demonstrated in Wong (2013), it is calculated using as 5% significance level, 80% statistical power and

at least 0.25 for R<sup>2</sup> power. While Hair et al. (2010) suggest five respondents to a variable as a minimum lower limit, a more commonly used is anything in excess of ten to one (10:1) per variable. Hence, the number of variables times 10 which in the current study is 11 times 10 which is equal to 110 respondents as a minimum sample size. A sample size of 400 is used in this study.

The data analysis approach selected for this study is structural equation modeling (SEM) (see section 5.7), which is known to be very sensitive to sample size with unreliable outcomes and less stable when a small sample size is used for the estimation (Arbuckle 2008; Tabachnick and Fidell 2001; Wang and Wang 2012). According to existing recommendations, in order to accomplish a robust outcome from the use of SEM, a sample size between 100 and 120 is deemed sufficient for estimation of needed independent sub-sample examination nonetheless, this is largely dependent on the complexity of the model, numbers of hypotheses involved and relationships to be examined (Bentler and Yuan 1999; Loehlin 1992; Ullman 2006). Following a general rule of thumb, a minimum sample size of 300 is considered comfortable, 500 to be very good and 1000 to be excellent (Comrey and Lee 1992; Garson 2008; Tabachnick and Fidell 2001). Similarly, Roscoe (1975) recommended that giving consideration to model complexity, required accuracy alongside the level of confidence requires, a sample size that fall between 300 and 500 can be considered adequate for almost all studies. On this note, Sekaran (2003) averred with respect to Chi-Square sensitiveness to data that using a larger sample size may result in type II error. Thus for the purpose of this study, a sample size that fell between 300 and 500 was considered sufficient in line with precedence for structural equation modeling sample sizes (Arbuckle 2008; Smith et al. 2009; MacCallum et al. 1999; Norusis 2005).

## **5.6. Procedure for data processing**

### **5.6.1. Responses coding**

At the end of the data collection exercise, the researcher, identified, classified and assigned numeric or character symbols to data pre-

coded as in the questionnaire, and other questions that were not pre-coded specifically TDT measuring questions were post-coded (Wong 1999). The obtained data were manually inputted into statistical analysis software package (SPSS) version 22.0 for further evaluations. Furthermore, the variables in the data set were named accordingly in such a way that the software understands and can handle them.

### **5.6.2. Data cleaning**

The researcher carried out physical checks and visual software simulation checks on the data set (Using SPSS) for inconsistencies, duplications, missing data and any data entry errors. Except for missing data (due to ineligibility) from some questionnaires, there were no other false entries or inconsistencies present in the data set. For the missing data, out of the 465 questionnaires administered, 65 cases were deemed unsuitable due to incomplete or missing answers for respondent's criteria and unengaged responses hence, the 65 cases were not included in the data set. This is in order to have ease of data handling process, avoid data manipulation using statistical measures that could lead to compromised results. The researcher administered the survey on a one-to-one basis unlike mail survey across the selected regions hence, checking for non-response bias was unnecessary as there were no significant respondents who were unwilling or unable to take part in the survey (Aaker et al. 2011, Leeuw et al. 2008). However, the next sub-section presents an account for common method bias.

### **5.6.3. Common method bias**

Common method bias also popularly referred to as common method variance is linked to the measurement approach and not to the constructs represented by the measure (Podsakoff and Organ 1986; Podsakoff et al. 2003). Common method bias can create measurement problems such as measurement errors, false internal consistency and false correlation, which can result in systematic measurement errors arising from inflation or deflation of observed relationships between research variables, thereby producing type I and type II errors

(Bagozzi et al. 1991; Chang et al. 2010; Podsakoff et al. 2003/2012). Accounting for common method variance in a study has been averred necessary because the measurement that may arise from it can distort or threaten the validity of research findings and conclusions drawn from the relationships between study constructs (Bagozzi et al. 1991).

Although common method variance has been established to be present in all studies within behavioural studies and can be managed in a study, it cannot be eliminated. A study conducted by Cote and Buckley (1987) concluded that about 16% of common method bias existed in measurement in marketing research, stating that up to 40% of the bias can be attributed to attitude related measurement. Since common method bias can seriously impair research findings and conclusions, it is important that its likely causes are known, understanding of the source and at what point they are likely to be a problem (Podsakoff et al. 2003). The common method bias sources according to Podsakoff et al. (2003) are explained in the next sub-section.

#### **5.6.3.1. Common source**

This source of common method bias arises when the same set of respondents are used as the data source to give measures for both predictors and criterion variables. Giving that the same set of individuals provided responses to the predictor and criterion variables, this source of bias can potentially lead to non-natural covariances between the variables. Common source bias is often attributed to consistency pattern, social desirability, tolerance bias and acquiescence bias. While Podsakoff et al. (2003) state that this bias source can be eradicated through the use of different respondents as the data source for the predictor and the criterion variables, notwithstanding the method is not usually achievable with surveys that involve questionnaires because of concerns about logistics and associated costs (Atorough 2013; Podsakoff et al. 2003).

#### **5.6.3.2. Item characteristics and item effects**

Questionnaire item characteristics can become a source of common method bias when the approach through which the items were

presented to the respondents lead to the artificial covariance in the research observed relationships. This can happen if the item wordings tend to bring about social desirability influence, complexity in questionnaire structure and or ambiguity, the format of the variables measuring scales, scale anchor and reverse code item. Item effects as a source of bias that could cause artifactual covariance include item priming effect, item embeddedness, context-induced mood, length of the scale used and inter-mixing items of a different construct in the questionnaire (Podsakoff et al. 2003).

#### **5.6.3.3. Measurement context**

The last factor that may lead to artifactual covariance according to Podsakoff et al. (2012) is on the measurement context. This occurs when there is attributable influence from the time and location of the survey as well as using the same medium on the respondents, thereby undermining their responses on the study constructs. As a remedy, varying the location, medium and time of the survey can potentially eliminate this bias. However, cost and other related resources often become limitations. Subsequently, effort was made during data collection for the current study by applying the remedies mentioned above.

#### **5.6.4. Assessing common method bias**

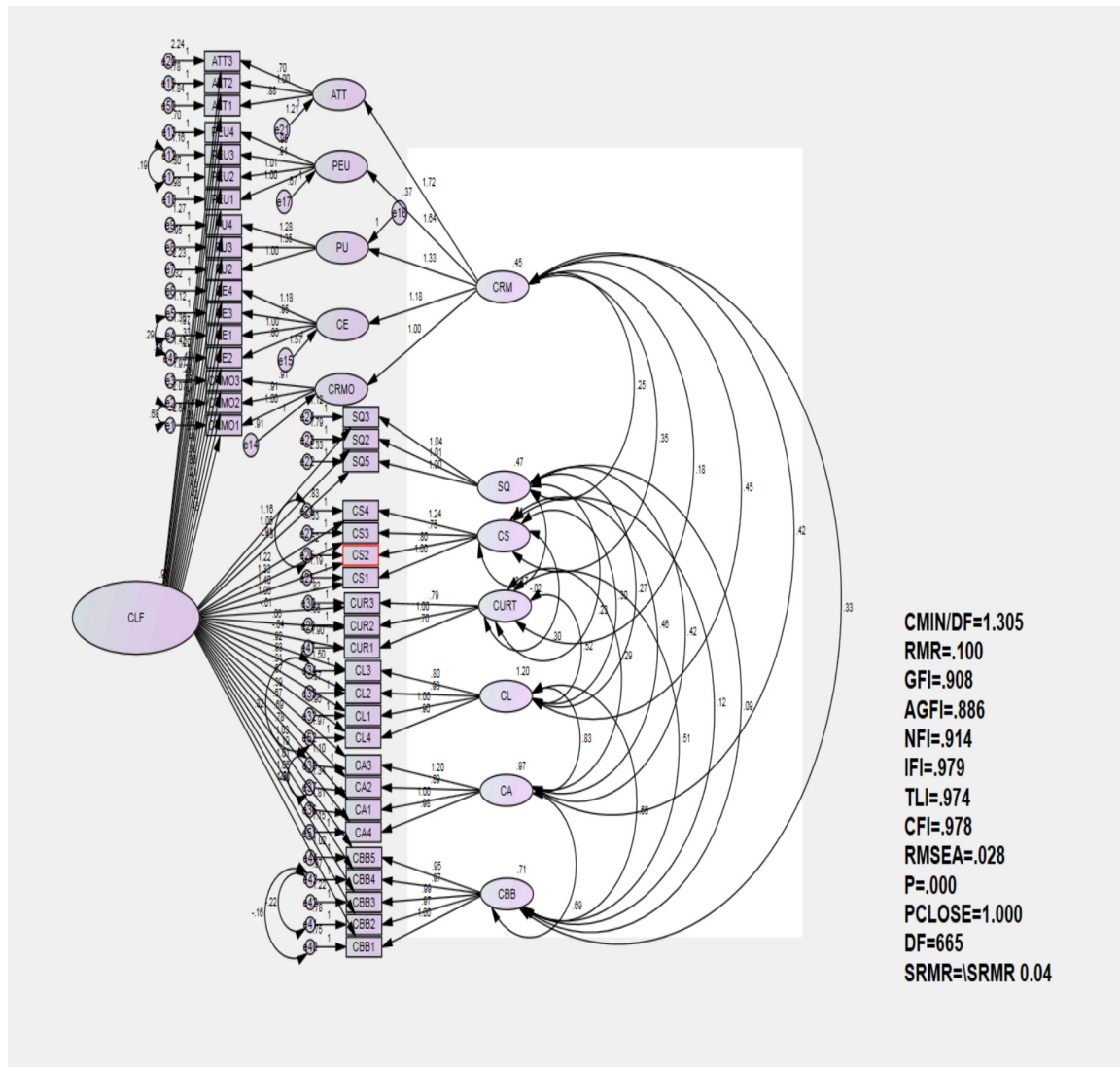
Considering the possible effect of common method bias on the present study findings, it is imperative that common method bias is assessed accordingly. There are suggested approaches through which common method bias can be accounted for in behavioural studies and which have been carefully followed in this study. At the questionnaire design phase, the researcher followed the process that ensures due diligence on question wordings, design structure, validity test, administration pattern and presentation format (Malhotra et al. 2006; Podsakoff et al. 2003/2012). Similarly, some of the items were reversed and the instrument was pre-tested at two different stages. Although this procedural method of treating common method bias was used to eradicate common method bias, the reason was not to entirely

eliminate common method bias. This is in order to adhere to the caution that researchers should not eliminate common method bias at the expense of general validity during the procedural phase (Podsakoff et al. 2003). As an alternative, Podsakoff et al. (2003/2012) suggested that in the case where it is impossible to eliminate or minimise common method bias to an acceptable level, one of the available statistical solutions such as Harman's single-factor test, partial correlation procedure, controlling for the effect of directly measured latent method factor (common latent factor), multiple method factors, correlated uniqueness model and direct product model should be used to account for common method bias.

As a common rule, the advice on which of these techniques is deemed suitable statistical control in particular research is such that, the method applied to control common method bias needs to show the reality that the method is required to have its effects on the items as depicted in figure 5.2 and not at the construct level (Podsakoff et al. 2003). Nonetheless, it may be theoretically sensible to control the effect of the bias in the model at the construct level (Brief et al. 1988; Williams et al. 1996). Based on this, the choice of the technique selected for this study is the common latent factor, which allows common method bias control at the item measurement level (Eichhorn 2014; Kline 2005). This technique was preferred because the present study used structural equation modeling for statistical analysis, which involves using observed indicators and unobserved latent variables. Additionally, selecting this approach was based on the established claim that the technique is appropriate for structural equation modeling (Conger et al. 2000; Kline 2005), and the fact that Harman's single-factor is known not to be adequate hence, different authors suggested that the approach may be discarded for better method (Lindell and Whitney 2001; MacKenzie and Podsakoff 2012).



**Figure 5.2: Common method variance model diagram**



In actual fact, one cannot shy away from the major pitfalls of this technique. These pitfalls are due to the fact that it assumes that the researcher should be able to identify every likely common method bias and that biases are present, and the pitfall that the method factor has no interaction with the predictors and the criterion constructs (Podsakoff et al. 2003). Albeit, this technique is found suitable because its pitfalls seem to outweigh the pitfalls of the other techniques considering the nature of the present study, and the fact that the common latent factor approach permits items loading on their respective theoretical constructs and loadings on the latent common factor. This essentially allows for the partition of the obtained responses to each measuring construct into trait, method and random error (Aorough 2013).

In order to test for common method variance with this approach, the common latent factor (CLF) model is created and added to the confirmatory factor analysis (CFA) model, which becomes the common method variance model. The common method variance model was subsequently examined primarily to find out the disparities that may or may not be present in the significance of the common method variance model chi-square and the study CFA model chi-square. This technique has been used in several earlier pieces of research (e.g. Atorough 2013; Carlson and Perrew 1999; Conger et al. 2000; Schaller et al. 2014).

AMOS™ (Statistical software) (Arbuckle 2008) was used to analyse and test the model to determine the effect or presence of common method bias. The findings from the application of this common method bias control approach using AMOS™ as revealed in figure 5.2 indicates that there is no bias significant enough to distort or erode the research findings validity. Therefore, common method bias was not observed to be a challenging factor in the collected responses. This is because the obtained chi-square from the tested common method variance model (CMIN/DF=1.305) (Please see section 5.7.11.1 for explanation on CMIN, full outcomes in Appendix 6) does not significantly differ from the chi-square obtained from the research model (CMIN/DF=1.418). As a basis for threshold, Bagozzi et al. (1991) recommended that for the responses to be admitted common method bias-free or at a minimally acceptable level, the differences in the obtained chi-square must be less than one and half times, showing good comparative fit. On the other hand, a departure in the chi-square above one and half times denotes that there is a problem of common method bias.

#### **5.6.5. Assessing data normality**

Given the underlying assumption of structural equation modeling, the data set to be analysed must be normally distributed (bell curve) (Gao 2008; Preacher and Hayes 2008). In order to establish the normality of data with multiple variables, multivariate analysis of the distribution can be performed (Hair et al. 2010; Tabachnick and Fidell 2001). Based on the fact that structural equation modeling analyses are

generally of asymptotic type and the obtained outcomes from model assessments are believed to be approximations of true values, it is necessary to perform visual examination of the data distributions in SPSS through Q-Q plots. The outputs from SPSS for the Q-Q plots for all the variables as presented according to each of the measuring question's scale in Appendix 7 indicate that the data used in this study is multivariate normally distributed. Notably, an insignificant skew was noticed in the data distribution as some cases were not precisely on the measuring line. Nevertheless, there were no outliers discovered to pose any major threat or effect on the results. Further normality checks were conducted using maximum likelihood estimation, which comes with robust standard error analysis (Please see details in analysis section).

After the descriptive analysis, validity, reliability and other necessary data quality assessment have been satisfied, the researcher was able to commence the major inferential analysis with the use of SEM in AMOS™ 22.0. The next section provides a brief description and clarification of structural equation modeling.

### **5.7. Brief description of structural equation modeling**

This section explains the ways in which measurement and path relationships are handled in structural equation modeling. It gives an overview on how research hypotheses are examined, provides benchmarks for model fit acceptance criterion, necessary SEM assumptions, and other factors that need to be considered when SEM is applied in a study as an approach to statistical data analysis. This section is deemed necessary for the purpose of helping the readers understand SEM approach and how outputs from the technique are translated to research results. Although SEM has its roots in path analysis as invented by Sewall Wright (Wright 1921), the SEM description presented here is based on authors such as Bagozzi et al. (1991), Byrne (2013), Gao (2008), Hooper et al. (2008), Khine (2013), Smith et al. (2009) and Teo (2011).

### **5.7.1. SEM and its process**

SEM is a common statistical modeling approach that is broadly used in behavioural science. SEM is described as a statistical technique that can be applied in testing hypotheses and relationships that exist among observed and unobserved variables (Hoyle 1995). It generally provides a broader and expedient framework for statistical analysis, which involves numerous conventional multivariate measures such as factor analysis, regression analysis, discriminant and convergent analysis and canonical correlations through path diagram (Hox and Bechger 2007). Similarly, Raykov and Marcoulides (2006) affirmed that SEM is not only a statistical approach to analyse data but also an integrated approach that includes various multivariate methods such as measurement theory, factor analysis, regression, simultaneous equation modeling and path analysis combined in a single model fitting process.

Conventionally, in order to perform empirical testing of theory in SEM, it is required that some five basic procedural steps are observed. Firstly, there is a need to specify the model followed by model identification, model estimation, model evaluation and model modification (Byrne 2013; Khine 2013). In addition to the justification provided in section 3.10, owing to SEM capability that allows for a confirmatory approach to examining theory, the technique has been considered suitable for this study. While SEM has received criticism (Hox and Bechger 2007) about issues on how important statistical assumption is, the required sample sizes, causal interpretation and related critique and likely issues with competing model, Byrne (2010/2013) presented four distinct qualities of SEM as compared to other multivariate methods. These relate to the fact that:

- SEM undertakes a confirmatory approach to testing relationships that exist between variables, which have been initially specified. But in contrast, other multivariate methods are rather descriptive in nature and a result makes testing of hypotheses difficult.
- SEM allows for explicit estimations of error variance parameter while other techniques are incapable of measuring and or

accounting for measurement error. Such pitfall of other techniques is an instance of regression analysis, which neglects possible error inherently present every independent variable included in the model thereby, increases the tendency to obtain fallible findings and conclusions as a consequence of misleading regression estimates.

- SEM procedures involve the use of both observed and latent variables while other techniques procedures only include observed measurements.
- SEM has the capability to model multivariate relations, as well as the estimation of direct and indirect effects of research variables simultaneously.

### **5.7.2. SEM software**

Several statistics analytical software tools are available to use for SEM analysis. However, the most frequently used software programs in previous studies are MPLUS, LISREL, AMOS™ and EQS. While each of these software packages are known to have their pros and cons (Khine et al. 2013), reviewers (e.g. Hox 1995; Miles 1998; Waller 1993) confirmed that any of the software could be used for any standard analysis. Moreover, selecting one of the software packages will be dependent on the researcher's understanding and experience with the chosen program (Hox and Bechger 2007). Therefore, AMOS™ has been chosen for the present study ultimately based on its technical potentials to handle the nature of statistical analyses required. Others reasons include the researcher's knowledge of the software and its availability.

### **5.7.3. Latent variables**

Latent variables are unique variables used in SEM. They are variables that are not observed or measured directly but presumed to affect response variables. Latent variables are often referred to as unobserved factors, unmeasured, true scores or common variables (Bollen 2002). Latent variables account for measurement errors by representing true outcomes while the manifest variables are

represented by their distances. The inclusion of latent variables in SEM makes it different as compared to conventional path analysis. The idea of the latent variable in SEM is a true reflection of the reality of the social science studies where most variables cannot be directly measured (Bollen and Pearl 2013).

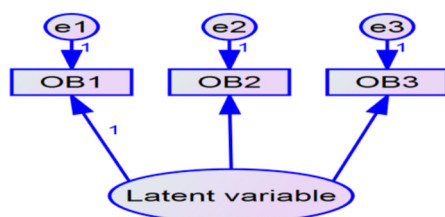
#### 5.7.4. Construct indicators and error terms

Hypothetical constructs that are referred to as latent variables cannot be directly measured. Hence, they are measured with the use of observed variables called "indicators, measure or manifest" variables in SEM. This forms one of the strengths of SEM as it explicitly used measured indicators (e.g. an item in a questionnaire) to account for errors in a model (Byrne 2013). The observed variables (indicators) are used to measure the latent variables. Therefore, measured variable consist of two elements, which are the true score and the measurement error denoted in equation form as:

$$X = t + e$$

Where X is the measured or observed variable, *t* is the true score and *e* represents the error. Figure 5.3 depicts how the relationships between the observed, latent and the error are connoted dramatically. From the above equation and figure 5.3, the pointing arrow to the observed variable signifies that the inconsistency in the pointed variable is explainable partly by the underlying true score and the error.

**Figure 5.3: Diagrammatic representation of indicator and error**



Note: OB = observed variable and e = error

Theoretically, in order to avoid the problem of unidentified model and to identify "t" and "e" components, it is required in SEM that multiple

indicators are used for the measurement and not a single indicator (Charles and Kenny 2010; Kenny et al. 1998; Reilly 1995; Smith et al. 2009). A multi-item scale is usually employed when a phenomenon or things that are to be measured cannot be directly asked as a result of its specific technicality and hence are not explainable to the respondents, or the variables are not well defined thereby requiring a break down approach (Bearden et al. 1989). Using at least two indicators or more to measure a variable yield less error, produces identified model, and produces a true dimension of the construct. Other benefits of using multiple indicators to measure each latent variable include, the fact that a single indicator will not measure some variables in a complex and multifaceted social idea appropriately, a single indicator per variable will resort to systematic errors (errors related to design of experiment) and stochastic errors (errors that are generated when a model fails to completely give the true effect sizes and definite relationships between the dependent variable and the independent variables) (Halaj 2005).

Furthermore, residual or disturbance is another type of error term that is related to endogenous variables. Disturbance often denoted by "D" is described as a set of effect variables causes that are not specified. This implies that each variable in a model that has an arrow towards (caused or predicted by another variable) must have a disturbance (error term) associated with it. This type of error term helps to give an account of any inconsistencies in the endogenous variables, which are not accounted for by the caused variable (Byrne 2013; Khine et al. 2013). Other terminology in SEM that needs a brief explanation is the two major types of variables, which are endogenous and exogenous variables. While endogenous variables are variables that depend on other variables in the model by having an arrow directed towards them, exogenous variables are the independent variables that have no arrows pointing towards them. Exogenous variables are not predicted by other variables in the model while endogenous variables are predicted or caused by one or more other variables in the model. Although, depending on the complex nature of the model, endogenous variables may predict another endogenous variable (Kline 2010).

### **5.7.5. Model specification**

Specification of a model refers to the process of indicating what relationships exist and are hypothesised among the observed and latent variables (Weston and Gore 2006). It is the stage at which the researcher specifies which of the variables' related relationships in the model are free, fixed to be constant and which ones are constrained (Khine 2013). The model specification is a fundamental step in SEM and without specifying theoretically identified variable relationships among the variables to be examined, there cannot be any analysis (Hoyle 1995). In any specified model, every unspecified path or relationship among the variables in the model are assumed to be zero however, if a path which is hypothesised or specified in a model turned out to be insignificant or not supported, then there is misspecification error in the model (Khine 2013; Teo 2011). Within a specified model, fixed parameters are usually not measured from data and are normally equated to be zero implying that there is no relationship between the involved variables, and there is no path or drawn straight arrow between them in the SEM model (Teo et al. 2013).

On the other hand, free parameters are usually calculated based on the observed data and they are typically assumed not to be zero while constrained parameters are the paths in the model that are specified to be equal to a certain value usually 1.0. It is imperative however that the researcher establish which of the paths are free, fixed and constrained because, the specified relationships in the model determine the parameters that will be used to measure and compare the hypothesised model using the sample population variance and covariance matrix to test for model fit (Khine 2013; Teo 2011). In this study as with the typical specification precedence (Byrne 2013; Kline 2010; Teo 2011), three parameters were specified. First are the directional effects, which indicate the relationships between observed indicators and latent variables represented as factor loading and the relationships between unobserved variables and other latent variables, second are the variances, which are the independent unobserved variables estimated to be 1.0 and are calculated to signify errors that associate with the measured variables in the model. The third parameters are the covariances, which indicate non-directional



connection among independent variables and the unobserved variables with double-headed curved arrows signifying specified correlations between two factors.

#### **5.7.6. Model identification**

Following the model specification, the next step to identify the model, which is a condition that must be fulfilled before analysing data (Bollen 1989; Byrne 2013; Kline 2005). Model identification is involved in determining if a unique value for all of the free parameters is obtainable from the observed data, which is dependent on the research model and the nature of the parameters (fixed, free and constrained) (Khine 2013). Schumacker and Lomax (2004) signified that three forms of identification are possible in SEM namely, just-identified, over-identified and under-identified. A model is considered to be just-identified when every parameter included in the model are measured or determined by the exact amount of information i.e., the numbers of known parameters equal the numbers of the unknown parameters. Over-identification of a model occurs when there is more than one condition to estimate a parameter with more than enough information, i.e., there are more specified than unspecified parameters while a model is said to be under-identified when all the parameters cannot be estimated owing to insufficient information (Kline 2005; Schumacker and Lomax 2004).

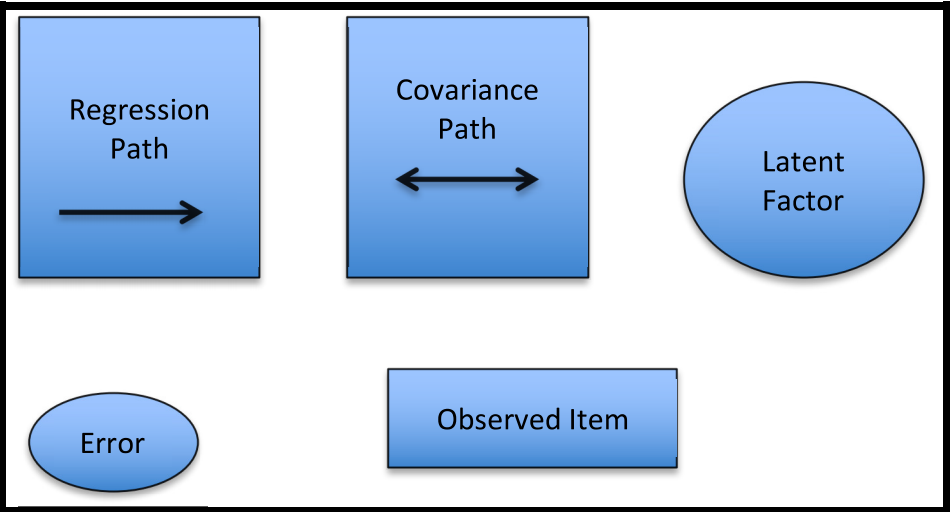
In order to be able to perform proper estimation and test of hypothesised relationships among variables in SEM, the research model needs to be over-identified. This will allow the model estimation to have a positive degree of freedom and produces a better model fit. While it is tenable to use just-identified model to obtain parameters' estimates, it can only produce a marginally general model fit that will not yield precise and perfect confirmation of the strength and goodness of fit of the model (Davis 1993). Furthermore, the act of fixing parameters in SEM is important as it serves as an enablement to construct models that can be identified and the ability to create a nested model, which can be used as an alternative model comparable to the original model (Smith et al. 2009). The models designed for this study are over-identified by applying fixing of parameters theoretically

and the latent variables each has one of its measuring factors constrained to 1 (Teo 2011).

**5.7.7. Symbols used in SEM**

For the purpose of ease of reading and clarity, figure 5.4 presents the common notations and symbols that are used to indicate SEM terminologies and indication of the meaning of the nature of relationships between variables on the path diagram. The standard notations and symbols presented are the straight arrow lines denoting regression line, curved double-headed arrows denoting covariance path, the rectangle stands for observed variable, the large oval connotes latent or unobserved variable while the small oval with straight arrow pointing at the latent variable represents error or residual. Recall that there are two types of errors (measurement error and structural error). Therefore, in the model, the small oval with “e” pointing at the observed variable represents measurement error (error variance) and the small oval with “d” pointing at latent variables connotes disturbance term (Byrne 2013).

**Figure 5.4: Symbols in SEM**



Source: Based on Byrne 2013.

**5.7.8. Model estimation**

After a model has been suitably specified and identified and appropriate data has been collected with sufficient sample size and

every potential problem with the data has been addressed, the next stage is to estimate the model parameters based on the hypothesised associations. Estimation in SEM is usually performed through maximum likelihood (ML) approach. ML is a systematic approach where population parameters are being estimated by maximising the possibility of a sample (Byrne 2013). Estimation refers to the stage at which the values of the unknown parameters alongside the associated errors in the model are determined (Weston and Gore 2006). The unknown parameters are generated through the use of SEM software among which is AMOS™ (Arbuckle 2003). If the assumption that the research data is multivariate normally distributed is achieved, which is the case in the present study, the maximum likelihood will be asymptotically unbiased and efficient. However, if the underlying assumption of multivariate normality of data is not achieved, as a consequence the technique will be considered inappropriate thereby producing overstated or understated outcomes (Khine 2013).

On the other hand, if the assumption of multivariate normality of obtained data is not achieved, there are other alternative methods through which model parameters can be estimated. While other approaches such as asymptotic distribution free (ADF), unweighted least square (ULS) and weighted least square (WLS) do not operate under the assumption of distribution normality but rather on scale dependent and require a larger sample size (e.g. 500 or above), approaches such as ML and general least square (GLS) techniques operate under the assumption of multivariate normality but are not scale dependent (Yuan and Bentler 1998; Khine 2013; Weston and Gore 2006). The data used in this study achieved distribution normality, which was tested and confirmed with the use of Mardia's test for multivariate normality (Skewness and Kurtosis test) alongside visual examination of the Q-Q plots of data output on the normality of continuous variable as shown in Appendix 7 and 9 (Bera and John 1983; Mardia 1970; Park 2008). Although, Bentler and Wu (2002) previously recommended that if the estimate of the normality test outcome is above three (3), then there is going to be chi-square and standard error biases. On the other hand, Bentler (2005) later suggested that z values of 5 or 6 as baseline Mardia coefficient arguing that multivariate normality in practice is not likely to affect the model

except if the obtained  $z$  values are greater than 5 or 6. Having confirmed that data distribution normality was not violated, the maximum likelihood was applied for this study model parameter estimation.

#### **5.7.9. Overall model fit**

Model fit in SEM is the idea that ensures the model at hand is acceptable, which leads to an outcome that the data and the sample size used is suitable for the model designed. The primary objective of achieved model fit is to establish the extent to which data fit the model perfectly (Hair et al. 2006; Khine 2013). Model fit allows the researcher to evaluate if the relationships observed and latent variables sufficiently reveal a true reflection of the investigated relationship in data (Weston and Gore 2006). The process involves comparing the specified model covariances with the sample covariance matrix. Unlike other statistical methods of analysing data, establishing model fit permits the researcher to compare the predicted model to alternative models on the basis of theoretical support. Assessment of whether a model is fit or not is tested using some recommended indices with their various benchmarks. Generally, researchers unanimously classified fit indices into three major categories of absolute fit (model fit), comparative fit and parsimonious fit (Bentler 1990; Hu and Bentler 1999; Mueller and Hancock 2008). In this study, a range of these suggested indices was utilised to assess the global model fit. The details of the various cut-off values and the indices are discussed in depth in section 5.7.11 section 6.5 in the analysis chapter.

#### **5.7.10. Alternative and nested models**

These are the plausible equivalent models that are theoretically possible, which can represent the specified model using the same data set (Little et al. 2007). Examining alternative model fitness can be performed in three ways, through evaluation of paths by examining parameter estimates significance, consideration of changes in explained variances and testing for significance improvement in model

fit using chi-square difference test and assessing improvement on other global fit indices (Weston and Gore 2006). A nested model, on the other hand, occurs when model A is nested in model B that has more restrictions. In order to estimate overall model fit, it is suggested that nested model examination is conducted (Bentler and Satorra 2010; Smith et al. 2009). Nested model is simply defined as models that are a subset of one another with a statistical comparison that produces a robust test for competing models (Ullman 2006). As it is the case with alternative model that involves comparison of competing models in terms of how data fit a model better than the other, nesting models can be achieved by weighing numerous fit indices values of the competing models (Weston and Gore 2006). A simple examination of fit comparison of nested model A (whose estimated parameters are a subset of model B) nested in model B can be accomplished by comparing their chi-square different test values. An example of two nested models is described as extracted from Smith et al. (2009) and Atorough (2013 p. 189) below:

If model A is nested in model B, A will be equal to B plus other parameter restrictions, i.e.,

$A = B + \text{other parameter restrictions, implying}$   
model A is the condensed version model B.

$$\text{Model B: } y_i = a + b_1x_1 + b_2x_2 + e_i$$

Model A:  $y_i = a + b_1x_1 + b_2x_2 + e_i$  (constrained  $b_1$  equals  $b_2$ ) implying model A is nested in model B however, model C parameter estimates does not make it nested in model B giving as:

$$\text{Model C: } y_i = a + b_1x_1 + b_2z_2 + e_i$$

In order to find out model fit using likelihood of model log, giving that model A is nested in model B,

$$LL_A - LL_B = X^2 \text{ having } df_A - df_B$$

If probability of  $X^2$  greater than 0.05 is attained, then the more parsimonious model will be selected and if model B is equal to the observed matrix, it implies there is no variance in the observed

variables and the inferred matrix thereby indicating that the model is fit. If the data is normally distributed, chi-square different test can be calculated by deducting  $X^2$  for the larger model from the smaller model  $X^2$  (Ullman 2006). Other indices that researchers suggested could be used to determine which of the competing models fits to data best include Akaike Information Criterion (AIC) and Expected Cross Validation Index (Brown and Cudeck 1993; Hu and Bentler 1999; Steiger et al. 1985). Following the provided precedented guidelines for model comparison, the present study at the analysis stage presented a proposed model and competing model as a basis for comparison and test for which of the models fit data best (Boomsma 2000; Bentler and Satorra 2010; Weston and Gore 2006).

#### **5.7.11. Model goodness of fit indices**

As mentioned earlier, model fit indices are classified into absolute fit with indices such as chi-square, Goodness of fit index (GFI), Adjusted goodness of fit (AGFI), standardised root mean square (SRMR) and the root mean square error of approximation (RMSEA), comparative or incremental fit with indices such as comparative fit index (CFI), Tuckers Lewis index (TLI), incremental fit index (IFI), and normed fit index (NFI) and parsimonious fit indices such as parsimonious goodness of fit index (PGFI), parsimonious normed fit index (PNFI) and Akaike information criterion (AIC) (Bentler 1990; Bentler and Bonett 1980; James et al. 1982; Joreskog and Sorbom 1989; Mulaik et al. 1989; Tucker and Lewis 1973). Absolute fit indices assess how well a proposed model or theory fits sample data (Hair et al. 2006). Comparative fit measures examine which of the competing models and the specified model best fits the data, while parsimonious measures assess the inconsistencies arising from the observed and implied covariance matrix giving consideration to the complexity of the model (Khine 2013; Mueller and Hancock 2007).

Assessment of overall model fit with chi-square significance test (as one of the absolute fit index) is often problematic due to the fact that the model powers are unstable with sample sizes, thereby making it sensitive to sample size (Hox and Bechger 2007). A statistical test with a large sample size will often produce a significant chi-square

leading to rejection of model even when the model fits the data perfectly (type I error). Conversely, using a small sample size on the other hand will almost definitely produce a non-significant chi-square suggesting acceptance of model even when the model does not fit data perfectly (type II error) (Hox and Bechger 2007; Schreiber 2008). Owing to the sensitive nature of chi-square to sample size, other varieties of alternative indices have been proposed by researchers to assess model goodness of fit.

Although it is required that chi-square and degree of freedom are reported, Hox and Bechger (2007) argued that all other goodness of fit measures is some function of chi-square and degree of freedom. Therefore, reporting chi-square and degree of freedom is only for the purpose of adhering to statistical analysis reporting principles in SEM and not to be used as a measure to justify fitness of model to data. Although researchers have suggested several indices and what combinations can be applied in accepting a model and their related benchmarks nonetheless, the combined indices in essence are provided towards confirmation of accepting or rejecting a model (Hu and Bentler 1999).

Based on the argument that absolute fit indices including chi-square estimates model on the basis of approximation fit rather than perfect fit and the fact that they are sensitive to sample size, researchers have developed other indices that are recommended and have been used by several researchers in previous studies to assess model perfect fit (e.g. Bollen and Long 1993; Carvalho and Chima 2014; Hair et al. 2011; Padmavathy et al. 2012; Reinartz et al. 2009; Yim et al. 2004). Generally, with modern method to model fit, model fit is relatively considered admissible only based on approximation and that in real sense of model fit, perfect fit may be impossible to accomplish (Hox and Bechger 2007). Therefore, because the model fit problem is about examining how satisfactory a particular model approximately reflects the true model, an index such as RMSEA has been developed. Typically, the lower the RMSEA values obtained the closer the approximation of model fit between the specified model and the true model (Hox and Bechger 2007). The next sub-section explains the most commonly used indices and their suggested benchmarks.

#### **5.7.11.1. CMIN/DF**

CMIN denotes the minimum value of the discrepancy between the model and the data and DF means degree of freedom. CMIN/DF implies the minimum discrepancy divided by its related degree of freedom i.e. Chi-square divided by its degree of freedom. This ratio has been used as a model fit measure by researchers as an alternative to chi-square value particularly when the sample size is large. CMIN/DF acceptable ratio for estimation using maximum likelihood is said to be anything close to 1, however, the extent to which it should be close to 1 has rather been vague. Based on this, researchers have recommended some cut off for a ratio that would indicate model acceptability. While some authors advocated a ratio of lowest of 2 and highest of 5 (Carmines and McIver 1981; Wheaton et al. 1977), Byrne (1991/2013) suggested that a ratio above 2 is considered too high and below 2 indicated acceptable fit. For ratio between proposed model and sample data, ratio range of 2/1 or 3/1 indicates acceptable fit (Carmines and McIver 1981).

#### **5.7.11.2. Comparative Fit Index (CFI)**

This index compares the baseline model and the hypothesised model fit. CFI is commonly applied due to its strength for not being sensitive to the complexity of the model. CFI value close to 1 suggests a very good model fit but researchers (Bentler 1990; Bollen 1989) have recommended that values  $> 0.90$  or close to 0.95 conventionally indicated good fit and, for a model to be accepted, the CFI must be at least  $> 0.90$ .

#### **5.7.11.3. Root Mean Square Error of Approximation (RMSEA)**

RMSEA functions as a correctional index for the possibility of chi-square of a model with the large sample size being rejected while adjusting for model complexity. RMSEA values between 0.05 and 0.08 have been classified as adequate for model fit. While Bollen and Long (1993) advocated that RMSEA should be  $< 0.08$  to adjudge a model reasonably fit and Hu and Bentler (1995) suggested that value  $< 0.06$



indicates good model fit, a more conservative value of  $< 0.05$  is suggested to indicate adequate fit (MacCallum et al. 1996; and Brown and Cudek (1993). Nevertheless, the benchmark of  $< 0.05$  has been commonly accepted as the best standard. Likewise, PCLOSE helps to examine the null hypotheses that RMSEA is not above 0.05 and it is expected that PCLOSE value should be at least greater than 0.05 but preferably close to 1 or 1 (Arbuckle 2003).

#### **5.7.11.4. Root Mean Square Residual (RMR)**

This is the square root of the average squared amount by which a model's calculated sample variance and covariances vary from their real values in the data. The standardised root means square residual shows the extent of error that results from the assessment of the stipulated model. This indicates the level accuracy of the model, therefore, RMR/SRMR value between 0.05 and  $< 0.08$  signifies a good fit (Hu and Bentler 1999; Joreskog and Sorbom 1984).

#### **5.7.11.5. Tucker-Lewis Index (TLI)**

This index compares specified model against a null model with values ranging from 0 to 1. As a general rule of thumb, a TLI value  $> 0.90$  indicates that the model is acceptable (Hooper et al. 2008).

#### **5.7.11.6. Goodness of Fit Index (GFI)**

GFI as developed by Joreskog and Sorbom (1984) with an expectation that a value of 1 will signify perfect fit. A common rule is that a minimum of GFI value  $> 0.90$  is required to consider a model fit adequate. Given that some of the indices described above are sensitive to sample size thereby eroding their measuring values, this study used a relatively large sample size of 400 cases hence, the use of absolute fit indices can be combined with other categories of indices in this study without the concern for model measure sensitivity to sample size. Similarly, owing to known problems associated with sample size and chi-square, chi-square significance values were reported in this study but are not the entire basis on which the research model fit and

acceptance was decided. In order to make up for the pitfall of chi-square, CMIN/DF, SRMR, and GFI was used to establish a robust assessment of model absolute fit. Other measures used to assess model acceptability include visual examination of the standardised residual covariance, which were within the recommended range of absolute value of 2 (Schreiber 2008) and inspection of model parameters estimates for overestimation and bogus correlation. These examinations outcomes did not indicate any inherent problem in the model and the data.

## **5.8. Models in SEM**

Structural equation modeling has two main models, which form the stages through which SEM evaluation process takes. These are the measurement model and the structural model. While the measurement model is simply the measurement aspect of SEM that involves the specification and measurement of relationships between research constructs and their observed indicators, the structural model aspect involves specification of regression paths and models the hypothesised relationships among research constructs (Smith et al. 2009). Conventionally, when SEM is used in a study, the measurement model is first developed and estimated using confirmatory factor analysis (CFA), an approach equivalent to exploratory factor analysis (EFA) in regression technique. At the stage of CFA estimation, various checks are performed to establish validities and reliability. After CFA outcomes have confirmed the measurement model fit and acceptable using existing indices, the structural model estimation is then followed. The constructs used in the structural model will be the ones that were used and accepted in the measurement model.

### **5.8.1. Confirmatory factor analysis**

CFA technique as the first step in SEM differs from exploratory factor analysis (EFA) because while EFA discovers a number of factor loadings that is most near replicated observed covariances, CFA, on the other hand, validates a measurement model specified ab initio. Additionally, EFA entails modeling every variable in relation to all

factors with some rigorous manipulations before factors perfectly fitted on each construct however in CFA, specific indicators are assigned to each variable in the measurement model. Similarly, while it is possible to identify theoretically observed items that are related to a certain unobserved variable and assess the theory together with research data in CFA, EFA technique can be contended to be unsound due to its inductive nature and reliance on subjective judgment with respect to the observed indicators (items) that load on a certain construct (Smith et al. 2009). Following the general practice in SEM, CFA was applied in the present study to perform typical analysis and estimations in measurement aspect of SEM.

### **5.9. Model modifications**

In practice, if the hypothesised model is a poor fit or not a perfect fit, the specifications can be modified and re-examined. Re-specification, as it is also called, involves the researcher adjusting the measurement model by adding or removing parameters through adding constraints or freeing parameters so as to improve the model overall fit (Schumacker and Lomax 2004). The idea of model modification has been argued from a different school of thoughts (Smith et al. 2009) in two directions. While some authors upheld that re-specification of theoretically justified hypothesised model should not be an option and, as a result, should be rejected since lack of fitness indicates the model is not a reflection of data. On the contrary, others believe that justifiable modifications can be performed to enhance overall model fit provided there is a theoretical explanation (Hoyle 1995; Martens 2005; Smith et al. 2009).

Model modification can be performed in SEM program by referring to the modification indices (MI), making an adjustment to covariances and path coefficients and examination of the regression coefficient, as well as the specified covariances. The suggested modifications for model fit by MI can sometimes be unrealistic and theoretical. Hence, caution must be exercised by a researcher not to make unjustified amendment and to be guided by theory when doing so (Khine 2013). A modification also can be required if, for instance, the covariance between error variances are left unspecified (Teo

2011). In the case of uncorrelated errors that are suggested by the MI, if the suggested solution indicates large improvement from the correlations between residuals of the same construct, the modification should be accepted or otherwise following theoretical justification. Similarly, some easy to justify modifications such as assessment of individual constructs and its observed items (indicators) to find out if there are any of the items that are measuring the constructs poorly can be made to improve model fit (Hooper et al. 2008). Model trimming is another form of re-specification that is not connected with the covariance of errors. It involves outright removal of non-significant paths from the model and or addition of paths so as to improve the model fit (Khine 2013; Kline 2010). Modification through trimming is harder to justify and it is not dependent on theory but rather data-driven (Cho and Bentler 1990/2002). Albeit, if it must be done at all, there is a need to consider any likely conceptual consequence as modification of this magnitude may fundamentally alter the model (Reilly 1995; Smith et al. 2009). In addition to justifications mentioned within this chapter in various sections, the next section provides some light to justify why SEM has been adopted as a means of statistical technique for data analysis for this study.

#### **5.10. Justification for using SEM**

The multiple regression analysis approaches to statistical data analysis is well known and frequently applied technique in identifying and measuring relationships among variables of dependent and independent class (Cohen et al. 2013; Maruyana 1997). However, multiple regression is considered unsuitable for the current study because of the complex nature of the hypothesised relationships formulated towards the research objectives as compared to SEM. In the first instance, the current study model involves variables with second order factors, which cannot be handled or analysed using regression method. Similarly, the designed research model included observed and latent variables with indicators, which is a model structure that regression procedure cannot handle. Likewise, the current study intends to establish mediating effects among variables and it involves using multiple items to measure each construct, which

can only be analysed using SEM. Therefore, SEM as an alternative approach has been selected for this study because it has the capability to handle the estimation of paths coefficient and establishing direct, indirect and mediating effects among variables (Iacobucci et al. 2007).

Although a regression method can measure relationships between variables, SEM has evolved by building on the assumptions of regression technique with capacity to predict and explain specified relationships between endogenous and exogenous variables through a single analytical framework (Bentler 1995/2010; Cheng 2001). Similarly, although there are arguments as to how and to what extent causal effects can be established using regression (Baron and Kenny 1986; Bollen and Pearl 2013; Chen and Pearl 2013; MacKinnon 2008), the causal effects of each exogenous variable is assessable using SEM. Such causal effect may include direct effect on independent variable on dependent variable example of which in this study is the direct effect of CRM on CBB, and indirect effect of independent variable on dependent variable with mediating variable such customer satisfaction (Baron and Kenny 1986; Hoyle 1995; Muthen 2011; Pearl 2009).

Aside from the mentioned reasons for choosing SEM for current study, Byrne (2013) outlined some key attractive qualities of SEM:

- Assumptions fundamental to statistical analysis are precise and can be tested, allowing the researcher to have full control and with the potential of gaining further knowledge of the analysis.
- SEM programs permit the researcher to perform an assessment of global model fit and test of each parameter estimates simultaneously.
- SEM analysis approach allows for simultaneous comparison of regression coefficients, means and variances.
- It reduces the level of measurement error contamination on estimated relationships between latent variables by using measurement model to eliminate errors.
- It allows for various linear models fitting through a flexible and powerful program under a SEM enabled unified framework.

On the aforementioned rationalisation, SEM is considered the preferred technique for analysis considering the nature of complexity of the hypothesised relationships among variables in this study.

### **5.11. Chapter conclusion**

This chapter covers discussion on the research techniques and design used in the current study. It provides an explanation of the different research philosophical ideas and paradigm, which unveil understanding on the justification for selecting the research methods. It also provides the technique and manner in which the research primary data was gathered, which include interviews, piloting, survey administration and the process of data cleaning and test of data reliability and validity. The last section of the chapter gave a description of SEM notations, measurement process, goodness of fit indices recommended benchmarks and reason for using SEM.

The next chapter provides details and findings on data analysis covering descriptive and inferential analysis. Aside SEM, other well known statistical tools (macro) were used where necessary for the purpose of results substantiation, cross-verification and the quest for robust findings.

## **Chapter Six**

### **Data analysis**

#### **6.0. Introduction**

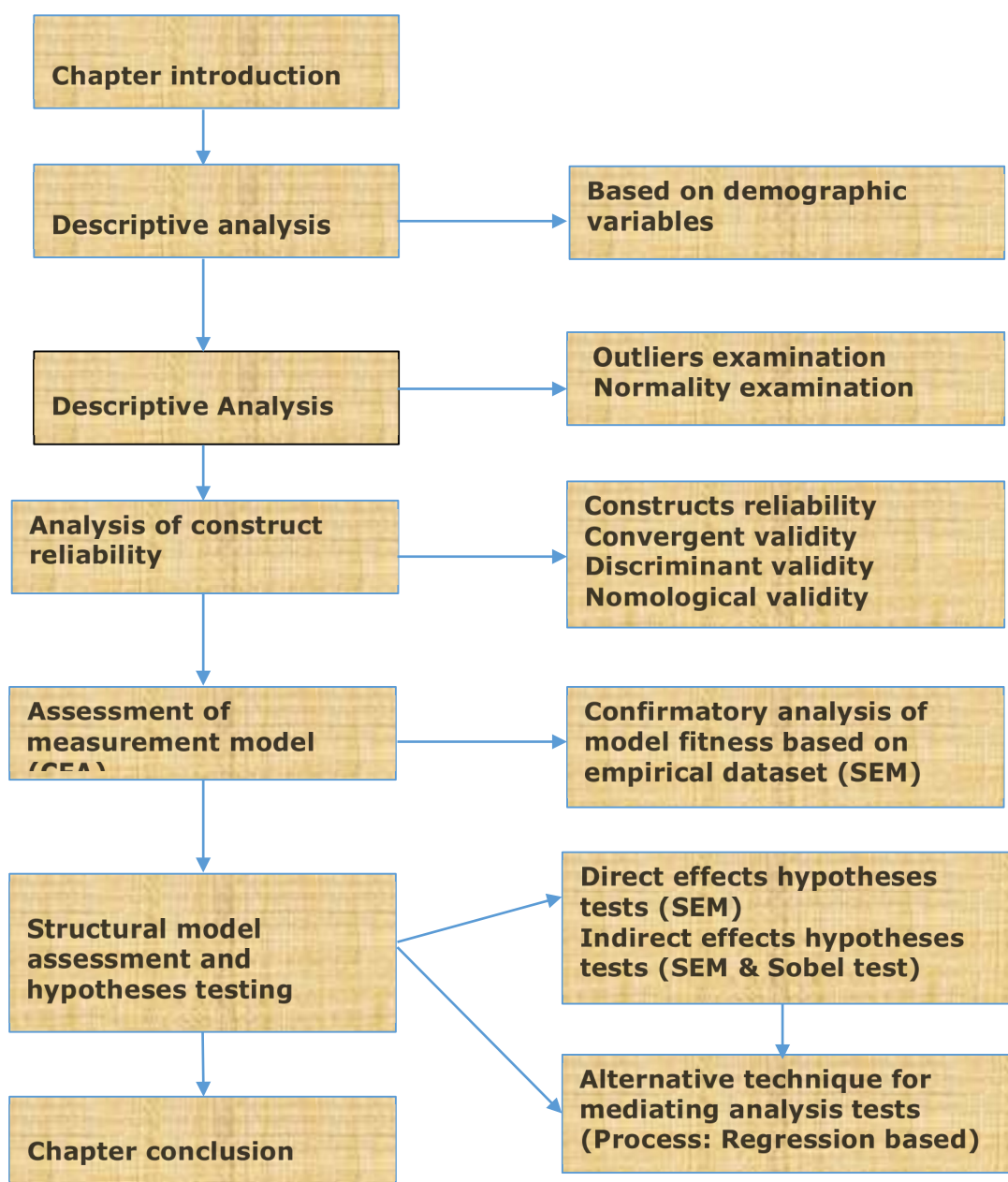
The previous chapter provided details on the general research methodology and the approach for data collection for this research. This chapter discusses the results of data collected through questionnaires that were completed by Nigerian retail banks customers. The data analysis for this study is reported following the procedures of quantitative analysis explained by Creswell and Plano-Clark (2007/2011) and Creswell (2014). Firstly, data examination is explained which includes data preparation, examination, cleaning and screening using SPSS software for statistical data handling. This process aids in the transformation of the questionnaire codes to meaningful codes for other statistical software use in this study. Secondly, a general inspection of data such as data visual scans for missing data and likely data entry error using SPSS. Thirdly, the chapter presents the descriptive profile analysis of the respondents. This provides the respondents' characteristics regarding their banking habits and other demographic variables. The descriptive analysis process helps introduce the reader to the research sample and gives the contextual structure through which the research outcomes can be comprehended. This is followed by initial statistical checks on the collected data in order to ensure there are no issues with data reliability, validity, univariate and multivariate distribution normality and examination of missing data. This stage of the research data analysis process is deemed essential in order to give dependability and quality assurance of the research data.

Having completed the preliminary checks with the descriptive analysis and data quality was assured, the above stages were followed by results of hypothesis tests using Structural Equation Modeling (SEM). This inferential analysis stage involved the use of AMOS™ 22 software to conduct the confirmatory factor analysis (CFA) and the overall research model evaluation for hypotheses testing, the relationships between the research independent variables and the dependent variables and to examine direct, indirect and mediated

effects. The CFA was conducted in section 6.5.1 figure 6.3 so as to assess the underlying dimensions of the research variables.

It should be pointed out that 465 questionnaires were administered but only 400 were used in this study. The other 65 were deemed unusable due to incomplete sections, respondents whose account are joint signatories, unengaged response and two cases of proxy completion. As a matter of fact, the unusable 65 questionnaires failed to meet the criteria for the required participant in the survey. The 400 usable questionnaires have no cases of missing data hence, there was no problem with estimations in SEM. The data analysis procedure is depicted in flowchart (figure 6.1) to help reinforce the structure of the chapter.

**Figure 6.1: Flowchart of data analysis process**





### **Note for ease of reading that:**

“**N = Count**” = is used to represent the number of respondents in the sample surveyed

“**%**” = is used to represent the proportion of the respondents in the sample surveyed

### **6.1. Descriptive analysis**

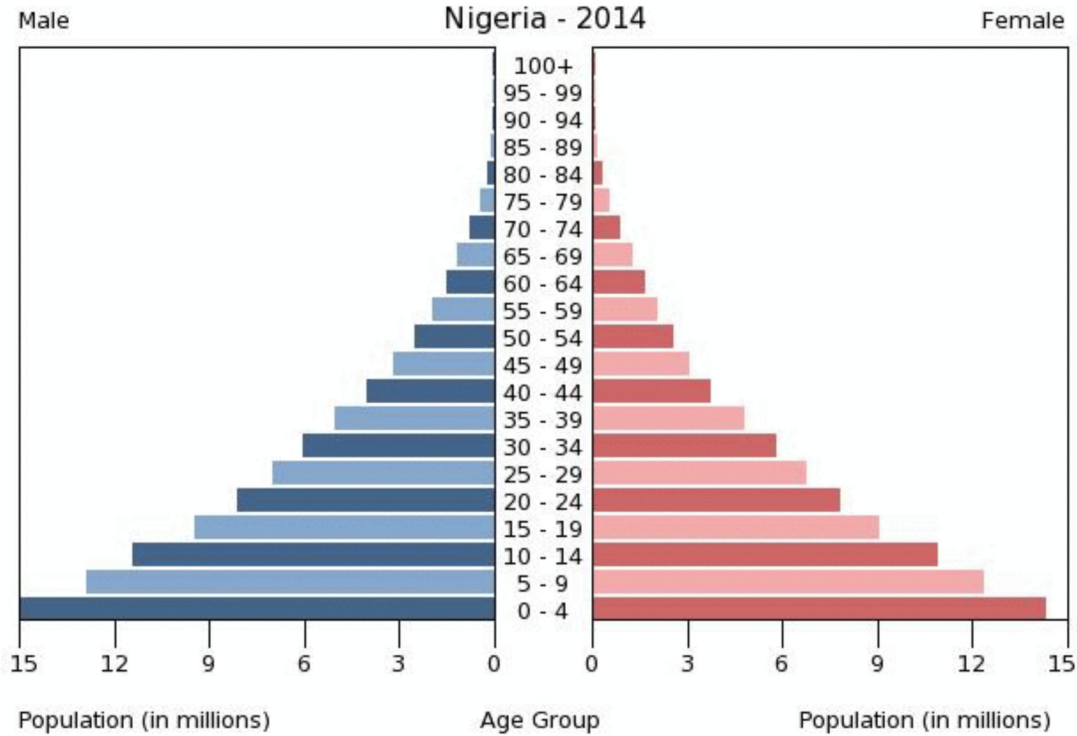
For the purpose of respondents’ demographic analysis presentation, the researcher used frequencies, percentage and descriptive statistics measures. 465 questionnaires were distributed and the returned and useable questionnaires for research were 400, which made up of about 86% of the entire distributed questionnaires. This is regarded as a high outcome from the respondents with respect to the researcher’s effort.

As indicated in table 6.1, demographic characteristics show that the respondents’ gender were N=220 male representing 55% while female were N=180 accounting for 45%. The majority of the respondents are male and this could be because of the willingness and readiness of the male counterpart to participate in the study than female, who are often in a hurry to leave the banking hall for other business and or domestics/family chores (Asiyanbola 2005). More so that, women whose religious practices restrict in some part of the country where data was collected, to either relate or engage with stranger of opposite sex in public places (Omadjohwoefe 2011). This could also be explained due to the fact that the proportion males are higher than female in the Nigeria population. This is so according to the National population of Nigeria report 2014 indicating that the proportion of the Nigeria population male is over 90 million while that of female is over 80 million. Also, the data for this study was collected through a face-to-face approach more males were very receptive and ready to spare time to fill the questionnaire while most of those who refused to participate were females who felt reluctant under the disguise or excuse of “I have no time”.

Moreover, the dominant age category of the respondents as shown in table 6.1 is the age range between 24-40 years with N = 258 representing 64.5% and followed by age range 41 – 65 with N = 80

accounting for only 20%. This result is in line with the proportionate distribution of Nigeria population according to the National Population of Nigeria as shown in figure 6.2. Similarly, the majority of the respondents are educated as 56.3% are graduate and 26.3% are postgraduate with only 2.3% indicated others. It can be inferred that the respondents for this study are knowledgeable enough to read and understand the content of the questionnaire, without any need for the interviewer to interpret which may lead to information bias.

**Figure 6.2: Nigerian population age group structure**



Source: Adapted from National Population of Nigeria 2014

Furthermore, all the respondents revealed that they have at least a bank account and are the sole signatory to their accounts (for the confirmation of respondents’ reliability and eligibility). This indicated that the opinions of the respondents are not shared expressions of feelings and are therefore their personal perceptions of the research variables. Customers who have been patronising their primary bank for over 5 years (about 34%) are regarded as loyal and customers over 10 years (23%) can further be classified as retained and loyal customers (Leverin and Liljander 2006; Gremler and Brown 1998). Only 24% of the respondents appeared not to be loyal or can be

referred to as newly acquired customers. Interestingly, in agreement with the findings from this study (see section 6.7) this implies that the Nigerian bank customer possesses retention and loyalty buying characteristics. Moreover, about 59% have accounts with more than one bank, which explains that they practice multiple banking. These descriptive findings are consistent with the studies of Gerrard and Cunningham (1999) and Kaynak and Kucukemiroglu (1992). Although engaging in multiple banking could be an indication of customer disloyalty, the revealed result above could be inferred to confirm that the practice of multiple banking among Nigerian banks customers is a peculiar buying behaviour.

**Table 6.1: Summary of respondents' demographic information**

Items	N = 400	% = 100
<i>Gender</i>		
Male	220	55
Female	180	45
<i>Age (years)</i>		
18-25	61	15.3
26-40	258	64.5
41-65	80	20
Above 65	1	0.3
<i>Education</i>		
Undergraduate	44	11
Graduate	225	56.3
Post-graduate	105	26.3
Professional	17	4.3
Others	9	2.3
<i>Occupation</i>		
Unemployed	14	3.5
Private sector	189	47.3
Public sector	96	24
Self-employed	51	12.8
Student	41	10.3
Others	9	2.3
<i>Ownership of bank account</i>		
Sole signatory to account	400	100
<i>CRM enabled channels usage (ATM, Online banking etc.)</i>		
Yes	259	64.8
No	141	35.3
<i>Relationship with primary bank (years)</i>		
Less than 1	24	6.0
Between 1-5	137	34.3
Between 6-10	146	36.5
Above 10	93	23.3
<i>Number of banks</i>		
Single	163	40.8
Multiple	237	59.3

### 6.1.2: Respondents' primary bank

**Table 6.2: Respondents' primary bank**

	Frequency	Percent	Valid Percent	Cumulative Percent
First bank	86	21.5	21.5	21.5
GTB	113	28.2	28.2	49.8
Zenith bank	14	3.5	3.5	53.3
Access bank	25	6.3	6.3	59.5
UBA	29	7.2	7.2	66.8
Eco bank	49	12.3	12.3	79.0
Diamond bank	20	5.0	5.0	84.0
Skye bank	18	4.5	4.5	88.5
FCMB	5	1.3	1.3	89.8
Enterprise bank	1	.3	.3	90.0
Fidelity bank	11	2.8	2.8	92.8
Key stone bank	7	1.8	1.8	94.5
Mainstreet bank	1	.3	.3	94.8
Stanbic IBTC bank	7	1.8	1.8	96.5
Sterling bank	4	1.0	1.0	97.5
Union bank	3	.8	.8	98.3
Wema bank	5	1.3	1.3	99.5
Standard Chartered bank	2	.5	.5	100.0
Total	400	100.0	100.0	

Source: Author extracted from SPSS

As shown in table 6.2, three banks out of the 19 banks shared about 62% of the total customers (respondents) with Guarantee Trust Bank (GTB) having the highest of 28% followed by first bank and Eco bank with 21.5% and 12.3% respectively. It is important to note here that these three banks with Access bank are classified and known to be the leading banks in term of technology adoption in the Nigerian banking industry. Standard Chartered Bank have the lowest respondents of 0.5%. This could be because the bank is an international bank and its main line of banking products and services are tailored towards companies rather than individual customers therefore, they are rather regarded as corporate or commercial bank than retail bank. Also, the bank does not have a presence in most parts of the country as it only

has 45 branches including its head office as compared to Eco Bank, GTB and First Bank with over 350 branches each.

## **6.2. Pooled descriptive analysis of constructs items**

This section provides the combined descriptive analysis of the study constructs. This revealed each item's mean, mean score, variances, skewness and kurtosis.

**Table 6.3. Pooled descriptive analysis for research constructs**

Constr uct Items	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statisti c	Std. Error	Statisti c	Std. Error
CRMO1	400	5.02	2.050	-.759	.122	-.797	.243
CRMO2	400	4.85	1.835	-.586	.122	-.767	.243
CRMO3	400	4.96	1.818	-.727	.122	-.539	.243
CE1	400	4.92	1.923	-.681	.122	-.747	.243
CE2	400	5.00	1.763	-.723	.122	-.452	.243
CE3	400	5.00	1.799	-.763	.122	-.391	.243
CE4	400	5.02	1.903	-.750	.122	-.600	.243
PU1	400	4.88	1.959	-.713	.122	-.728	.243
PU2	400	5.02	1.862	-.773	.122	-.545	.243
PU3	400	4.99	1.771	-.762	.122	-.388	.243
PU4	400	4.92	1.789	-.847	.122	-.252	.243
PEU1	400	5.15	1.721	-.923	.122	-.003	.243
PEU2	400	5.14	1.673	-.862	.122	-.071	.243
PEU3	400	5.18	1.710	-.899	.122	-.088	.243
PEU4	400	5.16	1.613	-.932	.122	.190	.243
SQ1	400	4.98	1.810	-.734	.122	-.482	.243
SQ2	400	4.82	1.836	-.525	.122	-.874	.243
SQ3	400	4.77	1.793	-.492	.122	-.820	.243
SQ4	400	4.57	1.961	-.398	.122	-1.041	.243
SQ5	400	4.78	1.922	-.503	.122	-.984	.243
ATT1	400	5.24	1.960	-.959	.122	-.392	.243
ATT2	400	5.30	1.851	-.994	.122	-.163	.243
ATT3	400	4.98	1.906	-.799	.122	-.526	.243
ATT4	400	5.06	1.763	-.814	.122	-.292	.243
CS1	400	5.08	1.572	-.883	.122	.196	.243
CS2	400	4.93	1.594	-.776	.122	-.016	.243
CS3	400	4.72	1.566	-.630	.122	-.191	.243
CS4	400	4.80	1.605	-.601	.122	-.394	.243
CUR1	400	4.71	1.943	-.543	.122	-.938	.243
CUR2	400	4.75	1.941	-.469	.122	-1.021	.243
CUR3	400	4.93	1.768	-.631	.122	-.658	.243
CL1	400	5.01	1.707	-.852	.122	-.177	.243
CL2	400	5.16	1.602	-.778	.122	-.330	.243
CL3	400	5.08	1.761	-.812	.122	-.345	.243
CL4	400	4.88	1.889	-.606	.122	-.833	.243
CA1	400	4.54	1.911	-.398	.122	-1.021	.243
CA2	400	4.80	1.912	-.515	.122	-.918	.243
CA3	400	4.85	1.830	-.586	.122	-.739	.243
CA4	400	4.84	1.777	-.571	.122	-.654	.243
CBB1	400	4.75	1.556	-.558	.122	-.453	.243
CBB2	400	5.10	1.590	-.841	.122	.023	.243
CBB3	400	4.75	1.699	-.479	.122	-.677	.243
CBB4	400	5.13	1.737	-.690	.122	-.540	.243
CBB5	400	5.10	1.636	-.793	.122	-.206	.243
TDT1	400	5.25	1.715	-1.007	.122	.143	.243
TDT2	400	4.83	1.881	-.576	.122	-.808	.243
Valid N (listw ise)	400						

Please note for ease of reading on the meaning of construct items column in Table 6.3 and as will be used subsequently: CRMO-CRM orientation, CE-customer experience, PU-perceived usefulness, PEU-perceived ease of use, SQ-service quality, ATT-attitude, CS-customer satisfaction, CURT- Customer retention, CL-customer loyalty, CBB-consumer buying behaviour and TDD- technology downtime.

The respondents were asked through the questionnaire to specify their perceptions and behavioral attitudes on the entire construct in this study with respect to CRM enabled channels usage and buying behaviour. Items for each construct ranged three to five with the exception of technology down time (TDT) with only two items. These constructs were measured based on a seven point Likert scale ranging from strongly disagree (1) to strongly agree (7). The outcomes of the respondents' scores for each items of the construct as shown in table 6.3 revealed that the mean scores for CRM orientation varied between 4.85 ( $\pm 1.835$ ) and 5.02 ( $\pm 2.050$ ), customer experience 4.92 ( $\pm 1.923$ ) and 5.02 ( $\pm 1.903$ ), perceived usefulness 4.88 ( $\pm 1.959$ ) and 5.02 (1.862), perceived ease of use 5.14 ( $\pm 1.673$ ) and 5.18 ( $\pm 1.710$ ), service quality 4.57 ( $\pm 1.961$ ) and 4.98 ( $\pm 1.810$ ), attitude 4.98 ( $\pm 1.906$ ) and 5.30 ( $\pm 1.851$ ), customer satisfaction 4.72 (1.566) and 5.08 ( $\pm 1.572$ ), customer retention 4.71 ( $\pm 1.943$ ) and 4.93 ( $\pm 1.594$ ), customer loyalty 4.88 ( $\pm 1.889$ ) and 5.16 (1.602), customer acquisition 4.54 ( $\pm 1.911$ ) and 4.85 ( $\pm 1.830$ ), consumer buying behaviour 4.75 ( $\pm 1.556$ ) and 5.13 ( $\pm 1.737$ ) and technology down time 4.83 (1.881) and 5.25 (1.715). This indicates that the respondents agreed with the measurement instruments, the average standard deviation showed that the responses are not further dispersed from their means scores and the respondents score the items high and all the items' mean scores were more than the neutral point of 4.

### **6.3. Data cleaning and screening**

Following the questionnaire administration, data gathered was inputted into SPSS 22 for further analysis. The data screening phase entails an

examination of basic descriptive statistics and frequency distribution. According to Broeck and Fadnes (2013) and Kassim (2001), the process of frequency assessment of data helped in the discovery of missing data, incorrect coding entry and unengaged respondents. The identified variable with cases of unacceptable responses were noted and rectified. This process also leads to assessment of data for outliers and normality of data.

Subsequent to the inspection of collected data as mentioned in section 4.0, out of the 465 data collected, 65 were identified unusable because some respondents either left out some sections on research constructs unfilled or did not fill the demographic part (section A) that was intended to evaluate the suitability of the survey participants on their bank and technology usage characteristics. Consequently, the 65 voided responses were deleted thereby leading to 400 useable responses. This approach is considered best for this type of research and empirical data circumstance as compared to other available alternatives (Allison 2009; Malhotra 1999). Similarly, according to Kline (1998), casewise deletions consider cases with complete records for inclusion, which implies that all analyses are carried out using the same cases. Although the deleted cases (65 respondents) accounts for about 14% of the total respondents, the 400 useable numbers of cases (86%) used for analysis was adequate enough for further analysis using SEM (Please see SEM details in chapter five). This number of cases is acceptable as according to Hoogland and Boomsma (1998), for a good model with multivariate normal data, a reasonable sample size of about 200 cases is sufficient while Chou and Bentler (1995) established that a larger sample size of typically 400 cases is more adequate.

Alternatively, pairwise deletion of sample cases does not include the missing data for variables included in a specific calculation (Kline 2005). The process of pairwise deletion of responses will engage all likely cases for individual estimation thereby, resulting in inconsistencies in the analyses stages. For this reason, pairwise deletion poses a possible tendency to impair or potentially cause shortcoming to SEM evaluation and other multivariate analysis that involve the use of group data. This according to Carter (2006) and Kline (2005) is because of the likely out of range correlations or



covariances that may take place. Similarly, imputation is another approach that can be used in missing data analysis. Imputation method includes putting estimated scores into the research data set in the position of the missing data (Carter 2006; Kline 2005). This process involves that each missing data is exchanged with an observed response from related item (Andridge and Little 2011). In this study, the unusable 65 responses are not scattered across the section but rather either a whole incomplete section or an unfilled section on customer bank usage habit hence, this method is deemed not appropriate and imputation was not performed.

For the purpose of studies that employ the use of SEM for data analysis, Allison (1987) proposed that the preference available for SEM while dealing with missing data is maximum likelihood estimation for incomplete data. His model assumption was based on the circumstance that there is multivariate normality, which he observed to be that the means, variances and covariances are adequate statistics. Nevertheless, he opined in a similar context that violation of multivariate normality will not compromise the estimates extremely.

### **6.3.1. Outliers**

An outlier is described as an observation that emerges not to be consistent with the remainder of the observations in a given set of data (Barnett and Lewis 1985). According to Gosh and Vogt (2012), this means an observation that is at a distance from most or every other observation. From a more relevant known idea proposed as a rule of thumb, an observation that if removed from a data set changes the estimate of a parameter of interest by up to or more than 10% is regarded as an outlier (Hansen et al. 1983). Consequentially, an outlier can influence research analysis results thereby leading to incorrect or falsified decisions, outcomes and recommendations. These could result in Type I and/or Type II errors (Osborn and Overbay 2004; Tabachnick and Fidell 2007). Type I error is an instance where the null hypothesis is rejected when it is true which is generally referred to as significance of test. While Type II error is when the null hypothesis is accepted when it should be rejected. Giving consideration and attention to these errors are essential as well as generating a

balance between them (Lieberman and Cunningham 2009; Weiss 2008). In order to ensure that none of these errors or outliers affects this study results, an examination of both univariate and multivariate were conducted in accordance with the guideline of Hair et al (1998).

Examination for univariate outliers was conducted by observing and selecting the unrelated observations that are out-with the outer ranges of the distributions as univariate outliers. For continuous variables, this can be achieved by transforming the data set values to "standard z scores" of individual variables. As a general rule of thumb, Hair et al. (2006) recommended that cases with z scores that fall within the range of  $\pm 3$  to  $\pm 4$  for sample size above 80 should be appropriate. On this note, Cohen et al (2003) suggested that if outliers are less than 1% or 2% of the sample size and not an extreme outlier, they are best not to be deleted.

Alternatively, univariate outlier can be detected by visually inspecting histograms, box plots and normal probability plots (Tabachnick and Fidell 2001). A visual examination was performed on this study data and no univariate outliers were discovered to be extreme thereby having any substantial influence on the results. The Q-Q plots for each of the variables analysed are conveyed in Appendix 7. As claimed by Hair et al (2006) and Tabachnick and Fidell (2007), it is ideal to envisage that outliers would be present in a data set however, eliminating these outliers will typically affect generalizability of the sample to the entire population. A further evaluation of the outliers indicates that the respondents either strongly agree or strongly disagree to the scaled statement. Therefore, since this study is aimed at assessing the perception of customers, it can be considered typical to see customers with extreme judgment. As claimed by Pallant (2007), this may show the actual distribution of the research variables.

Similarly, an examination of multivariate outliers was performed by computing the squared Mahalanobis distance (Mahalanobis 1936) for each case on the data set. This is because some of the univariate outliers may change to multivariate outliers after numerous cases are merged (Hair et al 1998; Hair et al. 2006; Tabachnick and Fidell 2001). This statistical procedure calculates the distance of standard deviation items amid set of scores for individual case and the centroids, which is the sample mean for every variable. Usually, a

multivariate outlier item will have a  $X^2$  of value that is uniquely different from each of the other  $X^2$  values. Thus, to perform a check for multivariate outliers in this study data, the Mahalanobis distance was confirmed through analyses results from AMOS™. In addition, as suggested by Kassim (2001) and Kline (1998), the critical value of  $X^2$  along side the degree of freedom (degree of freedom equals the numbers of independent variables) and a p value ( $p < 0.001$ ) were used in the examination of multivariate outliers process. An evaluation of the outcomes values revealed insignificant indication of precarious multivariate outliers that could influence the final results. Although some cases were identified as multivariate outliers, the inclusion or exclusion of identified multivariate outlier items is not only on the basis of the  $X^2$ .

Evidently, having some outlier cases that defer in population other than all other cases should be discarded from the sample. On the other hand, if these items are identified to be a situation of infrequent scores that appear from the same population, for the purpose of maintaining validity, these items could be kept in the study. This decision is substantiated by the assertion that if the identified multivariate cases "represent a segment of the population, they should be retained to ensure generalisability to the entire population. As outliers are deleted, the analyst is running risk of improving the multivariate analysis but limiting its generalisability" (Hair et al. 1998, p. 66).

As mentioned earlier, some of the  $X^2$  ( $D^2$ ) values were more than the critical value (see Appendix 8). In order to check for multivariate outliers in this study, AMOS™ "command" was used to generate a list of the highest one hundred observations. These were ranked according to the Mahalanobis distance in each cases. Furthermore, this outcome produced two more statistical results classified as p1 and p2. The p1 column indicates the probability of individual observation that is more than the squared Mahalanobis distance of the observation. While, the p2 column reveals the probability that the observations with the most squared Mahalanobis distance is likely to be more than the Mahalanobis distance calculated. Following this approach as recommended by Arbuckle (2003), the practice is to find out which of the observations are likely to be outliers is to consider having small numbers in p1 column while small values

on the p2 cloumn imply that the observations are unusually far from the centroid giving the condition of assumption normality. Similarly, Hair (2010) suggests that in order to determine which cases are outliers in the data set, all observations listed in appendix 8 with p1 less than 0.001 should be regarded as outliers. An evaluation of these items shows that 22 numbers of the items are outliers but a closer review on these observations showed to be acceptable data point hence, they were retained in the data set (N=400) for further analyses (Hair et al. 2010).

### **6.3.2. Normality**

The assumptions underlying all the statistical approaches entail that the variables observed generally are multivariate normally distributed (Hair 2010; Hulland et al. 1996; Kassim 2001; Kline 2005). This assumption requires that putting together all the variables align with a multivariate normal distribution hence, following the check for outliers, an evaluation on the data normality was conducted. This step is necessary especially for SEM model because in SEM model, estimation and testing are commonly established on the assurance of the validity of multivariate normality postulation. According to Hulland et al. (1996) and Kassim (2001), the absence of normality will negatively affect goodness of fit indices.

In order to evaluate normality, skewness and kurtosis were used to validate the implied assumption. As averred by Hair et al. (2006) and Tabachnick and Fidell (2001), skewness is the symmetry of a distribution of data, which imply that variables that have their mean deviated from the centre of the distribution is described as skewed. While kurtosis refers to how peaked or flat a set of data is distributed (Pallant 2007). A distribution is adjudged to be normal if the skewness and kurtosis values equal zero. However, because data set often have normality issues, few cut off range as a guild have been recommended for when and what point non-normality is deemed to be problematic. The recommended cut off values for univariate skewness fall within absolute values of 3 and any value above this implies non-normality (Chou and Bentler 1995; Kim 2013; West et al. 1995). With respect to kurtosis, the views of authors seem to lack consensus but while an

absolute value of 3 is used, a conservative standard generally referenced is an absolute value up to 10.0 and, any values above poses a problem and more than 20.0 could signify a more problematic kurtosis (Hoyle 1995; Kline 1998/2005; Kim 2013).

For the purpose of this research, every variable was assessed for univariate and multivariate normality through AMOS™. As revealed in table 6.3 and Appendix 9, an assessment of the univariate normality indicates that the skewness and kurtosis appear to be within the recommended benchmark range of +/-3 (Kline 2005). Hence, the data is said to be normally distributed for univariate test. Generally, in applied science, multivariate normality is assessed through Mardia's normalised multivariate kurtosis value (Khine et al. 2013). As suggested by Raykov and Marcoulides (2012) and Khine (2013), this is performed by comparing the Mardia's coefficient for the research data set to a value calculated using formula  $p(p+2)$ . The  $p$  represents the number of observed variables in the model. To have a multivariate normality, the calculated Mardia's coefficient must be lower than the value found from the formula. AMOS™ output from both measurement and structural model produces the Mardia's coefficient (See Appendix 9). A Mardia's coefficient above 8 indicates that the assumption of multivariate normality is violated (Shammout 2007; Yuan and Bentler 1998). Likewise, according to Diamantopoulos (1994), multivariate normality can be assessed by reviewing the distribution of standardized residuals. This is based on the fact that "residuals can be interpreted as standard normal deviate and considered large if it exceeds the absolute value of 2.58" (Joreskog and Sorbom 1989, p. 32). From all the structural models outcomes in this study, the majority of the z scores were below the bench mark of  $\pm 2.58$  as shown in Appendix 10 and 11. Therefore, it is safe to conclude that the data set is multivariate normally distributed. Furthermore, in order to ensure that multivariate non-normality is controlled should it occur, the maximum likelihood estimation with robust standard error analysis as a measure of departure from multivariate normality was employed (Arbuckle 1994/2007; Diamantopoulos 1994; Kline 1998/2005; Tabachnick and Fidell 2001). Even in the event that there is a slight non-normality in data, Pallant (2007) observed that positive and

negative skewness and non-normality exist in numerous scales and measurement employed in social sciences.

#### **6.4. Analysis of reliability and validity test**

This sub-section presents the outcomes of the study constructs validity and reliability. It also covers internal reliability, convergent and discriminant validity, multicollinearity and common method bias.

##### **6.4.1. Internal reliability of constructs**

The data set for this study was subjected to prevailing reliability assessments by using a general approach for survey data reliability examination typically named Cronbach's alpha. The methodology chapter presented the details with the suggested benchmarks from literature. This study assumed a threshold of  $> 0.7$  to attain reliability in accordance with the assumption of CFA. The acceptance of this benchmark is adjudged reasonable because it is above the 0.6 threshold used in explorative factor analysis (EFA) and it gives extra validity and confidence to accept the study data set (Malhotra and Birks 2007). Each item's validity strength was evaluated so as to determine if the summed Cronbach alpha score could be improved if an item is deleted. All the items scores did not indicate need for deletion, which indicate that enough items were available for each construct to verify validity and data set is suitable for further analysis using SEM.

Although all the variables in this study except technology down time (TDT) scales have been validated and established to be reliable in existing studies, effort was made to further check reliability given that these items and scales were administered in a different environment and some modifications were made to make them align with the current study as well and reducing semantic and social desirability bias. Cronbach alpha combined result for this study is shown in table 6.4 and 6.5. The alpha score of 0.949 is above the threshold of 0.7 hence, it is safe to assume that reliability is not an issue (Hair 2006). Although a further review on the result indicated that the score could be improved to 0.950, deleting the items (CUR 1, 2 & 3) for

improvement only gave an insignificant difference of (0.950-0.949) 0.001. Therefore, none of the items were deleted based on reliability however, measurement model examination of items PU1, SQ1, SQ4 and ATT4 were loading on other items thereby creating an unacceptable solution hence, the items were deleted leaving each of the affected constructs (Perceived usefulness (PU), Service quality (SQ) and Attitude (ATT)) with three items for final analysis.

**Table 6.4. Reliability Statistics**

Cronbach's Alpha	N of Items
.949	46

**Table 6.5 Reliability analysis (Item-Total Statistics)**

	<b>Cronbach Alpha for each Construct</b>	<b>Scale Variance if Item Deleted</b>	<b>Corrected Item-Total Correlation</b>	<b>Cronbach's Alpha if Item Deleted</b>
<b>CRMO1</b>		1995.599	.387	.949
<b>CRMO2</b>	0.707	1997.943	.423	.949
<b>CRMO3</b>		1996.815	.435	.949
<b>CE1</b>		1983.205	.490	.949
<b>CE2</b>	0.911	1999.147	.435	.949
<b>CE3</b>		1980.766	.542	.948
<b>CE4</b>		1968.503	.584	.948
<b>PU1</b>		2002.737	.366	.949
<b>PU2</b>	0.796	1994.984	.435	.949
<b>PU3</b>		1983.332	.534	.948
<b>PU4</b>		1988.719	.494	.948
<b>PEU1</b>		1981.407	.564	.948
<b>PEU2</b>	0.897	1980.865	.585	.948
<b>PEU3</b>		1983.499	.554	.948
<b>PEU4</b>		1978.125	.627	.948
<b>SQ1</b>		1996.636	.438	.949
<b>SQ2</b>		1980.543	.531	.948
<b>SQ3</b>	0.818	1984.266	.521	.948
<b>SQ4</b>		1972.878	.540	.948
<b>SQ5</b>		1983.232	.490	.949
<b>ATT1</b>		1983.907	.475	.949
<b>ATT2</b>	0.794	1969.678	.594	.948
<b>ATT3</b>		1990.439	.451	.949
<b>ATT4</b>		1975.597	.587	.948
<b>CS1</b>		1980.198	.629	.948
<b>CS2</b>	0.886	1970.388	.691	.947
<b>CS3</b>		1978.350	.646	.948
<b>CS4</b>		1967.078	.710	.947
<b>CURT1</b>		2032.002	.200	.950
<b>CURT2</b>	0.878	2029.020	.217	.950
<b>CURT3</b>		2032.808	.218	.950
<b>CL1</b>		1965.577	.676	.947
<b>CL2</b>		1969.262	.696	.947
<b>CL3</b>	0.867	1971.821	.613	.948
<b>CL4</b>		1969.498	.583	.948
<b>CA1</b>		1978.729	.520	.948
<b>CA2</b>	0.833	1978.030	.524	.948
<b>CA3</b>		1976.835	.557	.948
<b>CA4</b>		1968.181	.630	.948
<b>CBB1</b>		1978.547	.649	.948
<b>CBB2</b>		1975.831	.654	.948
<b>CBB3</b>	0.896	1976.546	.605	.948
<b>CBB4</b>		1967.480	.650	.948
<b>CBB5</b>		1974.603	.643	.948
<b>TDT1</b>		1983.214	.554	.948
<b>TDT2</b>	0.794	1984.232	.495	.948



#### 6.4.2. Analysis of construct reliability

In order to examine the reliability of the study constructs, the formula suggested by (Fornell and Larker 1981 and Hair et al. 2006) was used

##### Formula A for construct reliability

$$\text{CR} = \frac{\left(\sum_{i=1}^n \lambda_i\right)^2}{\left(\sum_{i=1}^n \lambda_i\right)^2 + \left(\sum_{i=1}^n \delta_i\right)}$$

##### Formula B for convergent validity

$$\text{AVE} = \frac{\left(\sum_{i=1}^n \lambda_i\right)^2}{n}$$

Where  $\lambda$  standardised factor loading,  $i$  represents total number of items while  $\delta$  equals the error variance term for each latent construct. As shown in table 6.6, the composite reliability figures for all the constructs as calculated using formula A ranges from 0.803 to 0.907 which were all above the cut off point of 0.6 recommended (Fornell and Larker 1981). This indicates that the observed variables in this study are rationally suitable dimension of the constructs hence, it suggests robust construct validity (Hair et al. 2006).

**Table 6.6: Reliability and validity analysis results**

Constructs	Items	Standardised factor loadings	Critical ratio (t-value)	Average variance extracted (AVE)	Composite reliability (CR)
<b>CRM</b>	CRMO	0.660	-	0.532	0.819
	CE	0.602	6.69***		
	PU	0.785	6.60***		
	PEU	0.809	7.41***		
	ATT	0.733	7.29***		
<b>Customer acquisition</b>	CA1	0.664	-	0.544	0.825
	CA2	0.699	12.06***		
	CA3	0.672	11.66***		
	CA4	0.780	13.24***		
<b>Service quality</b>	SQ1			0.578	0.803
	SQ2	0.684	9.93***		
	SQ3	0.790	10.67***		
	SQ4				
	SQ5	0.581	-		
<b>Customer satisfaction</b>	CS1	0.716	-	0.704	0.905
	CS2	0.893	16.98***		
	CS3	0.854	16.61***		
	CS4	0.824	15.61***		
<b>Customer retention</b>	CURT1	0.671	14.32***	0.646	0.844
	CURT2	0.924	-		
	CURT3	0.838	17.75***		
<b>Customer loyalty</b>	CL1	0.818	-	0.623	0.867
	CL2	0.883	20.42***		
	CL3	0.720	15.60***		
	CL4	0.634	13.26***		
<b>Consumer buying behaviour</b>	CBB1	0.827	-	0.662	0.907
	CBB2	0.832	19.50***		
	CBB3	0.760	17.30***		
	CBB4	0.822	17.78***		
	CBB5	0.786	18.15***		

#### 4.4.3. Convergent validity

Using formula B above, the convergent validity of the variables was tested and the result is presented in table 6.6. The factor loadings of constructs and average variance extracted were applied in assessing the validity of individual construct in this study. The benchmark criteria suggested by Hair et al. (2006) for standardised regression  $> 0.6$ , AVE  $> 0.5$  and composite reliability  $\geq 0.7$  were applied. The results in table 6.6 indicated that all the figures are above the cut off points and the critical ratios are above 1.96 at  $p < 0.001$  and AVE above 0.5. This implies that the constructs used in the models for this study meet the criteria to attain convergent validity.

#### **6.4.4. Discriminant validity**

Discriminant validity is the extent to which the scores on a test are not correlated with scores loadings from other tests that are not expected to measure the variable. According to Nazim and Ahmad (2013), correlation coefficient between measures of a construct and that of other different variables are commonly used as evidence of discriminant validity. This procedure allows for correlation linkage of exogenous variables in a model in order to evaluate if the exogenous variables are highly correlated. If the correlation among the variables is higher than 0.85, it is assumed that multicollinearity problem exists hence, to achieve discriminant validity, the correlations should be  $\leq 0.85$  (Farrell 2009/2010; Kline 2005; Zainudin 2012). Alternatively, the estimation of the factor correlation matrix with the square root of the average extracted variance (AVE) can be used to assess discriminant validity. In order to have good discriminant validity, the square root of the AVE should not be less than its correlation with any of the factors (Farrell 2010; Mackenzie et al 2011). As shown in figure 6.3 and 6.4, none of the correlations in the measurement models is more than 0.85 hence, there is no problem of discriminant validity.

#### **6.4.5. Nomological validity**

Hair et al. (2006) suggested that Nomological validity be performed in order to establish if the correlations between the variables in the measurement model are sensible. This was tested with the use of constructs correlation estimates attained from AMOS™ output on CFA. Table 6.7 and 6.8 indicated that all the covariance and correlation estimates were positive and significant with the exception of the covariances between SQ and CURT of 0.057, although they are not significant, they do not impose Nomological invalidity as they are positive figures. Above all, the estimates were in accordance with the hypothetical model thus, it confirmed the Nomological validity (Hair et al. 2006). Conclusively, the results from this section have shown that the CFA outcomes showed that the dimensions employed in the measurement model have sufficient reliability and validities.

**Table 6.7: variable covariances**

Covariances: (Group number 1 - Default model)

			<b>Estimate</b>	<b>S.E.</b>	<b>C.R.</b>	<b>P Label</b>
<b>CRM</b>	<-->	SQ	.486	.092	5.273	***
<b>CRM</b>	<-->	CS	.583	.096	6.066	***
<b>CRM</b>	<-->	CURT	.221	.091	2.429	.015
<b>CRM</b>	<-->	CL	.747	.120	6.223	***
<b>CRM</b>	<-->	CA	.661	.110	5.985	***
<b>CRM</b>	<-->	CBB	.615	.102	6.054	***
<b>SQ</b>	<-->	CS	.957	.122	7.815	***
<b>SQ</b>	<-->	CURT	.231	.121	1.901	.057
<b>SQ</b>	<-->	CL	1.064	.139	7.673	***
<b>SQ</b>	<-->	CA	.977	.133	7.353	***
<b>SQ</b>	<-->	CBB	1.001	.127	7.861	***
<b>CS</b>	<-->	CURT	.258	.112	2.309	.021
<b>CS</b>	<-->	CL	1.185	.127	9.324	***
<b>CS</b>	<-->	CA	1.055	.122	8.615	***
<b>CS</b>	<-->	CBB	1.161	.119	9.728	***
<b>CURT</b>	<-->	CL	.539	.145	3.709	***
<b>CURT</b>	<-->	CA	.295	.128	2.296	.022
<b>CURT</b>	<-->	CBB	.513	.130	3.950	***
<b>CL</b>	<-->	CA	1.389	.151	9.198	***
<b>CL</b>	<-->	CBB	1.523	.144	10.544	***
<b>CA</b>	<-->	CBB	1.322	.140	9.457	***
<b>e26</b>	<-->	e28	-.164	.052	-3.159	.002
<b>e1</b>	<-->	e2	.684	.214	3.197	.001
<b>e4</b>	<-->	e49	.597	.087	6.843	***
<b>e5</b>	<-->	e49	.294	.068	4.303	***
<b>e41</b>	<-->	e43	-.226	.060	-3.777	***
<b>e37</b>	<-->	e38	.296	.085	3.495	***

<b>e34</b>	<-->	e52	.302	.099	3.049	.002
<b>e40</b>	<-->	e43	-.158	.060	-2.646	.008
<b>e11</b>	<-->	e12	.221	.073	3.010	.003

**Table 6.8. Variable correlations**

Correlations: (Group number 1 - Default model)

			<b>Estimate</b>
<b>CRM</b>	<-->	SQ	.539
<b>CRM</b>	<-->	CS	.632
<b>CRM</b>	<-->	CURT	.150
<b>CRM</b>	<-->	CL	.648
<b>CRM</b>	<-->	CA	.675
<b>CRM</b>	<-->	CBB	.583
<b>SQ</b>	<-->	CS	.774
<b>SQ</b>	<-->	CURT	.117
<b>SQ</b>	<-->	CL	.689
<b>SQ</b>	<-->	CA	.744
<b>SQ</b>	<-->	CBB	.708
<b>CS</b>	<-->	CURT	.129
<b>CS</b>	<-->	CL	.751
<b>CS</b>	<-->	CA	.786
<b>CS</b>	<-->	CBB	.804
<b>CURT</b>	<-->	CL	.215
<b>CURT</b>	<-->	CA	.138
<b>CURT</b>	<-->	CBB	.224
<b>CL</b>	<-->	CA	.828
<b>CL</b>	<-->	CBB	.845
<b>CA</b>	<-->	CBB	.862
<b>e26</b>	<-->	e28	-.251
<b>e1</b>	<-->	e2	.292
<b>e4</b>	<-->	e49	.426
<b>e5</b>	<-->	e49	.231

<b>e41</b>	<-->	e43	-.260
<b>e37</b>	<-->	e38	.215
<b>e34</b>	<-->	e52	.175
<b>e40</b>	<-->	e43	-.183
<b>e11</b>	<-->	e12	.223

The previous sections of this chapter have demonstrated a thorough data cleaning process, which includes checking for outliers and normality. Similarly, the necessary tests conducted on the data set compliance with recommendations on reliability and validity. Therefore, the tests results demonstrated that assessment of SEM can be performed successively with confidence.

### **6.5. Assessment of Structural Equation Model**

Prior to starting the key analysis and empirical assessment of the relationships that were proposed in chapter two for this study, the SEM process and cut off criteria explained in chapter three are followed accordingly in this section. This will help inform the readers especially those who are not exclusively conversant with SEM as a statistical analysis approach. Some of the items (SQ1 and SQ4) from this study were discarded from the final measurement model because they were loading on other items and or having loadings lower than recommended values. However, this process does not impair the major structural model either by way of trimming or re-specification. According to Kline (2005), discarding items in a justifiable manner enable models to be less complex and more acceptable. This process did not change the proposed arrangement of the model. As mentioned in the methodology chapter, in order that this study will be duly informed by theory, two CFA and structural models will be examined and the difference thereof will be reported. This became necessary as one of the constructs "Technology Down Time (TDT)" was not initially part of the variables to be measured in this study. The researcher came across the variable during the course of data collection and because, it was mentioned many times by the interviewees, it was

added to the questionnaires of the study construct at the time of the quantitative data collection/survey.

### **6.5.1. Assessment of research measurement model**

When SEM is used as an analysis approach in a study, it is required that CFA assessment is performed as the first phase before analysing structural model. While CFA is the part of SEM that shows how the observed variables depend on the unobserved latent variables, the structural model helps establish how the latent variables relate among themselves (Arbuckle 2007). As averred by Smith et al. (2009), it is safe to proceed to evaluation of structural model only when the measurement model has been examined and accepted. The primary objective of CFA is to help in testing the internal and construct reliability, convergent and discriminant validity of observed variable in a study (Kline 2005). Moreover, this process allows the researcher to carry out initial assessment of how much the latent variables covary and interrelate with one another. The CFA was evaluated based on consideration for goodness of fit (GOF)

Figure 6.3 is the output for the primary measurement model. The model revealed the relationships of each latent variable and its indicators (measurement). It is crucial that the elements in the measurement model include every latent variable that is characterised by the major hypotheses stated ab-initio in this study. As a matter of necessity, it is imperative as an assumption in SEM that the variables in the measurement model have some degree of shared variance within a covariance matrix. According to Schreiber (2008), the assumption that variables are expected to covary in SEM is important in order to enable the measurement model examine for permissibility and allow to check for possible unacceptable correlations that could result in multicollinearity problems.

Furthermore, another characteristic of measurement model is that it helps to reveal every indicator and their connected errors. As a standard in AMOS™, the errors are constrained to 1 to indicate that the errors load individually on their items completely. Moreover, it is often common that after initial model estimation, models are modified due to poor model fit, this could happen because some error terms are

meant to be covaried in accordance with SEM modification indices. This assumption for covariance of error term is not readily available or modeled in SEM except such modification is recommended during a model analysis process. According to Hall et al. (1999), the cause of poor model fit ranges from when error variance of an observed variable takes unsystematic error, unmodelled covariance in error variances and a situation where the same unmeasured variable or indicator affects unrelated indicator items. In this case, error variance of the items will be correlated.

In this study, some of the error terms indicated high modification sign and from the questionnaire evaluation, it was revealed that the recommendation to covary the error terms is conventional. This implies that if the original proposed model was found to be unfit or poorly fit, thence, there is need to re-specify the model (Kline 2005, 2015; Hoyle 2014). However, they averred that this process must be done empirically and theoretically otherwise the step should be ignored. Table 6.9 presents the categories of variables that make up the measurement model. It shows most importantly the number of measurement items for each variable and their descriptions to indicate whether a variable is exogenous, independent predictor/mediator, endogenous, second order, first order or dependent variable.

**Table 6.9: Categories of variables in the CFA**

<b>Variable code</b>	<b>Name</b>	<b>Description</b>	<b>Measurement item number</b>	<b>Hypothesised path link</b>
<b>CRM</b>	Customer Relationship Management	Second order Exogenous, independent variable with TDT, CRMO, ATT, CE, PU and PEU	5 latent variables & 1 disturbance error	Hypotheses 1 to 6 & 12 to 17
<b>CRM1: TDT</b>	Technology down time	First order endogenous variable	2	Nil
<b>CRM2: CRMO</b>	Customer CRM usage orientation	First order endogenous variable	3	Nil
<b>CRM3: ATT</b>	Customer attitude	First order endogenous variable	3	Nil
<b>CRM4:</b>	Customer	First order endogenous	4	Nil



<b>CE</b>	experience	variable		
<b>CRM5: PU</b>	Perceived usefulness	First order endogenous variable	3	Nil
<b>CRM6: PEU</b>	Perceived ease of use	First order endogenous variable	4	Nil
<b>CBB</b>	Consumer buying behaviour	Endogenous (outcome), dependent variable	5	Hypotheses 1, 7 to 12
<b>CA</b>	Customer acquisition	Endogenous intervening mediator	4	Hypotheses 2, 7, 12 & 17
<b>SQ</b>	Service quality experience by customers	Endogenous intervening mediator	3	Hypotheses 3, 8, 13 & 12
<b>CS</b>	Customer satisfaction	Endogenous intervening mediator	4	Hypotheses 4, 9, 14 & 12
<b>CL</b>	Customer loyalty	Endogenous intervening mediator	4	Hypotheses 5, 10, 15 & 12
<b>CURT</b>	Customer retention	Endogenous intervening mediator	3	Hypotheses 6, 11, 16 & 12

CFA is a confirmatory approach that shows how the hypothesised model is built to evaluate a population covariance matrix so as to get the minimum difference that exists between the measured and observed variables (Bentler 1990; Schreiber et al. 2006). CFA is employed to test how research data fit the hypothesised model as well as assessing the unidimensionality, validity and reliability of the measurement model. This is expected to meet a certain given requirement before SEM can be applied or modeled. Table 6.10 provides the model fitness indexes that have been extracted from literature as guidelines. These indices are divided into three categories: absolute fit; incremental fit and parsimonious fit. For assessment of model goodness of fit, it is required that any distinctive empirical study met three or four of the 12 goodness of fit measurements and not necessarily met all the criteria (Hair 2010; Kline 1998) As established by Hair (2010), using four to five goodness of fit indexes is regarded as adequate for evaluating a model's viability. For this study, AMOS™ 22 was used to perform the confirmatory factor analysis and some selected numbers of fit indices were used to evaluate the model fit. The model was assessed using maximum likelihood (ML) estimation methods.

**Table 6.10: Goodness of fit indices**

Name classification	Name of Index	Level of Acceptance for good fit	Acceptable fit	Reference from literature
Factor loading	Standardised Regression Weight	Weight > 0.5	>0.4	Hair et al, (2006) Arbuckle (2008)
Absolute Fit	Chi-Square RMSEA GFI RMR/SRMR PCLOSE	P>0.05 RMSEA<0.05 GFI>0.9 ≤ 0.05 Preferably 1	<0.08 ≥0.85 ≤0.10 >0.05	Wheaton et al, (1977) Brown and Cudeck, (1993) Joreskog and Sorbom, (1984) Hu and Bentler (1999)
Incremental Fit	AGFI CFI TLI NFI	AGFI > 0.9 CFI > 0.9 TLI > 0.9 NFI > 0.9	≥0.85 ≤0.8 ≤0.8	Tanaka and Huba, (1985) Bentler, (1990) Bentler and Bonett, (1980) Bollen, (1989)
Parsimonious Fit	Chi-Square/df	Chi-Square/df ≤ 2.0	≤ 5.0	Marsh and Hocevar, (1985) Byrne (2010) Wheaton et al (1977)

NB: This table is presented here for ease of access and making reference.

To assess goodness of fit for this study, Goodness of Fit (GFI), Adjusted Goodness of Fit (AGFI), Root Mean Square Error Approximation (RMSEA), Comparative Fit Index (CFI), Tucker-Lewis Coefficient Index (TLI), chi square/df values, Standardised Root Mean Square (SRMR) and p close were used.

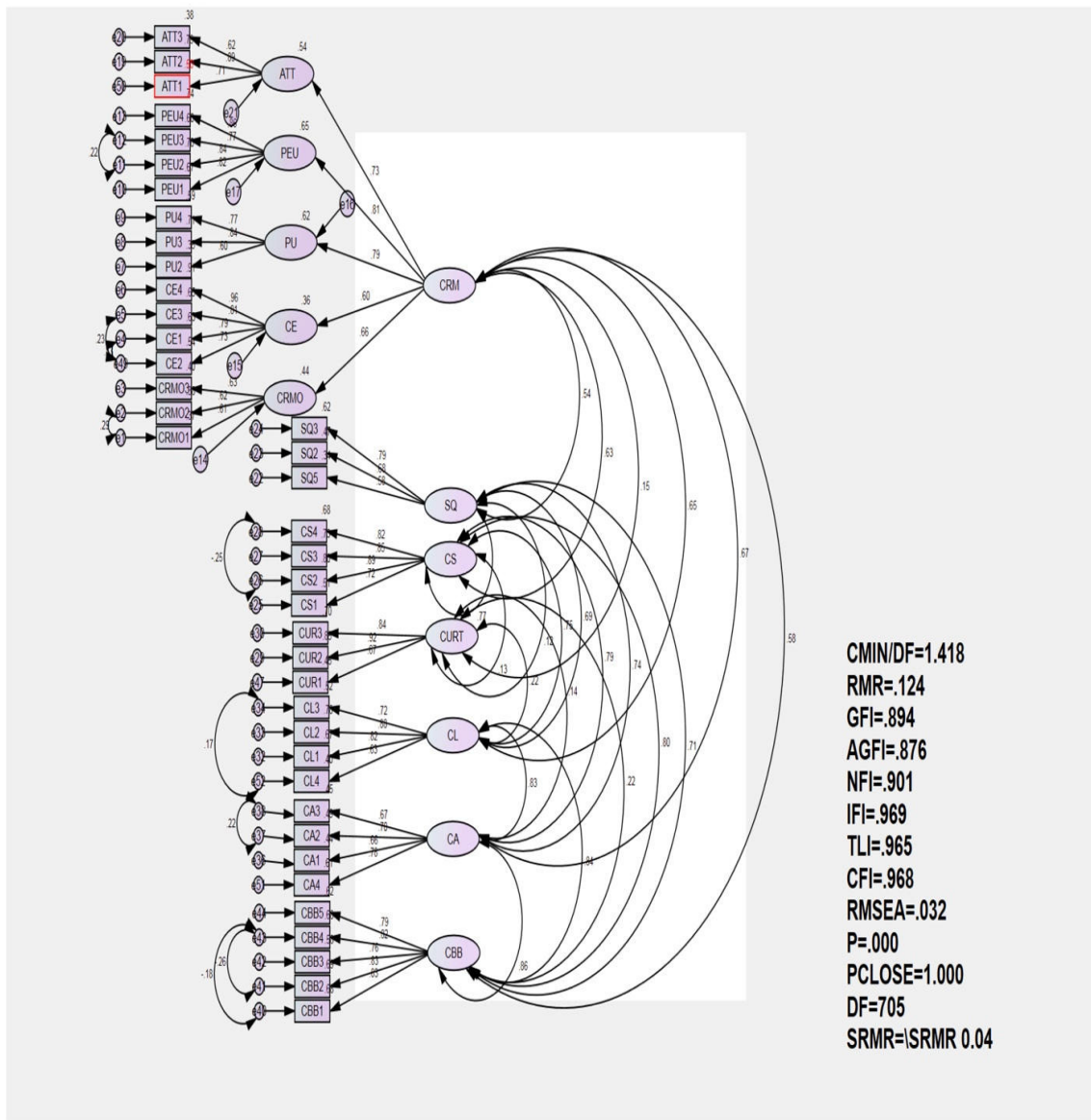
Figure 6.3 is the final measurement model without TDT. It shows the parameter estimates and correlation relationships among the constructs and their error terms. The key parameters to mention from the model and Appendix 12 is that all the loadings obtained are normal and within the required cut off. Both the first and second order variables loaded perfectly well with loading falling between 0.58 and 0.96 and the lowest standardised estimate is 0.595, which is above the recommended minimum value of 0.5 (Hair et al 2006; Schreiber 2008). While it is important that the measurement model overall fit is examined using the conventional indices, the general need for the goodness of fit is not limited to the aim at the measurement stage as it

also provide an indication as to whether or not the structural model will have a good fit.

Regarding how fit the measurement model is, the chi-square result shown in table 6.11 is 999.837 and the degree of freedom is 705 at a  $p < 0.001$ . These results do not imply good model fit because of the numbers of factors assessed, the number of variables the model contain and the sample size. Albeit, the CMIN/DF ratio of 1.4 indicates good fit because it is below the benchmark criteria of  $< 2.0$  as stipulated in table 6.10. In addition, as shown in table 6.11 and figure 6.3, further assessment of the goodness of fit results show that the measurement model provides an acceptable level of measurement fit given the cut off points in table 6.10.

As depicted in table 6.11, the outcome shows that unidimensionality and convergent validity were acceptable as CFI, TLI and RMSEA results are above the cut off benchmarks (Garver and Mentzer 1999; Hu and Bentner 1999). Likewise, all pairs of the standardised residual value are not more than the absolute value of 2.58 (see appendix 11/12), all the expected parameter change (EPC) were less than absolute value of 0.3, all the factor loadings on individual variables are were above 0.5 and critical ratio values were greater than 1.96 (Hair et al 1998; Hair et al. 2006; Byrne 2001). Similarly, the measurement model shows that all the item loadings are greater than the threshold of 0.5 and significant at 0.001 level and all the indices for assessment of model goodness of fit are above the recommended values with  $\chi^2$  (chi square/df) = 999.837/ DF=705 yielding CMIN/DF = 1.4,  $p=0.00$ , CFI= 0.968, TLI= 0.965, IFI=0.969, NFI= 0.901, Pclose=1.000, SRMR= 0.04, GFI= 0.894, AGFI=0.876, and RMSEA = 0.032. Therefore, it is safe to conclude that the model is a good fit, adequately fitted for the research data and admissible for further structural analysis.

**Figure 6.3: Primary measurement model without TDT**



**Table 6.11: Fit indices results**

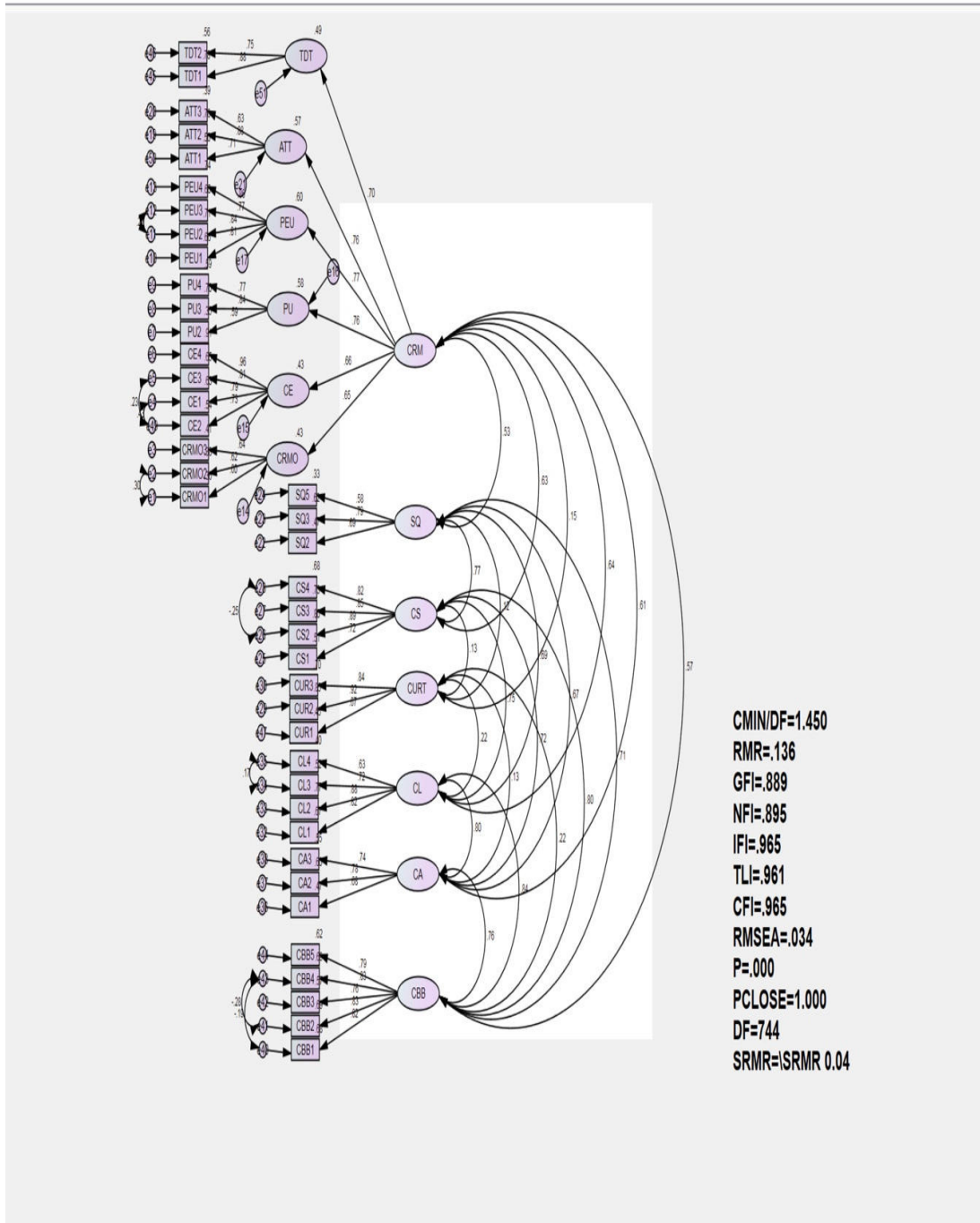
CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	115	999.837	705	.000	1.418
Saturated model	820	.000	0		
Independence model	40	10109.383	780	.000	12.961

<b>RMR, GFI</b>					
Model	RMR	GFI	AGFI	PGFI	
Default model	.124	.894	.876	.768	
Saturated model	.000	1.000			
Independence model	.985	.179	.137	.170	
<b>Baseline Comparisons</b>					
Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.901	.891	.969	.965	.968
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000
<b>RMSEA</b>					
Model	RMSEA	LO 90	HI 90	PCLOSE	
Default model	.032	.028	.037	1.000	
Independence model	.173	.170	.176	.000	

In a similar way, a second measurement model that includes TDT as one of the variables used to measure CRM (2<sup>nd</sup> order factor) was assessed. The results show that the model is fit and can be accepted for further analysis. The result obtained is not significantly different from the primary measurement model. In comparison to the primary measurement model results, figure 6.4 shows that the CMIN/DF of the two measurement mode equals 1.4, which is the same figure with the second model. Moreover, all other parameters outcomes remain above the cut off points. While the primary measurement model RMSEA is 0.032, the second measurement model with TDT is 0.034. This denotes that the model is admissible for further structural analyses.

**Figure 6.4: Measurement model with TDT**



## 6.6. Structural model assessment and hypotheses testing

Following the evaluation of the research measurement model, the next phase is to examine the structural models. The structural model as shown in figure 6.5 revealed that CRM as a 2<sup>nd</sup> order variable measured by five variables as listed in table 6.9, is the independent

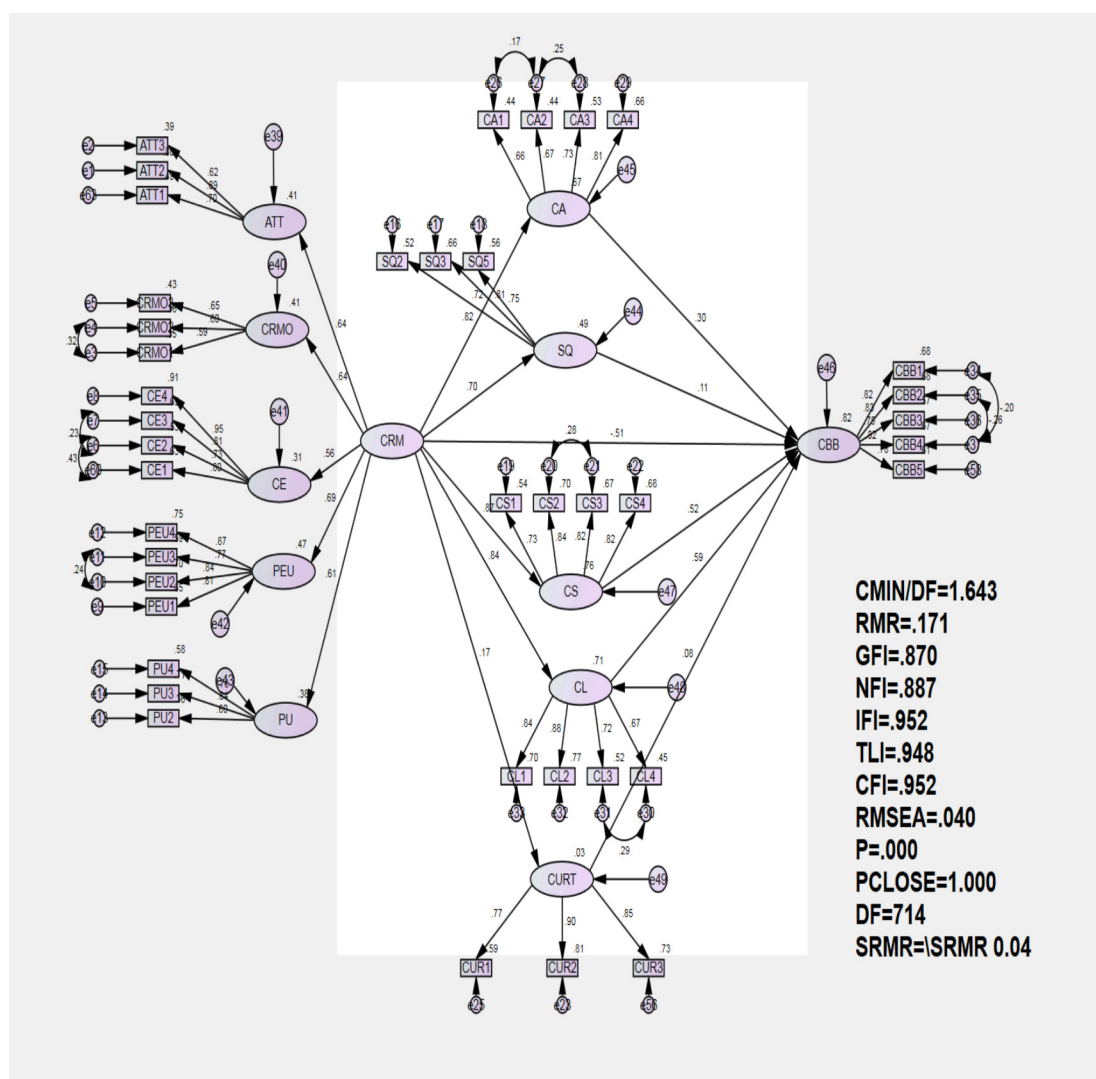
variable, consumer buying behaviour is the dependent variable while service quality, customer satisfaction, customer loyalty and customer acquisition are the intervening variable (moderators). For the purpose of showcasing the effect of TDT as an added construct on the whole study results, clarity and comparison as it was the case for measurement model, two structural models will be assessed. The first one will be the model conceptualized from literature prior to data collection and the model with the inclusion of TDT as a construct.

Figure 6.5 is the structural model, which is the segment of SEM estimates process that involve the variables contain in a model are related among themselves. This stage is often described as the most important part of SEM analysis process because it deals with not only model fitting but also estimation procedures and structural representation of the research hypotheses. The structural model variables and paths are based on the findings from literature reviewed in chapter two. Moreover, from the literature reviewed, some hypotheses were developed in accordance with the anticipated theoretical model. Each of these hypotheses based on the study variables are presented in the model through paths that connect the variables. While the paths in the model do not necessarily denote cause relationship in nature rather from the hypotheses, it specifies the effect the variables have on one another. It is import to note that while some of the paths in the structural model may indicate direct or indirect relationships among the variables as hypothesised, some of the paths are not hypothesised but are only implied in the model.

Additionally, as a general standard in SEM process using AMOS™, in addition to error term in a model, it is required that each endogenous variable be added a disturbance term. The disturbance term is unspecified unknown factor that affect variables (Kline 2005; Pearl 2012). They are neglected causes and any random error, which is analogous to the random error in a typical regression analysis. Disturbance term connote every variance that predictors did not envisage. With regard to the paths in the model, the recursive sequential model of customer relationship management (CRM) and consumer buying behaviour (CBB) predicts that the path (1) coefficients from CRM to customer acquisition (CA) and from CA to CBB (CBB = ATT, CRMO, CE, PEU AND PU), (2) from CRM to service

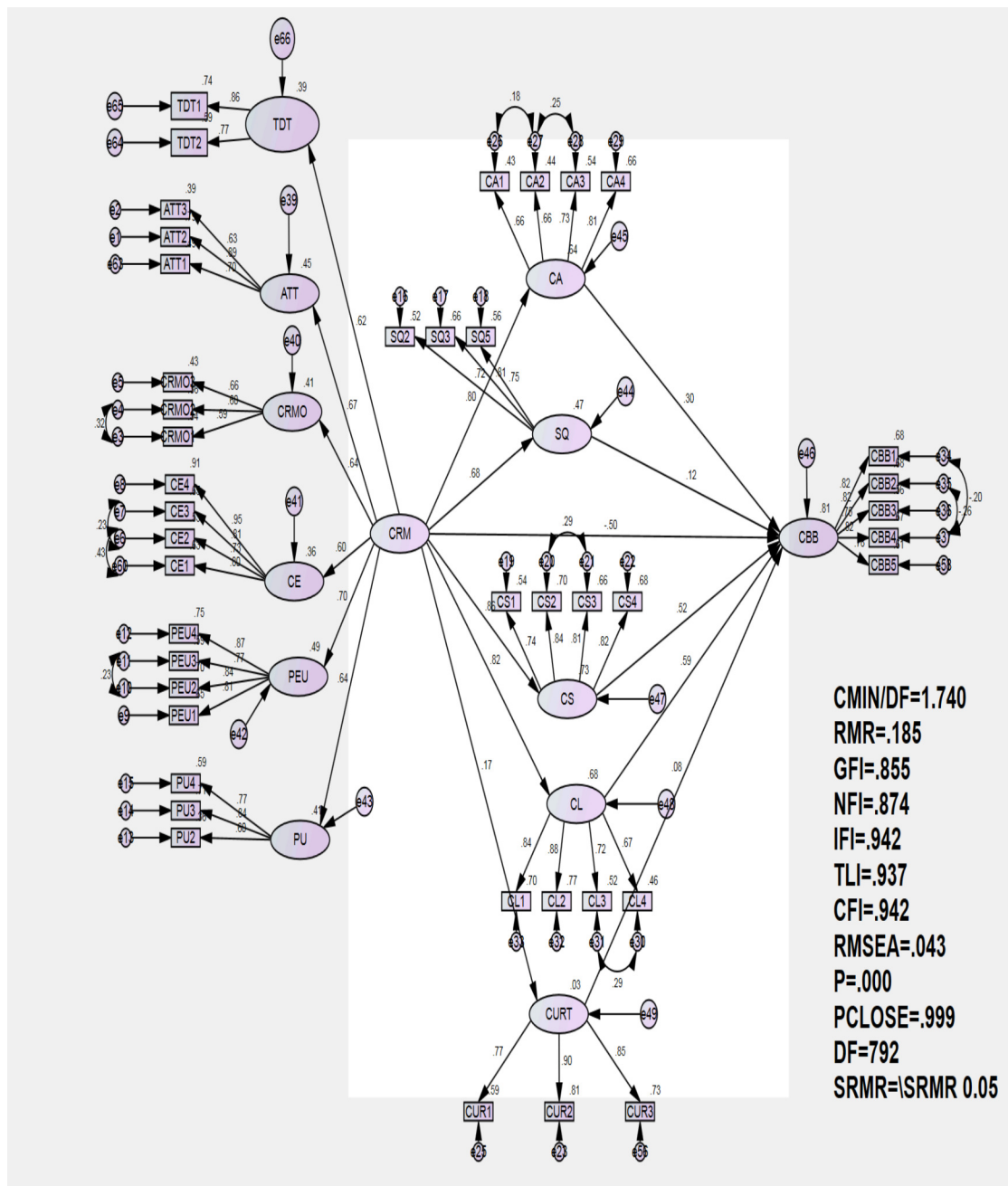
quality (SQ) and from SQ to CBB, (3) from CRM to customer satisfaction (CS) and from CS to CBB, (4) from CRM to customer loyalty (CL) and from CL to CBB and (5) from CRM to customer retention (CURT) and from CURT to CBB will be significant both mutually and independently. The last path in the model, which is often regarded as alternative path or model, is the direct link from CRM to CBB. Thus, while it is imperative to assess the general goodness of fit of the model, it is ultimately fundamental to evaluate the cause and effect analyses results of the advanced hypotheses as signified by each path coefficient in the model.

**Figure 6.5: Primary structural model (Without TDT)**





**Figure 6.6: Primary structural model with Technology Downtime (TDT)**



In a similar way, a second structural model that includes TDT as one of the variable used to measure CRM (2<sup>nd</sup> order factor) was assessed. The results show that the model is equally fit and can be accepted for further analysis. The result obtained is not significantly different from the primary structural model. In comparison to the primary structural model results, figure 6.6 shows that the CMIN/DF for the primary structural mode is 1.643 while that of the structural model with TDT is

1.740. The chi-square obtained from the second primary model has a difference of about 1, which is not significantly different from the primary model. A departure below 1.5 is adjudged good comparative fit (Bagozzi et al. 1991). Moreover, the chi-square obtained is within the benchmark of  $\leq 2.0$  and all other parameters outcomes remain above the cut off points. While the primary structural model RMSEA is 0.040, the primary structural model with TDT is 0.043. This denotes that both models are admissible for further structural analyses. Most importantly, as shown in table 6.13/14, all the hypothesised paths and other paths are significant and other model goodness of fit indices are met.

Following the extraction of the structural model from AMOS™ 22 (figure 6.5), the general evaluation of the model fit was observed. After which the analysis of each of the model regression paths estimates, direct, indirect and total effects were examined. The outcome from this process will inform whether or not the research hypotheses are accepted or rejected. The assessment of the indirect and total effects is imperative in order to establish if the research objective IV is achieved in the current study or otherwise. The process of testing for the indirect and total effects as demonstrated in section and subsections 6.7.2 involve the use of Sobel test and bootstrapping following Hayes (2009/13) procedure (see details in section 6.7.4). These approaches involve the use of Macros and AMOS and SPSS. Clearly, the need to test for total effects became imperative when the inclusion of the mediating factors unturned the direct relationship between CRM and CBB from negative effect to positive, hence total effect was examined. Moreover, Hayes (2013) argued that mediating effects should be complete mediation at all times, arguing that either there is mediation or there is no mediation at all. Meanwhile, following Sobel test underlying principles and Iacobucci et al. (2007), based on whether or not there is significant relationship between  $X$  and  $M$  and  $M$  and  $Y$ , mediation could be full, partial or no no mediation at all. On this note, this study assessed mediating tests by using both Sobel test and Hayes approach as exhibited in section 6.7.2.

### 6.6.1. Assessment of structural model fit

Prior to the test of advanced research hypotheses, the structural model fit should be analysed and confirmed. As mentioned earlier, varied and several criteria and tests have been recommended for assessment of model fit. These cut across fit indices, absolute and comparative indices. According to Bollen (1990), Hooper et al. (2008) and Hu and Bentler (1999), using a combination of fit indices in a research is advised with particular regard to when sample size is critical to chi-square fit figures, which may imply that the chi-square result is not sufficient or inadmissible to decide if the model should be accepted or otherwise. For the adoption of the rule for assessment of model fit criteria combination suggested by Hu and Bentler (1999), the RMSEA and SRMR figures as presented in table 6.12 were used to further examine the structural model fit, in addition to other generally selected criteria.

**Table 6.12: Model fit criteria two-index presentation strategy**

<b>Fit index combination</b>	<b>Combination rules</b>
NNFI (TLI) and SRMR	NNFI (TLI) $\geq$ 0.96 and SRMR $\leq$ 0.09
RMSEA and SRMR	RMSEA $\leq$ 0.06 and SRMR $\leq$ 0.09
CFI and SRMR	CFI $\geq$ 0.96 and SRMR $\leq$ 0.09

Source: Hu and Bentler (1999) and Hooper et al. (2008)

In order to confirm the model fit, the following fit indices were used CMIN/DF ratio, CFI, RMSEA, SRMR, TLI, GFI and PCLOSE. The cut off criteria for the indices as stipulated previously are presented in table 6.10: CMIN/DF  $\leq$  2, CFI  $\geq$  0.9, GFI  $\geq$  0.85, TLI  $\geq$  0.9, RMSEA  $\leq$  0.05, SRMR  $\leq$  0.05 and PCLOSE above 0.5 but preferably 1.

Table 6.13 presents the results obtained from the model which indicated that the general model fit can be adjudged good and the model can be accepted based on CMIN/DF of 1.6, CFI = 0.952, RMSEA = 0.040, TLI = 0.948, GFI = 0.870, SRMR of 0.04 and PCLOSE = 1 (See figure 6.5). It should be noted that the Chi-square is not significant at  $p < 0.001$ , the figures obtained for the measurement indices are sufficient to conclude that the model can be interpreted to be a representation of the dataset for this study. In addition to the

criteria used above to validate the acceptability of the model, another important means of assessing structural model suitability is by examining the residual correlation matrix. Conventionally, the degree of standardised residuals is evaluated by dividing fitted residual by the errors' asymptotic standard errors. As a common standard, if the figure obtained is above absolute value of 2.85, the outcome is considered to be too high hence, the value is expected to be within an absolute value of 2.85 (Joreskog and Sorbom 1979). Although the general standard is that the residuals should not be above 2.85, there is no given standard as to how many residuals are permitted to be above the cut off may lead to problem. Nevertheless, the higher the number of residuals that are above the cut off in the residual matrix, the more the model loses its power of results reliability and explanation of the model (Schreiber 2008). An evaluation of this study structural model's standardised residuals was discovered to satisfy the benchmark with only a very few figures greater than the cut off values (See appendix 13).

The results from the overall assessment of the structural model above connote that the research data set for the hypothesised model. Based on this, the model can be adjudged to be empirically robust and indicate a good demonstration of the study supporting theory. Having completed the examination and acceptance thereof of the measurement and structural models, the next section presents analysis and results on each of the research hypotheses.

## **6.7. Examination of individual hypotheses**

After the assessment of both measurement and structural model global fit and acceptance, the research can now advance to the core analysis stage of the research singular hypotheses. As in the case of regression analysis, the confirmation of each of the hypotheses is based on the standardised regression estimates for each path in the model. In order to conclude that a hypothesis is true or otherwise from the estimates, it is expected that the p-value for each hypothesis is significant, denoting that the direct effect of individual hypothesis is established. Figure 6.5 and table 6.13 present the standardised estimate weight, the critical ratio and the p-values that indicate

whether or not a hypothesis is significant. Before a general examination of the individual hypothesis, a quick routine overview on table 6.13/6.14 reveals that all the hypothesised relationships (p-values) are significant. However, it is of interest to note that the relationship between SQ and CBB is weak as compared to others. Albeit, the relationship is confirmed and the direct relationship between CRM and CBB is negative but significant.

**Table 6.13: Regression Weights: (Group number 1 - Default model) Standardised regression weight (Hypotheses test results) (Without TDT)**

Hypothesis	Hypothesised relationships			Unstandardised Estimate	Standardised Estimate	S.E.	C.R.	P	Results
H1	CBB	<---	CRM	-.608	-0.505	.266	-2.287	.022	P. Supported
H2	CA	<---	CRM	.981	0.817	.106	9.255	***	Supported
H3	SQ	<---	CRM	.878	0.700	.099	8.910	***	Supported
H4	CS	<---	CRM	.953	0.872	.093	10.269	***	Supported
H5	CL	<---	CRM	1.017	0.843	.105	9.669	***	Supported
H6	CURT	<---	CRM	.278	0.168	.095	2.941	.003	Supported
H7	CBB	<---	CA	.296	0.296	.086	3.438	***	Supported
H8	CBB	<---	SQ	.109	0.113	.054	2.023	.043	Supported
H9	CBB	<---	CS	.574	0.521	.123	4.651	***	Supported
H10	CBB	<---	CL	.589	0.590	.098	6.009	***	Supported
H11	CBB	<---	CURT	.058	0.080	.023	2.534	.011	Supported

**Note: P = Partial, \*\*\* p < 0.001**

**Table 6.14: Standardised regression weight (Hypotheses test results)  
(With TDT)**

Regression Weights: (Group number 1 - Default model)

			<b>Estimate</b>	<b>S.E.</b>	<b>C.R.</b>	<b>P</b>
<b>CA</b>	<---	CRM	.910	.097	9.418	***
<b>SQ</b>	<---	CRM	.819	.090	9.057	***
<b>CS</b>	<---	CRM	.896	.084	10.633	***
<b>CL</b>	<---	CRM	.950	.096	9.932	***
<b>CURT</b>	<---	CRM	.269	.090	2.989	.003
<b>ATT</b>	<---	CRM	1.000			
<b>CRMO</b>	<---	CRM	.697	.100	6.969	***
<b>CE</b>	<---	CRM	.696	.080	8.675	***
<b>PEU</b>	<---	CRM	.884	.088	9.995	***
<b>PU</b>	<---	CRM	.644	.082	7.902	***
<b>CBB</b>	<---	CA	.299	.079	3.784	***
<b>CBB</b>	<---	SQ	.113	.051	2.222	.026
<b>CBB</b>	<---	CS	.565	.107	5.264	***
<b>CBB</b>	<---	CL	.581	.087	6.672	***
<b>CBB</b>	<---	CURT	.059	.023	2.573	.010
<b>CBB</b>	<---	CRM	-.569	.211	-2.702	.007
<b>TDT</b>	<---	CRM	.816	.099	8.274	***

### 6.7.1. Test of hypotheses based on direct effects

Table 6.13 provides a representation of the results obtained from the test of direct relationships between the independent variables (IV) dependent variable (DV), independent variables and the intervening variables and the relationship between the intervening variables and the dependent variable. Likewise, the table shows the standardised and unstandardised regression weight, errors, the critical ratio and the p-values that show the significance level of each hypothesised

relationships. It is important to recall and note that CRM variable was measured as a second order variable. In order to test hypotheses that involve CRM, the first order dimension variables (ATT, CRMO, PU, PEU CE and TDT) were regressed on CRM, which stood as the second order variable. The factor loadings for ATT, CRMO, PU, PEU, CE and TDT become the latent indicator loadings for CRM. As shown in table 6.15, figure 6.5 and 6.6, the outcomes for the loadings are strong and significant. This signifies that each of the variables used as the first order estimates are acceptable and robust measurements of the customer relationship management paradigm. The next sub-section will present the analysis of the sets of hypotheses on the relationships between CRM (independent variable) and the intervening variables (mediators).

**Table 6.15: Regression weight of the paths between first and second order variable**

Regression Weights: (Group number 1 - Default model)

			<b>Estimate</b>	<b>S.E.</b>	<b>C.R.</b>	<b>P</b>
<b>ATT</b>	<---	CRM	1.000			
<b>CRMO</b>	<---	CRM	.729	.107	6.835	***
<b>CE</b>	<---	CRM	.683	.084	8.097	***
<b>PEU</b>	<---	CRM	.905	.095	9.508	***
<b>PU</b>	<---	CRM	.649	.086	7.560	***
<b>TDT</b>	<---	CRM	0.832	0.092	9.080	***

**Hypothesis I** - CRM has a significantly direct and positive effect on consumer buying behaviour (CBB), such that that the perception of customers' attitude, CRM orientation, perceived usefulness and ease of use of technology lead to up/cross- buying, repurchase, positive word of mouth with positive outcome on multiple banking and bank switching.

This hypothesis was proposed in order to determine that the relationship between CRM and consumer buying behaviour would be direct and positively significant. This implies that CRM affects CBB based on the perception of the customers on technology enabled channels usage, usefulness, ease of use and their orientation on CRM adoption by banks. In order to test hypothesis I, a regression path in the model was specified to measure the relationship between CRM and CBB. The standardised coefficient of -0.505 shown in table 6.13 for this relationship implies that when there is an increase in customers' perception and attitude towards CRM enabled channels usage by 1, there will be downward change in their buying behavioural habit by -0.505. As revealed in the table, the results display a negative but significant paths from CRM to CBB with  $p < 0.05$ , S.E. = -0.266 and C.R. = -2.287. Accordingly, the hypothesis that CRM affects CBB is partially supported.

**Hypothesis II** - CRM has a direct and positive effect on customer acquisition (CA)

This hypothesis investigates the relationships between CRM and customer acquisition. This implies that the more customers have positive and strong perceptions and attitude towards the usage and availability of CRM enables channels of a bank, the more likely potential customers would choose to become the bank's customer. Hence the hypothesis predicts that relationships between CRM and CA would be direct and positive significant. The result of the unstandardised coefficient obtained from the regression path in the research model denotes the degree of change in CBB (Y) when there is one (1) change in CRM (X). The standardised estimate outcome of 0.817 indicates that when there is a unit change in CA (Y), there will be a change of 0.817 in CRM (X). Table 6.14 reveals that there is a direct and positive relationship between CRM and CA with  $p < 0.001$ , S.E. = 0.106 and C.R. = 9.255. Hence, the hypothesis that CRM affects CA is supported.

**Hypothesis III** - CRM has a direct and positive effect on service quality, such that the appeal of bank's facilities, provision of prompt



services and provision of personal services formed the customers' perception of service quality.

This proposition was made to investigate the relationships between CRM and service quality. The hypothesis is expected to reveal if the adoption and usage of CRM enabled channels by bank customer would increase their service quality experiences. Hence, it was hypothesised that CRM would have a direct and positive effects on CA. As shown in table 6.13, while the standardised regression estimates explains the level of changes Y due to a unit change in X, the results indicate that the relationship between the path is positive and significant with  $p < 0.001$ , S.E. = 0.099 and C.R. = 8.910. Hence, these results provide the basis for the confirmation of hypothesis III.

**Hypothesis IV** - CRM has a direct and positive effect on customer satisfaction (CS), such that the perception of customers' attitude, CRM orientation, perceived usefulness and ease of use of technology is positive.

This hypothesis tests the relationships between CRM and CS. It predicts whether the availability and usage CRM enabled channels by customers would increase the level of customer satisfaction. In order to examine the hypothesis, a regression path in the research model was specified to establish the relationship between CRM and CS. Standardised regression estimates in table 6.14 shows the effects of a unit change in CS and its corresponding change in CRM (X). This result explains that when there is a unit increase in CRM, there will be a 0.872 change in CS. The table also implies that the relationship hypothesized is positive and significant with  $p < 0.001$ , S.E. = 0.093 and C.R. = 10.296. These outcomes lead to the conclusion that hypothesis IV is supported.

**Hypothesis V** - CRM has a direct and positive effect on customer loyalty (CL), such that the perception of customers' attitude, CRM orientation, perceived usefulness and ease of use of technology influence them to be loyal customers.

Hypothesis V postulates that the relationships between CRM and CL would be direct and positively significant. This means that the increase or otherwise in the level of customer loyalty is determined by their position of perceptions and attitudes towards CRM enabled channels ease of use, usefulness, technology down time and their experiences. The outcomes of the path analysis between CRM and CL presented in table 6.13 reveal that a unit change in standardised estimates of CRM (Y) will result to an increase in customers' level of loyalty (X). Similarly, the results indicate that hypothesised relationship is positive and significant with  $p < 0.001$ , S.E. = 0.105 and C.R. = 9.669. This suggests the ability CRM adoption has in predicting customer loyalty implying, that CRM enabled channels availability and ease of use without technology hitches (independent variable) accounts for changes in the level at which customer would be loyal. Hence, it can be concluded that CRM has a direct and positive effect on CL thereby confirming hypothesis V.

**Hypothesis VI** - CRM has a direct and positive effect on customer retention, such that the perception of customers' attitude, CRM orientation, perceived usefulness and ease of use of technology make them conduct all their banking transaction with the same bank.

As presented in table 6.13, the standardised regression estimates for the path between CRM and customer retention (CURT) is 0.168. This means that when the level of customer perception on CRM (Y) goes up by a single unit, the level at which customers are happy to be retained will go up by 0.168. Moreover, the results signify that C.R. = 2.941, S.E. = 0.095 with  $p < 0.005$  implying that the regression path is statistically significant. These outcomes established a strong basis for confirmation of towards CRM enabled channels in terms of ease of use, usefulness, experiences and their usage orientations have a strong significant effect on customer behavioural intention to continue to perform all their bank transactions with their respective banks.

The last six hypotheses that have been analysed and confirmed are with respect to the relationships between CRM (independent variable) and the intervening variables (mediators). The next five analysed sets

of hypotheses are regressed paths between the intervening variables and the dependent variable (CBB).

**Hypothesis VII** - Customer acquisition has a direct and positive effect on consumer buying behaviour, such that customers' habit towards consumer buying behaviour elements is positive.

This hypothesis was proposed to investigate effect customer acquisition (CA) has on consumer buying behaviour. As mentioned in the methodology chapter, customer buying behaviour (CBB) is measured in this study on buying behaviour such as up/cross buying, repurchase, bank switching, multiple banking and word of mouth. This study has confirmed that CRM adoption predicts the possibility of a potential customer choosing a bank based on the bank's CRM enabled channels availability, ease of use, etc. therefore, a regression path was specified to further attest to whether or not newly acquired customers would exhibit the CBB elements.

The outcomes of the regression path analysis between CA and CBB as presented in table 6.13 reveal that a unit change in standardised estimates of CA (Y) will result to an increase of 0.298 in new customer disposition and exhibition positive habitual outcomes in their buying behaviour (X). Similarly, the results indicate that hypothesised relationship is positive and significant with  $p < 0.001$ , S.E. = 0.086 and C.R. = 3.438 implying that, the effect of CA on CBB is directly and positively significant. This advocates the ability CA to predict customer buying behaviour attributes.

**Hypothesis VIII** - Service quality (SQ) has a direct and positive effect on consumer buying behaviour, such that customers' attainment of quality service influences their habitual response to consumer buying behaviour elements.

Hypothesis VIII examines the regression path specified between SQ and CBB. The results in table 6.13 indicates that the relationship between the two variables are positive and significant with  $p < 0.005$ , S.E. = 0.054 and C.R. = 2.023. Similarly, the standardised regression weight is positive denoting that, with an increase in the value of SQ by

a single unit, the corresponding effect will be an increase in customer exhibited CBB attributes by 0.113. These outcomes lead to the confirmation of hypothesis VIII.

**Hypothesis IX** - Customer satisfaction (CS) has a direct and positive effect on consumer buying behaviour, such that customers' habitual response to consumer buying behaviour elements is affected by weather or not they are satisfied.

This hypothesis investigates the regression path indicated between CS and CBB. The results in table 6.13 indicates that the relationship between the two variables are positive and significant with  $p < 0.001$ , S.E. = 0.123 and C.R. = 4.651. Similarly, the standardised regression weight is positive denoting that, with an increase in the level of CS by a single unit, the corresponding effect will be a positive change in customer exhibited CBB attributes by 0.521. Based on these results, it is concluded that hypothesis IX is supported.

**Hypothesis X** - Customer loyalty (CL) has a direct and positive effect on consumer buying behaviour, such that a loyal customer will exhibit positive buying habit towards consumer buying behaviour elements.

In a similar way, the relationship between CL and CBB was tested and as shown in table 6.13, the results indicate that the regression path is positive and significant with  $p < 0.001$ , S.E. = 0.098 and C.R. = 6.009. Therefore, given that the standardised estimates indicate a positive change in CBB (X) by 0.590 for every single unit change in CL (Y), the hypothesis that CL affects CBB such that a loyal customer will buy more products and services from the same bank, repurchase, spread positive word of mouth and would not switch bank is strongly confirmed.

**Hypothesis XI** - Customer retention (CURT) has a direct and positive effect on consumer buying behaviour, such that retained customer will exhibit a positive behavioural buying habit by buying more products and services from the same bank, spread positive word of mouth about the bank, continuous repurchase and would not switch or engage in multiple banking.

Hypothesis XI tests the relationships between CURT and CBB. As revealed in table 6.13, the outcomes show that the path between CURT and CBB is positive and significant with  $p < 0.005$ , S.E. = 0.023 and C.R. = 2.534. Based on this, given that the standardised coefficient indicate a positive change in CBB (X) by 0.080 for every single unit change in CURT (Y), the hypothesis that CURT affects CBB such that retained customers will exhibit a positive behavioural buying habit by buying more products and services from the same bank, spread positive word of mouth about the bank, continuous repurchase and would not switch or engage in multiple banking is confirmed.

This next section presents the analysis of test of hypotheses based on indirect effects (mediating relationships).

#### **6.7.2. Analysis of hypotheses based on indirect effects: Mediating relationship.**

The previous section presented the analysis of direct effect from independent variable (IV) to the mediators (M) and the direct effect of the mediators on the dependent variable (DV). This section presents the indirect effect and the total effect relationship, which form the major part of the research propositions on the impact of CRM benefits as mediators to consumer buying behaviour in the banking industry.

Generally, using two approaches to assess mediating effects in a study has been claimed to produce a more robust process and outcomes of the mediation tests (MacKinnon et al. 2002; MacKinnon 2008; Messersmith et al. 2011). Hence, in this study, the Sobel test with bootstrapping standard error and nested model approaches will be employed to examine the research mediation tests. While it is possible to estimate confidence intervals for total effects in AMOS™, the software does not have the capability to estimate indirect effects that are linked to stipulated paths that relates to indirect effects more so that the software cannot handle multiple mediation tests. Therefore, the use of macro software was necessary in order to evaluate the confidence intervals that are more accurate for the test of research hypotheses for paths with indirect links.

Using bootstrapping confidence interval has been averred to be the most improved approach to making inference especially when original data is used for analysis (Hayes 2013). He also stated that this method does not make assumptions about the shape of the sampling distribution and the confidence intervals is adjudged more powerful than any other methods such as normal theory approach (Hayes 2013; Williams and MacKinnon 2008). This procedure will use the macro developed by Hayes (2010, in Hayes and Preacher (2010)) that allow for multiple mediation test and also provides bootstrapping standard error and confident intervals as well as AMOS™ outputs. As generally established, the use of bootstrapping gives the most powerful and reasonable approach for estimating confident limits particular indirect effects in most circumstances (Briggs 2006; Preacher and Hayes 2008; Williams and MacKinnon 2008). It is import to note that a new approach to testing mediation has been developed and claimed to be the best way to test mediation in the 21<sup>st</sup> millennium. This approach is called "Process" and it has the capability to combine all existing modes of estimating mediation. This approach is a regression-based approach by Hayes (2013). This study however has not used this newest idea because as recommended by the author, the approach is not for studies with latent variables, this study consider the use of nested model for assessing mediation which is easy and possible to perform with SEM and SEM gives measures for model fit unlike in process hence, Hayes in his book refer studies with latent variables to follow the method for mediation analysis discussed in Cheung and Lau (2008) and MacKinnon (2008).

According to Hayes and Preacher (2010), as compared to other methods of testing mediation, using Sobel test and bootstrapped standard errors provides researcher with some benefits. As part of those mentioned above, it allows the researcher not to make any data distributional assumptions that is often required for parametric measures. Likewise, the outcomes of the simulation studies carried out by MacKinnon et al. (2004) that compared the Sobel test with bootstrapping and other alternative approaches for mediation tests revealed that the approach used in this study will commonly provide better results unlike the parametric methods with respect to the rates of Type 1 error and statistical power (Hayes 2013; Hayes and Preacher

2010). Another main advantage of using this technique is that the bootstrap confidence intervals outcomes tend to be more asymmetric and give a closer resemblance of real sampling distribution unlike the confident intervals derived from approaches that is based on the assumption of a normality distribution.

### 6.7.3. Sobel test analysis for indirect effects

In order to test the indirect effect of CRM on CBB through the mediators, Sobel test with bootstrapped standard error and as an alternative, the macro developed by Hayes that has the capability for multiple mediation test was also used based on 5000 resampling was carried out as recommended by Hayes (2009) and Preacher and Hayes (2008). This approach has been used in recent studies by several authors with the resampling method (bootstrapping) and macro by Preacher and Hayes (e.g. Alloy et al. 2009; Gonzalez et al. 2011, Hall et al. 2009; Osberg et al. 2012). The outcomes of the exercise for the Sobel test are detailed in table 6.16.

**Table 6.16: Sobel test results with mediating effect**

<b>Indirect effects paths</b>	<b>Sobel test</b>	<b>Standard error</b>	<b>Mediating effect</b>
CRM → CA → CBB	3.24	0.089***	Partial
CRM → SQ → CBB	1.98	0.048*	Partial
CRM → CS → CBB	4.26	0.128***	Partial
CRM → CL → CBB	5.13	0.116***	Partial
CRM → CURT → CBB	1.97	0.008*	Partial

\*\*\* p < 0.001, \* p < 0.05

The mediating effect column outcomes in line with the test results has been adjudged partial based on the recommended rules according to Iacobucci et al (2007 p. 163) that:

“If both the z and the direct path X – Y are significant, then the relationship is partial (with a significant large portion of the variance in Y due to X being explained via the indirect rather than the direct path)”.

As shown in table 6.16, the outcomes demonstrate that CA has a mediating effect on the relationship that exist between CRM and CBB with Z score = 3.24 and significant at  $p < 0.001$ . SQ also is found to have a mediating effect on impact of CRM on CBB with Z score = 1.98 and  $< 0.05$ . The results similarly confirmed that CS carries an influence of CRM to CBB with Z score = 4.26 and significant at  $< 0.001$ . This is also the case with CL and CURT with Z score of 5.13 and significant at  $< 0.001$  and Z score 1.97 and significant at  $< 0.05$  respectively. Therefore, based on the fact that the results conform with the recommended rule cited above, the Z scores of each of the mediators and the direct paths between CRM and CBB are significant, the mediation effect can be concluded to be partial (Iacobucci et al. 2007).

#### **6.7.4. Bootstrap analysis for confirmation of confident intervals and mediating effects**

Similarly, in order to ensure that the results obtained from the test of mediations for the purpose of confirming the research hypotheses are robust and sufficient enough, an alternative approach was applied as mentioned earlier (section 6.7.2) in addition to the Sobel test outcomes. Table 6.17 presents the results while Appendix 14 contains the full simulation output from SPSS.



**Table 6.17: Mediation of the effect of CRM on CBB through CA, SQ, CS, CL and CURT.**

	Point Estimate	SE	Products of Coefficients	Z	Bootstrapping					
					Percentile 95% CI		BC 95% CI		BCa 95% CI	
					Lower	Upper	Lower	Upper	Lower	Upper
<i>Indirect effects</i>										
Customer Acquisition	0.8113	0.0682	11.8993***		0.6242	0.9985	0.6308	1.0075	0.637	1.0125
Service Quality	-0.1032	0.0370	-2.7926*		-0.2005	-0.0020	-0.2072	-0.0092	-0.2076	-0.0106
Customer satisfaction	0.3033	0.0445	6.8172***		0.1907	0.4195	0.1923	0.4236	0.1955	0.4276
Customer loyalty	0.3737	0.0498	7.5029***		0.2506	0.5030	0.2532	0.5105	0.2509	0.5037
Customer retention	0.0219	0.0078	2.8177*		0.0071	0.0403	0.0085	0.0430	0.0086	0.0433
<b>Total</b>	<b>1.4071</b>	<b>0.0653</b>	<b>21.5501***</b>		<b>1.2828</b>	<b>1.5250</b>	<b>1.2882</b>	<b>1.5306</b>	<b>1.2835</b>	<b>1.5257</b>
<i>Contrast</i>										
CA vs. SQ	0.9145	0.0877	10.4277***		0.6655	1.1610	0.6721	1.1717	0.6789	1.1835
CA vs. CS	0.5081	0.0831	6.1111***		0.2739	0.7413	0.2818	0.7466	0.2838	0.7485
CA vs. CL	0.4376	0.098	4.4648***		0.1598	0.7104	0.1617	0.7136	0.1770	0.7309
CA vs. CURT	0.7894	0.0680	11.6020***		0.6048	0.9768	0.6107	0.9871	0.6155	0.9930
SQ vs. CS	-0.4065	0.0709	-5.7313***		-0.5867	-0.2263	-0.5987	-0.2340	-0.5991	-0.2347
SQ vs. CL	-0.4769	0.0636	-7.5033***		-0.6252	-0.3256	-0.6331	-0.3317	-0.6329	-0.3315
SQ vs. CURT	-0.1251	0.0378	-3.3087**		-0.2239	-0.0240	-0.2304	-0.0313	-0.2322	-0.0330
CS vs. CL	-0.0705	0.0676	-1.0421		-0.2552	0.1115	-0.2556	0.1113	-0.2521	0.1153
CS vs. CURT	0.2814	0.0450	6.2552***		0.1664	0.4010	0.1682	0.4052	0.1714	0.4084
CL vs. CURT	0.3518	0.0510	6.8993***		0.2257	0.4839	0.2268	0.4857	0.2236	0.4802

Note: The number of bootstrap sample was 5000, BC = bias corrected, BCa = bias corrected and accelerated, CI = confidence intervals. \*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05. CIs not containing zero are deemed significant at 0.05 levels

Table 6.17 contains the point estimates, standard errors, Z scores statistics, p values, and bootstrapped three categories of confidence intervals at 95% CI for individual hypothesized mediators. Although the three CIs are consistent with no substantial disparity, MacKinnon et al. (2004) established that bias-corrected bootstrapping frequently generates the best power and confident intervals. It also shows the lower and the upper range of the CIs. Before further explanation of the outcomes in table 6.17, it is important to point out an interesting similarity between the results on Z scores and p values for the hypothesised mediators from the Sobel test shown in table 6.16 and the results found from the use of macro for SPSS developed by Preacher and Hayes for multiple mediation tests. As indicated in both tables, the section highlighted in blue are the results for the Z scores and the p values from the two approaches and it is worth noting that there is no significant dissimilarity in the results, if at all, there is any different. CA, CS and CL in both tests are significant at  $< 0.001$  while the two tests approach also produced that SQ and CURT are significant at  $p < 0.05$ . While the Sobel test was based on the original 400 data, the bootstrapped estimate obtained from the macro by Preacher and Hayes was based on 5000-bootstrapped sample.

From the two approaches results as detailed in table 6.16 and 6.17, the Z scores obtained are significant for the five mediators therefore indicating that, customer acquisition, customer satisfaction and customer loyalty ( $p < 0.001$ ) and service quality and customer retention ( $p < 0.05$ ) mediate the relationship between CRM and CBB. These imply that the five mediators carry an influence to the dependent variable from the independent variable. Furthermore, the results from the parameter estimates and bias corrected accelerated for the total indirect results also contain in table 6.17 shows that, the total indirect effects of all the mediators were significant individually, CA had a greater meditational effect than every of the other four mediators significant at ( $p < 0.001$ ) with CI between 1.2835 and 1.5257 which means that the CI does not contain zero.

### **6.7.5. Contrast analysis for the strength/proportion of indirect effects**

The strength of mediation, which is the relative size of the indirect effects as against direct effect directions, is often calculated by comparing the size of the indirect effect to the total effect paths coefficients (Iacobucci et al. 2007). This can manually be computed using the equation below, which explains the proportion of mediational variance of Y by X:

$$P = \frac{a \times b}{(a \times b) + c'}$$

The proportion of mediation test equation has been incorporated into the software used for the bootstrapping hence, the results as generated from the simulation process will be displayed in the macro (bootstrapped) output. This is referred to as pairwise contrasts between the specific indirect effects in the macro simulation output.

Having established through the assessment of the specific indirect effect that indirect effects exist through the mediators, the strength of each indirect effect of the mediators against another is compared. This is to allow the research to know which mediator has the largest indirect effect than the other. As indicated in table 6.17 in the contrast section which contain ten possible contrast results between the five indirect effects, pairwise contrast between the specific mediated effects were subsequently performed in order to obtain the position of the differences and size. The results show that only case eight (8-CS V CL) contains zero with CI between -0.2521 and 0.1153 indicating non-significance while other cases do not contain zero implying that they are significant. Therefore, the indirect effect through CA, SQ, CL and CURT are significant while through CS is not significant. Invariably, the indirect effect through each of CA, SQ, CL and CURT is greater than the effect via CS.

Furthermore, for strength of individual effects as revealed in table 6.17, CA had a greater meditating effect than every of the other four mediators significant at  $p_s < 0.001$ . Also, Service quality had a greater indirect effect than CS and CL at Individually, CA had a greater

meditating effect than every of the other four mediators significant at ( $p < 0.001$ ) and CURT at Individually, CA had a greater meditational effect than every of the other four mediators significant at ( $p < 0.01$ ) while both CL and CURT had greater meditating effects in comparison to CS.

**Hypothesis XIII** - CRM has an indirect effect on consumer buying behaviour, which is mediated by customer acquisition.

This hypothesis was proposed to reveal if customer acquisition without other mediating variables serves as a mediator on the relationship between CRM and CBB. The assessment of this hypothesis is to find out if certainly there exist a significant relationship between CRM and CBB when only CA is present in the model as the intervening variable.

The application of the Sobel test on mediation analysis (Sobel 1982; MacKinnon 2008) and bootstrapping approach (Preacher and Hayes 2010) in this study reveal whether or not a mediating variable significantly transfers an influence to the dependent variable. The results reveal that  $p < 0.001$  and CI lower and upper limits are = 0.637 and 1.0125 respectively. As the CI does not include zero and the mediation is significant at  $p < 0.001$ , it can be decided that the coefficient associated with this indirect path is significantly different from zero therefore, hypothesis XII is confirmed.

**Hypothesis XIV** - CRM has an indirect effect on consumer buying behaviour, which is mediated by service quality.

Similarly, results in table 6.16 and 6.17 demonstrated that the relationship between CRM and CBB is mediated by customer acquisition with  $p < 0.05$  and the CI ranges between -0.2076 and -0.0106. Since the CI does not contain a zero, we can conclude that SQ has a significant indirect effect on the relationship between CRM and CBB hence, hypothesis XIII is upheld.

**Hypothesis XV** - CRM has an indirect effect on consumer buying behaviour, which is mediated by customer satisfaction.

In like manner, the Sobel test and the bootstrapped approaches were used to test hypothesis XIV predicting that the relationship between CRM and CBB was indirect and mediated by customer satisfaction. Table 6.17 shows that at 95% confident interval, the CI ranges from 0.1955 to 0.4276. The results also indicate that the indirect effect is significant at ( $p < 0.001$ ) with Z score of 4.26. Based on these results at 95% confidence level, the indirect effect of CRM on CBB through CS is within the range of significance. Therefore, hypothesis XIV is concluded to be supported.

**Hypothesis XVI** – CRM has an indirect effect on consumer buying behaviour, which is mediated by customer loyalty.

Using the same process of mediation test described above, this hypothesis was examined as to whether CRM has indirect effect on CBB via customer loyalty. The results in table 6.16 and 6.17 showcase that the hypothesised indirect is significant at ( $p < 0.001$ ) with confident intervals falling between 0.2509 and 0.5037. As the numbers between the lower and the upper confidence limit does not contain zero, there is 95% guarantee that the true alpha value for the mediation effect of CRM on CBB via CL is within significance level. Accordingly, it is safe to conclude that hypothesis XV confirmed.

**Hypothesis XVII** – CRM has an indirect effect on consumer buying behaviour, which is mediated by customer retention.

Similarly, this hypothesis was tested using Sobel test and bootstrap approaches and the results in table 6.16 and 6.17 show that the hypothesised specific indirect relationship between CRM and CBB through CURT is significant at ( $p < 0.05$ ) and the numbers between the lower limit (0.0086) and the upper limit (0.00433) does not contain zero and as such, it can be concluded that hypothesis XVII should be accepted.

**Hypothesis XII** – CRM has an indirect effect on consumer buying behaviour, but its effect is jointly mediated by customer acquisition,

service quality, customer satisfaction, customer loyalty and customer retention.

The total effect of CRM on CBB through all the five specified mediators can be represented as:

$$T = \text{total effect} = \text{CRM} \rightarrow \text{CBB} + (\text{CRM} \rightarrow Y \dots \text{mediated by CA}) + (\text{CRM} \rightarrow Y \dots \text{MEDIATED BY SQ}) \dots \dots \dots + (\text{CRM} \rightarrow Y \dots \text{mediated by CURT})$$

while the total indirect effect =  $(\text{CRM} \rightarrow Y \dots \text{mediated by CA}) + (\text{CRM} \rightarrow Y \dots \text{MEDIATED BY SQ}) \dots \dots \dots + (\text{CRM} \rightarrow Y \dots \text{mediated by CURT})$ .

Where  $Y = \text{CBB}$ , that is, the outcome.

Table 6.17 contains the total effects size obtained from the test through macro while appendix 14 comprises the full macro output. The bootstrapped estimates based on 5000-bootstrapped sample provide the results presented in table 6.17. The explanation of these outcomes is CA, SQ, CS, CL and CURT as a set of mediators in actual fact mediates the effect of CRM on CBB. As shown in table 6.17 and also in appendix 14, the total and the direct effects coefficients of CRM on CBB are 1.0986,  $p < 0.001$ , and -0.3085  $p, < 0.001$  respectively. The dissimilarity between the total and the direct effects is the total indirect effect through the five mediators having a point estimate of 1.4071 with a 95% bootstrapped confidence intervals between 1.2835 and 1.5257. These results imply that the researcher can claim that the difference between the total effects and the direct effect of CRM on CBB is different from zero. As can be seen in appendix 14 and table 6.13/6.16, the routes *a* and *b* paths in the model are consistent and in line with the interpretation of results in direct effects hypotheses section that more efficient and greater CRM leads to better level of CA, SQ, CS, CL and CURT measurements, which consequently leads to better and greater CBB. It is important to pinpoint from these results that the direct effect of CRM on CBB is negative. The results obtained from the use of bootstrapping with macro for SPSS developed by Preacher and Hayes (2010) is not significantly different from the results obtained from AMOS™ output (See appendix 15). Based on these outcomes, it is safe to claim that hypotheses XVI is supported.

As the bootstrapping approach is not based on assumption of normal distribution of the variables of the study, it is not required that distribution curve for the total effect and the indirect effects are presented (Preacher and Hayes 2010).

### **6.8. Nested model approach**

Using nested model approach as an alternative means of confirming model fit and acceptance involves the comparison of the full model to a model with a restriction that is, a model that is nested within the research full model. For the purpose of clarification, a nested model is described as a model "A" that has the same variables with model "B" with the alternative model "B" having at least one restricted path. According to Kline (1995 p. 131), two models are nested if one is a subset of the other. That is, a model with more constraints is nested within a model with less free parameters. Using this approach is consistent with past research (e.g. Brown et al. 2002; Cantarello et al. 2011). In order to examine Chi-square difference test for nested models, smaller Chi-square values suggest better fitting model. However, if the variance between the two nested models is significant, it denotes that the model having more paths explains the data better therefore showing that the model with more paths reduces the model overall chi-square thereby improving the model fit (Mueller and Hancock 2008; Steiger et al. 1985; Yuan and Bentler 2004). Additionally, for the Chi-square test to be meaningfully applied, the assumption is that the two models compared must be nested models such that, "one of the models could be achieved simply by fixing/eliminating parameters in the other model" (Werner and Schermelleh-Engel 2010 p. 2).

To present additional support for the research full model, that the effect of the independent variable on the dependent variable is fully mediated by the five intervening variables as hypothetically advanced in this study, it is theoretically required that an alternative model without the direct effect path (CRM → CBB) is nested within the full model. Thus, an alternative hypothesis is proposed that CRM does not directly affect CBB with or without the inclusion of the intervening variables in the model. This alternative model signifies the more

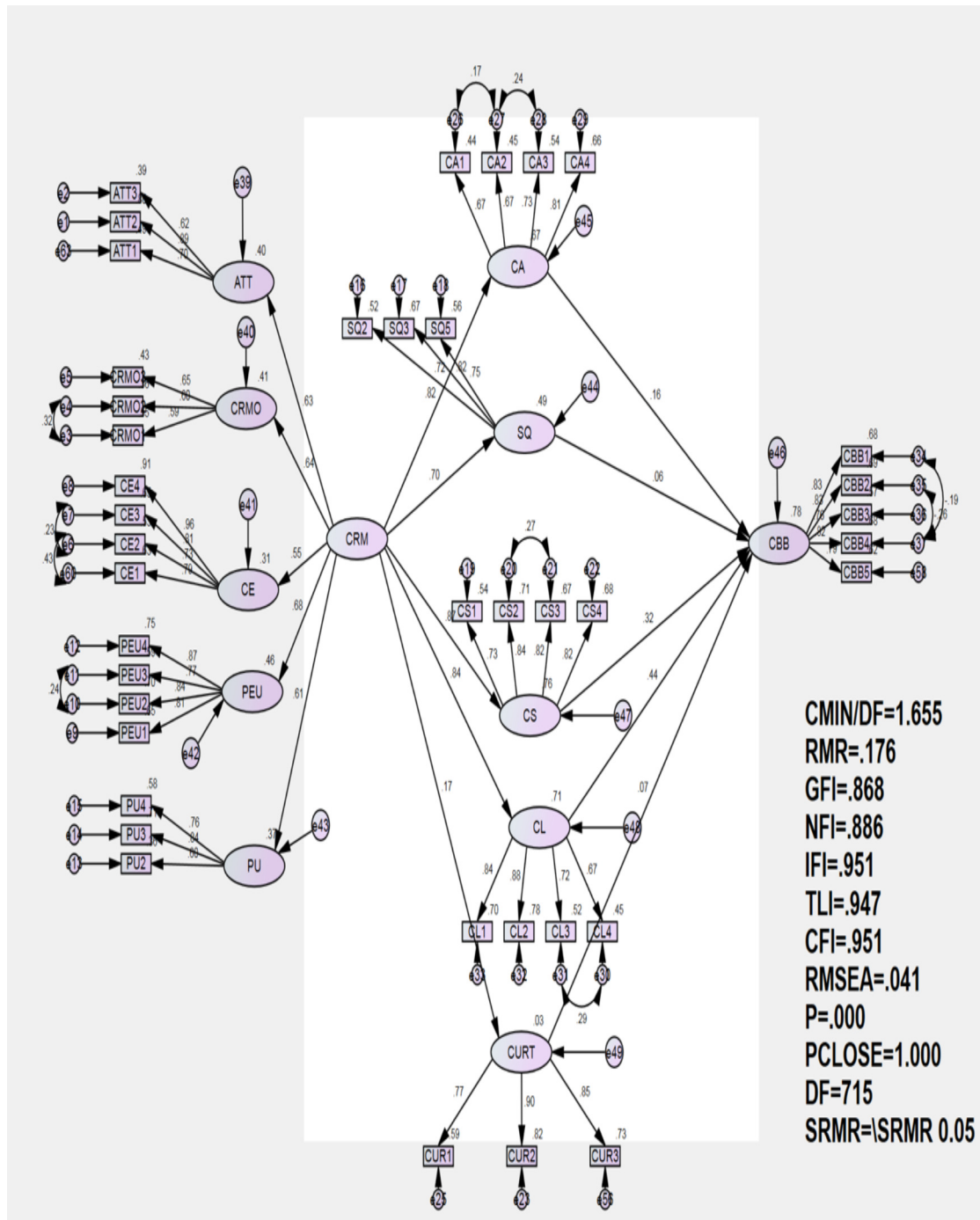
parsimonious duplicate of the study model such that, the test of significance will attest if the alternative model does not produce a significantly improved overall model as compared to the hypothesised study model. Theoretically according to Kenny et al. (2003), in order to establish that full mediation exists in a model, the direct effect of "X" on "Y" (without the mediators) is expected to be non-significant i.e.  $X \rightarrow Y = 0$  (Iacobucci et al. 2007; Kenny et al. 2003).

The advanced hypothesised direct relationship between CRM and CBB is that the path should be significant (i.e.  $CRM \rightarrow CBB \neq 0$ ). This is to say that the original model with the path stating that CRM direct effect on CBB is not equal to zero is postulated as the null hypothesis while the model, which postulates that the direct effect of CRM on CBB is equal to zero, is taken as the alternative hypothesis.

In order to use the Chi-square test of worst model fit to data, (having in mind that the results will confirm or otherwise the two hypotheses advanced to answer as to whether the model without the direct path fit the data better than the alternative model), the evaluation of these two hypotheses involves comparing the two models' results. Figure 6.7 is the alternative model showing that there is no direct path between CRM and CBB hence, the relationship is zero (Alternative hypothesis) while the null hypothesis, which in this case is the default model in which the path between CRM and CBB is proposed to be significant.



**Figure 6.7: Alternative hypothesis model**



From the alternative model results presented in table 6.18, it can be seen that the p value for point estimate between service SQ and CBB has become insignificant at  $p > 0.05$  thus implying that the path is non-significant. On the contrary, it is interesting to know that the results from the default model (null hypothesis) (see table 6.13 and figure 6.5/6.6) indicated that the path is significant. Subsequently, the result gives basis for the alternative hypothesis to be rejected as the path between CRM and CBB has been confirmed not to be equal to

zero i.e. significant and the exclusion of the direct path resulted in weakening the other hypothesised path in the model.

**Table 6.18: Regression weight for alternative hypothesis model**

			<b>Estimate</b>	<b>S.E.</b>	<b>C.R.</b>	<b>P</b>
<b>CA</b>	<---	CRM	.997	.108	9.193	***
<b>SQ</b>	<---	CRM	.892	.101	8.858	***
<b>CS</b>	<---	CRM	.963	.095	10.155	***
<b>CL</b>	<---	CRM	1.026	.107	9.566	***
<b>CURT</b>	<---	CRM	.282	.096	2.932	.003
<b>CBB</b>	<---	CA	.159	.060	2.651	.008
<b>CBB</b>	<---	SQ	.055	.046	1.208	.227
<b>CBB</b>	<---	CS	.359	.071	5.031	***
<b>CBB</b>	<---	CL	.438	.065	6.782	***
<b>CBB</b>	<---	CURT	.049	.023	2.147	.032

Additionally, a visual general assessment of the two models as revealed in table 6.19 indicates that the exclusion of the direct path between CRM and CBB in the alternative model did not in any ways improve the overall fit indices of the model thereby, implying that the direct path is significant (not equal to zero) and the path is required in the model in order to have the model that best fits the data set. Further visual inspections of the results also show that there is a slight improvement in the CMIN/DF ratio (chi-square) in the model with the direct path hypothesised to be significant. Although the differences between the two models' chi-square is marginal, the default model has the smaller chi-square value, which suggests better fitting as the full model reduces the overall chi-square to enhance model fit (Mueller and Hancock 2007).

**Table 6.19: Summary of model fit results for the two models**

**CMIN**

Model	NP	DF	CMIN	P	CMIN/DF
<b>Default model: Alt. path ≠ 0</b>	106	714	1173.450	.000	1.643
<b>Alt. model: Alt. path = 0</b>	105	715	1183.270	.000	1.655
<b>Saturated model</b>	820	0	.000		
<b>Independence model</b>	40	780	10367.907	.000	13.292

Model	RMR	GFI	AGFI	PGFI
<b>Default model: Alt. path ≠ 0</b>	.171	.870	.850	.757
<b>Alt. model: Alt. path = 0</b>	.176	.868	.849	.757
<b>Saturated model</b>	.000	1.000		
<b>Independence model</b>	1.013	.180	.138	.172

**Baseline comparisons**

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
<b>Default model: Alt. path ≠ 0</b>	.887	.876	.952	.948	.9
<b>Alt. model: Alt. path = 0</b>	.886	.875	.951	.947	.9
<b>Saturated model</b>	1.000		1.000		1.
<b>Independence model</b>	.000	.000	.000	.000	.0

**RMSEA**

Model	RMSEA	LO 90	HI 90	PCLOSE
<b>Default model: Alt. path ≠ 0</b>	.040	.036	.044	1.000
<b>Alt. model: Alt. path = 0</b>	.041	.036	.045	1.000
<b>Independence model</b>	.176	.173	.179	.000

**6.9. Assessment of the moderating effects of length of patronage (LOP) on the association between CRM system and CBB**

Although this study did not specifically speculate or formulate any hypothesis regarding moderation effects, however at the conclusion of the examinations and confirmation of the direct and indirect

hypothesised relationships in the model, the researcher decided to attempt to uncover if customers' length of patronage has an interaction effect (s) on the established associations. This idea was based on the feedback and suggestions received from a paper submitted for publication as an extraction from this study and the conferences attended (Appendix 16). Consequently, following the moderation analysis procedure for models with multiple mediators as suggested by Hayes (2013), the direct and indirect interaction effects of the customers' length of patronage on the relationships between CRM system and CBB were assessed. After establishing if there is interaction or otherwise, to assess the point of moderation effect (s) i.e. the slopes, length of patronage point effects was categorised into low, moderate and high based on the mean range i.e. "one standard deviation below the mean, the mean and one standard deviation above the mean" (Hayes 2013). This approach is used rather than the Johnson-Neyman technique because the Johnson-Neyman technique is not available for analysis in the Process for model 59 as built by Hayes (2013). This will afford result interpretation as to how and at what level length of patronage interact within the relationships in the model.

Using the same set of variables in this study model, the moderation effects were examined using the Hayes (2013) Process macro, which allows for various kinds of mediation and moderation analysis of up of 74 different models. The models vary from simple moderation or mediation to very complex models. The model that best suits the current study conceptualised relationships is model 59 or model 8, which both consider conditional direct effects. However, model 8 only consider conditional indirect through the values of the mediators i.e.

The effect of X on Y through M (moderator) =  $(a_{1i}+a_{3i}W)b_i$

While model 59 considers the full mediation effect i.e.

The effect of X on Y through M (moderator) =  $(a_{1i}+a_{3i}W)(b_{1i}+b_{2i}W)$ .

More so, model 8 is suitable for continuous or interval variable but model 59 is only suitable for a dichotomous variable. Subsequently, since model 59 explains better the intended moderation relationships, the length of patronage was converted to a dichotomous variable by

making LOP 0 to 5 years "1" and LOP 6 and above to "2". Therefore, the probing of the conditional indirect moderated effects was based on low length of patronage or high length of patronage.

Effectively, since this study did not hypothesise moderation effects, this part of the analysis is to show possible interactions within the model and the slopes from the results. The results shown in table 6.20 are the first output from the simulation, which reveals the model summary and the interactions essentially. The moderation effects were assessed while controlling for other variables such as age, gender, education and occupation. The model summary is indicated to fit as it gives a strong significant result.

**Table 6.20: Moderation test outcome on CBB**

```

.....
Outcome: CBB
Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .9537      .9095      .1470      277.5705      17.0000      382.0000      .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant      4.9679      .1194      41.6106      .0000      4.7331      5.2026
CL      .2919      .0511      5.7088      .0000      .1914      .3925
CURT      .0534      .0127      4.1903      .0000      .0283      .0785
CS      .2860      .0576      4.9670      .0000      .1728      .3993
SQ      -.1071      .0607      -1.7643      .0785      -.2264      .0123
CA      .7022      .0818      8.5845      .0000      .5414      .8630
CRM      -.3113      .0550      -5.6555      .0000      -.4195      -.2031
int_2      .1651      .1159      1.4244      .1552      -.0628      .3931
int_3      -.0243      .0268      -.9094      .3637      -.0770      .0283
int_4      .0704      .1572      .4477      .6546      -.2387      .3794
int_5      -.0865      .1283      -.6740      .5007      -.3387      .1658
int_6      -.2768      .1536      -1.8026      .0722      -.5787      .0251
LOPCAT      .0447      .0476      .9402      .3477      -.0488      .1382
int_7      .2252      .0996      2.2607      .0243      .0293      .4211
Age      -.0284      .0358      -.7937      .4279      -.0989      .0420
Edu      .0026      .0229      .1134      .9098      -.0424      .0476
Occu      -.0098      .0180      -.5426      .5877      -.0451      .0256
Gender      -.0792      .0392      -2.0231      .0438      -.1562      -.0022

Interactions:
int_2      CL      X      LOPCAT
int_3      CURT      X      LOPCAT
int_4      CS      X      LOPCAT
int_5      SQ      X      LOPCAT
int_6      CA      X      LOPCAT
int_7      CRM      X      LOPCAT

```

Overall model significance:  $F(17,382) = 277.57, p < 0.001, R^2$  (effect size) = 0.9. This indicates that 90% of the variance is due to the mediating and moderating factors.

For ease of reading, *b - value* as shown in the results is the values for each predictor and the associated standard errors after adjusting for heteroscedasticity. The confident interval for the *b - value* was also computed to show if the range contains zero or not. Moderation occurs when there is significant interaction effect.

Aside the non-significant interaction 1 (see appendix 17 for the detailed test outcomes), which are the interaction effects on the mediators, as shown in table 6.20, there are six interaction effects (interactions 2-6) from the independent variable and through the mediating variables to the dependent variable (CBB) as outlined below:

Inetr-7 (direct interaction between CRM and CBB) = Interaction effect from CRM system to CBB: conditional effect of X on Y through  $M_i$  (moderator) =  $c'_1 + c_3'W$

$b = 0.22, 95\% \text{ CI } [0.0293, 0.4211], t(382) = 2.26, p < 0.05$ , the interaction in this case is significant, indicating that the association between CRM system and CBB is moderated by the length of patronage.

Inter-2 - 6 (indirect interactions) = interaction from through the mediators  $M_i$ : conditional indirect effect =  $(a_{1i}+a_{3i}W) (b_{1i}+b_{2i}W)$ .

(2) →  $b = 0.17, 95\% \text{ CI } [-0.0628, 0.3931], t(382) = 1.42, p > 0.5$

(3) →  $b = -0.02, 95\% \text{ CI } [-0.0770, 0.0283], t(382) = -0.91, p > 0.5$

(4) →  $b = 0.07, 95\% \text{ CI } [-0.2387, 0.3794], t(382) = 0.44, p > 0.5$

(5) →  $b = -0.08, 95\% \text{ CI } [-0.3387, 0.1658], t(382) = -0.67, p > 0.5$

(6) →  $b = -0.28, 95\% \text{ CI } [-0.5785, 0.0251], t(382) = -1.80, p > 0.5$

These results indicated non-significant indirect interactions, demonstrating that the relationships between CRM system and CBB

through the mediators are not moderated by customers' length of patronage. By implication, the results of no indirect moderation effects can be interpreted to mean that, customers' selection and usage of a particular bank's technology inclined service delivery channels or choosing to display a positive buying behaviour as a consequence of using the CRM enabled channels may be a function of how long a customer has been patronising a certain bank. Conversely, the displayed buying behaviour is not a function of the mediators through the values of the moderator, as the length of patronage does not moderate the paths between CRM through each of the mediators. Therefore, based on the association between CRM and CBB established in section 6.7, customers exhibiting positive buying behaviour towards a particular bank and consistent usage of its technology-based service delivery channels is not strictly based on perceived accruing benefits, but also on the basis of how long a customer has been using the bank. Interestingly, the levels of significance of the direct relationships between CRM and CBB with and without moderating effect are both at  $p < 0.05$ . However, unlike the negative effect size outcome from the relationships without the moderator, the association with the moderation effect yielded a positive effect size, indicating that at a higher level of customer perception towards CRM system usage, there will be a resulting positive increase in customer exhibited buying behaviour or buying intention.

While the analysis results in the last paragraph is typically meant to test whether the interaction between CRM system and CBB is dependent on linearity of the moderator (M=LOP) OR if the effect is different for two groups. On the contrary, assessment of the conditional effect of CRM system on CBB is a test to evaluate if CRM is significantly associated with CBB at an exact value of the moderator (M=LOP) (Hayes 2013). The two test outcomes are different from each other. In addition to the established direct interaction effect, the slope for CRM system predicting CBB at each level of the length of patronage was also assessed to see if there is any significant effect at the different values of the moderator. The result in table 6.21 Shows that while the effects are significant highly and marginally at the two moderator point values, there is no positive effect/coefficient and they are significant at all the three values of M, implying that CRM is

significantly related to CBB at low, but marginally significant at the high level of patronage, but with indication of negative effects. In other words, the conditional impact of CRM on CBB appears to increase in effect sizes at a higher level though with marginal significance from -0.36 to -1.3. Based on these interpretations of the effects sizes improvement, it is safe to imply that at higher years of patronage, the effect would become positive (This could be subject to further study for empirical confirmation):

For low length of patronage:  $b = -0.36, t(382) = -5.4, p < 0.001$

For high length of patronage:  $b = -0.13, t(382) = -1.87, p \cong 0.05$ .

**Table 6.21: Conditional indirect effect (s) of X on Y at the values of the moderator**

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS \*\*\*\*\*

Conditional direct effect(s) of X on Y at values of the moderator(s):

LOPCAT	Effect	SE	t	p	LLCI	ULCI
-.2325	-.3637	.0678	-5.3612	.0000	-.4970	-.2303
.7675	-.1384	.0739	-1.8734	.0618	-.2837	.0069

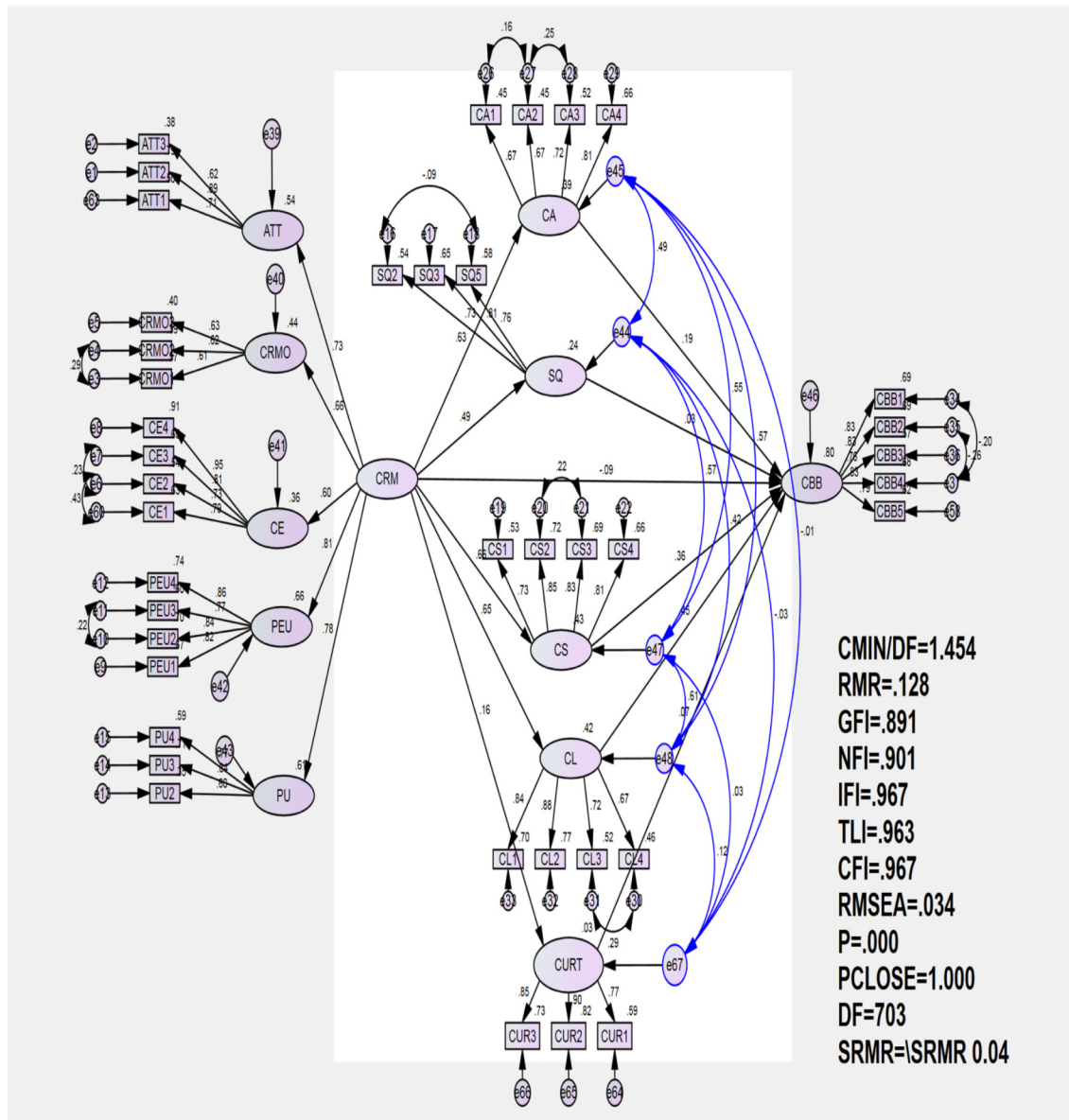
### 6.10: Theoretical model checks for negative effect between CRM and CBB

Although several previous studies have established negatively significant and non-significant effect of CRM as demonstrated in section 4.7.1, further attempt is made in the current study to figure out if the revealed negative relationship between CRM and CBB is due to model misspecification, confounding errors or multicollinearity issue. To resolve this, the stages of model specification were re-checked for individual constructs and their relationships as specified within the scope of the model and non-misspecification issue was found. Also, the exclusion of each of the mediating and CRM measuring variables from the model does not make any significant difference neither in the model fitness nor the effects outcomes.



Theoretically, another way to check if there is any issue with the data and or the links among the constructs is to follow the assumption that some of the unstipulated paths between the underlying variables prevent the model from fitting thereby, affecting the causal effects outcomes (Bagozzi and Yi 2012). Bagozzi and YI (2012) argued that there may be motive to think that the unspecified paths are in actual fact related. Figure 6.8 and table 6.22 show the outcomes of the modifications by covarying the disturbance errors of the mediating variables as suggested by Bagozzi (At a one-on-one discussion on the model). The results only indicate an improvement in the model overall fitness (Chi square from 1.643 to 1.454, RMSEA 0.04 to 0.034, CFI .0952 to 0.967). However, it does not un-turn the negative effect between CRM and CBB. Moreover, the negative covariances obtained between some of the variables as shown in table 6.22 indicate that there is no theoretically reasonable justification for covarying the residual errors. Attempt to do this will be interpreted to mean spuriously taking advantage of chance as the process does not modify the model justifiably (Bagozzi and Yi 2012). Therefore, the model used in in this study is adjudged to be best fit model.

**Figure 6.8: Research model with covaried disturbance errors**



According to Hooper et al. (2008), not all the recommended model fit indices are required to be reported. They strongly advised that reporting all the indices is not realistic nor necessary. Using a few selected indices as found by a review conducted by McDonald and Ho (2002) suggested that the few commonly reported indices are CFI, GFI, and NFI/NNFI. More precisely, Hu and Bentler (1999) recommended a two-index reporting format. They of the indices include combining SRMR with – NFI/TLI, RMSEA or CFI. In the same way, Kline (2005) strongly advocates the use of RMSEA, Chi-square test, CFI and SRMR.

**Table 6.22: Results from the covaried disturbance model**  
**Covariances: (Group number 1 - Default model)**

			Estimate	S.E.	C.R.	P Label
e44	<-->	e45	.567	.101	5.603	***
e44	<-->	e47	.577	.088	6.550	***
e44	<-->	e48	.476	.092	5.190	***
e44	<-->	e67	-.048	.107	-.445	.656
e45	<-->	e47	.471	.079	5.938	***
e45	<-->	e48	.544	.091	5.990	***
e45	<-->	e67	-.012	.097	-.122	.903
e47	<-->	e48	.512	.078	6.581	***
e47	<-->	e67	.039	.081	.487	.626
e48	<-->	e67	.165	.092	1.804	.071

### 6.11. Chapter summary

This chapter provided the process through which the research results have been obtained. It presents, interprets and describes the outcomes from the data analyses. The first section gave a summary of the data descriptive analysis and progress to validity and reliability of research data. Thereafter, the inference analyses stage follows. The second stage of the chapter presents the confirmation of the measurement model (CFA) after which the structural model and its assessment based on goodness of fit then, confirmation of research hypotheses followed. The CFA and structural model evaluation revealed that general hypothetical model represented the research data set in accordance with recommended fit indices benchmark. Subsequent to the acceptance of the model goodness of fit level, the research-advanced hypotheses relating to direct effects from

independent variable to mediators and from mediators to the dependent variables were tested to and confirmed.

The outcomes attest to the acceptance of all the direct effects to be supported. These findings implied that CRM has direct effect on CA, SQ, CS, CL and CURT and in the same manner, CA, SQ, CS, CL and CURT individually has direct effect on CBB. Aside from the mediation of effects of the intervening variables on the relationships between CRM and CBB, the results from this study have certainly confirmed empirically the profound mediating roles of the intermediate variables in the impact of CRM adoption with respect to CRM enable channels usage customer experience, CRM orientation, attitude, perceived ease of use, perceived usefulness and technology down time. In particular, the results showed that the direct relationship between CRM and CBB is thought significant but negative however, with the presence of the mediators through their indirect and total effects, the study has found that CRM through the mediators has a positive and significant effect on CBB. This can therefore be interpreted to mean that without the power of joint intermediation, the effect of CRM on CBB may not be established to be positive.

Furthermore, the analyses of the indirect effects were also examined and the results revealed that all the indirect effect hypothesised is significant. These inform the researcher to conclude that CRM effect on CBB is a joint mediation effect than direct effect. This can also be inferred to mean that the findings that each of the mediators only has partial mediation rather than full mediation, as the mediators cannot individually provide full explanation or account for the effects of CRM on CBB.

The next chapter will present the discussion and further interpretations of the results presented in this chapter. This will be followed by the discussion of the research implications, limitations and the final conclusion.

## **Chapter Seven**

### **Discussion and Conclusions**

#### **7.0. Introduction**

Following the examination and analysis of the empirical research data based on the hypothesised associations from the research model in chapter four, which has unveiled some interesting findings, this chapter presents a brief recapitulation of the study aim, objectives and identified research gap as presented in chapter one. Most importantly, this chapter provides a detailed discussion of the key empirical findings in chapter four, research contributions and the implications of the findings, limitations of the study as well as the recommendations for further studies. To present the key findings in a coherent manner, the discussion is presented logically on the basis of the research objectives. In order to demonstrate how each of the objectives has been satisfied, they are discussed in the context of the hypothesised relationships, and the findings pertaining to these hypotheses. These hypotheses, which were based on the contextualised framework from the literature in chapter two and four, explain or address a particular objective. Essentially, this chapter gives a combination of the study findings and demonstrates the outcomes on the basis of the study aim, problem and objectives as outlined in chapter one.

#### **7.1. Recapitulation of the research progression**

Many previous studies have investigated the impact of CRM either as strategy, process or implementation on consumer behavioral intention. Most of these studies were from various diverse perspectives, using different factors other than the ones used in this study as indicated in the literature review chapter of this research. The current research has focused explicitly and predominantly on examining the direct and mediated associations, which put emphasis on the actually exhibited customer buying behaviour within the banking industry as a consequence CRM enabled channels usage. This study is unique among the existing studies on CRM within the context of consumer behaviour

and marketing in general. While there are several laudable studies that seem to have indicated an aim to assess these relationships, (e.g. Gilaninia and Ghashlagh 2012; Melodi et al. 2012; Padmavathy et al 2012; Reinartz 2004; Wang et al. 2004; Yim et al. 2004), the dimensions in which the constructs are measured and the contextual nature of the conceptualised model in the current study are entirely different from what is obtainable from existing studies. Moreover, while some studies have used one or two of the measuring variables individually for CRM systems and considered consumer buying behaviour (CBB) as a single outcome, this study has in a clearly justified manner, painstakingly combined these variables to statistically measure CRM systems from customer perspective. The study also involved the use of five distinct buying behaviours, some of which are peculiar to the banking sectors.

The current study examined a set of theorised relationships that is connected with the usage of technology-enabled channels as service delivery platforms and its resultant effects on banks customers' actual displayed buying behaviours. This was undertaken by building on prevailing knowledge from the reviewed literature. An undertaken that revealed the limitations, measurement, views from the organisation and the inferred meanings of the variables. The study has underlined some research gaps. There are significant gaps in empirical study relating to the knowledge of the effects of CRM enabled channels usage being measured by customers' usage experience and orientation, attitude towards usage, perceived ease of use, usefulness and perceived reliability (technology downtime). Specifically, with respect to five peculiar customers buying behaviour (up/cross-buying, repurchase, bank switching, multiple banking and word of mouth). Therefore, the current study investigated the identified research gap of whether CRM enabled channels adoption in the banking industry affects CBB. This includes an assessment of the manner of any such impact through reliance on previous literature within the field of consumer behaviour psychology, marketing and technology adoption, acceptance and usage.

It is imperative to remember that as described in chapter three under the methodology sections, the study empirically employed a face-to-face self-administered survey approach on the Nigerian banks

customers across the country. This was based on the satisfaction of some selected criteria for the respondents. Similarly, the study endeavored to develop a full understanding into the focal aim of the study, which is to establish the associated effects between CRM system and CBB through structural equation modeling statistical analysis approach. While the choice of this approach has become common within the field of social and behavioural science as a result of its robust analytical power, its adoption in the assessment of buying behaviour exclusive to technology usage is still unpopular. The validity, reliability and the capability to predict relationships between constructs within the context of this study dimension using the technique was demonstrated and appraised in chapter three.

To reiterate, aside the predominant and numerous studies on technology adoption, acceptance and its impact on organisational performance, particularly in Nigeria, the acknowledged research problems highlighted in chapter one were dearth of research that:

- Clearly measure CRM system impact on consumer buying behaviour within the context of the Nigerian banking industry from consumer perspective on technology-based usage as service delivery platforms
- Lack of studies that have investigated the five selected buying behaviours in a single study as displayed behavioural outcome consequential to technology enabled channels usage
- Lack of existing research that have exploited the use Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB) constructs to measure CRM system usage
- The unevaluated combined hypothetical intermediation function of service quality, acquisition, satisfaction, retention and loyalty in a single research model

Based on these problems, this research therefore, aimed to establish potential impact of CRM system on consumer buying behaviour within the context of the Nigeria banking industry. To achieve this aim, the following objectives were specified in chapter one:

- I. To examine the origin, need for and role of CRM system

- II. To review the literature on consumer buying behaviour regarding the use of technology as service delivery channels within the context of the banking industry, in order to understand bank customers' buying behaviour and clarify the knowledge gap.
- III. To establish a framework through the underlying models of consumer buying/usage behaviour in technology-based banking/service delivery channels grounded on the effects CRM systems and the mediating variables (Acquisition, service quality, satisfaction, retention and loyalty).
- IV. To examine the proposed direct and indirect associations between CRM system and consumer buying behaviour specified in objective iii using quantitative measures.
- V. To assess the research conceptualised model fit through structural equation modelling using collected primary data for empirical confirmation.
- VI. To suggest practical and theoretical deductions based on the outcomes of the empirical analysis uncovered from objective IV and V.

From the outlined objectives, it is obvious that the first two objectives are based on review of the pre-existing literature. The achievement of objectives one and two are central to the furtherance of the other objectives. Objective I was stated to provide a deep insight into the origin, reason and the expected benefits or roles of CRM systems. Afterwards, the understanding which was developed helped in identifying what the research problem is, the mediating variables and ultimately, the direction of the line of thought or the preliminary philosophical concept of the study. These objectives were achieved in chapter two. Similarly, objective II was formulated to specifically extend clear understanding of the nature of buying behaviour from existing literature, thereby establishing theoretically the known



peculiar buying behavioural variables used in this study. It also enables an understanding of the theoretical interrelationships between technology-based service delivery channels and consumer behaviour, in turn, revealing of knowledge gaps and identifying dimensions through which the research constructs can be measured. As an indication that this objective was achieved, without the objective, it would not have been possible to conceptualise theoretically the research model and the hypothesised relationships thereof as demonstrated in chapter four. Achieving the first two objectives was fundamental and forms the bedrock to accomplishing the rest of the outlined objectives, which are to be examined statistically using empirical data. In other words, the researcher would not have been able to achieve successfully the aim of this study without first achieving objectives I and II.

The next sections present the discussion of the key empirical findings in agreement with the research objectives and related hypotheses. The logical sequence of the key findings analytical procedure was based on the main objectives and the analysis of the hypotheses that relate to the objective.

## **7.2. Summary of key findings (objectives IV – V)**

### **Objective IV**

#### **The direct effect of CRM system on consumer buying behaviour**

##### **Hypothesis I**

*CRM system has a direct and positively significant effect on consumer buying behaviour (CBB).*

The fundamental hypothesised relationships in this study relate to whether CRM system affect Nigerian bank customer buying, given the context in which the relationships was measured and postulated in the model. The statistical analysis performed in chapter four revealed that the direct association between the two constructs is such that does not

yield significant effect positively. The nature of the effect signified in the results implied that the standardised coefficient was -0.505 but the relationship was significant at  $p = 0.007$  (0.022). By inference, this may be interpreted to denote that the relationship between CRM system and consumer buying behaviour is rather not caused or based only on the customers' technology channels usage experience, technology orientation, attitude, perceived ease of use and usefulness. This implies that other variables may play an underlying role in achieving a positive and stronger significant effect. Although the paths loadings on CRM system dimensions in the model as shown in table 6.15, indicated high regression weight with the lowest being 0.649, it can be imagined that if customers' perceptions on these items go higher, the coefficient effect may become positive.

From the analysis in chapter four, the regression estimates for customer experience (CE) and perceived usefulness of technology-enabled channels (PU) was 0.68 and 0.65 respectively. This can be evidently implied from the pictures taken during data collection shown in figure 7.1. The current level of technology-enabled channels' reliability, effectiveness and efficiency appeared to be realistically low, thereby resulting in low regression estimates. This appeared to have triggered the negative effect from the empirical data analysis results. While there is presently no known research that has conceptualised the relationship between CRM system usage and consumer buying behaviour in the same manner as this study, it appeared safe to say that the direct effect outcomes are relatively inconsistent with findings in other latent studies described in chapter two (e.g. Padmavathy et al. 2012; Yim et al. 2004), but consistent with Ejaz et al. (2013). Additionally, this finding concurs with the result obtained by Reinartz et al. (2003) who hypothesised that CRM as technology has a positive moderating effect on the relationships between CRM implementation and market-based performance but the result indicated a negative impact. In the case of the Nigerian banking industry, the negative effect appeared to be based on the fact that the Nigerian banking industry current level of technology adoption and customer acceptance is still growing, coupled with the challenges such as long queues (20 to 30 minutes waiting time), technology down time (non-reliability) among others. The revealed relationships between CRM system and

CBB in this study further explains the declaration made by Reinartz et al. (2004) that the more the bank employees and the customers become more comfortable with CRM-enabled channels, there is the possibility that the obtained negative impact could transform to positive as the events surrounding technology adoption and acceptance unfold. With this understanding, the current study submits that a positive and stronger effect between the two variables could be obtained in the long run through further longitudinal research (unlike the cross sectional view taking in this study).

**Figure 7.1: Pictographic true-to-life nature of technology-enabled channels reliability in Nigeria (Crowd of customers in the branch and long queue at ATM)**



Source: Author 2014

### **7.3. Indirect effect: The mediating role of customer acquisition, service quality, satisfaction, loyalty and retention in the relationship between CRM system usage and CBB**

#### **Hypotheses XII - XVII**

It has been claimed in chapter two, subsequent to the review of existing research, that within the context of this study-conceptualised model (see section 6.6) that the predictive effect of CRM systems usage on consumer buying behaviour may be more strongly significant and positive. This is the case especially if there exist theoretically categorical specification of collective intermediations through the intervening variables listed above. This notion is explained by the fact that each of the mediators has been justified and established in the literature as expected benefits of CRM adoption, hence referred to as antecedents to behavioural studies dimensions' outcome. Such studies that have created these variables as mediators include, for example, Ejaz et al. (2013); Padmavathy et al. (2012); Wang et al. (2004); Yim et al. (2004). However, given the nature of this study-conceptualised framework, it is indistinguishable from existing literature the extent to which the mediating effects are significant and positive in this study context.

Similarly, aside from the intervening variables being rationalised in previous studies as CRM benefits, as demonstrated in chapter two through the reviewed literature, it seems that there is no research that has measured the impact of CRM system on each of them particularly from customers' views, and on the basis of their perceptions regarding ease of use, usefulness, experience, attitude and technology downtime. The mediating effects of these variables therefore, form part of the major key contribution in this study, as these paths have not been empirically founded in literature. In the light of the above, the outcomes of the analysis performed in chapter four using two different indirect analysis test approaches (Sobel test and Bootstrapping) produced empirical evidence of intermediation effects of customer acquisition, service quality, customer satisfaction, loyalty and retention in the association between CRM system and consumer buying behaviour as theorized in this research.

Remarkably, the proposed relationships between CRM system and each of the mediators on one hand, and the relationships between the mediators and the dependent variable (consumer buying behaviour) on the other hand were revealed from the results to be strong and positively significant. The uncovered associations that confirmed the hypotheses are discussed under each of the anterior and posterior direct postulated relationships below prior to presenting the discussions on the indirect effects results:

**Hypothesis II** - *CRM has a direct and positive effect on customer acquisition (CA).*

The analysis of the first anterior impact between CRM system and customer acquisition result revealed that the relationship is strongly positive and significant having regression coefficient = 0.910,  $p = 0.000$ . This thereby attests the hypothesised effect of CRM system on customer acquisition. By implication, given that the adoption, acceptance and usage of technology-enabled channels in the Nigeria banking industry is just gaining attention. This could be interpreted to mean that providing technology-based service delivery channels would attract a customer to the bank. Additionally, being attracted to a certain bank would be a function of the formed perceptions of a prospective customer on ease of use, usefulness, reliability, attitude relating to intention to use and observed experience of using the channels.

**Hypothesis III** - *CRM has a direct and positive effect on service quality.*

The proposed relationship between CRM systems and service quality was also found to be robustly positive and significant from the analysis results in chapter four. The relationships have a coefficient = 0.8,  $p = 0.000$ , thus confirming the hypothesis. It therefore means that if a bank adopts technology-based channels as service delivery platforms, this can create strong positive perceptions in the minds of the customers effectively and reliably (considering the CRM system dimensions in this study). The bank would be able to achieve a higher

service quality. This result concurs with existing studies (e.g. Jeong et al. 2014; Chadichal and Misra 2014; Wahab 2012).

**Hypothesis IV** - *CRM has a direct and positive effect on customer satisfaction (CS).*

This hypothesis addresses the relationship between CRM systems usage and customer satisfaction within the framework of the research model. The findings of the present investigation discovered that CRM system has a high significantly positive relationship with customer satisfaction (results from chapter four indicated coefficient to be = 0.9,  $p = 0.000$ ). This implies that a CRM system usage predicts or explains customer satisfaction for up to about 90%. Thus, the result implied that the usage of technology enabled channels to provide services to banks customers, serve as a customer satisfaction enhancer. The increased customer satisfaction as propelled by technology-based channels usage would translate to positive customer behavioural intention to buy and a display of positive buying behaviour. This discovery is consistent with the assertion that a firm that implements CRM system properly will enhance its customers' level of satisfaction (e.g. Feliks and Panjaitan 2014) and the findings of previous studies (e.g. Lacej and Ermira 2015; Long et al. 2013; Liu et al. 2006; Mithas et al. 2005; Ndubisi and Wah 2005; Saeed et al. 2013). The findings also give support to the assertion that CRM systems adoption to service customers was necessitated out of the quest to satisfy customers, by producing, developing or selling products and or services that suit customers' needs (Payne and Frow 2006).

**Hypothesis V** - *CRM has a direct and positive effect on customer loyalty (CL).*

Similar to other anterior paths in the research model, hypothesis V addresses the association between CRM system usage and customer loyalty. The outcomes in chapter four revealed that adopting a CRM system has a strongly positive and significant effect on customer loyalty. The independent variable was found to explain the increase in

customer loyalty by more than 90% having coefficient = 0.95,  $p = 0.000$ . Therefore, attaining positive perceptions of customers regarding the usage of technology-based channels by banks as service delivery platforms would strongly encourage a long relationship with the customers' service provider. These findings are supported by previous studies (e.g. Lacey and Ermira 2015; Kocoglu and Kirmaci 2012; Ndubisi 2004).

**Hypothesis VI** - *CRM has a direct and positive effect on customer retention.*

In the same manner, the relationship between CRM systems and customer retention was postulated within the context of the study framework. Unlike the other four mediating factors, the empirical analysis results on customer retention in chapter four yields a good significant result but with a rather low effect rate. Having coefficient = 0.2,  $p = 0.003$ . Although the effect size is positive, the results showed that the impact of a CRM system usage on customer retention is low. This shows that attaining enhanced customer retention is only explained by about 20%. This outcome appears to suggest that retaining existing customers is beyond just making available technology-based channels to service customers. However, it can be interpreted that the results predict that customers would change their primary service provider if they perceived the competitors to have a better service delivery channels to offer. Hence, aside from the provision of the technology-based channels, banks need to ensure that the channels are up-to-date, enabling a positive customer experience using the channels, ease of use and usefulness, reliability and satisfaction of customers' expectations.

By implication, the strongly positive and significant relationships between CRM systems and the mediators established in this study (with the exception of customer retention with a low effect coefficient), it can be inferred that the mediators have a more robust effect (unlike the direct effects) that would explain the impact of CRM system on consumer buying behaviour. The validity of this inference will be demonstrated under the discussion on mediation and total effect result under theorised indirect hypotheses (hypotheses XII – XVII). Albeit,



the results of the hypothesised relationships between CRM system and the mediating factors is consistent with previous research (e.g. Long et al. 2013; Soliman 2011). Nevertheless, the results contradict the findings of Ejaz et al. (2013) only on the direct effect on loyalty.

On the other side of the research model is the exterior relationships angle, which considered the effects of each of the mediating factors on consumer buying behaviour (Hypotheses VII – XI). The results as revealed in chapter four indicated that each of the mediators significantly predicts positive buying behaviour. It is important to note however, that the effects sizes are rather low. It ranges from the lowest of 0.08 for retention effect on CBB to the highest of 0.6 for loyalty. The results confirmed the hypothesised relationships; hence, the intervening factors are established to predict positively consumer-buying behaviour.

Having established and validated the nature of the direct hypothesised relationships in the current study, the next sets of discussion are centered on the second most fundamental findings from this study, which is based on the indirect and the total effects. They are covered under hypotheses XII – XVII.

**Hypothesis XII** - *CRM has an indirect effect on consumer buying behaviour, but its effect is jointly mediated by customer acquisition, service quality, customer satisfaction, customer loyalty and customer retention.*

The joint indirect effects were hypothesised to specifically find out whether all the paths in the framework as modelled would produce a result that would improve or otherwise the impact of CRM systems on CBB. The results in chapter four revealed that the effect of CRM system on CBB was mediated by customer acquisition, service quality, satisfaction, loyalty and retention with a positive and significant outcome (coefficient = 1.4,  $p = 0.000$ ). Interestingly, it should be recalled that the direct effect of CRM system on CBB was although significant but with a negative effect, the results of the test of joint

mediation has reversed the effect to positive. This implies that the banks should ensure that the adoption of technology-based channels leads to enhancement of the mediating factors, so as to attain a positive impact of technology on buying behaviour. By implication, the exclusion of the mediators would within the current study framework indicate a weaker effect outcome (coefficient = -5.505). Consequently, these results, which validates hypothesis XVII i.e. the joint mediation effects, verified the current study conceptualised model on the impact of CRM system on CBB underpinned by the Theory of Planned Behaviour (TPB) and Technology Acceptance Model (TAM). The established findings as an extension, also confirmed objective III, which is:

*To establish a framework through the underlying models of consumer buying/usage behaviour in technology-based banking/service delivery channels grounded on the effects CRM system and the mediating variables (Acquisition, service quality, satisfaction, retention and loyalty). The total effect was verified as:*

*T = total effect = (CRM -> Y ...mediated by CA) + (CRM -> Y...mediated by SQ) + (CRM -> Y ...mediated by CL) + (CRM -> Y ...mediated by CA + (CRM -> Y... mediated by CURT). The simulated statistical analysis results generated revealed a very strong total effects size = 1.09, p = 0.000.*

The above results extended validation to all the indirect hypothesised relationships (hypotheses XII – XVII) as revealed in chapter six, table 6.17 under section 6.7.2 – 6.7.5. This is because if the mediation effects did not transfer some influence, the total effects would not have been strongly positive and significant. Besides, the impact of CRM system on customer buying behaviour would not have been established.

Consequently, the outcomes of the empirical analysis performed as shown in sections section 6.7.2 – 6.7.5, in addition to the established joint mediation effects, revealed that each of the mediating variables independently predicts and mediate consumer buying behaviour with respect to CRM system usage. This is another

significant finding since it validates past studies that focused on the association between CRM adoption, acceptance and behaviour intentions in a single or two variable models using either one or a combination of two of the mediating factors (e.g. Padmavathy et al. 2012). This present study was able to combine all the five factors as mediators in a single model/study and verified their combined and individual direct and indirect effects on the consumer buying behaviour. The results as shown in chapter six, Consequently, the outcomes of the empirical analysis performed as shown in sections section 6.7.2 – 6.7.5 indicated that effects are highly positive and strongly significant. It is imperative to note however that, while customer acquisition, satisfaction and loyalty has a stronger significance ( $p = 0.000$ ), service quality and retention was only significant at  $p = 0.05$ . This implies that the mediating effects from acquisition, satisfaction and loyalty on the study outcome were greater than the mediating impact of service quality and retention. The level of reliability and perceived usefulness of technology-based channels may have caused the low significant influencing impact as earlier discussed under **hypothesis I** in section 7.2. Relatively, this finding aligns with studies that used service quality, satisfaction, loyalty and retention (e.g. Eskafi et al. 2013; Rizka and Widji 2013; Vikkraman and Duraikannan 2015; Wang et al. 2004;) as mediating factors in pertinent studies. The inferences derived from this study consequently confirmed the hypotheses outlined below:

**Hypothesis XIII** - *CRM has an indirect/mediating effect on consumer buying behaviour, which is mediated by customer acquisition.*

**Hypothesis XIV** - *CRM has an indirect effect on consumer buying behaviour, which is mediated by service quality.*

**Hypothesis XV** – *CRM has an indirect effect on consumer buying behaviour, which is mediated by customer satisfaction.*

**Hypothesis XVI** – *CRM has an indirect effect on consumer buying behaviour, which is mediated by customer loyalty.*

**Hypothesis XVII** – *CRM has an indirect effect on consumer buying behaviour, which is mediated by customer retention.*

From the analysis in chapter four and the inferences discussed in this chapter, this study has established that the manner in which CRM system usage predicts consumer buying behaviour is such that is not straightforward. In the first instance, the negative direct effect size connotes that:

*For CRM systems usage to have a direct positive effect on consumer buying behaviour, it is imperative that customer usage experience and perceived usefulness of the channels are highly positive (high loadings) alongside attitude, ease of use, reliability/little or no technology downtime and their orientations.*

Evidently, achieving this will guarantee a successful adoption of CRM system as service delivery channels in the banking industry, as it will lead to a positively associated outcome. On the other hand, the association between the independent and the dependent variables is such that has been revealed in this research to be rather evidently contingent on the occurrence of some mediating factors in the model. These original findings imply that the associated effects (direct and indirect) of CRM systems on consumer buying behaviour is rather complex. This could largely be dependent relatively on the level of technology adoption, general level of technology and Internet strength in a certain industry, how tech-savvy the users are, up-to-date facilities and technology deployment rate as compared to what is obtainable in the developed nations such as the UK and the USA. The complex nature of the effects of CRM systems on consumer buying behaviour established in this study will serve as “research gap filling” for the dearth of evidence or justification for modeled complex relational effects of CRM systems on behavioural intentions. Moreover, extant research has found that CRM has direct positive effects on organisational performance and use of one of the behavioural factors. This study further provides validated acceptable evidence on the capability of CRM system usage to predict consumer buying behaviour. Specifically, as demonstrated in chapter six and discussed in this

chapter. This study found evidence that verifies the use of technology-based channels as service delivery platforms (proposed based on debate from existing studies/theoretical models and empirical data analysis) to have an impact on buying behaviour. However, the relationships are mediated by customer acquisition, service quality, satisfaction, loyalty and retention.

In summary, these results suggest not only that CRM systems have a direct effect on consumer buying behaviour within the context of banking sector. It also has indirect effects through customer acquisition, service quality customer satisfaction, loyalty and retention so as to attain positive customer buying behaviour.

#### **7.4. Confirmation of achievement of objectives III and V**

Following a logical sequence of this study process according to the stated objectives and prior to developing the research hypotheses, objective **III** (re-stated below) was deemed necessary to provide the pattern of the theorised relationships paths.

*To establish a framework through the underlying models of consumer buying/usage behaviour in technology-based banking/service delivery channels grounded on the effects CRM systems and the mediating variables (Acquisition, service quality, satisfaction, retention and loyalty).*

The paths in the developed framework did therefore, serve as a stepping stone to formulating the research hypotheses and subsequently the assessment of the nature of the relationships between the paths as discussed in the previous sections of this chapter. However, based on the principles of research methodological concepts on the formulation of hypotheses or developing a model, it is theoretically required that the model be statistically validated before any acceptable significant inference can be made. Therefore, this study stated objective **V** below to test the validity of the model.

**Objective V:** *To assess the research conceptualised model fit through structural equation modelling using collected primary data for empirical confirmation.*

This was achieved using a structural equation modeling approach with the collected primary data in the process of the empirical model verification. Aside from the fact that it is theoretically required to validate a research model, this study has uniquely developed an original model based upon the relationship between CRM systems and consumer buying behaviour with five mediating variables. This appears to be an original approach, according to a comprehensive review of extant literature. The model would thus serve as a validated model that can be referenced in future studies. This empirically validated model also forms a major part of this study's contribution to knowledge.

Having satisfied the recommended procedural model fit indicators as presented in section 6 of chapter 6 the results of the model fit test across all the fit indices satisfied and in most times cases exceeded the scholarly suggested benchmarks. The outcomes indicated a sufficient data fit thereby, giving support for the validity of the model. Hence, the model was adjudged to be empirically robust and signified a good demonstration of a contribution to existing theory. It is deduced therefore, that this study model validation extends the present degree of empirical knowledge through the depicted relational effects between CRM systems and consumer buying behaviour. The model was conceptualised in such a manner that the relationships were being substantiated by some aforementioned indirect factors. The verification of the model involved a rigorous use of structural equation modelling in addition to other statistical research approaches (such as Process – bootstrapping; a regression based approach), which produced the supporting evidence to the hypothesised links in the model.

The results of the analysis in chapter six indicated that the specified paths built within the context of this study model explains up 100% (1.09) of the total variability in consumer buying behaviour in the banking industry. By all implications, this is a result indicating the confirmation of CRM system as a strong predictor of consumer buying

behaviour, especially in the Nigerian banking industry circumstances as stipulated in the current study. Conclusively, these results justify the achievement of objectives III and V.

### **7.5. Moderating effect of the length of customer patronage**

Following the negative direct effect size between CRM systems and consumer buying behaviour, which resulted from the analysis in chapter six as mentioned earlier (a relationship effect that became strongly positive after the inclusion of the mediating factors). This raised the question of whether there is any other factor that may explain the resulting negative effect. Subsequently, length of patronage was included in the model as a moderator to examine whether it carries influence on the hypothesised direct associated effect. Length of patronage has been selected on the basis of the theoretical understanding that loyalty and retention are often dependent on how long a customer has been using a certain service provider (Njenga 2010; Keiningham et al. 2007). Therefore, the quest to evaluate the length of patronage as a moderator in the current study was explored in the context of potentially explaining part of the unresolved direct relationship between CRM systems and consumer buying behaviour in the research model. This part of the study assumed that the low loadings/effects of perceived usefulness (PU) and customer experience (CE) might not be the only reasons for the resultant direct negative effects obtained.

On one hand, the model fitness explains how well the empirical data is suitable to make statistical empirical conclusions. The result for the model robustness indicated that the model explains up to 90% ( $p = 0.000$ ) of the variability in the model-associated relationships. Hence, it is safe to confidently make empirical deductions as evidenced from the obtained results. The results in chapter six as demonstrated in section 6.9 uncovered that the direct effect of CRM systems on consumer buying behaviour is moderated by the length of patronage. The outcome, which was significant and yielded positive effect as extracted from the results shown in table 6.20 was as follows:

*95% CI [0.0293, 0.4211], effect size = 2.26,  $p < 0.05$ .*

To reiterate, the initial direct effect without the moderator and the mediators was negative (-0.505), an effect that has become positive (2.26) owing to the inclusion of length of patronage in the associated paths. The level of the relationship significance remains the same at  $p < 0.05$ . These findings imply that while it is important for the banks to adopt the use of technology-based channels to service their customers, it is more imperative that the banks understand the fundamental role of gaining customer loyalty and increased retention rate. These two factors have been explained by the length of patronage (Njenga 2010).

Interestingly, it was also discovered from the moderating analysis results that the length of patronage does not moderate the indirect effects of CRM systems on consumer buying behaviour. Remarkably, as presented in table 6.20, the effect of the moderator as a matter of fact produced a negative indirect effect on customer retention, service quality and customer acquisition, reduced the mediating effects of customer loyalty and customer satisfaction and non-significant indirect relationship for each of the mediating paths. Given the Nigerian banking industry context, these findings further affirm that the use of technology-based channels as service delivery platforms on their own does not improve customer-buying behaviour. However, the achievement of positive behavioural intentions is found in this study to be hinged on the mediating factors and the moderating variable.

This section has logically presented the discussions on the key findings from this research. The fundamental findings included the nature of direct and indirect associations between CRM system usage and consumer buying behaviour, the moderating effects of length of patronage and evidenced empirical validation of the research model. The next section provides discussion on the practical implications of the study findings, particularly regarding the conclusions of the findings on each of the identified buying behaviour components.



## **7.6. Implications of this study for consumer buying behavioural attributes based on the dimensions of CRM system (objective VII)**

Objective VII was *to suggest practical and theoretical deductions based on the outcomes of the empirical analysis uncovered from objective IV and V.*

The findings from the current study have some practical implications for bank to customer relationship, IT/technology deployment and strategic managers in the banking sector. These implications extend from the areas of the perceptions of customers on the use of technology-enabled channels as service delivery points. Specifically, in terms of perceptions regarding attitude to the use of the available technology-based channels, orientations on the usage, their usage experience, perceived usefulness and ease of use. The underlying purpose of adopting technology in the banking industry is to attain some level of competitive advantage, which could come with achieving high positive customer buying behaviour. Again, it was also argued in chapter two and further confirmed by this study that CRM has an impact on customer retention and loyalty (classified as CRM benefits by some authors) among other variables. Therefore, meaning that using CRM to achieve cross/up buying, repurchase, positive word of mouth, reduced bank switching and reduced multiple banking, is dependent on how many customers a bank is able to retain and are loyal to the bank. As demonstrated in the key findings section of this chapter, achieving the positive effects of CRM on consumer behavioural intentions is dependent largely on the mediating factors. Thus, by implication, bank managers functioning at different strategic positions need to pay close attention to improving the reliability of deployed technology channels. This is to guarantee positive perceptions, which ultimately determines the measured transferable effects of CRM system on consumer buying behaviour.

Moreover, each of the banks in the Nigerian banking industry is seeking responses to issues that relate with how their customers behave and form their impressions on the usage of technology-enabled channels (Aliyu and Tasmin 2012). The findings from this study show

that the banks' quest in this regard is far from basic understanding of their customers and mere adoption of and getting the customers to use the technology-based channels. Rather, the need has advanced to how the deployed channels can be effectively and efficiently used, such that it will create a positive influence on the customer perception-forming process. Subsequently, this, as established in this research, will assure the bank attainment of their desire to get their customer to cross/up buy and repurchase their products and services, spread positive word of mouth, use the bank as primary bank by not switching bank and not indulging in multiple banking.

Importantly, by implication from this study, reduced or total eradication of constant technology downtime, reduced long queues that will increase transaction turn-around time, revamping and/or updating out-of-date technology facilities and dissemination of informative communications relating to the channels usage to customers, are pivotal to the use of the channels in achieving competitive advantage through the adoption of CRM systems to service customers. This according to the findings is believed to have the capability to enhance the level of perceptions of customers on the channels usage. Which as implied from the analysis results in chapter four could improve the loading effects of customer experience, perceived usefulness and other dimensions, thereby potentially leading to a direct positive effects relationship. The crucial issues relating to attaining reliability and usefulness of the channels as mentioned earlier cannot be overemphasized. This is because they have to be tackled in order to improve the performance of the channels, thereby enhancing positive customer impressions. While it is evident from figure 7.1 (showing the true-to-life nature of technology usage with long queue) that there are many touch-points provided by the banks, it is also obvious from the pictures that most of the available channels are not reliably functional.

Additionally, investing in internet/telecommunication facilities through upgrades and revamping of existing equipment is an essential strategic action to remedy technology breakdown. This is a considered suggested mitigation to the deduced implication because; the strength of Internet supplied in Nigeria is slow per megabyte download as compared to developed nations such as UK and USA. By implication,

this research similarly provides bank managers with considerable exposure to the realistic nature of how technology-enabled channels usage impacts consumer-buying behaviour. The suggestions from the study findings also include how and what need to be improved as well as how the improvement would result in a better CRM systems effects on consumer behavioural intentions.

The complete findings of this research subsequently indicated practical implications, relate to the established effects of CRM systems on consumer buying behaviour, and the moderated effects of the intervening variables. It therefore, suggests that, if the bank managers are cognisant of customer perceptions and dispositions towards technology-based channels usage, they will gain the controlling capability to manipulate customer attitude and perceptions formation. Through the knowledge gained, the bank managers will also be able to strategically influence eventual displayed customer behavioural intentions. These can be achieved by putting in place designed technological facilities performances monitoring frameworks, as well as designing customer relationship management process that align with the mediating factors in connection with technology usage. Contrary to earlier studies that have examined just the direct impact of CRM systems relatively on performances and some selected behavioural intention elements (e.g. Adiele and Gabriel 2013; Adeyeye 2013; Coltman et al. 2011), the current study postulated that in order to empirically uncover a more robust and stronger foundation for predicting consumer buying behaviour with respect to technology-based channels usage, there is the need to account for the associated influence of service quality, satisfaction, retention and loyalty. This will in addition include, taking into considerations other associated factors such as customer attitudinal change in the process of forming their perceptions, the generic marketing customer decision-making process preferences and decision-making influencing factors. Accordingly, the application of the model developed in the current study has the potential to deliver a robust technology-based channels deployment and usage framework for the bank managers.

Given that understanding customer CRM systems usage pattern and its dynamic impact on their buying behavioural pattern is not an

easy task to comprehend by the bank managers, the component aspect of CRM that has the capability to store, arrange/segment and analyse customer data has created an avenue to overcome such challenge. It therefore means that bank managers can exploit CRM systems data management capability to possibly retrieve customer pre-usage/buying information, during and post usage/buying information. This will provide the bank managers with usage/buying pattern such as regularity of usage, types of transactions performed, the primary bank of a customer, types of products or services they have or have bought from the bank and how long it takes a customer to complete a certain transaction by using customer historic usage information and subsequent display buying behaviour. This information made available by CRM systems can reveal to the managers how best to manage their service delivery channels, patterns and dynamics of customers' usage and customer perceived experience and usefulness among other factors disposed towards the channels usage. While these hugely beneficial data are available within the reach of the bank managers, there is no indication that the information is presently being utilised in such a manner that would improve the technology-based channels usage leading to favourable buying behaviour.

Finally, while this study has demonstrated by implications that the use of CRM systems in the banking sector potentially leads to up/cross-buying, repurchase, reduced bank switching and bring about single banking and positive word of mouth, it is important to emphasise that the fundamental driving factors are the CRM systems dimensions (attitude, customer technology orientation, customer experience, perceived usefulness, ease of use and reliability-technology downtime). Specifically, these measuring factors are the predicting powers of CRM system in influencing consumer buying behaviour. Therefore, the utilised dimensions of CRM system provide an avenue for the bank managers to understand how to best use CRM-based channels. This applies particularly in servicing their customers, improving acquisitions, service quality, satisfaction, retentions and loyalty as well as delivering an opportunity for the banks to enhance up/cross-buying, repurchase, positive word of mouth and reduce customer churn.

## **7.7. Evaluation of the research alternative models**

Following the line of argument on the basis of which the current study theoretical model has been formulated, tested and validated (a model that serves as the bedrock on which the research hypotheses were developed and helped confirmed the nature of the relationships as discussed earlier). It is imperative to consider the acknowledgement of other possible alternative models, which could have the potential to provide relatively same or close explanations to the postulated associated effects compared to the model accepted. This step is ideally important, giving the theoretical understanding of the application of structural equation modelling procedure in model formulation and validation. Purposely, assessing alternative model using structural equation modelling is required to be recognised owing to the fact that structural equation modelling typically provides other comparable models. These models (including the preferred model) although are similar, each of them is usually stipulated in different manners, provides slightly different statistical outcomes and similar inferable concluding explanations. As demonstrated through the results obtained from the model comparison examination in chapter four. The results by all indications proved that the selected model used in this study is the fittest model to provide better explanations of the hypothesised relationships in this research. While the use structural equation modelling avails the researcher with options of models, this study followed the justifiably recommended procedure. This process entails that the researcher (giving considerations to recommended guild to model evaluation) takes on the model initially developed based on theory. Since this study cannot by any means claim that this study model is exhaustive, therefore disregarding other possible justifiable models. The assessment of the alternative model as discussed in this section has helped to elucidate the achievement of this study regarding contribution to existing empirical knowledge, particularly in terms of existing modelled relationships.

The last sections have concisely presented the discussions of the study. Specifically, on the key findings in line with the stated research objectives and theorised hypotheses, as well as the practical

implications on the basis of the proposed model measuring constructs. The next sections provide the research main empirical contributions to knowledge (theoretically and methodologically), suggestions for further studies and the limitations of the research.

## **7.8. Research contributions to knowledge**

Though the previous sections of this chapter have presented the comprehensive discussions of the current study findings, it is important to provide a highlight of the main research contributions to existing knowledge. Recalling that this study from inception aimed to examine the effects of CRM systems usage by banks customers on consumer buying behaviour within the context of the Nigerian banking industry. Through the different stages of the research, the study has provided evidence on the actual nature of the hypothesised effects. As the research findings implications have been discussed prior to this section, the next sub-sections below present the discussions of the key empirical contributions to knowledge theoretically and methodologically.

### **7.8.1. Conceptual and theoretical contributions**

This study has made significant contributions to existing studies on emerged CRM adoption but progressively an inevitable mechanism that has become an order of the day in the modern banking operations. It is often said that CRM has been studied in a great deal in the past and as such has become a thing of the past for about a decade and a half. However, this understanding has rather been practically a mere assumption, as technology adoption (particularly in the banking sector) has taken control of the wheels of service delivery and will continue to advance. Similarly, the important contributions of this research have emerged adding to existing knowledge on consumer behaviour.

The first contribution from this study is in term of conceptualised model, which was theoretically developed and empirically tested on the CRM enabled channels usage as associated with consumer buying behaviour. The model termed CRM – CBB model from this study, which postulated and justifiably established the links between technology-

based channels usage and consumer behaviour field is one of the main conceptual contributions of this study. The key links relationships established are CRM systems direct effects on CBB and CRM systems mediated effects on CBB. This model was formulated based on the underlying effects of CRM enabled channels usage on consumer buying behaviour. Distinct from preceding models in the literature (e.g. Gilaninia 2012; Padmavathy et al. 2012; Wang et al. 2004), the model contributed from this to knowledge based on how the research rationalised the measurement of CRM systems usage, perceptions and its subsequent effects on consumer buying behaviour. This was undertaken, using Theory of Planned Behaviour (TPB) and Technology Acceptance Model (TAM) fundamental constructs. The study also included within the model the mediating role of service quality, customer satisfaction, retention and loyalty. These mediating factors were considered in the model as intervening variables rather than predicting variables as commonly seen in previous studies (e.g. Padmavathy et al. 2012; Yim et al. 2005). Subsequent to this conceptualised model, the researcher was able to attain a robust empirical evidence of the associated effects between CRM systems and consumer buying behaviour. While the model appears complex in nature, the associated paths in the model are comprehensive and easy enough to be understood and applicable. It is advocated valuable to the bank managers and as a reference basis for further academic research. Notably, this is contrary to past studies that have used single behavioural dimensions to explain buying behaviour. And as such, to the best of the researcher's knowledge, no existing research has conceptualised the relationships between CRM systems and behavioural intentions in the same manner with this study.

Theoretically, through the rich primary data gathered to support the theoretically developed framework using structural equation modelling, this study also extends some empirical contributions. Firstly, from the tested and confirmed research model, this study uncovered the nature of the direct effect of CRM system on consumer buying behaviour. The established relationship further informed that the impact was truly based on the measuring scales. The direct effect was also revealed to have potentially the tendency to improve if customers' perceptions of the technology-based channels and usage

experience were more positively increased. Particularly, this study demonstrated that using technology-based channels as service delivery platforms by banks (based on the present situation in Nigeria) have positive effects on consumer buying behaviour but through the mediating variables. This in a way provides an extension to the study of Jayachandran et al. (2005) and Padmavathy et al. 2012). Besides, the study also contributes to knowledge by confirming that (giving the context of the hypothesised model) CRM systems usage positively affects acquisition of new customers, satisfaction, service quality, retention and loyalty.

Additionally, this study also extends contribution to literature by assessing the nature of the mediating role of service quality, satisfaction, retention and loyalty. These effects were proved to be pivotal to achieving positive consumer-buying behavioural outcomes. Since some studies have argued for and against, that CRM affects behavioural intentions, the need to assess other parameters that may carry an impacting influence to the relationship was examined in the current study. More importantly, this study establishes the fact that for CRM systems usage to adequately explain the nature of consumer buying behaviour, there is the need to integrate some controlling factors. This serves as a part of the contribution to knowledge from this study. Similarly, this study examined and confirmed the nature of the moderating effect of length of patronage on the hypothesised relationships within the research model. The moderating variable was demonstrated to interact with the direct relationship between CRM system and consumer buying behaviour. However, there is no interaction with the intervening variables. This is yet another notable empirical contribution from this research. The current study has laid claim to the contributions mentioned above because, previous studies have only made attempt to examine and measure CRM implementation on the understanding of strategy, organisational performances, readiness, CRM system and process (e.g. Ang and Buttle 2006; Liu et al. 2007; Payne and Frow 2006). It is evident from the literature that although few studies have focused on understanding and examining CRM system adoption, acceptance and its usage by customers (Jayachandran et al. 2005; Reinartz et al. 2004), there is no known existing research that have examined the effects of CRM system usage



by customers on buying behaviour, particularly in the banking industry.

Theory has been argued to be an integral and significantly fundamental to research development, serving as an avenue to achieving meaningful research findings and conclusions (Leshem and Trafford 2007). This study evaluated several related theories to the research core subject areas and has selected the Theory of Planned Behaviour and Technology Acceptance Model (TAM). They have been described in chapter two to provide comprehensive and clear meanings to how customer usage perceptions of technology-based channels as service delivery outlets can be measured. While many studies have adopted either of these theories extensively to assess specifically CRM adoption level, information system usage behaviour, performances, acceptance and usage level (e.g. Ayo et al. 2010; Venkatesh et al. 2003). There has not been any research known to the researcher that has used the theories to assess CRM impact on consumer buying behaviour. Likewise, although some previous studies have used the combination of TPB and TAM in a single study, for example to assess information technology usage (Premkumar and Bhattacharjee 2008), network behaviour exploration study (Chen 2013), examination of online tax filing acceptance (Lu et al. 2010) and understanding IT adoption in decisions in small business (Riemenschneider et al. 2003). This study is first of its kind to combine the two models in such a manner as CRM dimensions in assessing the CRM system impact on consumer behaviour. Notably, this study found that the applicability of CRM-based channels as service delivery platforms depends on customers' perceived usefulness, ease of use, experience using the channels, attitude, orientations and reliability of the channels. It is therefore established that the measuring scales derived from the two theories can be used in further research within CRM system usage impact context.

### **7.8.2. Methodological contributions**

Aside the conceptual and empirical contributions, this research has also extended some methodological contributions. Firstly, most of the earlier research has used regression analysis techniques. This study

has utilised the structural equation modeling approach, which is dynamic and has the capability to handle the analysis of complex hypothesised relationships with more than five mediating factors and moderations simultaneously in a single comprehensive model. Additionally, this study applied the use of multiple research analysis techniques, which combined SEM and Process macro developed for SPSS (a regression-based approach for direct and indirect effects analysis). This allowed the researcher to compare the results from the two techniques as a way to further confirm the strength and validity of the postulated relationships. In particular, the use the Process to analyse mediating effects and moderations was introduced in less than two years (Hayes 2013). This study is among the first to use the technique within the context of this study subject areas and in a study of this magnitude. Moreover, previous studies that have been conducted in Nigeria in this study area collected data from specific group of people or location such as using students, certain city e.g. Lagos, Ibadan, Ekiti or a state (Adeyeye 2013; Omotosho et al. 2013). Likewise, earlier research was based on data obtained from banks' employees and few of those that used customers were conducted from the banks' views. This study rigorously collected data from across the country, involving selected major cities and villages (countryside) using data obtained from both selected bank managers and individual customers. This provides this study with robust results and the potential to generalise the established outcomes. Thereby creating a basis for methodology reference for future research.

### **7.9. Limitations of the study**

While this research has been carefully planned, structured, implemented and successfully carried out however, it is not without limitations that could be enhanced by upcoming research. Firstly, it should be borne in mind that Nigeria is a dynamic and culturally diversified country with different cultural beliefs and religious practices. For instance, in some part of the country, certain classes of people (e.g. housewife and female) are not allowed to freely access some of the CR-based channels. Therefore, including cultural and religious practices in the research model would although not

significantly change the established effects but it could provide another angle that explains the nature of the effects.

Secondly, Nigeria population is currently in excess of 170 million with about 40% banked. However, only about 500 bank customers were surveyed. This does not sufficiently provide a representation of the whole banked Nigerian population. Similarly, the class of customers that took part in the survey was the learned people who can read and write. Implying that the local and illiterate market people and other unlearned class did not participate in the survey. The opinion analysed in this study may not have represented the views of these other sets of Nigerian banks customers. Likewise, the participant for this study were bank customers who are the sole signatory to their accounts with either savings and or current account as well as other service products of their banks. It did not include business/corporate and joint account holders. Also, the cities selected for the survey were based on safety and convenience because some part of the country at the time of data collection were unsettled and under government curfew. Additionally, during the data collection period in Nigeria, the researcher at different times attempted to use some of the CRM enabled channels. Using an ATM, for instance, could take up to 20 -30 minutes or more. This impression communicates a negative impression from the usage of technology-based channels on satisfaction. Therefore, not using a full qualitative approach to obtain data through e.g. participatory/observatory and focus group appeared to be a limitation.

Furthermore, while Onyia and Tagg (2012) have adequately examined and established the effects of demographic factors on bank's customers' attitude and intention to use internet banking adoption particularly in Nigeria. This study may as well have considered the moderating effects of gender and age. It was also noted during the interview stage that there are some regulatory bodies in place to oversee the affairs of how CRM enabled channels are deployed and managed. This study did not by any means consider the possible impact of it, particular on reliability and service failures involving financial loss reconciliation. Another limitation of this study relates to the developed model. The full models shown in Chapter three included external variable as one of the TAM constructs and perceived

behavioral control as one of the TPB constructs that were not included in this final research model. This was owing to the conscious effort to minimise the complexity of the model and selected the fundamental constructs that best explains the customer perceptions towards CRM-based channels usage. This is believed to have place limitation on the full reality of customer technology usage perceptions and its effects on their buying behaviour.

Based on these known limitations, the findings from this study should be interpreted and applied with some cautions. Particularly when bank managers are strategising based on customer segmentation on the deployment of CRM enabled channels to the various ethnic or cultural groups. Since this research focused only on the Nigerian banking industry, the study hesitates to claim that the model and the established relationships are universally applicable. Hence, the findings cannot be generalised to other nations context without replicating the model with different empirical data. Therefore, the model and the associated effects established have only been proposed as a potential mechanism for future research across the global banking industry.

#### **7.10. Suggestions for further studies**

The limitations outlined in the previous section present bearing for future studies suggestions. In particular, some future research within the scope of CRM system adoption, acceptance and usage as well as consumer behavioural studies will extend knowledge in the field.

Firstly, future studies need to develop a model that includes perceived behavioural control and customer external variable. This will help provide a more comprehensive but complex model that explains the associated effects presented in this study model.

Secondly, subsequent research should look into assessing the moderating impact of some demographic variables, to indicate whether or not and the extent of the interactions. The outcomes from this will be relevant to how bank managers would apply the current and the subsequent findings.

Third, other studies should be carried out to consider the use of full qualitative data collection approach and analysis. Using observatory, focus group and interviews. This may be able to reveal the aspect of the relationships that are not explained in this research.

Fourth, further research may replicate this study by including or using other service sectors such as insurance and hospitality using the advanced model in this study.

Fifth, it is imperative that future studies adequately examine the impact of the regulatory bodies as an inclusion in the postulated associated relationships.

Lastly, findings from this study can be generalised in a reasonable extent to the Nigeria banking industry. However, the findings are not generalisable or applicable to all African and developing countries. This is because the developing nations are presently at different levels of technology adoption, acceptance and usage. Therefore, more research is required in the subject areas from other geographical locations to provide further understanding and generalisability of the conclusions.

#### **7.11. Conclusion**

The emergence, adoption, acceptance and usage of technology-based channels as service delivery platforms has become and continued to remain the primary competitive advantage-gaining determinant in the banking industry. While the academic and the practitioners have continued to devote attention and efforts on workability, acceptance, usage and advancement in technology physical equipment and increasing the channels (e.g. Twitter payment, Apple payment etc.), little or no attention and attempt has been made to realistically examine the resultant effects of the channels usage by customers on their buying behaviour. While this study does not disregard existing scholarly research within the subject areas, most of the studies only examined the impacts of CRM system as a strategy, effects on performance/profitability and from the company's perspectives. This study, on the contrary, has consciously examined the relational effects

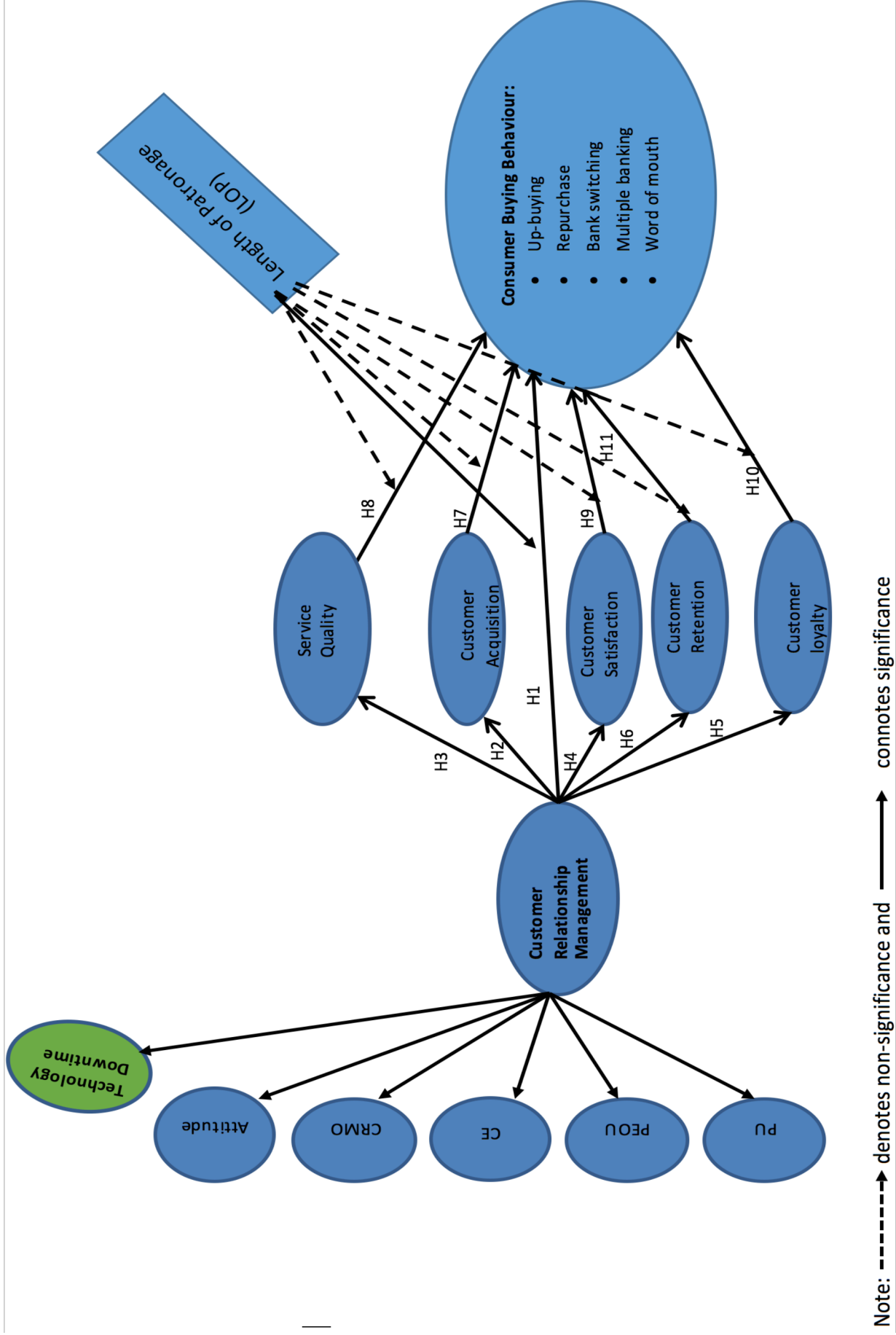
from the customers' perspectives and its relational impact on buying behaviour. As presented in chapter one and throughout the research stages development, one area of lack of knowledge is the important unknown effects of CRM enabled channels usage relational impact on behavioural intentions based on existing behavioural and technology adoption theories. This study has therefore been carried out specifically to uncover the likely and the nature of the effects.

The process of attaining the set research aim involved stating some objectives. The objectives were strictly followed and as such, the aim of this study has been achieved appropriately. The aim was comprehensively explained through the formulated model specifying the hypothesised relationships. Through reviewed literature, the study identified some factors that have been empirically established to be accruing benefits from using CRM systems. Five of these factors were theorised as mediating variables. They were found in the study to significantly intervene positively in the relationship between CRM system usage and behavioural intentions. By all means, this research has empirically established how CRM systems usage affects buying behaviour, the nature of the effects, the strength of the effects and what accounts for the nature of the effects. The unveiled findings contributed to existing knowledge in the study subject areas. Firstly, by establishing direct and indirect effects. Secondly, by providing an empirical model for future research analysis, evaluation and understanding of relationships regarding consumer buying behaviour particularly in the banking industry. In all, this study by way of contribution has extended knowledge empirically on the existing view that "the factors that influence the CRM implementation are new customer attraction, consumer buying behaviour, competitive advantage, customer satisfaction, customer retention, acquisition, long-term relationships, knowledge management, web-enabled customer service, customer values among others" (Karakostas et al. 2005 in Rahman and Shaon 2015 p. 26).

In summary, this study has on one side sufficiently established that Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Attitude (ATT), Technology Downtime (reliability) (TDT), Customer Experience (CE) and Customer Technology Orientation (TO/CRMO) measure CRM system. On the other hand, the research has uncovered Customer

Acquisition (CA), Service Quality (SERVQUAL/SQ), Customer Satisfaction (CSAT/CS), Customer Retention (CRET/CR) and Customer Loyalty (CL) as the mediating variables, which substantiated the achievement of positive and significant effects between CRM systems and consumer buying behaviour. The holistic evolved CRM – CBB model from this study is presented in figure 7.2.

**Figure 7.2: Holistic research model – (CRM – CBB Model)**







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## List of Appendixes

### Appendix 1: Invitation letter and questionnaire sample



Dear participant,

#### **THE INFLUENCE OF ELECTRONIC CUSTOMER RELATIONSHIP MANAGEMENT (E-CRM) ON CONSUMER BUYING BEHAVIOUR IN THE CONTEXT OF THE NIGERIAN BANKING INDUSTRY**

##### **Research purpose**

You are being invited to take part in research that aims to investigate the influence of Electronic Customer Relationship Management (E-CRM) on consumer buying behaviour in the Nigerian banking industry. This study is postgraduate research which is part of a PhD degree award. Before you decide whether or not to take part, it is important you understand why the research is being done and what it will involve. Please take time to read the following information carefully.

##### **Why have I been invited to participate?**

You are being invited to participate in the study because you have been identified as either: a marketing/customer relationship manager; head of branch and customer service manager and or as an IT (technology) process management and E-marketing specialist with comprehensive knowledge of the current study variables.

##### **Do I have to take part?**

Taking part in this research is exclusively a voluntary exercise. If you decide to take part, you will be given this information sheet to keep and be asked to sign a consent form. In the event that you decide not to take part again before or during the research, you are free to withdraw without giving any reason. If you have received this information sheet/e-mail from your colleague or manager, you are under no obligation to take part and taking part or not in the study will have no bearing on your employment with the company.

##### **What will you have to do and how long will it take?**

The interviewer will want to interview you on your opinion regarding the research paradigms. The interview will take a semi-structured format with open and closed ended questions. This should take no longer than 25 minutes and will take place at your office or a place agreed by you. The interview will be recorded but you will be asked to give consent prior to the interview and may be asked to also give consent at a later stage.

## **What will happen to information collected?**

The information collected will be used by the researcher to write a thesis in partial fulfillment of PhD degree award. Only the researcher and supervisor will be privy to the notes, documents, recordings and paper written. Afterwards, notes and documents will be destroyed and recordings erased. The researcher will keep the transcriptions of the recordings and a copy of the paper but will treat them with the strictest confidentiality. No participant will be identified in the publications and no reference will be made to you in person or the company you represent. In other words, the information will be treated as confidential and anonymous.

## **Declaration to participants**

If you take part in the study, you have the right to:

- Refuse to answer any particular question, and to withdraw from the study at any time (including after the interview or questionnaire has been completed).
- Ask any further questions about the study that occurs to you during your participation.
- Be given access to a summary of findings from the study when it is concluded.

## **Who's responsible?**

If you have any questions or concerns about the project, either now or in the future, please free to contact either:

### **Researcher:**

Name: Akinyemi Paul Omoge  
Robert Gordon University  
Dept.: Marketing Communication and Media  
Aberdeen Business School  
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### **Supervisor:**

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Yours sincerely,

Akinyemi Paul Omoge



## TECHNOLOGY AND YOUR BANK

Dear participant,

I am conducting this survey as part of the fulfillment of the requirements for the award of a PhD degree of Robert Gordon University, Aberdeen, Scotland, UK. The research assesses the impact of technology on consumer buying behaviour in the Nigerian banking industry. This study became relevant following the Central Bank of Nigeria (CBN) cashless policy that mandated all banks in the country to adopt technology-enabled platforms. Hence for the purpose of this study, technology enabled platforms are contact channels through which customers carry out banking transactions e.g. Internet banking, Point of sales (POS), ATM, Online banking etc. The questionnaire should take about 10 minutes to complete and all information is confidential and will be used only for my research. Your participation in this survey is vital to the successful completion of my study.

### Section A: General background of the respondents (Please indicate by ticking your choice of answer)

#### Bank usage and technology knowledge

1. Do you have a bank account? Yes  No
2. Are you the sole signatory to the account? Yes  No
3. Have you used online banking and/or telephone banking to carry out your banking transactions?  
Yes  No

4. Please indicate how long you have had your bank account with your main bank

Less than a year	1
Between 1-5 years	2
Between 6-10years	3
More than 10 years	4

5. Which of the following bank(s) do you currently use (You may indicate more than one)

First Bank	1
Guarantee Trust Bank (GTB)	2
Zenith Bank	3
Access Bank	4
United Bank of Africa (UBA)	5
Eco Bank	6
Others: please indicate. ....	

No	Item	1	2	3	4	5	6	7
<b>CRM technology measurement constructs</b>								
<b>Technology/Customer Relationship Management orientation</b>								
1	My bank uses latest technology enabled channels (Internet banking, ATM etc.) to offer quality services	1	2	3	4	5	6	7
2	My bank makes effective use of technology enabled channels to enhance customer service	1	2	3	4	5	6	7
3	My information is available at every banking point of contact	1	2	3	4	5	6	7
<b>Customer experience</b>								
1	My bank attends to customer complaints promptly	1	2	3	4	5	6	7
2	My bank takes genuine interest in customer problems	1	2	3	4	5	6	7
3	My bank effectively communicates with customers	1	2	3	4	5	6	7
4	My bank uses CRM to evaluate my evolving needs	1	2	3	4	5	6	7
<b>Technology (CRM) perceived usefulness</b>								
1	Using online channels would help me to accomplish my transaction more quickly	1	2	3	4	5	6	7
2	Using the online channels would make it easier to carry out my transactions	1	2	3	4	5	6	7
3	I find the CRM enabled channels useful	1	2	3	4	5	6	7
4	Overall, I find using the CRM channels to be advantageous	1	2	3	4	5	6	7
<b>Perceived ease of use</b>								
1	Using the CRM channels is easy for me	1	2	3	4	5	6	7
2	I find my interaction with the use of CRM channels clear and understandable	1	2	3	4	5	6	7
3	It is easy for me to become skillful at the use of the CRM enabled channels	1	2	3	4	5	6	7
4	Overall, I find the use CRM channels services easy	1	2	3	4	5	6	7
<b>Technology/CRM concept implementation and its relationship with service quality</b>								
1	The bank's physical facilities are visually appealing	1	2	3	4	5	6	7
2	The bank provides prompt services	1	2	3	4	5	6	7
3	The bank can provide services to customers as promised	1	2	3	4	5	6	7
4	When you have problems, the bank is sympathetic and assuring	1	2	3	4	5	6	7
5	Staff can provide you with precise and personal services	1	2	3	4	5	6	7
<b>Attitude towards using technology enabled channels in banking</b>								
1	Using CRM enabled channel (ATM, POS, Internet banking etc.) is a good idea	1	2	3	4	5	6	7
2	Using CRM enabled channels make	1	2	3	4	5	6	7

	banking (transactions) more pleasant							
3	In my opinion, it would be desirable to use CRM enabled channels for banking	1	2	3	4	5	6	7
4	I like using CRM enabled channels for making banking transactions	1	2	3	4	5	6	7
<b>Technology (CRM) implementation and its effects on customer satisfaction</b>								
1	I am satisfied with my bank's CRM enabled channels	1	2	3	4	5	6	7
2	I am satisfied with the quality of services provided by my bank	1	2	3	4	5	6	7
3	I am satisfied with the way this bank has fulfilled my expectations	1	2	3	4	5	6	7
4	Overall, I am completely happy with my bank 's CRM implementation level	1	2	3	4	5	6	7
<b>CRM concept implementation effects on customer retention</b>								
1	I intend to continue to be a customer of the bank for a long time	1	2	3	4	5	6	7
2	I will buy more products/services of the bank in future	1	2	3	4	5	6	7
3	I would switch to other bank with higher technology enabled channels	1	2	3	4	5	6	7
<b>Technology/CRM concept implementation effects on customer loyalty</b>								
1	I say positive things about the bank to other people	1	2	3	4	5	6	7
2	I would encourage friends and relatives to use the services offered by the bank	1	2	3	4	5	6	7
3	I conduct all my banking transactions with my bank	1	2	3	4	5	6	7
4	Overall, I consider myself loyal to the bank	1	2	3	4	5	6	7
<b>CRM concept implementation effects on customer acquisition</b>								
1	My bank uses customer information to attract new customers	1	2	3	4	5	6	7
2	My bank is able to tailor its products and services to meet my needs	1	2	3	4	5	6	7
3	My bank uses different approaches to attract target customers	1	2	3	4	5	6	7
4	The level of my bank's technology enabled channels is attractive to me	1	2	3	4	5	6	7
<b>Consumer buying behaviour in banks (cross buying, repurchase, bank switching, multiple banking &amp; word of mouth)</b>								
1	I would like to repurchase more products and services from the bank	1	2	3	4	5	6	7
2	I would like to keep close relationship with my bank for a long period	1	2	3	4	5	6	7
3	I would buy more products from the same bank	1	2	3	4	5	6	7

4	I do my banking transactions with more than one bank	1	2	3	4	5	6	7
5	I would recommend the bank products and services to others	1	2	3	4	5	6	7
<b>Technology downtime and consumer buying behaviour</b>								
1	I would use online facilities more if they were more reliable	1	2	3	4	5	6	7
2	I would choose a bank with more reliable online facilities	1	2	3	4	5	6	7

### Section B: Research constructs questions

For the purpose of this study, customer relationship management technology is considered to be transaction handling platforms engaged by banks such as customer contact channels (Point of sales (POS), ATM, Online banking, Telephone banking, Customer service/call centres etc.) aiding customer management, customer relationship/customer information management

6. From the scale of **1 "strongly disagree" to 7 "strongly agree"**  
Please circle one number for each which best represents your view.  
**(Code – 1-strongly disagree; 2-somewhat disagree; 3- disagree; 4-no effect; 5-somewhat agree; 6-agree; 7- strongly agree)**

### Section C: Demographic variables

7. Please indicate your gender

Male	1
Female	2

8. Please indicate which age groups you belong

Between 18 - 25years	1
Between 26 - 40years	2
Between 41 - 65 years	3
Above 65 years	4

9. Please indicate your highest education level

Undergraduate	1
Graduate (BSc/OND/HND/NCE)	2
Postgraduate	3
Doctoral/Professional degree	4
Others	5

10. Please indicate your occupation

Unemployed	1
Private sector	2
Public sector	3
Self-employed	4
Student	5
Others	6

11. Which bank is your primary bank? .....

**Thank you for your cooperation.**

**Akinyemi Paul Omoge**  
**Aberdeen Business School**  
**Dept. of Communication, Marketing and Media**  
**Robert Gordon University, Aberdeen, UK.**



## Appendix 2: List of key literature summary

Authors	Study objectives	Study methodology	Study findings
Colgate and Danaheer, 2000 pp. 375-387.	Studies the effect of implementing the strategy of customer relationship in the domain of banks on the customer's satisfaction and loyalty	Used a systematic random sample of 1917 from telephone directory. They collected data through mail and got 784 back which represents 43.5%	The study revealed both positive and negative effects. If CRM strategy is implemented properly, it will enhance customer satisfaction and loyalty but if CRM implementation is defective, dissatisfaction and disloyalty will emerge.
Kim, et al., 2012 pp. 83-93	The study reports on the gap between actual bank CRM actions and customer's expectation of those actions in respect to CRM customer's willingness to continue in the relationship.	The study used a survey method based on data collected from customer and CRM personnel of two major banks in South Korea distributing 200 questionnaires to customers while 99 were distributed to CRM managers. They had 109 and 99 usable returned respectively.	The study found that there is no compatibility between the interval of actual CRM implementation activities and customers' expectation. It also indicates a negative impact on customers' intention to remain in relationship.
Long et al., 2013 pp. 247-253	The study aimed to investigate the impact of CRM elements (Employee behaviour, service quality, relationship development and interaction management) on customer satisfaction and loyalty.	Using departmental stores in Iran, the study used quantitative method based on 300 respondents. Data collected was analysed using regression analysis.	The study concluded that employee behaviour has a significant effect on the study variable hence, contribute to customer satisfaction and loyalty.
Verhoef, 2003 pp. 30-45	The author examined the effects of CRM and relationship marketing instruments on customer retention and customer share increase.	Using a quantitative approach, the author combined data from customers of a Dutch financial service (Insurance) company with company's customer database. The study used a suitable sample size of 1677 for the first data category and 918 for the second measurement.	The study indicated that customers' willingness to continue their relationship with the company and their dependence on the customer-loyalty programs have a positive impact on customer retention and customer share increase. However, using direct mail only has significant impact on growing customer share.
Maiyaki and Mokhtar, 2011 pp. 42-48.	The researcher investigated the influence of perceived quality, perceived value corporate image and switching cost on the consumer behavioural intention in the context of commercial banks in Nigeria.	The study used both descriptive and explanatory survey design with data collected from individual customer of all the 24 commercial banks in Nigeria.	The study was based on an on-going doctoral thesis hence the study showed that service quality has a significant influence on consumer behavioural intention and customer perceived value is associated with customer behavioural intention in terms of services provided by commercial banks in Nigeria.
Ogbadu and Usman, 2012 pp. 59-72.	The research examined the imperatives of CRM motivated by poor handling of customers' complaints, lack of courtesy, poor service quality, inadequate information to customer and long queue experience of customers. The study therefore, ascertains impute of effective CRM to customer loyalty and banks' performance.	The study employed quantitative approach using data collected from 600 customers and four selected banks' staff.	The authors concluded that there is a direct relationship between CRM and customer loyalty and banks' performance. They recommended that banks should pursue CRM implementation rigorously to attain business objectives.
Wang et al., 2004 pp. 169-182	The paper attempt to develop an integrative framework for customer value and CRM performance based on the identified major dimension of customer value. The study enquires degraded effects on customer value on CRM performance with respect to relationship quality and customer behaviour.	The study conducted mail survey using two large Chinese security firms and their customers as respondents randomly selected. 400 questionnaires were sent out and eventually got back usable 320 questionnaires. The study used structural Equation Modelling to test the study hypotheses.	The study revealed that customer value has a significant effect on customer satisfaction but, there is no significant evidence to aid direct influence of any of the customer value dimensions on brand loyalty. Also, the study found CRM performance to be statistically significant.

<b>Mithas, et al., 2005</b> pp. 201-209.	The study assessed the causal effect of CRM on one to one marketing effectiveness.	Researches gathered data from senior managers of information technology in over 300 institutions based in USA	Results revealed that using CRM systems have greater levels of one-to-one marketing effectiveness.
<b>Brink, et al., 2006 pp. 252-261.</b>	Examined the extent to which consumers reveal an effect of strategic and tactical cause-related marketing on brand loyalty.	Experiment was designed based on 240 students shared in one of the European University library.	The study concluded that consumers perceived a significantly enhanced level of brand loyalty as outcome effect of strategic cause-related marketing as long as the firm has a long term commitment to its campaign but, consumers do not have a significant effect of tactical cause-related marketing campaign.
<b>Gilaninia, et al., 2011</b> pp956-963.	The study explores CRM application impact on customer satisfaction in financial and credit institutions.	The study employed the use of quantitative approach with descriptive, analytical/causal analysis to control the field research. Regression method was used to test research hypotheses using Friedman test to prioritise the variables. The respondents are includes the firms in the industry in Iran and their customers.	The study confirmed that there is a significant relationship between CRM and customer satisfaction identifying service quality, access to services, system of complain investigation and service features as major influencing factors.
<b>Yao and Kong, 2011</b> pp. 105-116.	The study conceptualised CRM implementation in commercial banks in Taiwan, determined if CRM implementation is positively associated with customer satisfaction and to find out the main moderators between CRM implementation and customer satisfaction.	The study used data collected from 31 general managers of 42 commercial banks in Taiwan using questionnaires. The researcher used factor analysis to analyse the study constructs.	The study revealed that CRM implementation is associated with customer satisfaction and there are significant relationship between IT compatibility and recovery management with customer satisfaction.
<b>Becker, et al., 2009</b> pp. 207-215.	The study analysed what influence firms can expect CRM implementation to have on performance and how the firms can leverage its impact. They measured CRM performance in terms of acquisition, maintenance and retention of customers.	The study used data obtained from 400 randomly selected companies from ten European countries out of the consulting firms' database.	The study concluded that CRM implementation does not have impact on performance however, it will have impact only if adequately supported by the appropriate company stakeholders.
<b>Coltman, 2007 pp. 102-114.</b>	The study aim to identify the extent to which CRM contribute to enhanced an improved performance.	The researcher used banks operating in Australia based on their level of CRM application and numbers of customers. The response rate was 32% and human skills and experiences, the structure of IT and structure of the organisation measure CRM application.	The study showed that the for CRM programs to be most successful, it needs a combination of technical, human and business potentials and if adequately applied, CRM can lead to improved performance.
<b>Law, et al., 2013 pp. 301-330</b>	The research gave a detailed analysis of the factors that determine the adoption of CRM in the service sector. The study conceptualised and measured adoption as a continuous multi-item construct. The adoption outcomes were measured in terms of business performance and customer/employees' satisfaction.	Using structural equation modelling through AMOS, the study used quantitative data from 215 organisations in Hong Kong.	The study indicates that the five attribute of innovation proposed by Rogers (1962) had the strongest influence on CRM adoption. Also, the mediated effect on performance was greatest for marketing related performance and relatively weaker though still significant for business performance.

## Appendix 3:

### Interview Questions Guide

Dear manager,

This interview aims to acquire information about the impact of Electronic Customer Relationship Management (E-CRM) (Technology) benefits on consumer buying behaviour in the Nigerian banking industry. Hence for the purpose of this study, E-CRM/technology enabled platforms are contact channels through which customers carry out banking transactions e.g. Internet banking, Point of sales (POS), ATM, Online banking etc.

Q.1 What are the CRM/technology-enabled channels for customers to communicate?

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Q.2 What are the CRM enabled channels offered by your bank for customers to carry out banking transactions?

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Q.3 In your opinion, what are the benefits of implementing CRM systems?

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Q.4 In your opinion, what are the benefits of having these CRM/technology enabled channels?

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Q.5 What effect does implementing CRM systems have on the relationship between your bank and its customers?

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Q.6 In your opinion, do you think implementing CRM systems by your bank has any impact on customer acquisition?

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Q.7 Do you think implementing CRM systems has impact on service quality?

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Q.8 Do you think that implementing CRM/technology-enabled channels have impact on customer satisfaction?

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Q.9 Do you think that implementing CRM systems have impact on customer retention?

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Q.10 Do you think that implementing CRM/technology-enabled channels has impact on customer loyalty?

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Q.11 What are the characteristics of buying behaviour exhibited by your customers?

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Q.12 Do you think that the CRM benefits mentioned have effects on consumer buying behaviour?

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Q.13 What is the state of your bank CRM/technology orientation?

Q.14 What in your opinion is your customer experience on CRM enabled channels usage?

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Q.15 What are the services your bank provides to customers through CRM enabled channels?

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## **Appendix 4: Interview transcript sample**

### **Interviewer: Researcher**

Interviewee: Area manager Oyo province (Manages 14 branches)  
The interview was conducted in her Dugbe office on (date, day, time).

### **Start of Interview:**

**Interviewer:** Please tell me your role, position and how long you have been working in the banking industry?

**Interviewee:** I am area manager, supervision of branches and ensuring customer satisfaction and service excellence on customer relationship management. Over 15 years....

**Interviewer: What are the CRM enabled channels offered by your bank for customers to carry out banking transactions?**

**Interviewee:** E-banking, Internet banking, POS, ATM/cash machines

**Interviewer: What are the CRM enabled channels for customers to communicate?**

**Interviewee:** E-contact. This is a site where customer can make complains, observations and get issues resolved. The site has dedicated staffs whose primary job is to attend to such queries promptly and within 24 hours. Also, we have E-mail channels through which the customers can contact the bank. The bank also has call/contact centres

**Interviewer: In your opinion, what are the benefits of implementing CRM?**

**Interviewee:**

I would say...like you know, the world is a global village, and emmm.. at this point in time it would be so obsolete if I may use the word if banking industry are still going back to what we did in ten years ago because the world is moving. That's why u can actually stay in your house and do all the transactions you need to do. You know...sooo..The benefits really is that one, time saver, it saves time , quicker resolution, customer satisfaction, because, for some customers, they may not need to come to the bank, to get whatever information they need from you or to get a problem resolved. So basically it also, it brings emm the customers and bank relationship tighter because you know that somehow you don't necessarily have to know someone before business or or em problems are resolved.

**Interviewer: In your opinion, what are the benefits of having these CRM/technology enabled channels?**

**Interviewee:**

Ok, Like I said earlier, cough...I will mention a few things said ealier, basically I will say to summarize it, there two major things I will talk about one, which is customer service excellent, that's one because it does not em give customer satisfaction to come to the bank and meet overcrowded bank why because there are no channels every one has to queue so with this kind of technology coming in, a customer doesn't necessarily have to come to the bank and as such you are satisfying him because you still get the job done without having to plug himself in this kind of environment. That is one, two emm I'll also say emmm I'll say effective deliverables using these mediums, basically the customer service excellent the close nested relationship

**Interviewer cut in/probing**

**So invariably can I conclude that in your opinion that leads to customer service quality?**

**Interviewee: Yes.**

**Interviewer:** In your opinion, do you think implementing CRM by your bank has any impact on customer acquisition?

**Interviewee:**

Yes, it does. Cough, like I said earlier, emm a customer even me as an individual I have places I go to and almost everybody seems to offer the same kind of product but you find ... I find myself tilting to a particular place why because I feel their service delivery is more effective the environment is comfortable .so it brings me back to your question or the answer to you which is customer satisfaction

.....So invariably it helps increase acquisition of customers. Ye is does via customer satisfaction cos of course if a customer is satisfied with your service delivery ...the word spread really he spreads the news and people know you better and get to use you and all that

**Do you think If I'm aware that you have got the best ATM with no down time, do you think that would make me want to open an account with your bank?**

Yes definitely would, I will tell you why, I hear people say amm...no no no, I wouldn't want to go to this bank because every time you get to this bank "A" ATM, it takes your card without dispensing cash and or it's never on that is, down time. I would rather go to this other bank "B" ATM where you are rest assured that when I put in my card it will dispense cash and my transactions are done, it has effect because if there is a down time it makes the work uncomfortable it makes the business uncomfortable.

**Interviewer: Do you think implementing CRM has impact on service quality?**

**Interviewee:**

It does. .it does. I will give you an example too because I'm in the system for people emm especially customer who do a lot of

transactions outside the country first of all you know they have to transfer money via e-transfer and of course if the system is working and its always up time at all times and not down, it increases their transaction so they transfer at all time and the person they transfer and they are sure that when they transfer their em contr.....em supplier or whoever it is gets the money and the business is done so definitely it does have a great impact.

**Interviewer: Do you think that implementing CRM/technology have impact on customer satisfaction?**

**Interviewee:**

It has either 2x....like I said earlier if I have to get my business done using this.. via this channels, and its done almost immediately of course, I'm satisfied and I keep doing it keep using it in other hand it could be native in the sense that its never available as at the time I need to use it. **Interviewer cut in to probe on ....** I believe the positive side has the higher proportion now like I said earlier, its an on-going thing where we are today can not be compared to where we were this same time last year cos there has been improvement so as improvement are going on, customer satisfaction is increasing positive impact is increasing so definitely, I will give positive impact higher than negative effect. As we have made continuous effort to improve and upgrading on our technology and restructuring which has helped to reduce problem with technology down time. She confirmed that Eco bank does not at the time of interview has the newest technology as compared to other banks in the industry.

**Interviewer: Do you think that implementing CRM have impact on customer retention?**

**Interviewee:**

It does. It sure does.

**Interviewer: Do you think that implementing CRM have impact on customer loyalty?**



**Interviewee:**

It does ..... maybe I will put a little emm explanation on that, I've had instances where people... let me give a specific example., our e-transfer from Nigeria to other part of the world, ill say I give it to my bank because its always rapid and if there is any issue we get to know on time I have customers who would tell if I'm not going to do anything with this bank, I will do this and the customer gets ... whoever the receiver gets the money as at when due. ...

**Interviewer: What are the characteristics of buying behaviour exhibited by your customers?**

**Interviewee:**

Well, we have emmm we have different groups of customers we have em high net worth individuals we have SMEs, so we have all the combinations of customer hence there buying behaviour depends on the different groups of customers. We it is actually common for the customer are loyal to themselves they only go to whichever banks will solve whatever problem they have. We have some that will give only 20% to a bank and 80% to other banks. They cross buy and exhibit multiple banking behaviour. They also have the habit of referring people to the bank like I mentioned earlier that they spread information. I have customers that have come to me and say "I was referred to your bank by XYZ.... I also do believe that they have bank-switching behaviour. I also do believe that technology adoption has impact on the customer buying behaviour.

**CRM leads to CBB**

*Yes, I do believe that technology adoption has impact on the customer buying behaviour. In my opinion, using technology as service delivery channel on its own does not lead to em... favourable patronage behaviour without first getting the customers to be loyal after all, it takes a customer to be loyal before he/she can engage in any umm... continuous purchase...*

**What in your opinion is your customer experience on CRM enabled channels usage?**

The adoption of technology has helped to reduce queue in the banking hall and a lot of customers have started using their bank cards either at the various cash machine points or through the POS. Our tech driven products but right now I can categorically tell u that it has now improved. And also our Internet banking where customer can perform transactions online at their comfort.

The adoption of technology has also brought about an increase in the numbers on customer acquired and the volume of transaction.

The recent CBN I will say brought about where the industry is today in terms of technology. So it has really brought about a great development in customer relationship management.

**Interviewer: Thank you very for your time today**

**Interviewee:** You are welcome.

## Appendix 5: Operationalisation of research variables

Variables	Definition	Operationalisation of variables	Sources
CRM	CRM system referred to as "IT enabled channels such as internet, ATM, POS etc. allow a one-to-one dialogue with a current and perspective customer, in which the product configuration, price and required service can be individually negotiated" (Wilson et al. 2002. p. 1).	<ul style="list-style-type: none"> <li>. Attitude towards usage</li> <li>. Perceived ease of use</li> <li>. Perceived usefulness</li> <li>. Customer CRM orientation</li> <li>. Customer experience</li> <li>. Technology down time</li> </ul>	Wilson et al. 2002 Payne and Frow 2005 Padmavathy et al. 2012
Attitude	Customer attitude towards CRM enabled channels usage	<ul style="list-style-type: none"> <li>. Using CRM enabled channels is a good ideas</li> <li>. Using CRM enabled channels make banking (Transactions) more pleasant</li> <li>. In my opinion, it is desirable to use CRM enabled channels for banking</li> <li>. I like using CRM enabled channels for making banking transactions</li> </ul>	Fishbein and Adzen (1975) Thompson et al. (1995) Marchewka et al. 2007
Perceived ease of use	Customers' perception on how easy it is to use CRM enabled channels	<ul style="list-style-type: none"> <li>. Using CRM enabled channels is easy for me</li> <li>. I find my interaction with the use of CRM channels clear and understandable</li> <li>. It is easy for me to become skillful at the use CRM enabled channels</li> <li>. Overall I find the use of CRM channels services easy</li> </ul>	Davis (1989) TAM Cheng et al. (2006)
Perceived usefulness	Customer perception of CRM enabled channels usefulness	<ul style="list-style-type: none"> <li>. Using online channels helps me accomplish my transactions more quickly</li> <li>. Using online channels makes it easier to carry out my transactions</li> <li>. I find CRM enabled channels useful</li> <li>. Overall, I find using the CRM channels to be advantageous</li> </ul>	Davis (1989) TAM Cheng et al. (2006)
CRM orientation	Customer orientation of their bank's CRM system	<ul style="list-style-type: none"> <li>. My bank uses latest technology enabled channels to offer quality service</li> <li>. My bank make effective use of technology enabled channels to enhance customer service</li> <li>. My information is available at every banking point of contact</li> </ul>	Yim et al. (2004) Padmavathy et al. (2012)

Customer experience	The experience of customers when using the CRM enabled channels and other contact medium with their bank	<ul style="list-style-type: none"> <li>. My bank attends to customer complaints promptly</li> <li>. My bank takes genuine interest in customer's problems</li> <li>. My bank effectively communicates with customers</li> <li>. My bank uses CRM system to evaluate my evolving needs</li> </ul>	Padmavathy et al. (2012) Cho et al. (2003) Jain et al. (2007)
Technology downtime	Customer perception on unannounced CRM system break down or internet/technical failure	<ul style="list-style-type: none"> <li>. I would use online facilities more if they were more reliable</li> <li>. I would choose a bank with more reliable online facilities</li> </ul>	Based on: Islam et al. (2007) Wan et al. (2005)
Service quality	Customer impression on overall evaluation of CRM enabled channels performances	<ul style="list-style-type: none"> <li>. The bank physical facilities are visually appealing</li> <li>. The bank provides prompt services</li> <li>. The bank provides services to customers as promised</li> <li>. When you have problems, the bank is sympathetic and assuring</li> <li>. Staff provides you with precise and personal services</li> </ul>	Lewis and Soureli (2006) Parasuraman et al. (1988) Lau et al. (2013) Chakravarty et al. (2003)
Customer acquisition	The decision to open an account with a particular bank is dependent on the perception of the potential customers on the bank's CRM enabled channels	<ul style="list-style-type: none"> <li>. My bank uses customer information to attract new customers</li> <li>. My bank is able to tailor its products and services to meet my needs</li> <li>. My bank uses different approaches to attract target customers</li> <li>. The level of bank's technology enabled channels is attractive to me</li> </ul>	Lu and Shang (2007) Reinartz et al. (2004) Tahi and Zuikifii (2011)
Customer satisfaction	Customer's opinions on expected pleasure or dissatisfaction arising from the use of CRM enabled channels as compared to the CRM enabled channels' perceived performance.	<ul style="list-style-type: none"> <li>. I am satisfied with my bank's CRM enabled channels</li> <li>. I am satisfied with the quality of services provided by my bank</li> <li>. I am satisfied with the way this bank has fulfilled my expectations</li> <li>. Overall, I am completely happy with my bank's CRM system level</li> </ul>	Singh (1990) Parasuraman et al. (1985) Hau and Ngo (2012) Liverin and Liljander (2006) Abubakar et al. (2014)
Customer loyalty	Customers' behavioural act of repurchase, recommendation through positive word of mouth and intention to continue purchase or usage	<ul style="list-style-type: none"> <li>. I say positive things about my bank to others</li> <li>. I encourage friends and relatives to use the services offered by the bank</li> <li>. I conduct all my banking transactions with my bank</li> <li>. Overall, I consider myself loyal to the bank</li> </ul>	Zeithaml et al. (1996) Beerli et al. (2002) Ehigie (2006) Bettencourt (1997)

Customer retention	Decision-based outcome of customers to continue to patronise, buy more products and services from the same bank without switching to other banks as a result of positive perception formed or satisfaction received from the use of CRM enabled channels.	<ul style="list-style-type: none"> <li>. I intend to continue to be a customer of the bank for a long time</li> <li>. I will buy more products and services of the bank in future</li> <li>. I would switch to other bank with higher level of technology enabled channels</li> </ul>	Zeithaml et al. (1996) Morgan and Hunt (1994) Renaweera and Prabhu (2003) Russ and Zahorik (1993)
Consumer buying behaviour	Actual behaviour customer exhibits in the course of purchasing products and services from their banks with respect to the specifically identified buying behaviour in the banking industry	<ul style="list-style-type: none"> <li>. I like to repurchase more products and services from the bank</li> <li>. I like to keep close relationship with the bank for a long time</li> <li>. I will buy more products and services from the same bank</li> <li>I do my banking transactions with more than one bank</li> <li>. I will recommend the bank's products and services to others</li> </ul>	Wang et al. (2004) Tam and Wong (2001) Anthanassopoulos et al (2001) Blattberg et al. (2001) Reichheld and Teal (1996) Bettencourt (1997)

## Appendix 6: Common method bias test results

### CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	165	943.862	696	.000	1.356
Saturated model	861	.000	0		
Independence model	41	10294.833	820	.000	12.555

### Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.908	.892	.974	.969	.974
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

### Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.849	.771	.827
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

**NCP**

Model	NCP	LO 90	HI 90
Default model	247.862	171.567	332.223
Saturated model	.000	.000	.000
Independence model	9474.833	9150.998	9805.122

**FMIN**

Model	FMIN	F0	LO 90	HI 90
Default model	2.366	.621	.430	.833
Saturated model	.000	.000	.000	.000
Independence model	25.802	23.746	22.935	24.574

**RMSEA**

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.030	.025	.035	1.000
Independence model	.170	.167	.173	.000

**AIC**

Model	AIC	BCC	BIC	CAIC
Default model	1273.862	1312.685	1932.454	2097.454
Saturated model	1722.000	1924.588	5158.651	6019.651
Independence model	10376.833	10386.480	10540.483	10581.483

**ECVI**

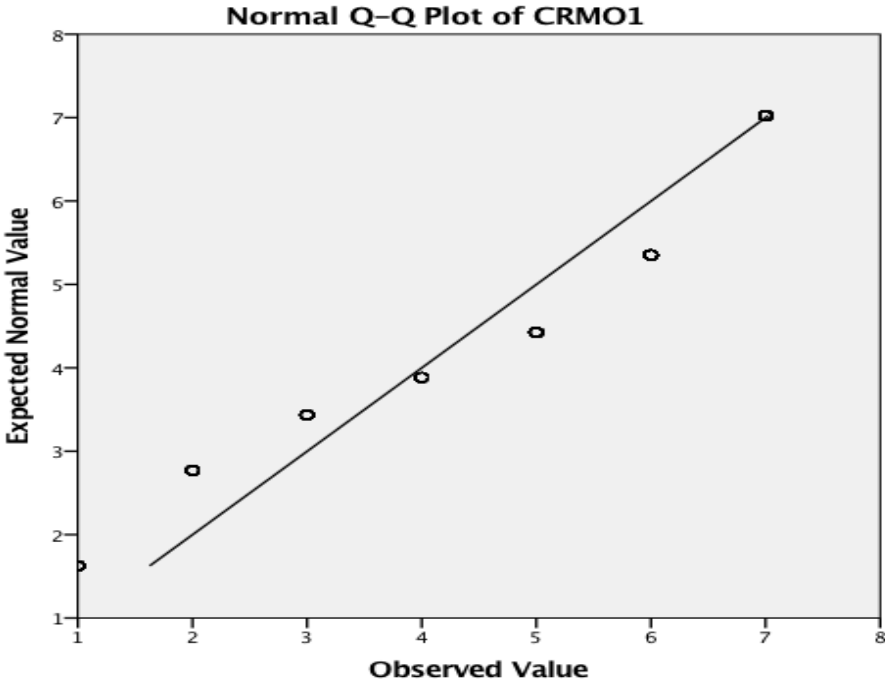
Model	ECVI	LO 90	HI 90	MECVI
Default model	3.193	3.001	3.404	3.290
Saturated model	4.316	4.316	4.316	4.824
Independence model	26.007	25.195	26.835	26.031

**HOELTER**

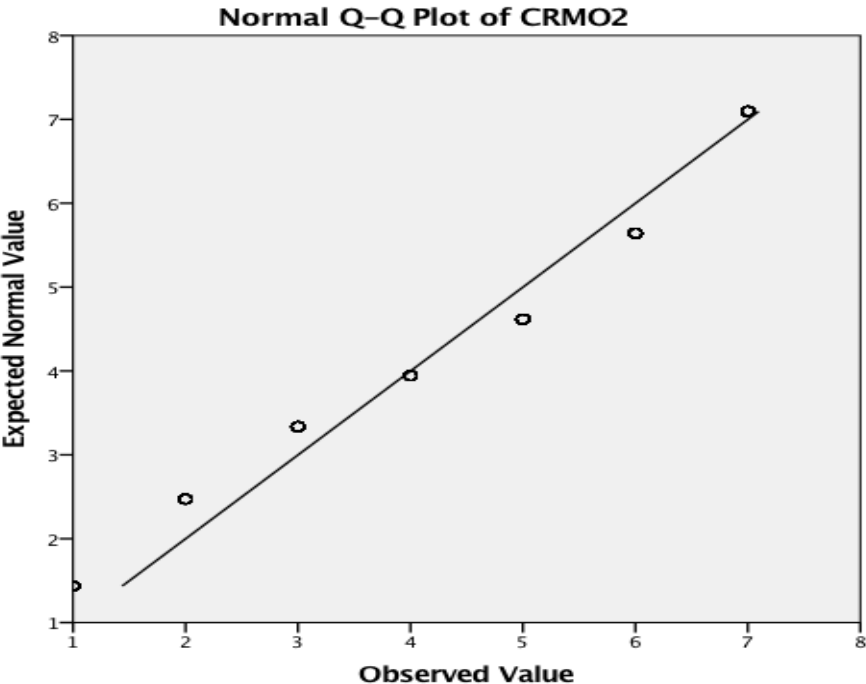
Model	HOELTER .05	HOELTER .01
Default model	321	333
Independence model	35	36

**Appendix 7: Normal Q – Q plots outputs**

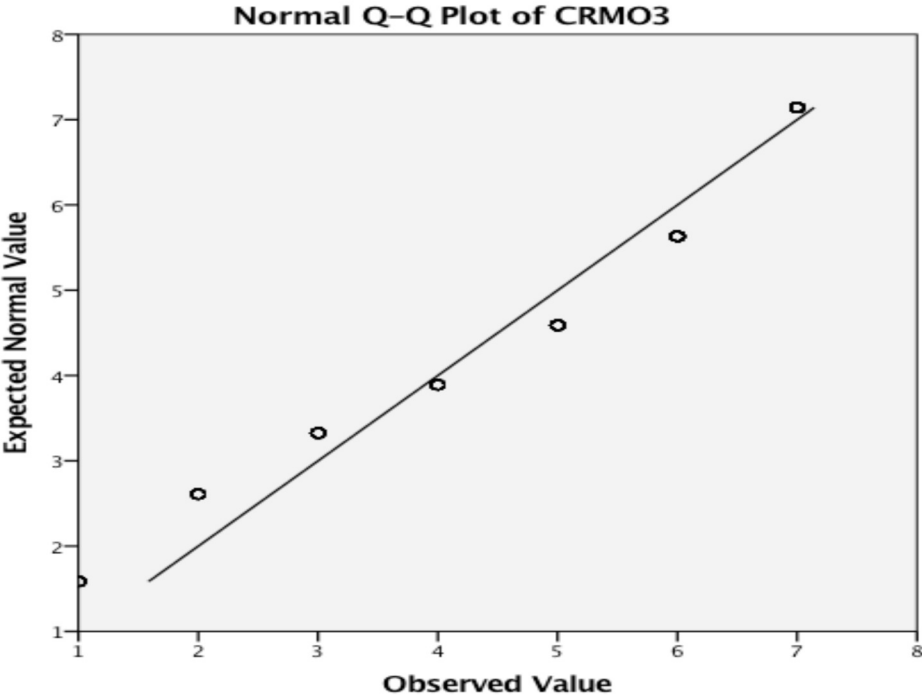
**Normal Q -Q plot for - My bank uses latest technology enabled channels (Internet banking, ATM etc.) to offer quality services**



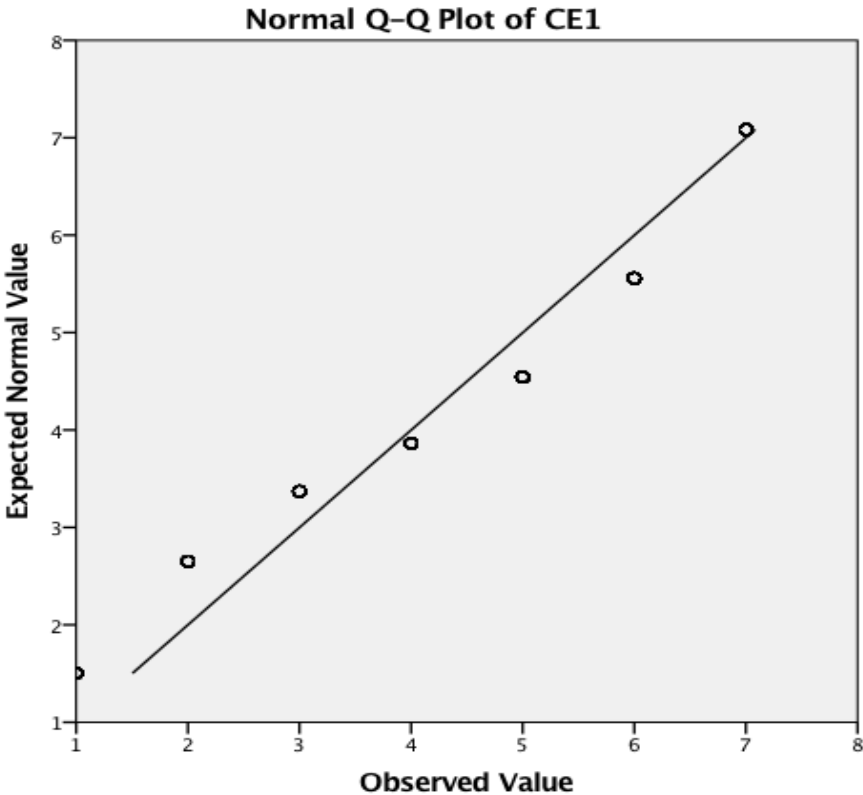
**Normal Q -Q plot for - My bank makes effective use of technology enabled channels to enhance customer service**



**Normal Q –Q plot for – My information is available at every banking point of contact**

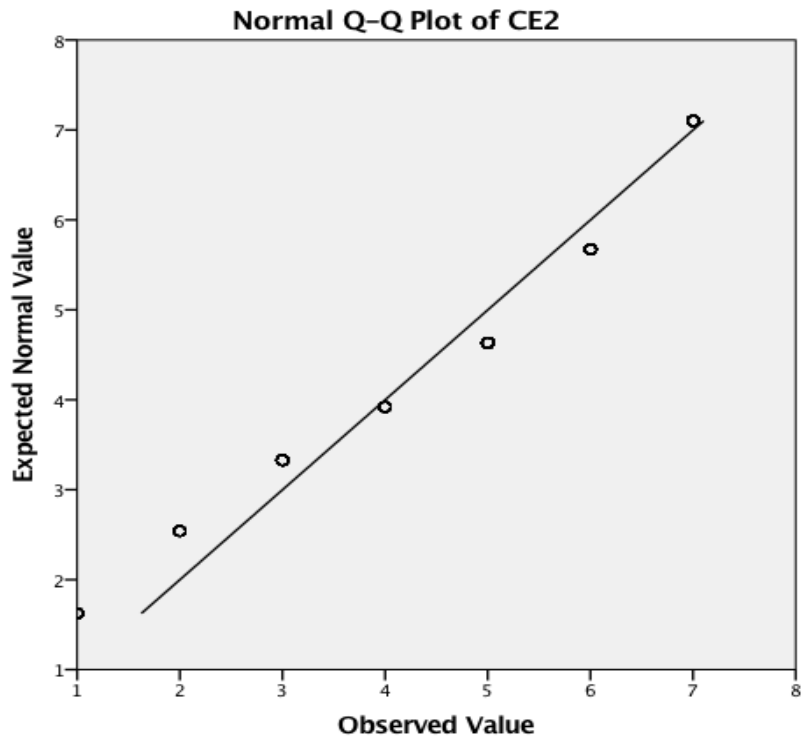


**Normal Q –Q plot for – My bank attends to customer complaints promptly**

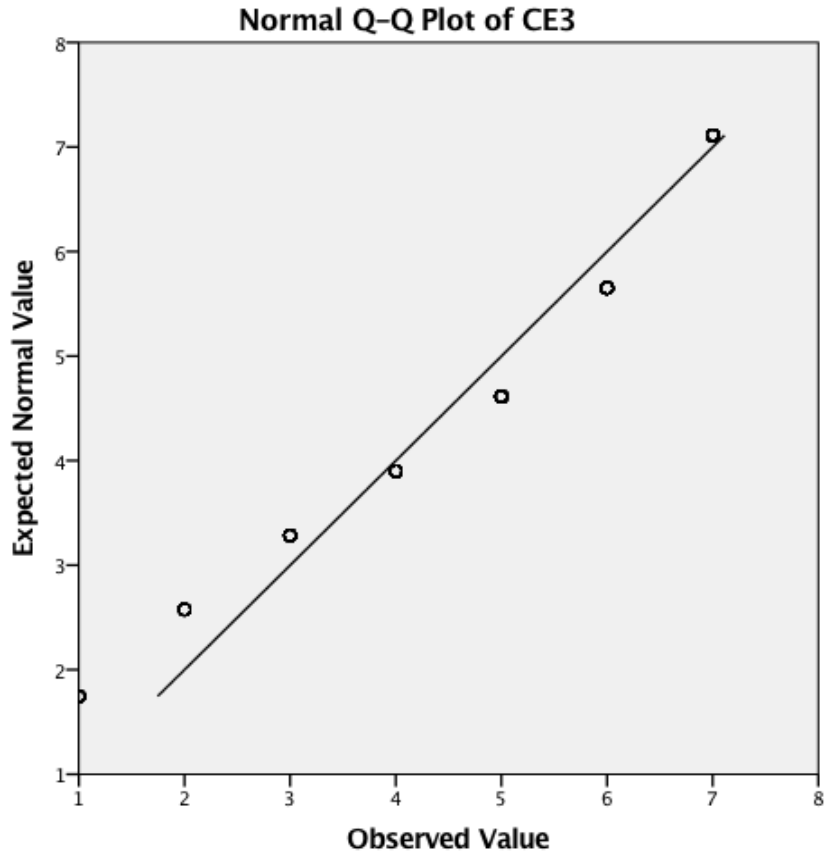




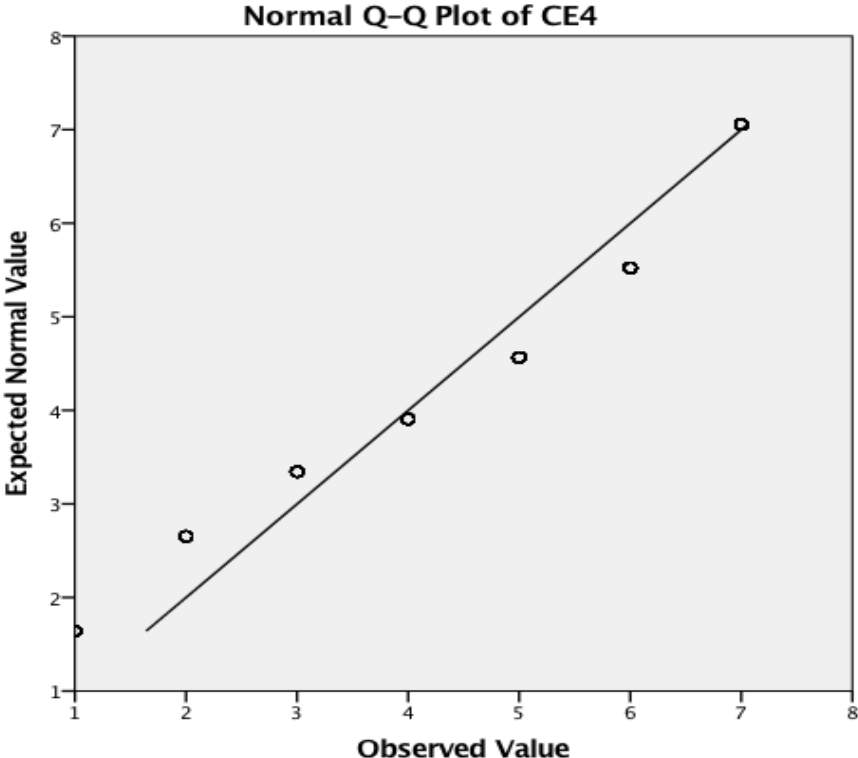
**Normal Q -Q plot for - My bank takes genuine interest in customer problems**



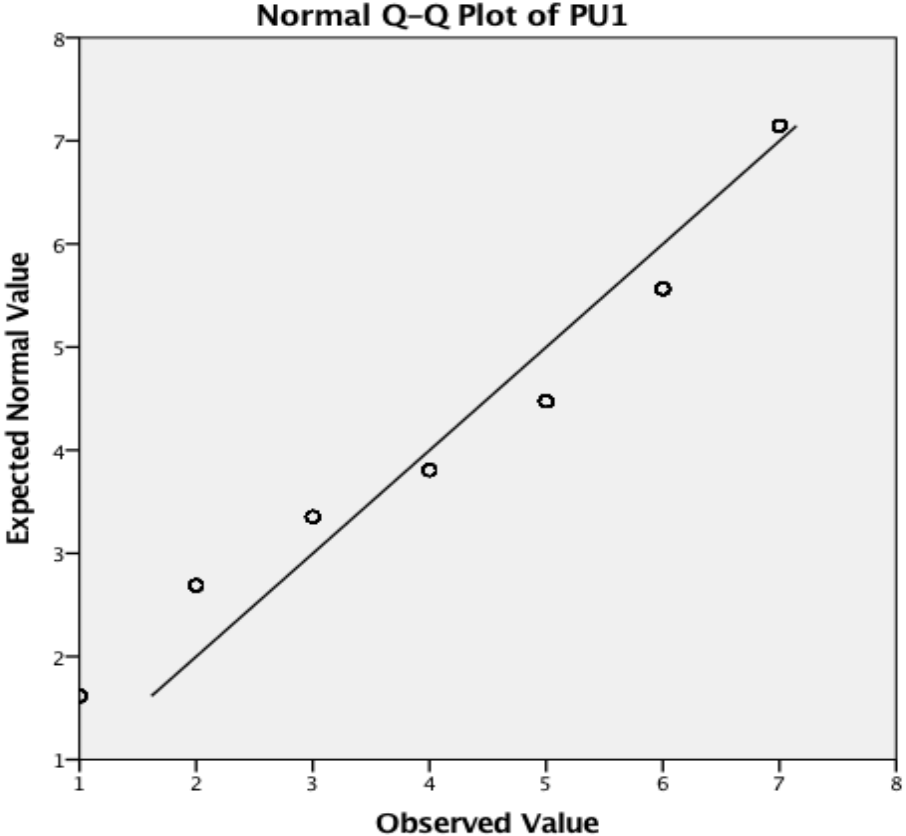
**Normal Q -Q plot for - My bank effectively communicates with customers**



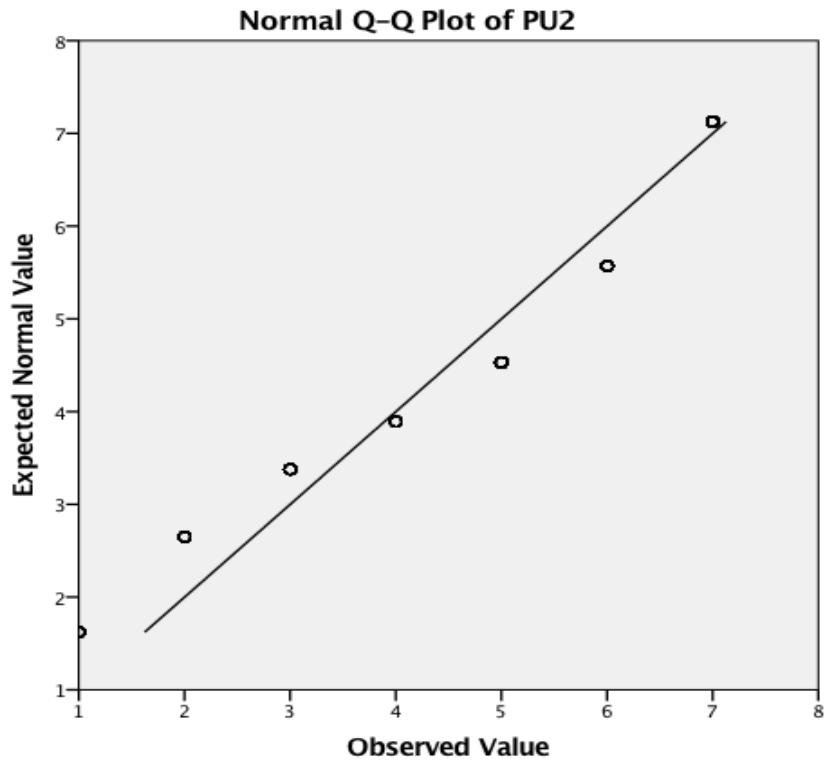
**Normal Q –Q plot for - My bank uses CRM to evaluate my evolving needs**



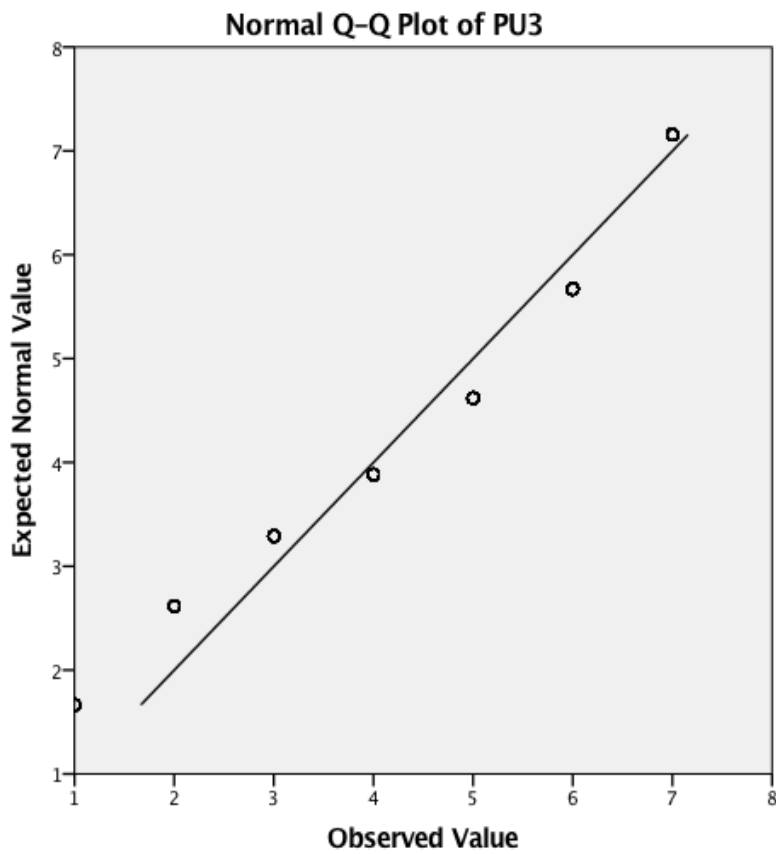
**Normal Q –Q plot for - Using online channels would help me to accomplish my transaction more quickly**



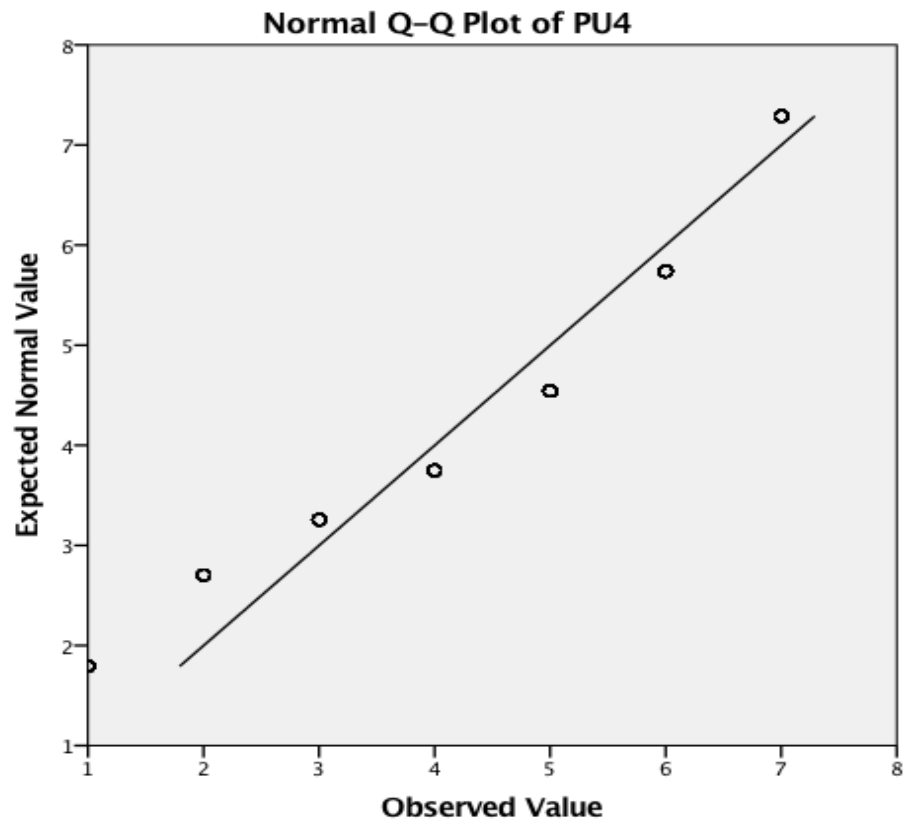
**Normal Q –Q plot for - Using the online channels would make it easier to carry out my transactions**



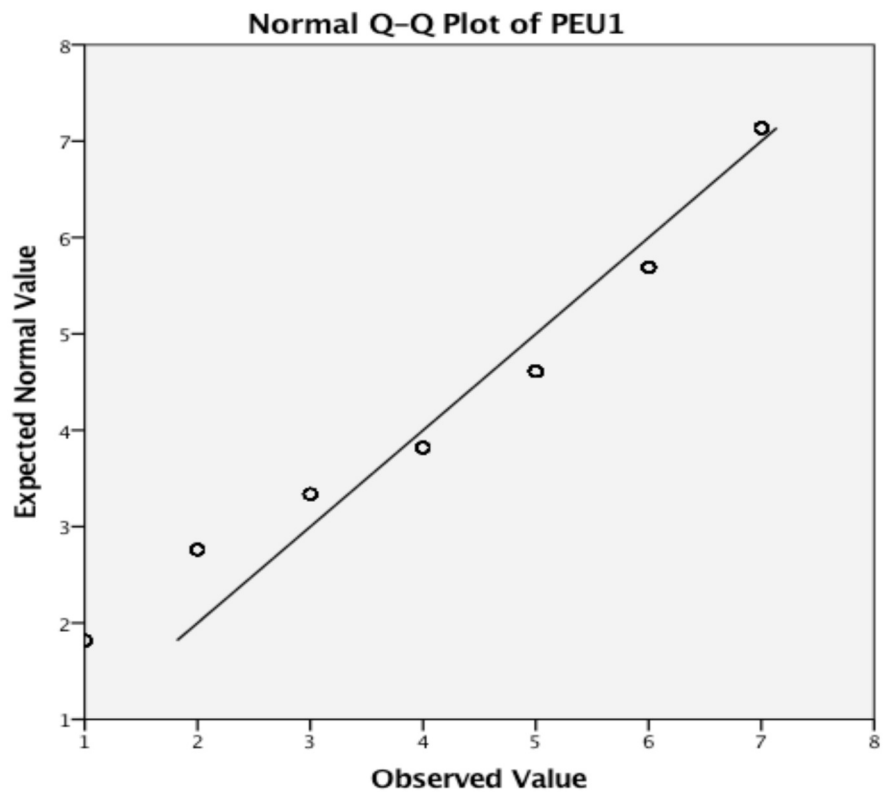
**Normal Q -Q plot for - I find the CRM enabled channels useful**



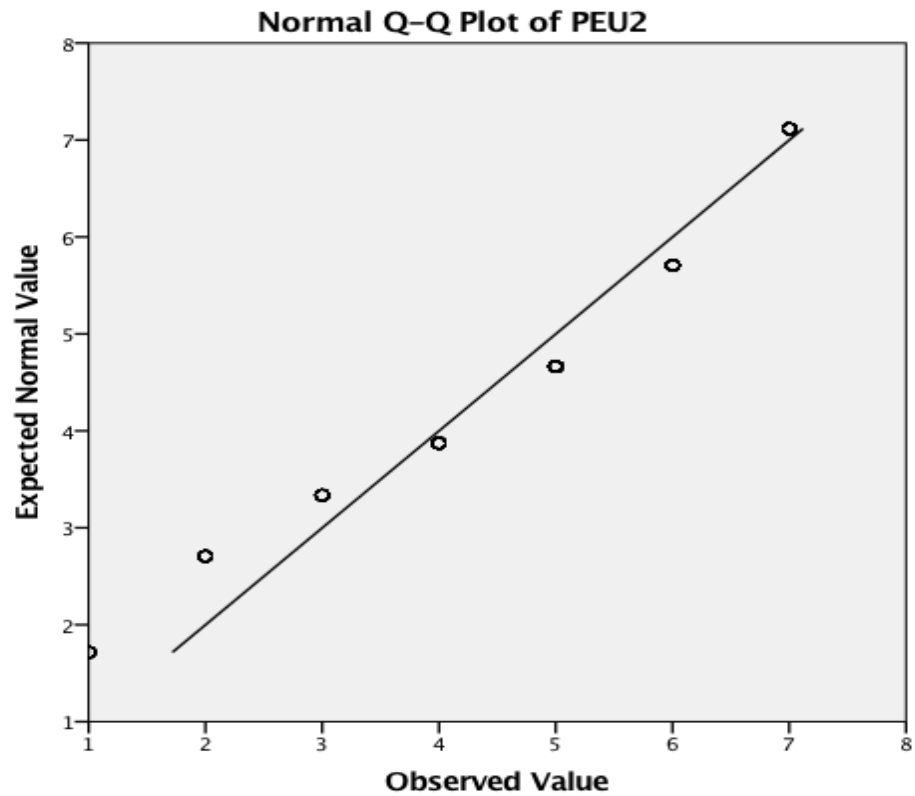
**Normal Q -Q plot for - Overall, I find using the CRM channels to be advantageous**



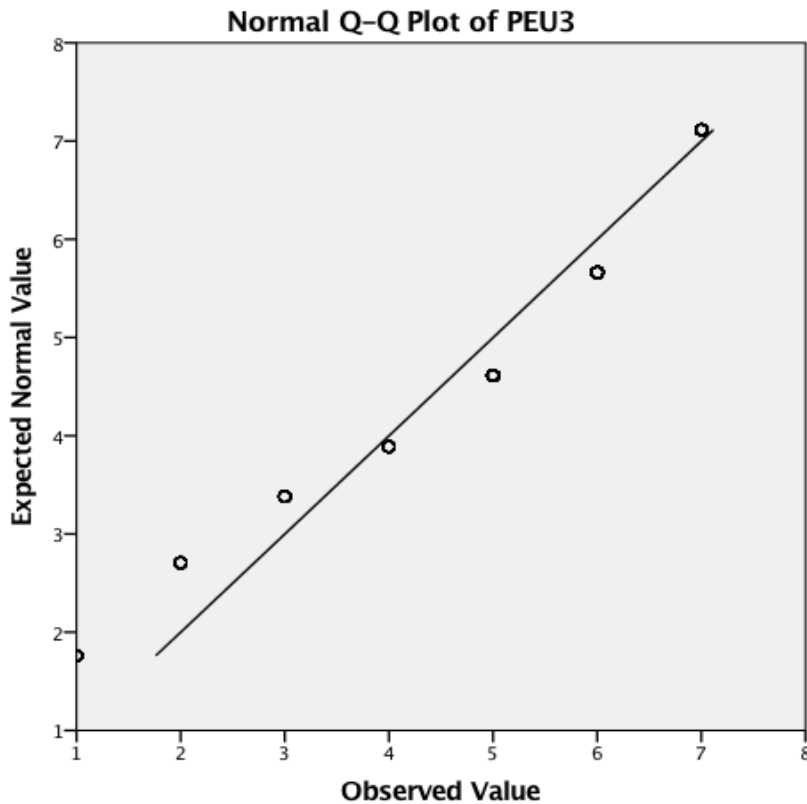
**Normal Q -Q plot for - Using the CRM channels is easy for me**



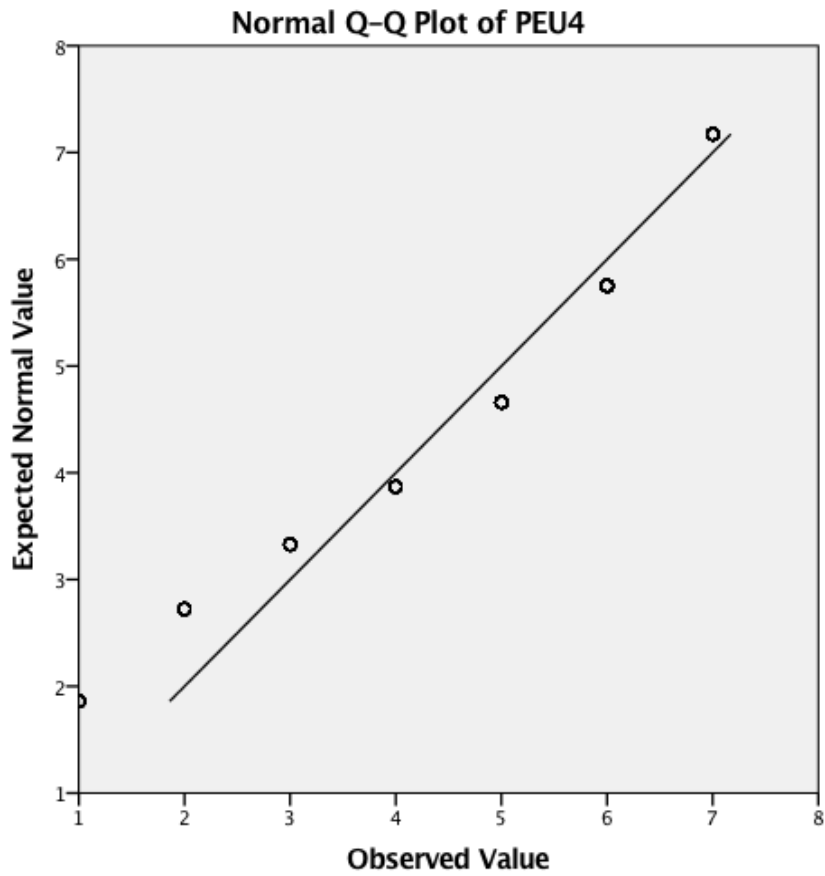
**Normal Q -Q plot for - I find my interaction with the use of CRM channels clear and understandable**



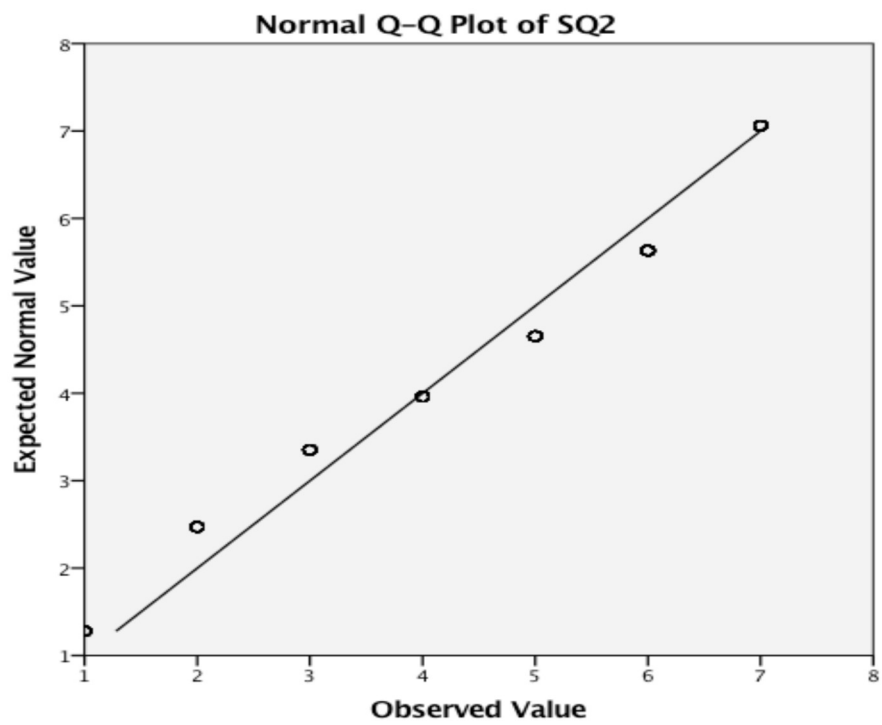
**Normal Q -Q plot for - It is easy for me to become skillful at the use of the CRM enabled channels**



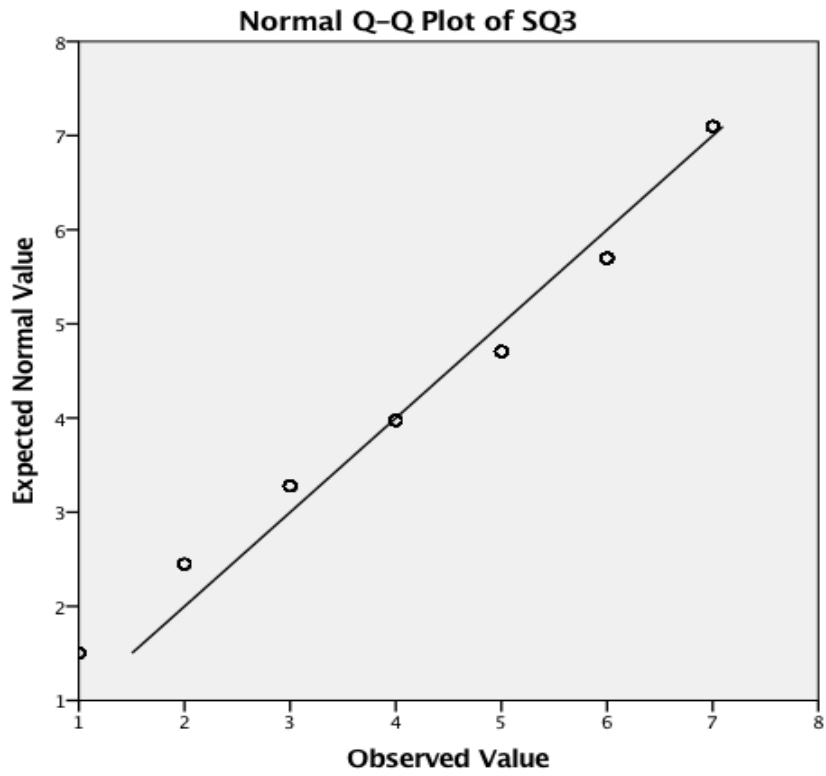
**Normal Q -Q plot for - Overall, I find the use CRM channels services easy**



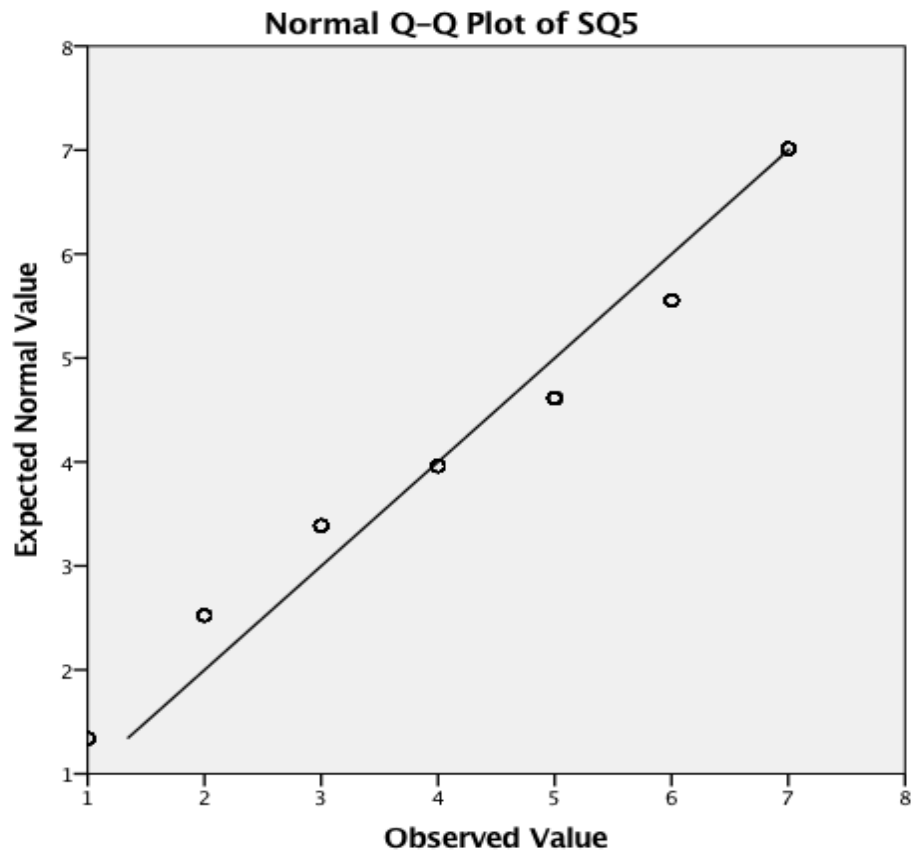
**Normal Q –Q plot for – The bank provides prompt services**



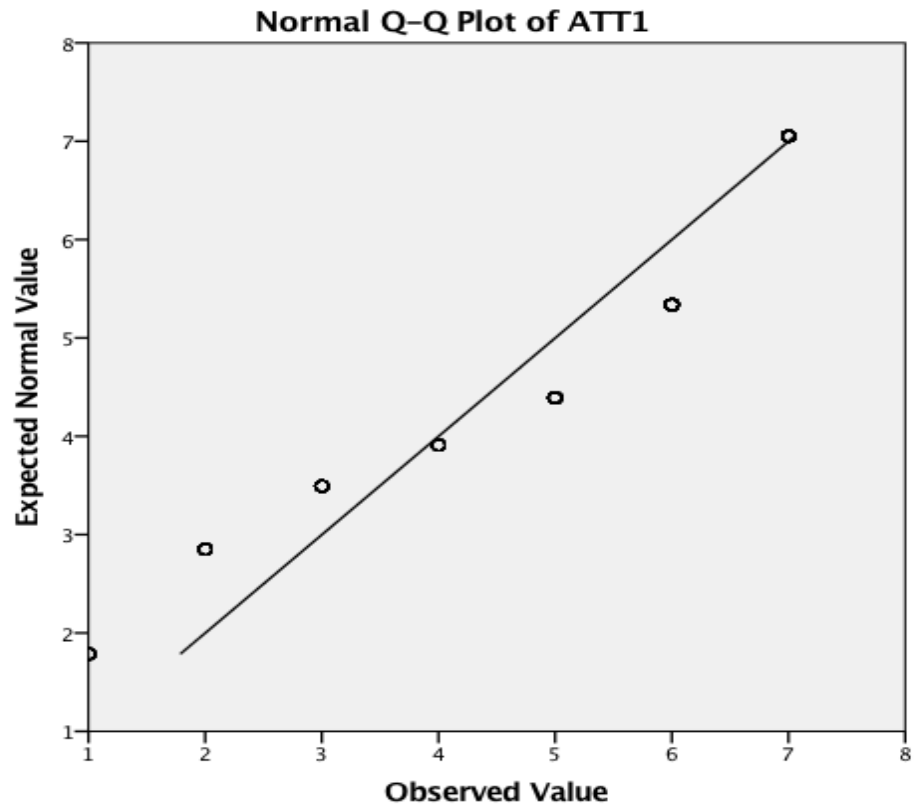
**Normal Q –Q plot for – The bank can provide services to customers as promised**



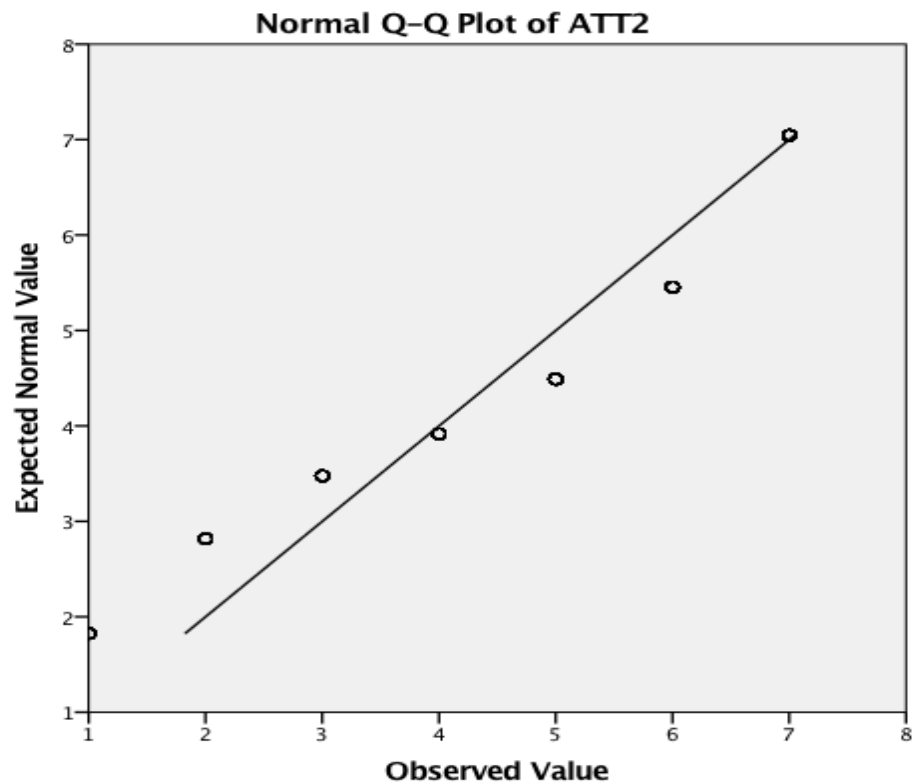
**Normal Q -Q plot for – Staff can provide you with precise and personal services**



**Normal Q –Q plot for – Using CRM enabled channel (ATM, POS, Internet banking etc.) is a good idea**



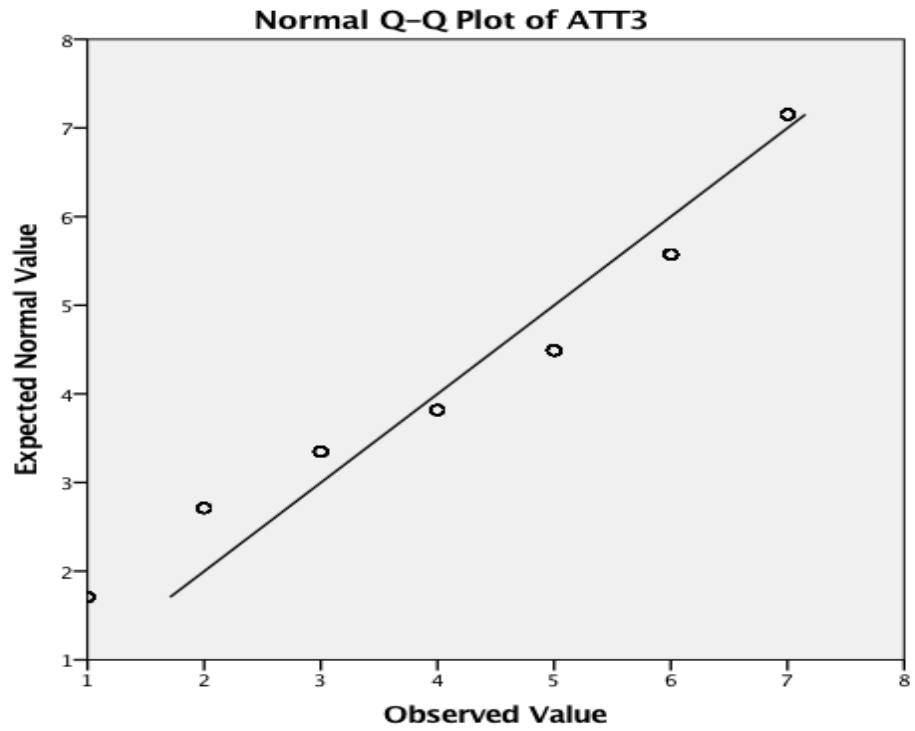
**Normal Q –Q plot for – Using CRM enabled channels make banking (transactions) more pleasant**



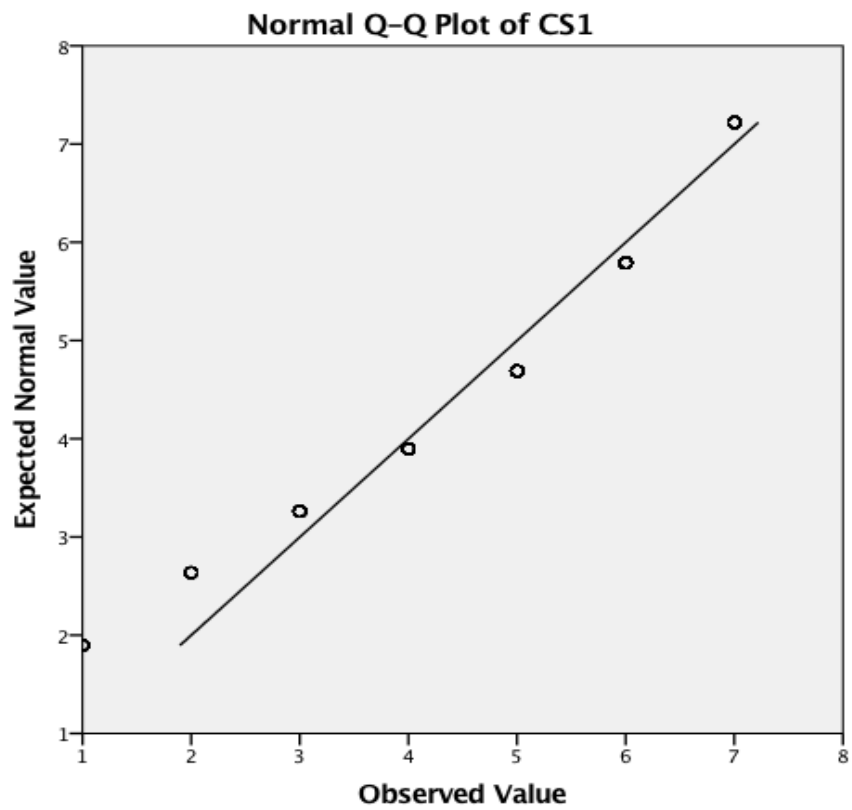
**Normal Q –Q plot for – In my opinion, it would be desirable to**



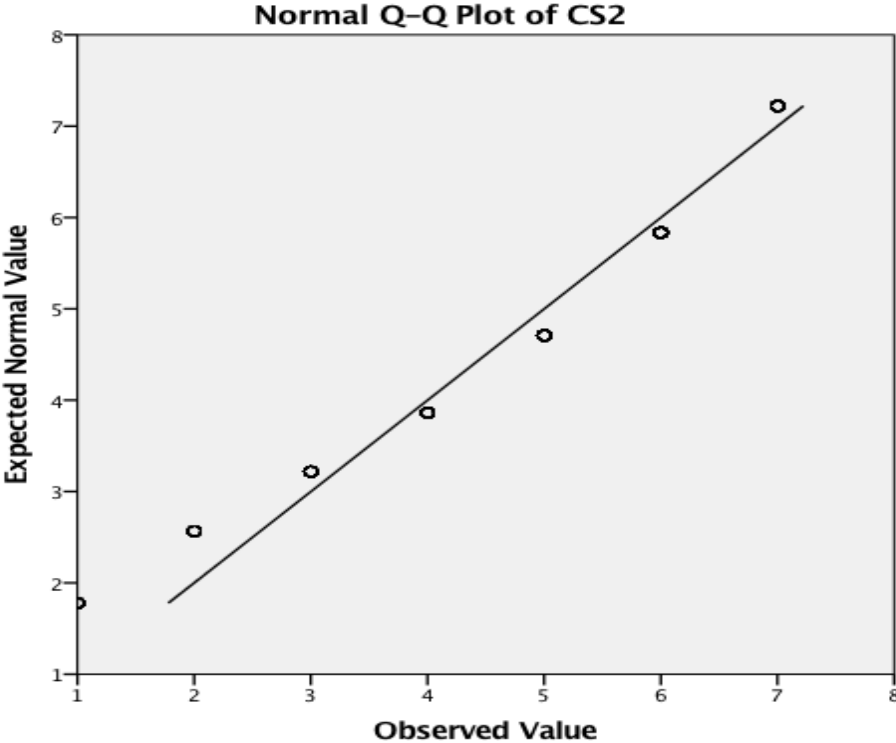
**use CRM enabled channels for banking**



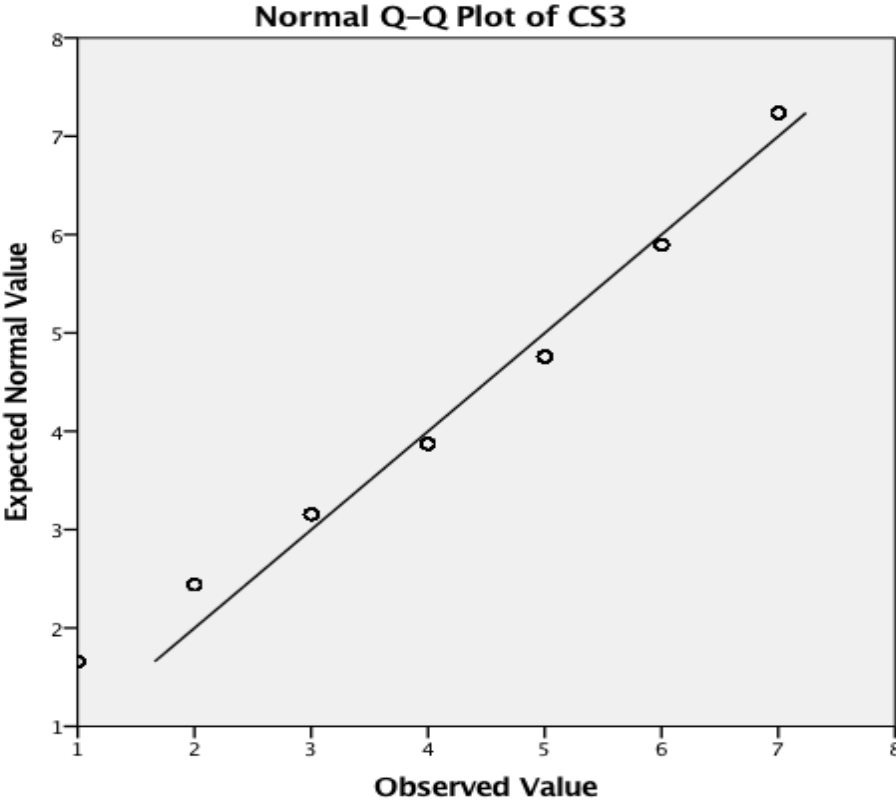
**Normal Q -Q plot for – I am satisfied with my bank’s CRM enabled channels**



**Normal Q –Q plot for – I am satisfied with the quality of services provided by my bank**

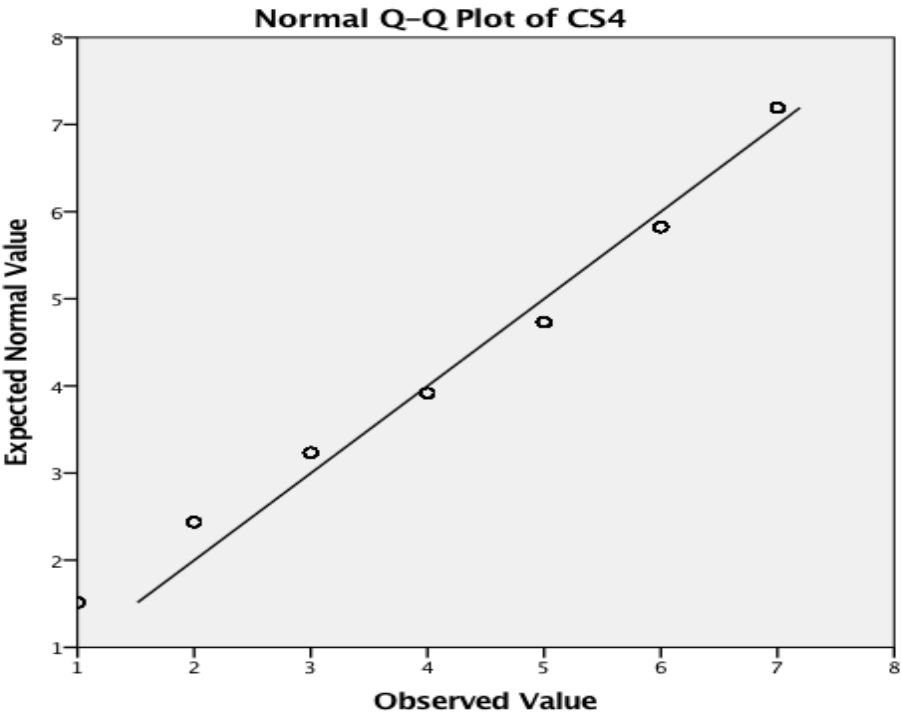


**Normal Q –Q plot for – I am satisfied with the way this bank has fulfilled my expectations**

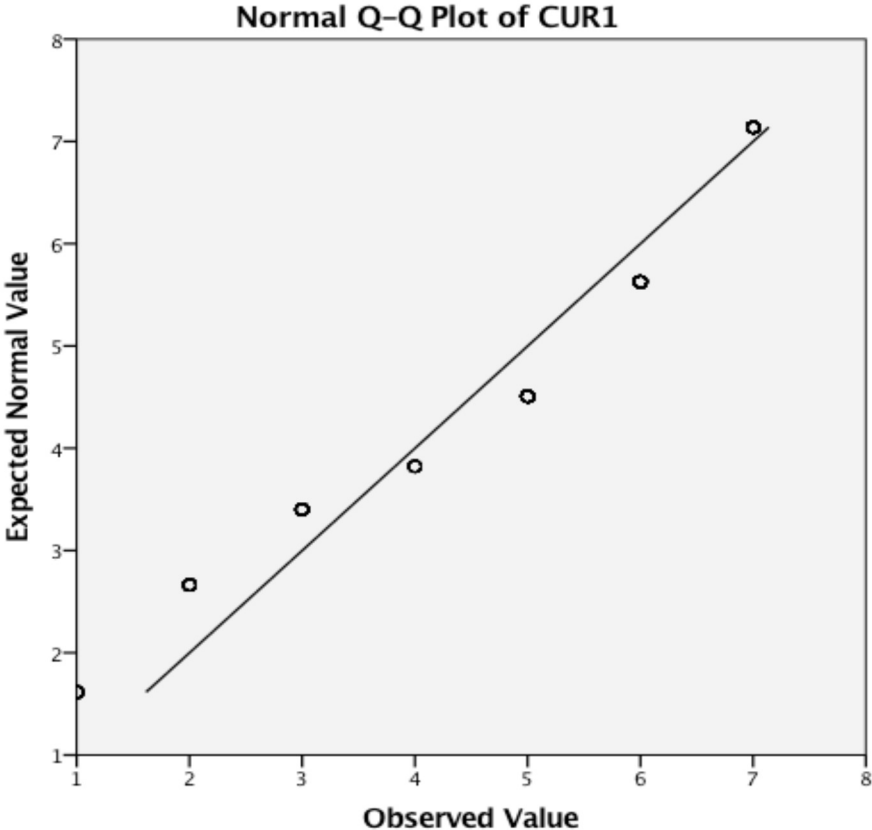


**Normal Q –Q plot for – Overall, I am completely happy with my**

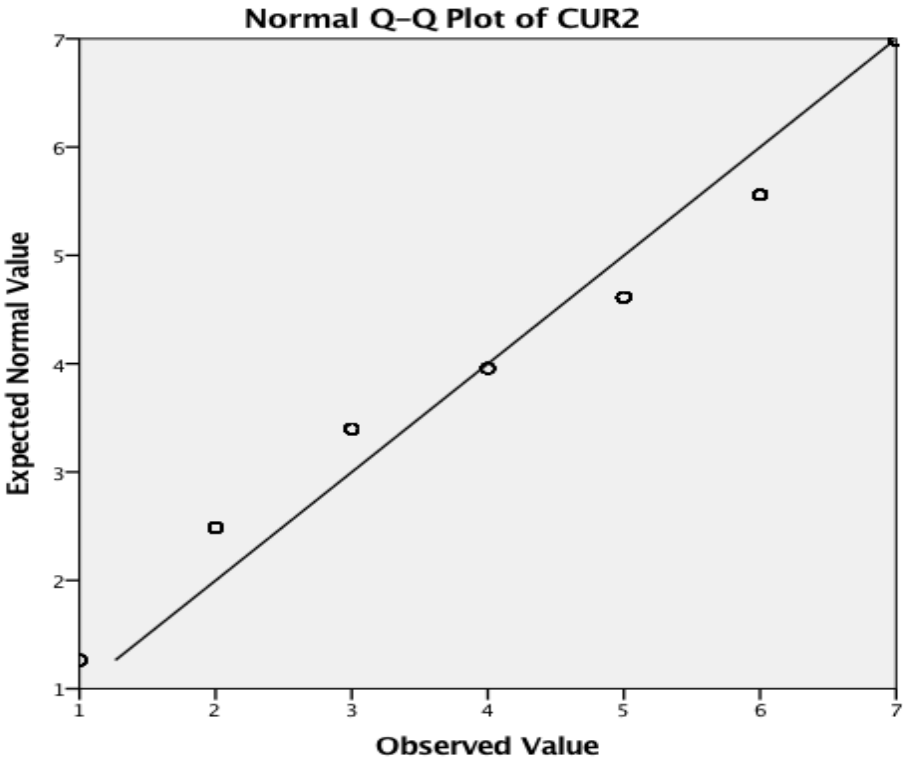
**bank 's CRM implementation level**



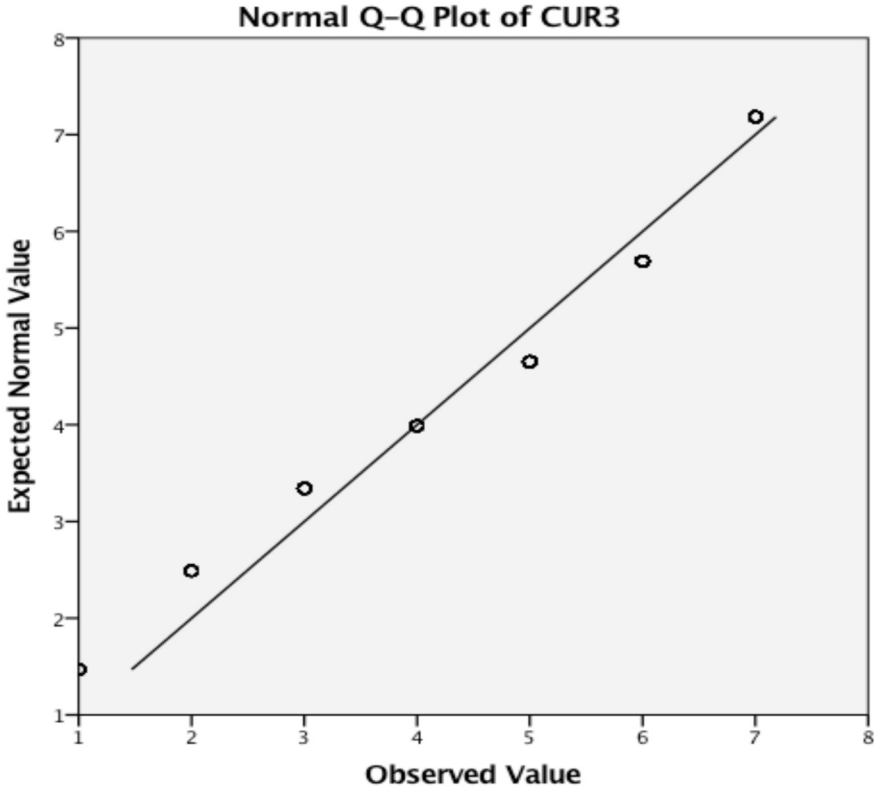
**Normal Q -Q plot for - I intend to continue to be a customer of the bank for a long time**



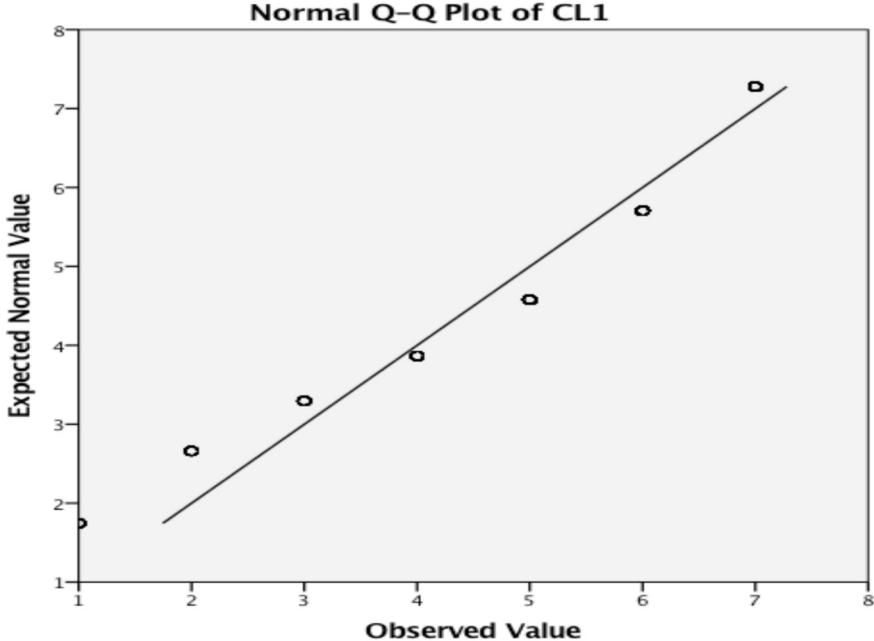
**Normal Q –Q plot for – I will buy more products/services of the bank in future**



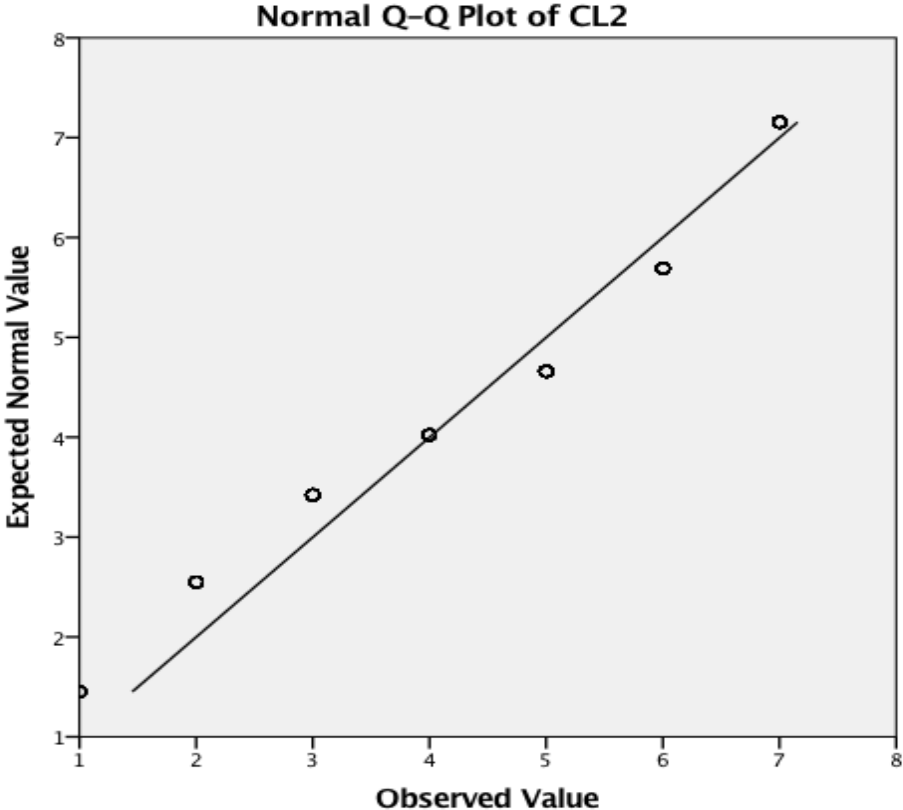
**Normal Q –Q plot for – I would switch to other bank with higher technology enabled channels**



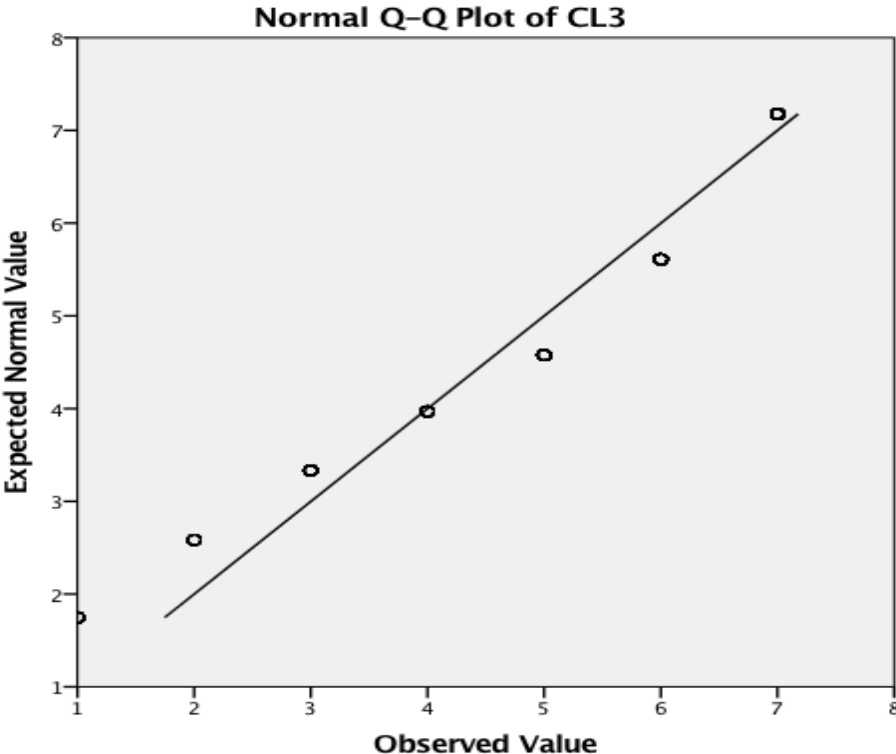
**Normal Q –Q plot for – I say positive things about the bank to other people**



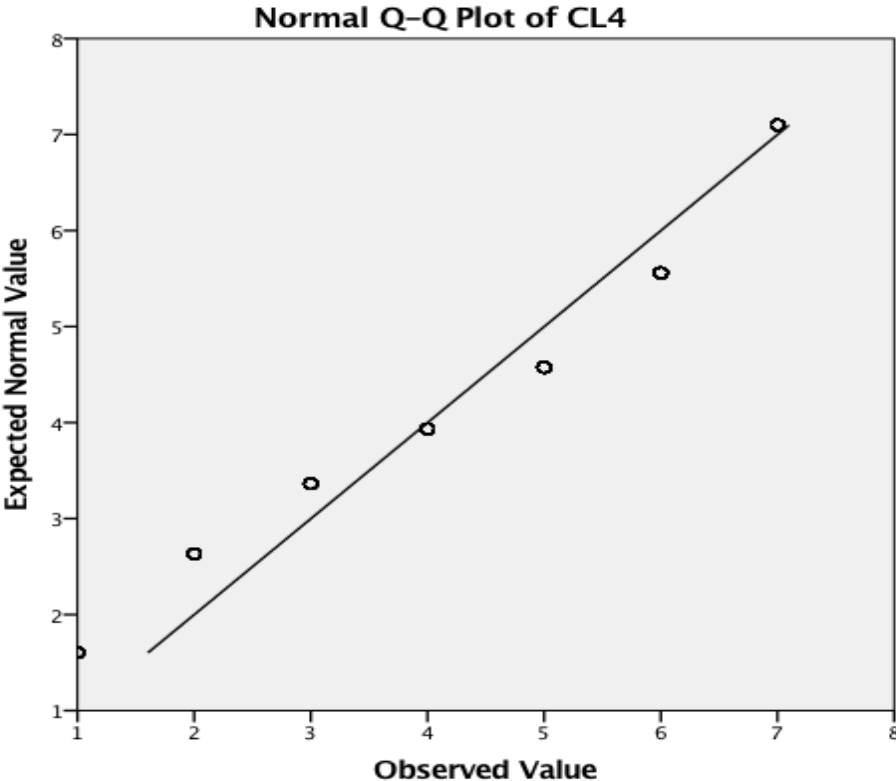
**Normal Q –Q plot for – I would encourage friends and relatives to use the services offered by the bank**



**Normal Q –Q plot for – I conduct all my banking transactions with my bank**

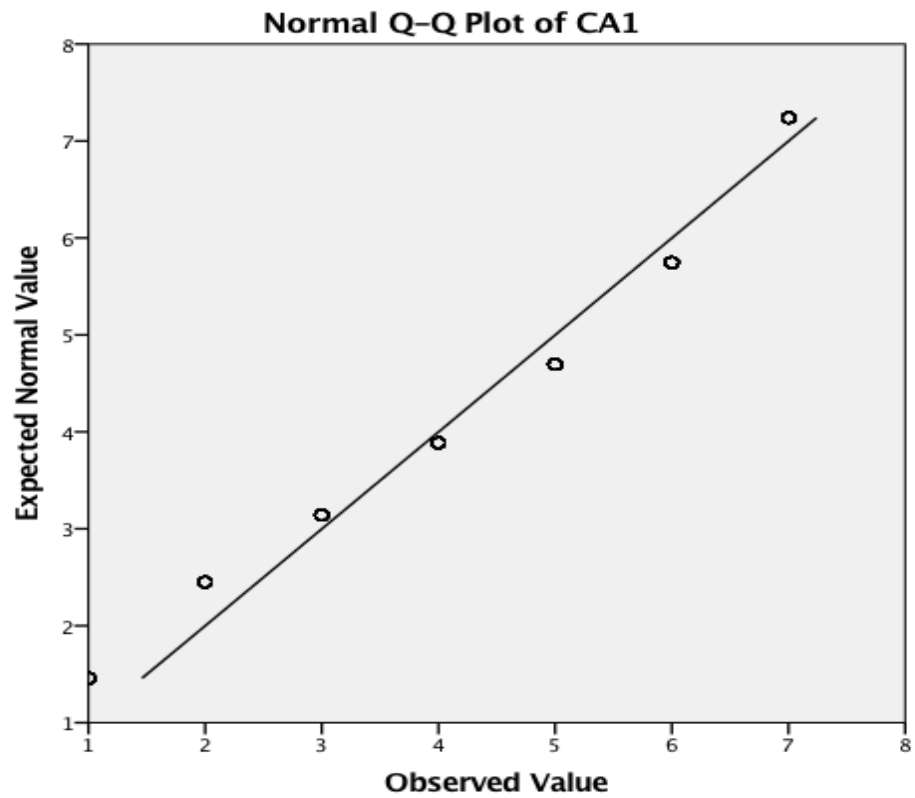


**Normal Q –Q plot for – Overall, I consider myself loyal to the bank**

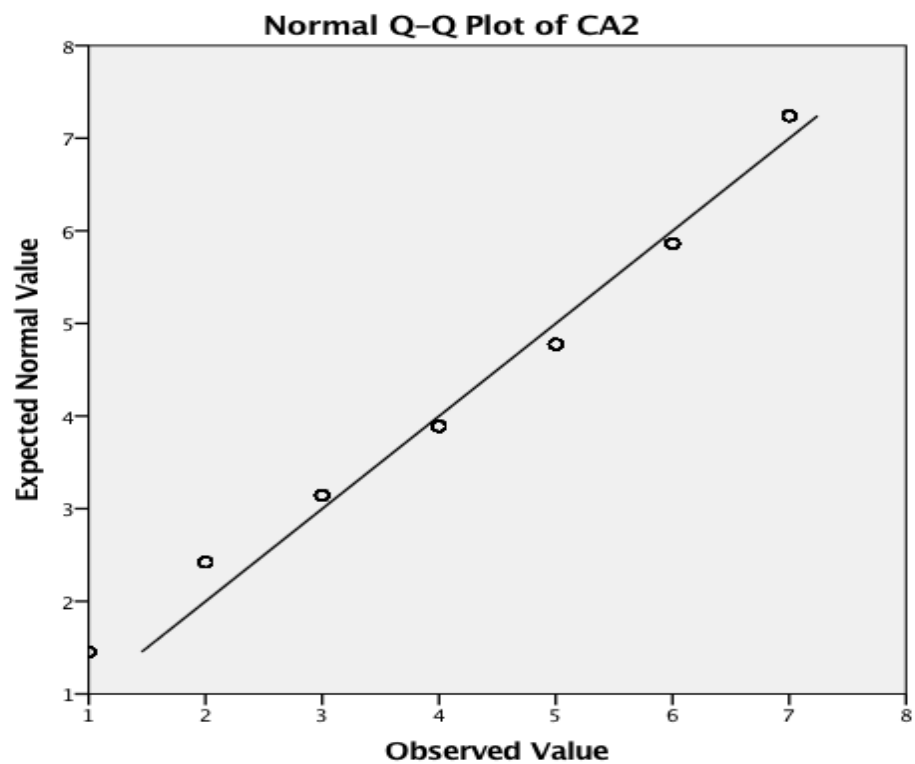


**Normal Q –Q plot for – My bank uses customer information to**

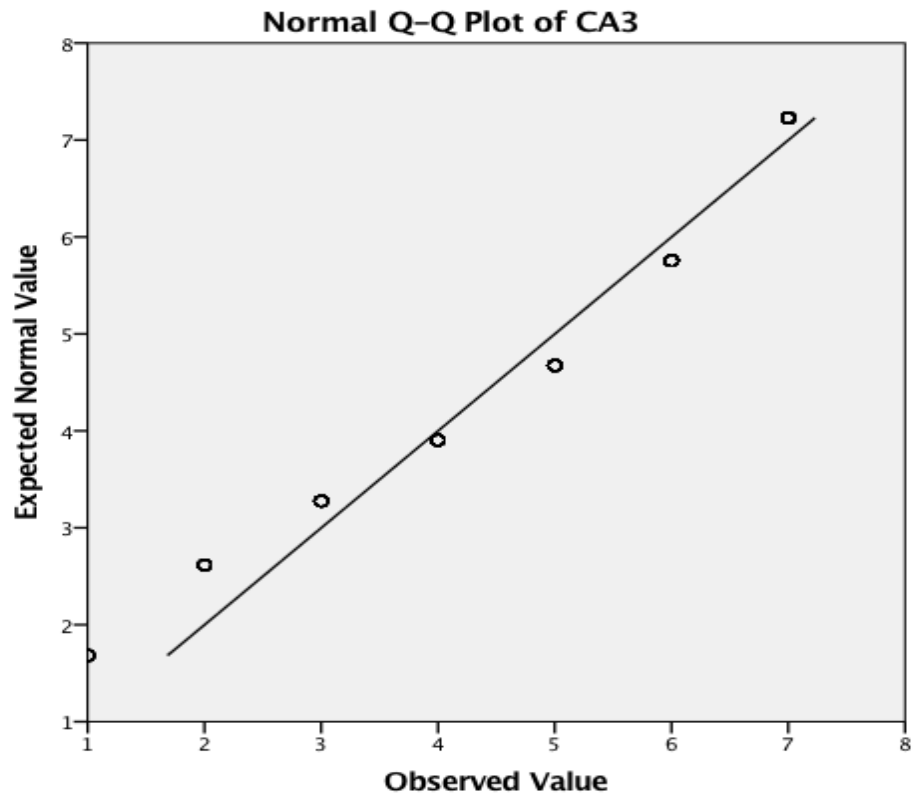
**attract new customers**



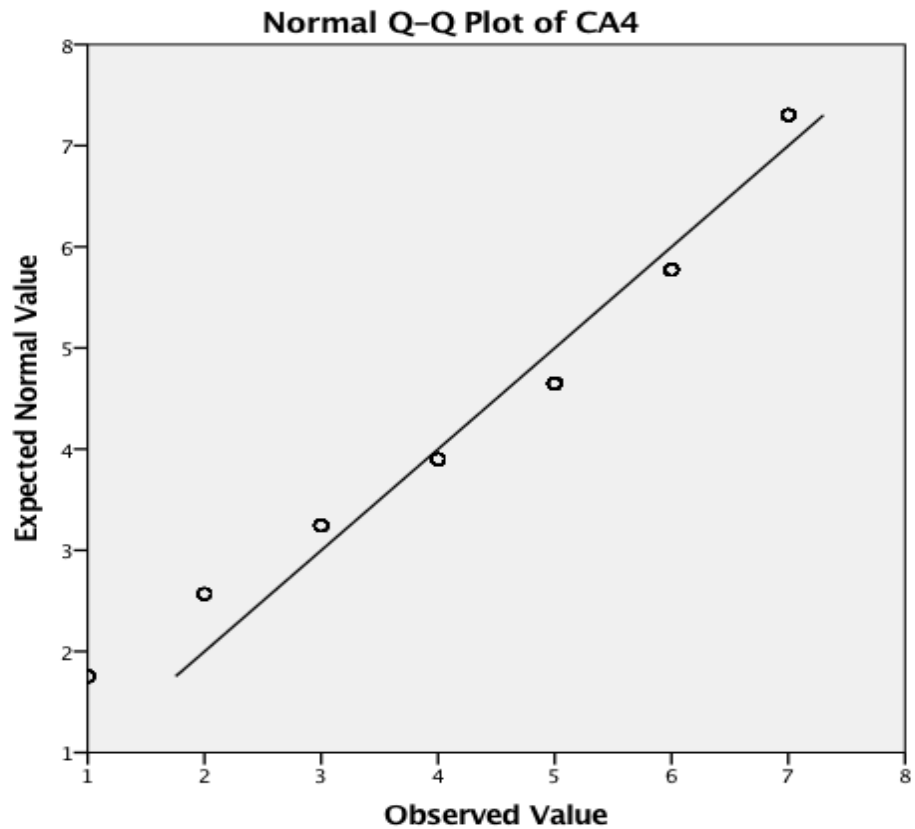
**Normal Q -Q plot for – My bank is able to tailor its products and services to meet my needs**



**Normal Q -Q plot for – My bank uses different approaches to attract target customers**



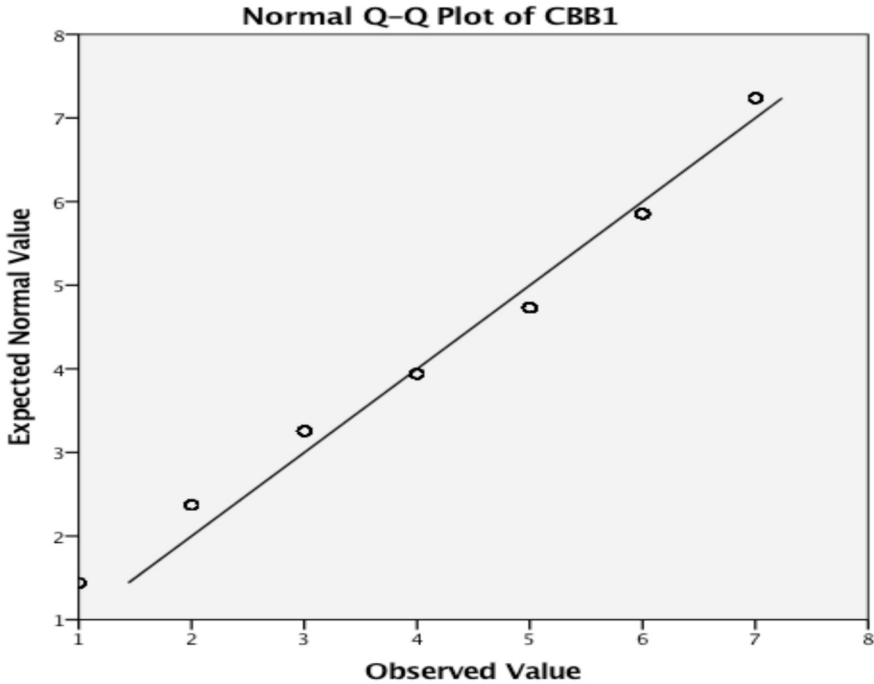
**Normal Q -Q plot for – The level of my bank’s technology enabled channels is attractive to me**



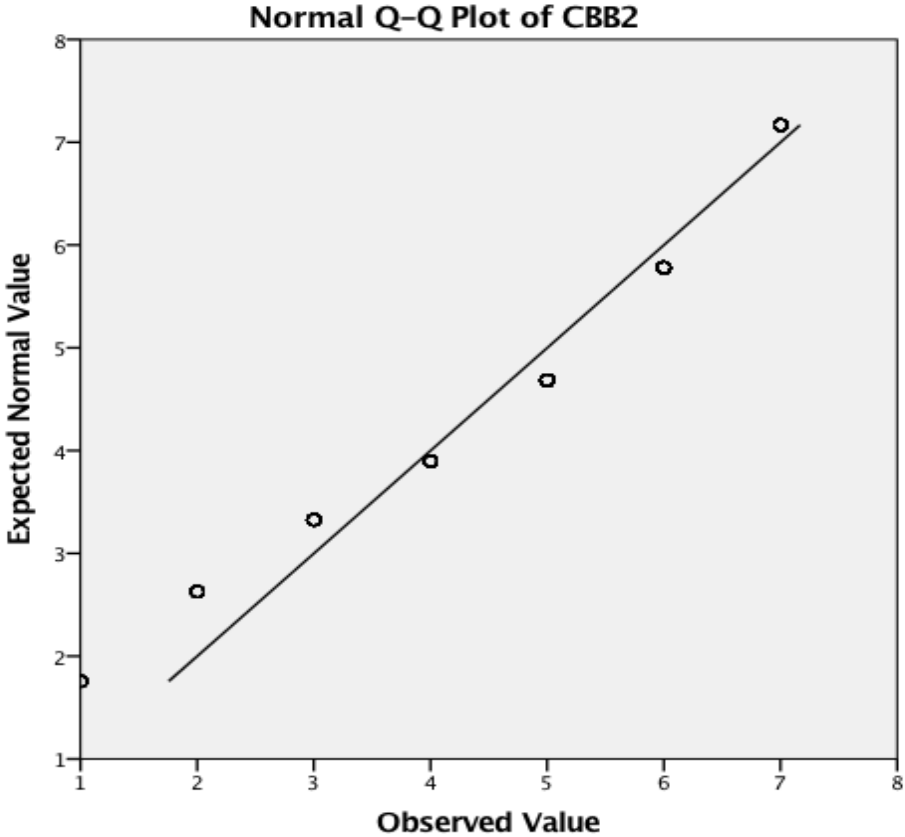
**Normal Q -Q plot for – I would like to repurchase more**



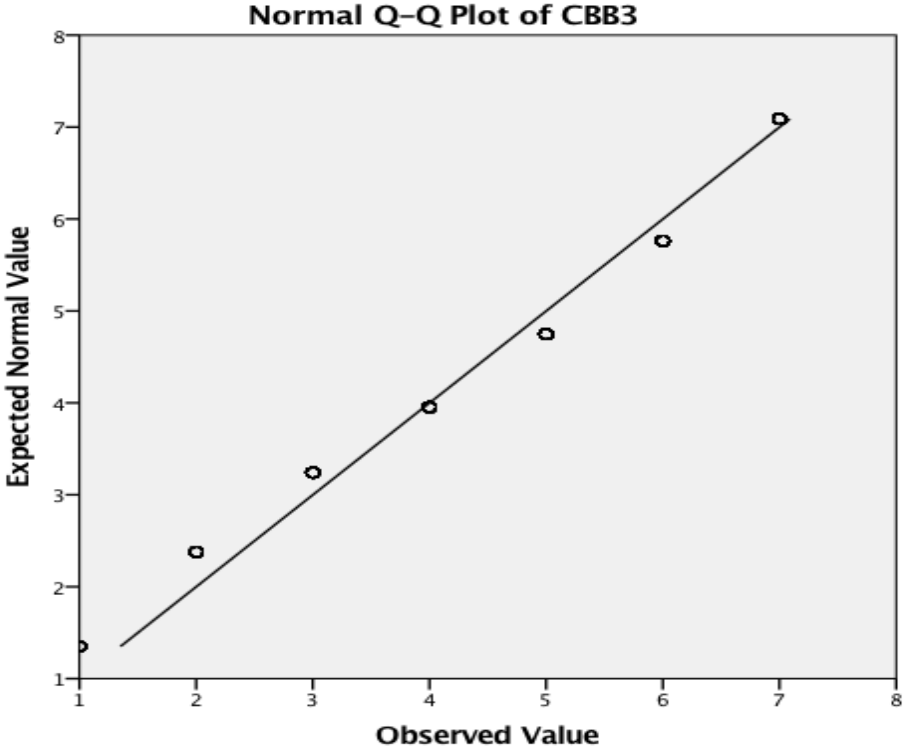
**products and services from the bank**



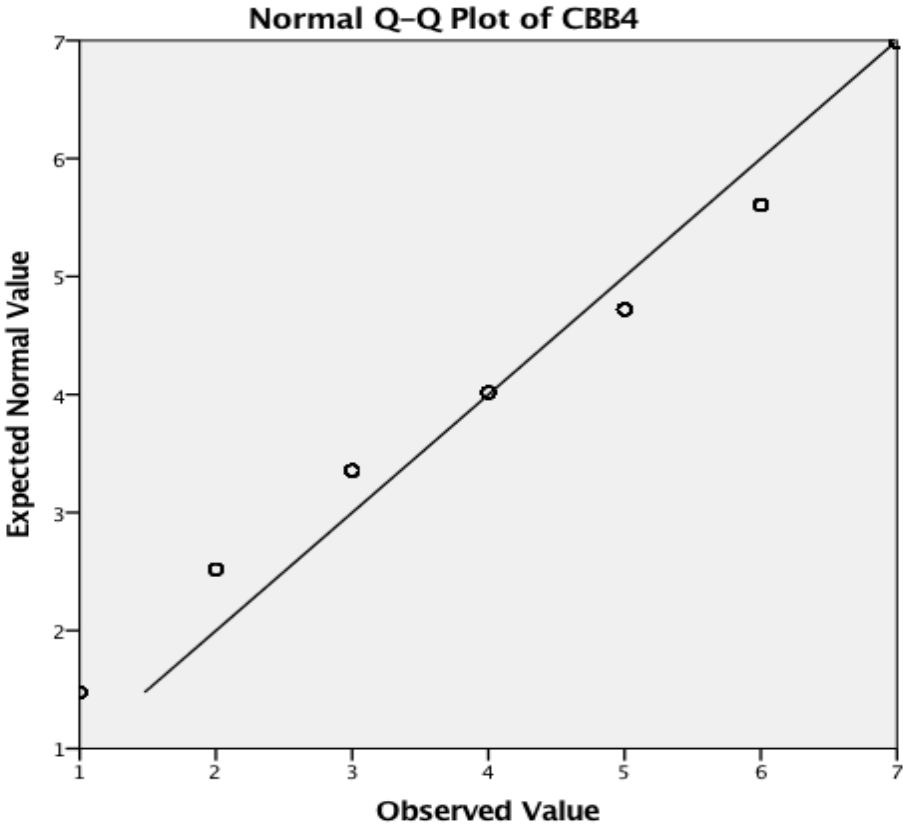
**Normal Q -Q plot for - I would like to keep close relationship with my bank for a long period**



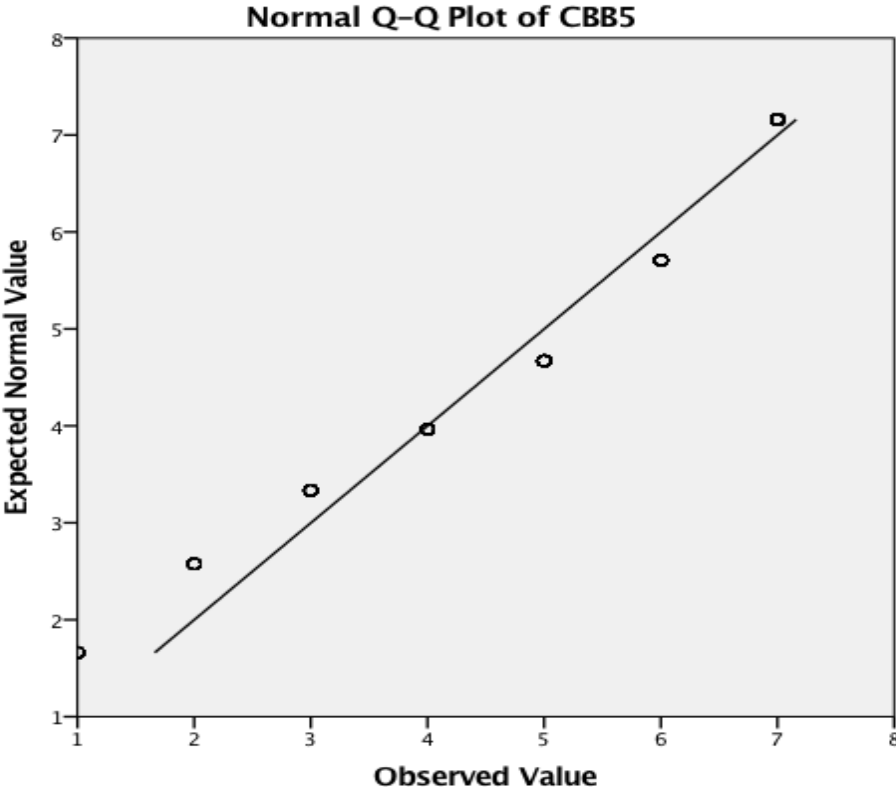
**Normal Q –Q plot for – I would buy more products from the same bank**



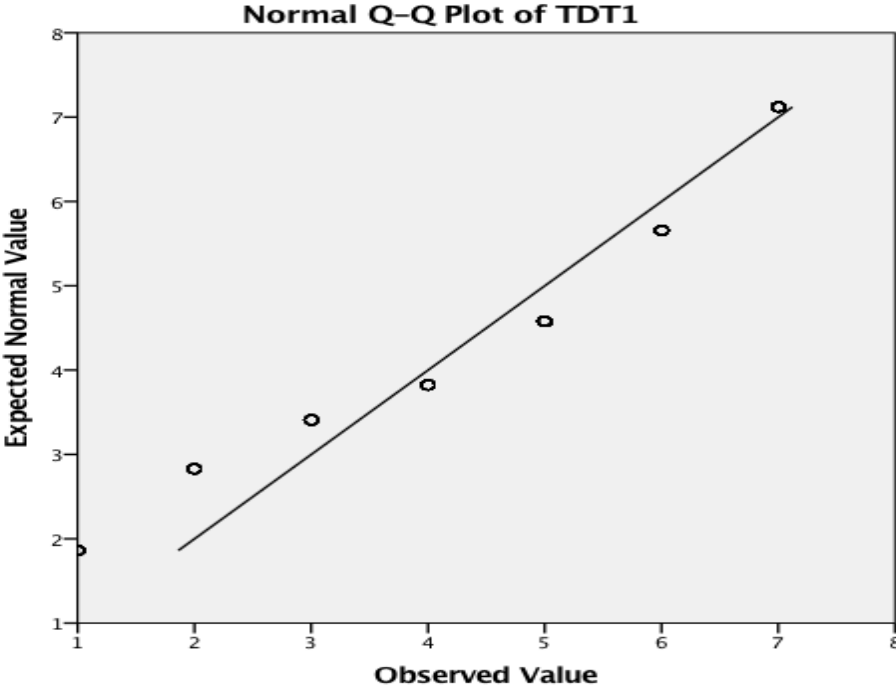
**Normal Q –Q plot for – I do my banking transactions with more than one bank**



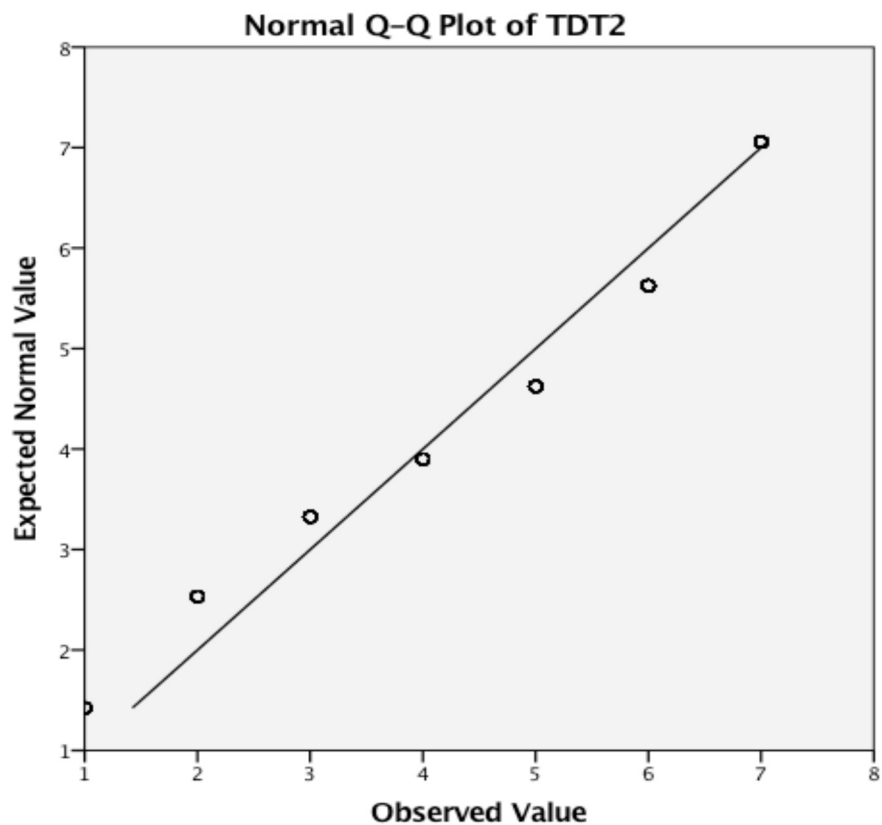
**Normal Q –Q plot for – I would recommend the bank products and services to others**



**Normal Q –Q plot for – I would use online facilities more if they were more reliable**



**Normal Q –Q plot for – I would choose a bank with more reliable online facilities**



**Appendix 8:**

**Observations farthest from the centroid (Mahalanobis distance for outliers) (Group number 1)**

Observation number	Mahalanobis d-squared	p1	p2
<b>87</b>	<b>139.517</b>	<b>.000</b>	<b>.000</b>
<b>63</b>	<b>119.053</b>	<b>.000</b>	<b>.000</b>
<b>235</b>	<b>112.655</b>	<b>.000</b>	<b>.000</b>
<b>191</b>	<b>107.777</b>	<b>.000</b>	<b>.000</b>
<b>51</b>	<b>106.895</b>	<b>.000</b>	<b>.000</b>
<b>390</b>	<b>106.610</b>	<b>.000</b>	<b>.000</b>
<b>66</b>	<b>105.902</b>	<b>.000</b>	<b>.000</b>
<b>100</b>	<b>100.017</b>	<b>.000</b>	<b>.000</b>
<b>163</b>	<b>98.291</b>	<b>.000</b>	<b>.000</b>
<b>30</b>	<b>95.418</b>	<b>.000</b>	<b>.000</b>
<b>39</b>	<b>92.814</b>	<b>.000</b>	<b>.000</b>
<b>18</b>	<b>88.288</b>	<b>.000</b>	<b>.000</b>

<b>19</b>	<b>84.790</b>	<b>.000</b>	<b>.000</b>
<b>14</b>	<b>82.320</b>	<b>.000</b>	<b>.000</b>
<b>67</b>	<b>82.035</b>	<b>.000</b>	<b>.000</b>
<b>389</b>	<b>81.327</b>	<b>.000</b>	<b>.000</b>
<b>35</b>	<b>76.866</b>	<b>.000</b>	<b>.000</b>
<b>113</b>	<b>76.027</b>	<b>.000</b>	<b>.000</b>
<b>156</b>	<b>74.634</b>	<b>.001</b>	<b>.000</b>
<b>266</b>	<b>74.415</b>	<b>.001</b>	<b>.000</b>
<b>80</b>	<b>74.159</b>	<b>.001</b>	<b>.000</b>
<b>294</b>	<b>73.606</b>	<b>.001</b>	<b>.000</b>
<b>395</b>	<b>72.981</b>	<b>.001</b>	<b>.000</b>
<b>293</b>	<b>72.710</b>	<b>.001</b>	<b>.000</b>
<b>224</b>	<b>72.497</b>	<b>.001</b>	<b>.000</b>
<b>289</b>	<b>71.443</b>	<b>.001</b>	<b>.000</b>
<b>17</b>	<b>70.864</b>	<b>.001</b>	<b>.000</b>
<b>65</b>	<b>69.658</b>	<b>.002</b>	<b>.000</b>
<b>71</b>	<b>69.132</b>	<b>.002</b>	<b>.000</b>
<b>12</b>	<b>69.130</b>	<b>.002</b>	<b>.000</b>
<b>50</b>	<b>68.296</b>	<b>.003</b>	<b>.000</b>
<b>296</b>	<b>67.924</b>	<b>.003</b>	<b>.000</b>
<b>182</b>	<b>67.239</b>	<b>.003</b>	<b>.000</b>
<b>20</b>	<b>67.172</b>	<b>.003</b>	<b>.000</b>
<b>287</b>	<b>66.420</b>	<b>.004</b>	<b>.000</b>
<b>4</b>	<b>66.128</b>	<b>.004</b>	<b>.000</b>
<b>225</b>	<b>65.342</b>	<b>.005</b>	<b>.000</b>
<b>351</b>	<b>65.050</b>	<b>.006</b>	<b>.000</b>
<b>238</b>	<b>64.808</b>	<b>.006</b>	<b>.000</b>
<b>319</b>	<b>64.193</b>	<b>.007</b>	<b>.000</b>
<b>106</b>	<b>63.976</b>	<b>.007</b>	<b>.000</b>
<b>98</b>	<b>63.575</b>	<b>.008</b>	<b>.000</b>
<b>77</b>	<b>63.357</b>	<b>.008</b>	<b>.000</b>
<b>28</b>	<b>62.768</b>	<b>.009</b>	<b>.000</b>
<b>53</b>	<b>62.741</b>	<b>.009</b>	<b>.000</b>
<b>136</b>	<b>62.667</b>	<b>.009</b>	<b>.000</b>
<b>311</b>	<b>62.468</b>	<b>.010</b>	<b>.000</b>
<b>388</b>	<b>62.353</b>	<b>.010</b>	<b>.000</b>

<b>281</b>	<b>61.469</b>	<b>.012</b>	<b>.000</b>
<b>23</b>	<b>61.417</b>	<b>.012</b>	<b>.000</b>
<b>13</b>	<b>61.412</b>	<b>.012</b>	<b>.000</b>
<b>11</b>	<b>60.729</b>	<b>.014</b>	<b>.000</b>
<b>133</b>	<b>60.347</b>	<b>.016</b>	<b>.000</b>
<b>174</b>	<b>60.121</b>	<b>.016</b>	<b>.000</b>
<b>210</b>	<b>58.848</b>	<b>.022</b>	<b>.000</b>
<b>221</b>	<b>58.427</b>	<b>.023</b>	<b>.000</b>
<b>313</b>	<b>58.390</b>	<b>.024</b>	<b>.000</b>
<b>8</b>	<b>58.371</b>	<b>.024</b>	<b>.000</b>
<b>212</b>	<b>58.330</b>	<b>.024</b>	<b>.000</b>
<b>114</b>	<b>57.849</b>	<b>.026</b>	<b>.000</b>
<b>31</b>	<b>57.385</b>	<b>.029</b>	<b>.000</b>
<b>309</b>	<b>57.285</b>	<b>.030</b>	<b>.000</b>
<b>169</b>	<b>57.275</b>	<b>.030</b>	<b>.000</b>
<b>216</b>	<b>57.247</b>	<b>.030</b>	<b>.000</b>
<b>323</b>	<b>56.730</b>	<b>.033</b>	<b>.000</b>
<b>223</b>	<b>56.692</b>	<b>.033</b>	<b>.000</b>
<b>332</b>	<b>56.611</b>	<b>.034</b>	<b>.000</b>
<b>318</b>	<b>56.488</b>	<b>.035</b>	<b>.000</b>
<b>6</b>	<b>56.405</b>	<b>.035</b>	<b>.000</b>
<b>5</b>	<b>56.376</b>	<b>.035</b>	<b>.000</b>
<b>172</b>	<b>56.060</b>	<b>.038</b>	<b>.000</b>
<b>91</b>	<b>56.052</b>	<b>.038</b>	<b>.000</b>
<b>400</b>	<b>56.034</b>	<b>.038</b>	<b>.000</b>
<b>230</b>	<b>55.939</b>	<b>.039</b>	<b>.000</b>
<b>282</b>	<b>55.718</b>	<b>.040</b>	<b>.000</b>
<b>288</b>	<b>55.452</b>	<b>.042</b>	<b>.000</b>
<b>48</b>	<b>55.135</b>	<b>.045</b>	<b>.000</b>
<b>317</b>	<b>54.741</b>	<b>.048</b>	<b>.000</b>
<b>315</b>	<b>54.568</b>	<b>.050</b>	<b>.000</b>
<b>227</b>	<b>54.389</b>	<b>.052</b>	<b>.000</b>
<b>322</b>	<b>54.309</b>	<b>.053</b>	<b>.000</b>
<b>22</b>	<b>53.857</b>	<b>.057</b>	<b>.000</b>
<b>204</b>	<b>53.769</b>	<b>.058</b>	<b>.000</b>
<b>295</b>	<b>53.439</b>	<b>.062</b>	<b>.000</b>

162	53.413	.062	.000
131	53.390	.062	.000
76	53.235	.064	.000
46	53.079	.066	.000
310	52.398	.074	.000
297	51.532	.086	.000
41	51.385	.088	.000
240	51.154	.092	.000
357	50.827	.097	.000
94	50.807	.098	.000
291	50.581	.101	.000
64	50.560	.102	.000
214	50.474	.103	.000
207	50.457	.103	.000
286	50.381	.105	.000
254	50.175	.108	.000

**Appendix 9: Multivariate normality results  
Assessment of normality (Group number 1)**

Variable	Min	Max	Skew	C.R.	Kurtosis	C.R.
CL4	1.000	7.000	-.764	-6.235	-.536	-2.188
CA4	1.000	7.000	-.795	-6.495	-.145	-.591
ATT1	1.000	7.000	-.955	-7.801	-.402	-1.642
CE2	1.000	7.000	-.720	-5.879	-.461	-1.882
CUR1	1.000	7.000	-.771	-6.297	-.545	-2.225
CBB5	1.000	7.000	-.790	-6.451	-.219	-.892
CBB4	1.000	7.000	-.687	-5.612	-.548	-2.237
CBB3	1.000	7.000	-.477	-3.896	-.684	-2.792
CBB2	1.000	7.000	-.838	-6.838	.008	.033
CBB1	1.000	7.000	-.556	-4.537	-.463	-1.889
CA3	1.000	7.000	-.794	-6.484	-.151	-.617
CA2	1.000	7.000	-.517	-4.218	-.464	-1.893
CA1	1.000	7.000	-.470	-3.835	-.780	-3.183
CL3	1.000	7.000	-.817	-6.673	-.333	-1.360
CL2	1.000	7.000	-.775	-6.327	-.340	-1.390
CL1	1.000	7.000	-.846	-6.905	-.211	-.861
CUR3	1.000	7.000	-.682	-5.570	-.509	-2.077
CUR2	1.000	7.000	-.496	-4.048	-1.004	-4.099
CS4	1.000	7.000	-.597	-4.875	-.411	-1.680
CS3	1.000	7.000	-.628	-5.127	-.204	-.833
CS2	1.000	7.000	-.774	-6.316	-.031	-.126
CS1	1.000	7.000	-.879	-7.180	.179	.731
SQ3	1.000	7.000	-.612	-4.998	-.560	-2.285

<b>SQ2</b>	<b>1.000</b>	<b>7.000</b>	<b>-.538</b>	<b>-4.396</b>	<b>-.848</b>	<b>-3.461</b>
<b>SQ5</b>	<b>1.000</b>	<b>7.000</b>	<b>-.580</b>	<b>-4.732</b>	<b>-.877</b>	<b>-3.578</b>
<b>ATT3</b>	<b>1.000</b>	<b>7.000</b>	<b>-.796</b>	<b>-6.498</b>	<b>-.535</b>	<b>-2.183</b>
<b>ATT2</b>	<b>1.000</b>	<b>7.000</b>	<b>-.990</b>	<b>-8.085</b>	<b>-.176</b>	<b>-.718</b>
<b>PEU4</b>	<b>1.000</b>	<b>7.000</b>	<b>-.928</b>	<b>-7.578</b>	<b>.173</b>	<b>.706</b>
<b>PEU3</b>	<b>1.000</b>	<b>7.000</b>	<b>-.895</b>	<b>-7.309</b>	<b>-.101</b>	<b>-.414</b>
<b>PEU2</b>	<b>1.000</b>	<b>7.000</b>	<b>-.859</b>	<b>-7.016</b>	<b>-.085</b>	<b>-.347</b>
<b>PEU1</b>	<b>1.000</b>	<b>7.000</b>	<b>-.920</b>	<b>-7.509</b>	<b>-.018</b>	<b>-.075</b>
<b>PU4</b>	<b>1.000</b>	<b>7.000</b>	<b>-.844</b>	<b>-6.893</b>	<b>-.264</b>	<b>-1.077</b>
<b>PU3</b>	<b>1.000</b>	<b>7.000</b>	<b>-.759</b>	<b>-6.201</b>	<b>-.398</b>	<b>-1.626</b>
<b>PU2</b>	<b>1.000</b>	<b>7.000</b>	<b>-.770</b>	<b>-6.291</b>	<b>-.553</b>	<b>-2.257</b>
<b>CE4</b>	<b>1.000</b>	<b>7.000</b>	<b>-.747</b>	<b>-6.097</b>	<b>-.608</b>	<b>-2.480</b>
<b>CE3</b>	<b>1.000</b>	<b>7.000</b>	<b>-.760</b>	<b>-6.203</b>	<b>-.401</b>	<b>-1.639</b>
<b>CE1</b>	<b>1.000</b>	<b>7.000</b>	<b>-.678</b>	<b>-5.537</b>	<b>-.753</b>	<b>-3.073</b>
<b>CRMO3</b>	<b>1.000</b>	<b>7.000</b>	<b>-.724</b>	<b>-5.910</b>	<b>-.547</b>	<b>-2.233</b>
<b>CRMO2</b>	<b>1.000</b>	<b>7.000</b>	<b>-.583</b>	<b>-4.764</b>	<b>-.772</b>	<b>-3.152</b>
<b>CRMO1</b>	<b>1.000</b>	<b>7.000</b>	<b>-.756</b>	<b>-6.171</b>	<b>-.802</b>	<b>-3.274</b>
<b>Multivariate</b>					<b>372.724</b>	<b>64.301</b>

## Appendix 10: Standardized Residual Covariances (Group number 1 - Default model)

	CL4	CA4	ATT1	CE2	CUR1	CBB5	CBB4	CBB3	CBB2	CBB1	CA3	CA2	CA1	CL3	CL2	CL1	CUR3	CUR2	CS4	CS3	CS2	CS1	SQ3	SQ2	SQ5	ATT3	ATT2	PEU4	PEU3	PEU2	PEU1	PU4		
CL4	.000																																	
CA4	.101	.000																																
ATT1	.815	.647	.000																															
CE2	.559	.151	-.156	.020																														
CUR1	-.622	-.709	.097	-.645	.000																													
CBB5	-.264	.446	-.298	.227	-.474	.000																												
CBB4	.019	.082	-.655	-.806	-.181	.023	-.001																											
CBB3	-.853	1.368	.561	1.08	-1.063	.135	-.156	.000																										
CBB2	.398	.721	-.016	-.162	-1.109	-.338	.002	.291	.000																									
CBB1	-.912	1.085	-1.314	.166	-.996	.024	.003	.174	-.010	.000																								
CA3	1.245	-.224	1.574	-.217	-1.210	-.135	-.809	-.227	.215	.050	.000																							
CA2	.057	-.475	-.756	-.329	-1.467	-.191	-.832	-.049	-.414	-.346	.000	.000																						
CA1	.948	-.370	.028	-1.130	-1.389	-1.271	-.629	.335	-.546	-.526	.778	1.144	.000																					
CL3	.000	-.719	.165	.719	-.584	.845	.178	-.360	1.186	.651	.489	.466	-.844	.000																				
CL2	.168	-.313	-.839	-1.070	-.630	.666	.288	-1.360	-.199	-.214	.659	.191	-.562	-.128	.000																			
CL1	-.327	-.753	-.006	-1.359	-1.022	.181	.380	-.835	-.235	-.197	1.829	.938	-.633	-.414	.205	.000																		
CUR3	.564	-.433	-.847	-.702	.056	.745	-.451	-.674	-.249	-.060	1.362	-.822	-.852	1.059	-.639	-.967	.000																	
CUR2	1.502	.391	-.861	-.534	-.012	1.340	.373	-.356	-.131	.059	1.334	.034	-.276	.689	-.060	.262	-.005	.000																
CS4	.032	.797	.273	-.102	-.956	-.026	-.142	.189	-.383	-.599	-.343	.983	1.489	1.033	.004	.349	.177	.807	.000															
CS3	-.741	.251	-1.988	.069	-1.294	.283	.696	-.280	.077	.121	-1.377	.763	-.026	.768	-.396	.364	-.485	-.013	-.142	.000														
CS2	-.293	-.462	-1.122	-.347	-1.192	-.247	.062	-.268	.176	-.008	-1.915	.160	-.661	.417	-.439	-.443	-.802	-.105	.000	.158	.000													
CS1	.121	.321	.827	.148	.939	1.070	-.015	-.295	.365	-.295	-.003	1.025	.786	1.137	.807	.115	.495	1.507	.044	-.288	-.018	.000												
SQ3	-.571	.123	-.719	-2.508	-.309	.100	.450	-.233	.216	-1.295	-1.315	-.106	.456	-.076	.598	-.496	.082	.342	-.172	.617	.211	-.120	.000											
SQ2	-.023	-.775	.525	-.529	.117	.369	.894	-.022	-.441	-.222	-.641	-.156	.801	-.202	-.326	.310	.006	-.283	-.621	-.259	.080	.229	.070	.000										
SQ5	-.444	1.071	.374	-.608	-.299	-.758	.423	.760	-.077	.173	-.373	.537	1.088	-.107	-.063	.179	-.815	.035	-.381	.173	.014	-1.131	-.231	.208	.000									
ATT3	1.161	.512	-.200	-.399	1.916	.120	.358	.375	.214	.042	-.087	.118	-.645	.589	.330	1.423	.380	1.344	1.664	-.378	.306	1.552	.602	.539	.759	.000								
ATT2	.120	.926	-.026	.220	.219	.731	.415	.688	-.273	-.776	-.968	-.777	.598	-.109	.647	.467	-.989	-.294	.807	-1.193	-.774	.157	-.381	.169	.299	.102	.000							
PEU4	.586	.238	-.098	-1.404	-.269	.818	.785	.595	-.225	-.101	.339	-.020	.327	1.226	.233	.250	-.199	.320	2.068	-.453	-.264	1.168	.955	1.326	.724	-.066	-.708	.000						
PEU3	.172	.295	.319	-.457	-1.179	.256	-.363	.369	-.477	-.060	.219	-.771	-.099	.083	-.593	.458	.167	-.166	1.115	-1.881	-.791	.502	-.671	-.651	.729	-.155	-.773	.096	.000					
PEU2	.112	-.020	.135	-1.332	-1.737	-.355	-.647	-.191	-.784	-.159	1.115	.186	.563	.938	-1.030	-.321	-.411	.074	1.114	-2.487	-.971	.646	-.082	-.281	.556	-.546	-1.050	.042	.000	.000				
PEU1	-.053	.008	.130	-.910	-.973	-.255	-.292	-.070	-.114	-.368	-.087	-.421	-1.271	.493	-.969	-.002	-.419	-.313	1.135	-.727	-1.125	.123	-.983	.066	-.677	-.466	-.178	-.082	-.275	.136	.000			
PU4	-.849	-.707	1.870	-.196	.710	-.558	-1.372	-.814	-1.387	-.896	.330	-1.112	-1.069	-.381	-1.546	-1.460	1.394	.814	-.217	-2.137	-1.474	-.512	-1.632	.055	-.909	-.221	.340	.109	.588	.524	1.817	.000		
PU3	-.416	-1.433	.673	-1.057	-.105	-.553	-1.040	-.660	-1.040	-.887	-.032	-1.110	-.476	-.730	-1.351	-.869	.225	-.401	.566	-1.677	-1.464	.095	-.991	-.321	-.734	-.301	.292	.593	1.271	.482	2.147	.096		
PU2	1.139	1.112	1.336	-.135	-.581	.348	.417	.506	.251	-.516	1.387	-.326	.023	-.264	.362	.024	1.357	.834	1.875	-1.518	-.211	.206	.576	-.381	1.202	-.058	.329	.485	1.000	.837	.763	-.084		
CE4	.610	1.094	-.383	-.056	-.495	1.189	.117	.685	.576	.254	.170	-.078	-.580	.562	.316	.134	-1.131	-.863	1.516	.730	1.172	2.213	-.651	.265	-.249	-.338	.780	-.980	.326	-.673	-.680	-1.357		
CE3	.607	1.156	-.224	-.044	-.311	1.322	.711	.093	.428	.324	.987	.309	.270	.678	1.228	.602	-.264	-.274	1.826	.403	1.099	2.509	-.444	.734	.297	.706	1.578	.657	.531	.506	-.084	-.604		
CE1	.761	.582	-.359	-.024	-.091	.235	-.167	.599	-.316	.572	.376	.526	.399	1.613	.109	.300	-.493	-.392	1.516	.663	.328	.852	-1.319	.613	-.431	-.501	.084	-1.433	-.908	-1.637	-1.154	-1.235		
CRMO3	1.512	.223	-.412	-.079	1.470	1.729	.883	.966	2.530	1.777	1.351	.441	-.406	1.658	1.370	1.819	.799	1.394	1.464	.619	1.288	1.687	1.876	1.603	.104	.766	-1.061	.232	-.343	-1.087	-1.003	.058		
CRMO2	.528	-.694	.373	1.890	1.721	1.171	1.160	.762	1.428	1.538	-.348	.446	-.299	.291	-.212	.921	.408	.646	.187	.151	1.438	2.059	.334	2.163	.773	-1.351	-.200	-.026	1.157	.154	.117	-.742		



.000  
 .006 .000  
 .506 .370 .000  
 .180 .081 .206 .000  
 .272 .317 -.285 -.029 .000  
 .391 .890 .827 -.420 .985 .000  
 .164 .663 .016 -.081 .814 .000 .000  
 .170 .147 .144 .402 .483 .215 .094 .000  
 .291 .216 1.258 .294 .627 .360 .466 .204 .000  
 .245 .045 1.291 .908 .819 .562 1.053 .630 .983 .000  
 .134 .068 1.252 .064 .244 1.495 .677 .058 .237 .005 .000  
 .373 .554 .340 .926 2.014 .038 1.028 .047 .314 .180 .806 .000  
 .076 .156 .1384 .693 .490 .743 .753 .364 .316 .485 .016 .128 .000  
 .167 .020 .1929 .081 .139 .303 .393 .414 .500 .802 .110 .000 .148 .000  
 .363 .265 .010 .964 1.234 .118 1.123 .835 .073 .496 1.504 .056 .288 .027 .000  
 .051 .223 .317 .554 1.499 .416 .085 .003 .184 .808 .040 .336 .211 .047 .1100 .000  
 .223 .1258 .1266 .107 .974 .556 .070 .650 .516 .088 .344 .143 .635 .222 .104 .171 .000  
 .496 .250 .649 .213 1.208 .057 .250 .344 .232 .001 .293 .660 .311 .019 .183 .201 .030 .000  
 .234 .078 .096 .078 .402 1.174 .597 .365 1.417 .384 1.346 1.690 .357 .324 1.570 .782 .620 .528 .000  
 .240 .722 .960 .828 .951 .142 .093 .703 .464 .982 .289 .849 .1159 .743 .186 .335 .350 .158 .099 .000  
 .226 .079 .296 .109 .669 .579 1.208 .250 .207 .201 .314 2.074 .456 .273 1.166 .739 .956 1.285 .042 .669 .000  
 .473 .035 .184 .847 .213 .170 .072 .572 .424 .167 .170 1.126 .1878 .794 .505 .745 .666 .684 .130 .731 .098 .000  
 .781 .133 1.077 .103 .902 .109 .926 .1009 .357 .412 .070 1.125 .2484 .974 .648 .573 .076 .316 .519 .1006 .043 .000 .000  
 .114 .346 .126 .505 .951 .058 .478 .951 .041 .420 .318 1.143 .728 .132 .121 .663 .981 .028 .443 .139 .087 .271 .139 .000  
 .384 .873 .295 .118 .772 .853 .393 1.527 .1493 1.393 .810 .208 .2136 .1478 .511 .894 .1628 .022 .198 .379 .107 .592 .527 1.817 .000  
 .055 .879 .087 .1208 .166 .434 .759 .1351 .923 .219 .411 .557 .1694 .1488 .080 .730 .1002 .370 .292 .312 .566 1.253 .462 2.122 .088 .000  
 .257 .494 1.364 .382 .263 1.140 .270 .382 .002 1.357 .831 1.886 .1513 .210 .210 1.216 .583 .403 .036 .366 .489 1.008 .846 .768 .059 .153 .000  
 .594 .291 .151 .136 .282 .619 .565 .351 .118 .1127 .863 1.541 .748 1.186 2.228 .225 .634 .246 .301 .838 .961 .349 .649 .661 .1337 .590 .121 .000  
 .443 .356 .971 .260 .528 .616 .681 1.259 .589 .261 .274 1.848 .419 1.111 2.522 .318 .429 .717 .738 1.629 .674 .551 .528 .067 .587 .1149 .011 .034 .000  
 .301 .603 .360 .477 .653 .770 1.616 .140 .017 .491 .392 1.537 .679 .340 .865 .411 .1305 .597 .470 .133 .1418 .889 .1617 .1138 .1218 .1039 .828 .049 .093 .000  
 .498 1.761 1.295 .355 .223 1.822 1.618 1.345 1.759 .790 1.382 1.435 .584 1.247 1.657 .094 1.849 1.555 .752 .1075 .184 .382 .1128 .1046 .020 .797 .755 .916 2.389 .312 .000  
 .383 1.507 .415 .347 .133 .486 .237 .253 .845 .395 .629 .143 .100 1.381 2.015 .753 .296 2.104 .1378 .234 .093 1.099 .092 .054 .798 .1264 .1242 1.1112 .024 .897 .002 .000  
 .252 .563 .123 .095 .110 .611 .011 1.073 .968 .740 .589 .481 .569 1.350 .797 .085 .879 1.800 .1385 .107 .559 .066 .448 .899 .463 .178 .631 .616 1.208 1.586 .002 .000 .000

## Appendix 11: Residual Covariances Residual Covariances (Group number 1 - Default model)

	CL4	CA4	ATT1	CE2	CUR1	CBB5	CBB4	CBB3	CBB2	CBB1	CA3	CA2	CA1	CL3	CL2	CL1	CUR3	CUR2	CS4	CS3	CS2	CS1	SQ5	SQ3	SQ2	ATT3	ATT2	PEU4	PEU3	PEU2	PEU1	PU4	PU3	PU2	CE4	CE3					
CL4	.000																																								
CA4	.016	.000																																							
ATT1	.150	.107	.000																																						
CE2	.092	.022	.028	.004																																					
CUR1	.107	.108	.018	.106	.000																																				
CBB5	-.043	.067	.049	.033	-.073	.000																																			
CBB4	.003	.013	-.115	.126	-.030	.004	.000																																		
CBB3	-.144	.213	.096	.016	-.169	.022	-.027	.000																																	
CBB2	.064	.107	-.003	-.023	-.165	-.053	.000	.046	.000																																
CBB1	-.142	.157	-.206	.023	-.145	.004	.000	.027	-.002	.000																															
CA3	.197	-.033	.257	-.032	-.184	-.020	-.126	-.034	.031	.007	.000																														
CA2	.009	-.070	-.122	.047	-.219	-.028	-.129	-.007	.059	.048	.000	.000																													
CA1	.166	-.061	.005	-.183	-.233	-.205	-.109	.056	-.087	-.082	.125	.181	.000																												
CL3	.000	-.114	.029	.114	-.096	.135	.030	-.059	.186	.100	.075	.071																													
CL2	.028	-.047	-.137	-.156	-.095	.101	.047	-.212	-.030	-.031	.096	.027																													
CL1	-.058	-.119	-.001	-.211	-.165	.029	.065	-.138	-.037	-.030	.281	.143																													
CUR3	.087	-.059	-.139	-.104	.010	.103	-.066	-.097	-.033	-.008	.186	.110																													
CUR2	.269	.062	-.163	-.091	-.003	.215	.064	-.059	-.020	.009	.210	.005																													
CS4	.005	.117	.045	-.015	-.144	-.004	-.023	.029	-.056	-.085	.049	.139																													
CS3	-.115	.036	-.316	.010	-.189	.041	.109	-.042	.011	.017	-.192	.105	-.004	.116	-.057	.055	-.064	-.002	-.022	.000																					
CS2	-.047	-.068	-.182	-.050	-.177	-.037	.010	-.041	.026	-.001	-.274	.023	-.105	.065	-.065	-.069	-.107	-.016	.000	.025	.000																				
CS1	.018	.045	.131	.021	.138	.151	-.002	-.043	.051	-.040	.000	.138	.119	.168	.112	.017	.065	.230	.006	-.041	-.003	.000																			
SQ5	-.095	.019	-.124	-.385	-.049	.015	.074	-.037	.032	-.190	-.197	-.016	.075	-.012	.091	-.080	.012	.057	-.027	.093	.033	-.018	.000																		
SQ3	-.004	-.124	.096	-.086	.020	.059	.152	-.004	-.069	-.034	-.100	-.024	.139	-.034	.052	.052	.001	-.050	-.099	-.041	.013	.035	.013	.000																	
SQ2	-.080	.175	.070	-.103	-.053	-.123	.073	.128	-.012	.027	-.060	.085	.193	-.019	-.010	.031	-.130	.006	-.062	.028	.002	-.177	-.041	.039	.000																
ATT3	.207	.082	-.041	-.068	.340	.019	.061	.062	.033	-.006	-.014	.018	-.113	.101	.052	.239	.061	.248	.262	-.058	.048	.237	.100	.095	1.338	.000															
ATT2	.021	.148	-.005	-.037	.038	.115	.070	.112	-.042	-.117	-.152	-.120	.104	-.019	.102	.079	-.154	-.053	.127	-.183	-.122	.024	-.063	.029	.053	.020	.000														
PEU4	.090	.033	-.017	-.209	-.040	.113	.116	.085	-.030	-.013	.047	-.003	.050	.183	.032	.037	-.027	.050	.285	-.061	.036	.155	.137	.201	.113	-.011	-.116	.000													
PEU3	.028	.043	.056	-.071	-.188	.037	-.056	.056	-.068	-.008	.032	-.110	-.016	.013	-.086	.071	.024	-.028	.161	-.265	-.114	.070	-.102	-.104	.120	-.026	-.132	.016	.000												
PEU2	.018	-.003	.023	-.205	-.271	-.051	-.099	-.028	-.110	-.022	.159	.026	.089	.145	-.148	-.049	-.058	.012	.159	-.347	.138	.089	-.012	-.044	.090	-.091	-.178	.007	.000												
PEU1	-.009	.001	.023	-.144	-.156	-.038	-.046	-.011	-.016	-.052	-.013	-.061	-.205	.078	-.143	.000	-.061	-.052	.166	-.104	-.165	.017	-.150	.011	-.113	-.080	-.031	-.014	-.048	.024	.000										
PU4	-.144	-.108	.343	-.032	.119	-.085	-.222	-.128	-.205	-.130	.050	-.165	-.178	-.062	-.234	-.235	.209	.141	-.033	-.315	-.222	-.075	-.258	.009	-.157	-.039	.060	.017	.096	.085	.301	.000									
PU3	-.070	-.219	.123	-.172	-.017	-.084	-.168	-.103	-.154	-.128	-.005	-.164	-.079	-.119	-.205	-.140	.033	-.069	.085	-.246	-.220	.014	-.156	-.053	-.126	-.053	.052	.093	.208	.078	.356	.018	.000								

**Appendix 12:**

**Regression Weights: (Group number 1 - Default model)**

			Estimate	S.E.	C.R.	P	Label
CRMO	<---	CRM	1.000				
CE	<---	CRM	1.118	.167	6.696	***	
PU	<---	CRM	1.059	.160	6.607	***	
PEU	<---	CRM	1.383	.187	7.411	***	
ATT	<---	CRM	1.467	.201	7.299	***	
CRMO1	<---	CRMO	1.000				
CRMO2	<---	CRMO	.913	.094	9.682	***	
CRMO3	<---	CRMO	.926	.134	6.936	***	
CE1	<---	CE	1.000				
CE3	<---	CE	.954	.053	18.104	***	
CE4	<---	CE	1.191	.058	20.490	***	
PU2	<---	PU	1.000				
PU3	<---	PU	1.343	.117	11.486	***	
PU4	<---	PU	1.240	.111	11.133	***	
PEU1	<---	PEU	1.000				
PEU2	<---	PEU	.999	.054	18.607	***	
PEU3	<---	PEU	.941	.057	16.597	***	
PEU4	<---	PEU	.986	.051	19.386	***	
ATT2	<---	ATT	1.000				
ATT3	<---	ATT	.715	.059	12.041	***	
SQ5	<---	SQ	1.000				
SQ2	<---	SQ	1.133	.114	9.938	***	
SQ3	<---	SQ	1.228	.115	10.673	***	
CS1	<---	CS	1.000				
CS2	<---	CS	1.265	.074	16.981	***	
CS3	<---	CS	1.188	.072	16.610	***	
CS4	<---	CS	1.178	.075	15.616	***	
CUR2	<---	CURT	1.000				
CUR3	<---	CURT	.785	.044	17.752	***	
CL1	<---	CL	1.000				
CL2	<---	CL	1.006	.049	20.429	***	
CL3	<---	CL	.901	.058	15.607	***	
CA1	<---	CA	1.000				
CA2	<---	CA	.935	.077	12.067	***	
CA3	<---	CA	.914	.078	11.662	***	
CBB1	<---	CBB	1.000				
CBB2	<---	CBB	1.028	.053	19.504	***	
CBB3	<---	CBB	1.003	.058	17.310	***	
CBB4	<---	CBB	1.111	.062	17.782	***	
CBB5	<---	CBB	1.000	.055	18.159	***	
CUR1	<---	CURT	.700	.049	14.324	***	
CE2	<---	CE	.846	.041	20.770	***	
ATT1	<---	ATT	.842	.061	13.799	***	
CA4	<---	CA	1.064	.080	13.240	***	
CL4	<---	CL	.829	.062	13.269	***	

**Covariances: (Group number 1 - Default model)**

			Estimate	S.E.	C.R.	P	Label
CRM	<-->	SQ	.486	.092	5.273	***	
CRM	<-->	CS	.583	.096	6.066	***	
CRM	<-->	CURT	.221	.091	2.429	.015	
CRM	<-->	CL	.747	.120	6.223	***	
CRM	<-->	CA	.661	.110	5.985	***	
CRM	<-->	CBB	.615	.102	6.054	***	
SQ	<-->	CS	.957	.122	7.815	***	
SQ	<-->	CURT	.231	.121	1.901	.057	
SQ	<-->	CL	1.064	.139	7.673	***	
SQ	<-->	CA	.977	.133	7.353	***	
SQ	<-->	CBB	1.001	.127	7.861	***	
CS	<-->	CURT	.258	.112	2.309	.021	
CS	<-->	CL	1.185	.127	9.324	***	
CS	<-->	CA	1.055	.122	8.615	***	
CS	<-->	CBB	1.161	.119	9.728	***	
CURT	<-->	CL	.539	.145	3.709	***	
CURT	<-->	CA	.295	.128	2.296	.022	
CURT	<-->	CBB	.513	.130	3.950	***	
CL	<-->	CA	1.389	.151	9.198	***	
CL	<-->	CBB	1.523	.144	10.544	***	
CA	<-->	CBB	1.322	.140	9.457	***	
e26	<-->	e28	-.164	.052	-3.159	.002	
e1	<-->	e2	.684	.214	3.197	.001	
e4	<-->	e49	.597	.087	6.843	***	
e5	<-->	e49	.294	.068	4.303	***	
e41	<-->	e43	-.226	.060	-3.777	***	
e37	<-->	e38	.296	.085	3.495	***	
e34	<-->	e52	.302	.099	3.049	.002	
e40	<-->	e43	-.158	.060	-2.646	.008	
e11	<-->	e12	.221	.073	3.010	.003	

**Variances: (Group number 1 - Default model)**

		Estimate	S.E.	C.R.	P	Label
CRM		.674	.169	3.993	***	
SQ		1.210	.209	5.779	***	
CS		1.263	.157	8.065	***	
CURT		3.189	.296	10.787	***	
CL		1.970	.204	9.642	***	
CA		1.426	.201	7.090	***	
CBB		1.651	.167	9.862	***	
e14		.872	.219	3.985	***	
e15		1.481	.172	8.617	***	
e16		.470	.094	4.972	***	
e17		.680	.103	6.582	***	
e21		1.252	.181	6.920	***	
e1		2.647	.291	9.105	***	

e2		2.070	.233	8.875	***	
e3		1.969	.216	9.120	***	
e4		1.364	.118	11.580	***	
e5		1.116	.100	11.189	***	
e6		.316	.094	3.350	***	
e7		2.234	.177	12.625	***	
e8		.916	.126	7.301	***	
e9		1.310	.133	9.866	***	
e10		.988	.091	10.817	***	
e11		.830	.085	9.777	***	
e12		1.176	.106	11.113	***	
e13		.684	.073	9.394	***	
e19		.716	.144	4.977	***	
e20		2.244	.180	12.502	***	
e22		2.380	.190	12.536	***	
e23		1.771	.156	11.320	***	
e24		1.101	.127	8.641	***	
e25		1.203	.093	13.006	***	
e26		.514	.062	8.244	***	
e27		.664	.061	10.903	***	
e28		.827	.080	10.303	***	
e29		.549	.143	3.842	***	
e30		.834	.103	8.063	***	
e32		.978	.088	11.086	***	
e33		.565	.065	8.735	***	
e34		1.485	.119	12.464	***	
e36		1.813	.144	12.564	***	
e37		1.305	.108	12.026	***	
e38		1.445	.118	12.294	***	
e40		.764	.068	11.213	***	
e41		.777	.070	11.091	***	
e42		1.218	.095	12.821	***	
e43		.975	.093	10.457	***	
e44		1.019	.081	12.557	***	
e47		1.903	.151	12.571	***	
e49		1.442	.113	12.799	***	
e50		1.915	.171	11.231	***	
e51		1.041	.096	10.847	***	
e52		2.016	.154	13.053	***	

**Correlations: (Group number 1 - Default model)**

			Estimate
CRM	<-->	SQ	.539
CRM	<-->	CS	.632
CRM	<-->	CURT	.150
CRM	<-->	CL	.648
CRM	<-->	CA	.675
CRM	<-->	CBB	.583



CBB1	CL1	CL2	CL3	CL4	CA4	CA3	CA2	CA1	CUR1	CUR2	CS4	CS3	CS2	CS1	SQ5	SQ3	SQ2	PU4	PU3	PU2	PU4	PEU3	PEU2	PEU1	CE4	CE3	CE2	CRM03	CRM02	CRM01	AT13	AT12					
.284																																					
.117	.000																																				
.146	.175	.000																																			
.983	-.427	-.062	.000																																		
-.181	.015	-.079	.000	.000																																	
1.844	.418	.773	-.405	1.131	.000																																
-.384	.977	-.162	.276	1.490	.214	.000																															
.487	1.683	1.057	.008	1.237	-.133	.140	.064																														
.491	.439	.613	.288	1.147	-.802	.849	.228	.000																													
-.530	.783	-.356	.034	.660	1.849	-1.323	-1.386	-1.028	.000																												
.058	.800	.718	1.250	1.902	-.619	.157	.433	-.166	-.006	.000																											
-.534	.674	.366	1.143	.552	.887	.733	1.895	1.942	-.835	.191	.000																										
.657	.993	.263	1.326	.265	.453	-1.656	.986	.619	-.727	-.416	.339	.000																									
.736	.350	.429	1.092	.287	.161	-1.754	.583	.226	-.496	-.592	-.321	.000	.000																								
-.417	.106	.810	1.078	.065	-.251	-.657	.612	1.021	.072	1.011	-.220	-.090	.393	.000																							
.355	-.196	-.415	-.583	-.216	1.332	.369	1.028	1.224	-.540	-1.558	.138	1.181	1.267	-.203	.000																						
-.584	-.387	.940	-.317	-.448	.601	.817	.359	1.461	.244	-1.063	.689	1.856	1.895	.362	.294	.000																					
.925	.665	.527	.273	.365	.740	.025	1.444	1.878	.054	-.761	.611	1.327	1.988	1.332	-.334	-.108	.000																				
-1.068	-1.568	-1.608	-.391	-.798	-1.529	-.378	-1.694	-1.120	.884	.751	-.627	-2.305	-1.527	-1.035	-1.896	-2.808	-.426	.000																			
-1.108	-1.032	-1.460	-.871	-.945	-1.879	-.939	-1.685	-.537	.056	-.344	.112	-1.898	-1.562	-.514	-1.273	-1.602	-.546	.132	.000																		
-.698	-.041	.257	-.417	.761	.513	.931	.028	.299	-.266	.659	1.430	1.704	-.308	-.257	.399	.063	-.689	-.094	-.217	.000																	
-.966	-.622	-.610	.454	.329	-.405	-.307	-.775	.090	-.485	.343	.936	-1.380	-1.079	-.123	-.457	-.335	.444	.772	3.477	2.544	.000																
-.727	-.205	-1.216	-.488	.256	-.279	-.450	-1.273	-.171	-.259	-.338	.276	-2.579	-1.395	-.540	-.315	-1.842	-1.318	3.115	4.021	2.946	.045	.000															
-.920	-1.140	-1.740	.206	-.060	-.667	.425	-.461	1.001	-1.164	.069	.085	-3.271	-1.664	-.522	-1.036	-1.243	-1.004	3.217	3.375	2.914	-.086	.000	.000														
-1.042	-.731	-1.587	.006	.220	-1.137	-.370	-1.865	-1.217	.099	-.299	.274	-1.445	-1.725	-.940	-1.869	-2.126	-.680	4.550	5.109	2.826	-.089	-.082	.272	.000													
-.953	-1.048	-.938	-.568	.038	-.068	-.785	-1.098	-1.742	-.069	-1.106	-.116	-.594	-.075	.625	-1.239	-2.270	-.682	.469	1.385	1.276	.524	1.828	.883	.897	.000												
-.714	-.397	.130	-.300	.362	.222	.050	-.071	-.938	-.078	-.236	.403	-.733	.025	1.144	-.783	-1.476	.072	.973	.527	1.201	1.980	1.818	1.864	1.280	-.023	.000											
-.772	-2.235	-2.034	-.138	.413	-.714	-.889	-.486	-1.709	-.659	-.752	-1.338	-.955	-1.300	-1.053	-1.937	-2.994	-1.251	1.249	.478	.963	-.227	.704	-.121	.323	.081	-.051	-.024										
.524	.333	.014	.431	.746	-1.362	-.764	-1.362	-1.238	1.468	1.165	-.095	-.752	-.041	.169	-.466	-.056	.468	1.172	.437	1.04	1.043	.468	-.247	-.137	1.298	2.718	.198	.000									
.617	-.255	-1.174	-.551	.446	-1.291	-1.178	-.953	-.943	1.553	.617	-.928	-.857	.476	.870	-.308	-.115	1.412	.560	.201	-.217	1.048	2.218	1.262	1.240	1.759	2.578	2.364	-.007	.000								
-.305	-.100	.160	-.799	-.691	-1.733	-1.408	-1.256	-.998	1.030	.434	-.510	-.369	.469	-.307	-1.186	-.125	1.171	.880	1.284	.384	.561	1.158	.699	.259	1.255	1.753	1.034	.007	.000	.000							
-.645	.442	-.364	-.055	.774	-.204	-.427	-.062	-.894	2.908	1.359	.652	-1.124	-.370	.578	-.107	-.462	-.128	1.466	1.514	2.30	1.423	1.270	.958	1.047	.595	1.509	.326	1.237	-.712	-.727	.000						
-1.706	-.439	-.290	-.957	-.854	-.162	-.034	-.547	-.193	-1.043	-.242	-.527	-2.183	-1.666	-1.159	-.766	-1.759	-.661	-2.767	2.897	1.90	1.377	1.335	1.060	1.978	2.138	2.752	1.273	-.388	.735	1.068	-.017	.000					

## Appendix 14: Full alternative mediation effects simulation results

Run MATRIX procedure:

```

*****
*****
Preacher and Hayes (2008) SPSS Macro for
Multiple Mediation
Written by Andrew F. Hayes, The Ohio State
University
www.afhayes.com
For details, see Preacher, K. J., & Hayes, A.
F. (2008). Asymptotic
and resampling strategies for assessing and
comparing indirect effects
in multiple mediator models. Behavior Research
Methods, 40, 879-891.
Also see Chapter 5 of Introduction to
Mediation, Moderation, and Conditional
Analysis. New York: The Guilford Press.
http://www.guilford.com/p/hayes3
*****
*****

```

Dependent, Independent, and Proposed Mediator Variables:  
DV = CBB  
IV = CRM

MEDS = CA  
 CL  
 CURT  
 CS  
 SQ

Sample size  
 400

IV to Mediators (a paths)

	Coeff	se	t	p
CA	1.1458	.0483	23.6973	.0000
CL	1.3079	.0609	21.4724	.0000
CURT	.3898	.1117	3.4891	.0005
CS	1.0273	.0513	20.0208	.0000
SQ	.8636	.0509	16.9821	.0000

Direct Effects of Mediators on DV (b paths)

	Coeff	se	t	p
CA	.7081	.0519	13.6501	.0000
CL	.2858	.0360	7.9458	.0000
CURT	.0562	.0119	4.7307	.0000
CS	.2952	.0410	7.1946	.0000
SQ	-.1195	.0425	-2.8097	.0052

Total Effect of IV on DV (c path)

	Coeff	se	t	p
CRM	1.0986	.0626	17.5506	.0000

Direct Effect of IV on DV (c' path)

	Coeff	se	t	p
CRM	-.3085	.0412	-7.4904	.0000

Model Summary for DV Model

	R-sq	Adj R-sq	F	df1
df2		p		
	.9051	.9037	624.8614	6.0000
	393.0000	.0000		

\*\*\*\*\*  
 \*\*\*\*\*

NORMAL THEORY TESTS FOR INDIRECT EFFECTS

Indirect Effects of IV on DV through Proposed Mediators (ab paths)

	Effect	se	Z	p
TOTAL	1.4071	.0653	21.5501	.0000
CA	.8113	.0682	11.8993	.0000
CL	.3737	.0498	7.5029	.0000
CURT	.0219	.0078	2.8177	.0048
CS	.3033	.0445	6.8172	.0000
SQ	-.1032	.0370	-2.7926	.0052
C1	.4376	.0980	4.4648	.0000
C2	.7894	.0680	11.6020	.0000
C3	.5081	.0831	6.1111	.0000
C4	.9145	.0877	10.4277	.0000
C5	.3518	.0510	6.8993	.0000
C6	.0705	.0676	1.0421	.2974
C7	.4769	.0636	7.5033	.0000
C8	-.2814	.0450	-6.2552	.0000
C9	.1251	.0378	3.3087	.0009
C10	.4065	.0709	5.7313	.0000

\*\*\*\*\*  
\*\*\*\*\*

BOOTSTRAP RESULTS FOR INDIRECT EFFECTS

Indirect Effects of IV on DV through Proposed Mediators (ab paths)

	Data	Boot	Bias	SE
TOTAL	1.4071	1.4042	-.0029	.0612
CA	.8113	.8074	-.0039	.0959
CL	.3737	.3751	.0013	.0647
CURT	.0219	.0219	-.0001	.0085
CS	.3033	.3032	.0000	.0589
SQ	-.1032	-.1034	-.0002	.0508
C1	.4376	.4324	-.0053	.1407
C2	.7894	.7856	-.0039	.0957
C3	.5081	.5042	-.0039	.1186
C4	.9145	.9108	-.0037	.1294
C5	.3518	.3532	.0014	.0661
C6	.0705	.0718	.0014	.0961
C7	.4769	.4785	.0015	.0752
C8	-.2814	-.2814	.0000	.0603
C9	.1251	.1252	.0001	.0514
C10	.4065	.4066	.0001	.0923

Bias Corrected and Accelerated Confidence Intervals

Lower Upper



TOTAL	1.2843	1.5251
CA	.6352	1.0154
CL	.2466	.4973
CURT	.0083	.0433
CS	.1928	.4234
SQ	-.2052	-.0078
C1	.1819	.7336
C2	.6146	.9918
C3	.2794	.7487
C4	.6695	1.1779
C5	.2213	.4773
C6	-.1229	.2544
C7	.3274	.6274
C8	-.4052	-.1689
C9	.0255	.2278
C10	.2296	.5914

Bias Corrected Confidence Intervals

	Lower	Upper
TOTAL	1.2892	1.5286
CA	.6305	1.0069
CL	.2514	.5023
CURT	.0083	.0430
CS	.1897	.4201
SQ	-.2041	-.0071
C1	.1684	.7156
C2	.6089	.9847
C3	.2772	.7459
C4	.6638	1.1665
C5	.2246	.4816
C6	-.1182	.2578
C7	.3282	.6274
C8	-.4024	-.1654
C9	.0245	.2260
C10	.2294	.5907

Percentile Confidence Intervals

	Lower	Upper
TOTAL	1.2826	1.5235
CA	.6183	.9992
CL	.2525	.5041
CURT	.0073	.0406
CS	.1890	.4186
SQ	-.2040	-.0058
C1	.1631	.7046
C2	.6001	.9763
C3	.2694	.7377

C4	.6607	1.1632
C5	.2267	.4843
C6	-.1162	.2626
C7	.3300	.6279
C8	-.4005	-.1632
C9	.0255	.2275
C10	.2291	.5891

\*\*\*\*\*  
\*\*\*\*\*

Level of Confidence for Confidence Intervals:  
95

Number of Bootstrap Resamples:  
5000

\*\*\*\*\*  
\*\*\*\*\*

INDIRECT EFFECT CONTRAST DEFINITIONS:  
Ind\_Eff1 MINUS Ind\_Eff2

Contrast	IndEff_1	IndEff_2
C1	CA	CL
C2	CA	CURT
C3	CA	CS
C4	CA	SQ
C5	CL	CURT
C6	CL	CS
C7	CL	SQ
C8	CURT	CS
C9	CURT	SQ
C10	CS	SQ

\*\*\*\*\* NOTES  
\*\*\*\*\*

Bootstrap confidence intervals are preferred to normal theory tests for inference about indirect effects. See Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. Communication Monographs, 76, 408-420, or Hayes, A. F. (2013). Introduction to

mediation, moderation, and conditional process analysis: A regression-based approach. New York: The Guilford Press

----- END MATRIX -----

**Appendix 15: SEM regression weight outputs  
Regression Weights: (Group number 1 - Default model)**

			Estimate	S.E.	C.R.	P	Label
CA	<---	CRM	.981	.106	9.255	***	
SQ	<---	CRM	.878	.099	8.910	***	
CS	<---	CRM	.953	.093	10.269	***	
CL	<---	CRM	1.017	.105	9.669	***	
CURT	<---	CRM	.278	.095	2.941	.003	
ATT	<---	CRM	1.000				
CRMO	<---	CRM	.729	.107	6.835	***	
CE	<---	CRM	.683	.084	8.097	***	
PEU	<---	CRM	.905	.095	9.508	***	
PU	<---	CRM	.649	.086	7.560	***	
CBB	<---	CA	.296	.086	3.438	***	
CBB	<---	SQ	.109	.054	2.023	.043	
CBB	<---	CS	.574	.123	4.651	***	
CBB	<---	CL	.589	.098	6.009	***	
CBB	<---	CURT	.058	.023	2.534	.011	
CBB	<---	CRM	-.608	.266	-2.287	.022	
ATT2	<---	ATT	1.000				
ATT3	<---	ATT	.717	.060	11.870	***	
CRMO1	<---	CRMO	1.000				
CRMO2	<---	CRMO	.914	.096	9.515	***	
CRMO3	<---	CRMO	.985	.142	6.944	***	
CE2	<---	CE	1.000				
CE3	<---	CE	1.129	.062	18.352	***	
CE4	<---	CE	1.410	.080	17.601	***	
PEU1	<---	PEU	1.000				
PEU2	<---	PEU	1.009	.055	18.210	***	
PEU3	<---	PEU	.944	.058	16.168	***	
PEU4	<---	PEU	1.009	.053	19.172	***	
PU2	<---	PU	1.000				
PU3	<---	PU	1.337	.120	11.154	***	
PU4	<---	PU	1.227	.112	10.971	***	
SQ2	<---	SQ	1.000				
SQ3	<---	SQ	1.103	.080	13.774	***	
SQ5	<---	SQ	1.088	.083	13.113	***	
CS1	<---	CS	1.000				

<b>CS2</b>	<b>&lt;---</b>	<b>CS</b>	<b>1.159</b>	<b>.072</b>	<b>16.127</b>	<b>***</b>	
<b>CS3</b>	<b>&lt;---</b>	<b>CS</b>	<b>1.109</b>	<b>.071</b>	<b>15.681</b>	<b>***</b>	
<b>CS4</b>	<b>&lt;---</b>	<b>CS</b>	<b>1.144</b>	<b>.071</b>	<b>15.995</b>	<b>***</b>	
<b>CUR2</b>	<b>&lt;---</b>	<b>CURT</b>	<b>1.000</b>				
<b>CUR1</b>	<b>&lt;---</b>	<b>CURT</b>	<b>.853</b>	<b>.048</b>	<b>17.867</b>	<b>***</b>	
<b>CA1</b>	<b>&lt;---</b>	<b>CA</b>	<b>1.000</b>				
<b>CA2</b>	<b>&lt;---</b>	<b>CA</b>	<b>1.002</b>	<b>.082</b>	<b>12.250</b>	<b>***</b>	
<b>CA3</b>	<b>&lt;---</b>	<b>CA</b>	<b>1.054</b>	<b>.088</b>	<b>12.039</b>	<b>***</b>	
<b>CA4</b>	<b>&lt;---</b>	<b>CA</b>	<b>1.139</b>	<b>.088</b>	<b>12.930</b>	<b>***</b>	
<b>CL4</b>	<b>&lt;---</b>	<b>CL</b>	<b>1.000</b>				
<b>CL3</b>	<b>&lt;---</b>	<b>CL</b>	<b>1.000</b>	<b>.065</b>	<b>15.349</b>	<b>***</b>	
<b>CL2</b>	<b>&lt;---</b>	<b>CL</b>	<b>1.107</b>	<b>.073</b>	<b>15.113</b>	<b>***</b>	
<b>CL1</b>	<b>&lt;---</b>	<b>CL</b>	<b>1.120</b>	<b>.077</b>	<b>14.556</b>	<b>***</b>	
<b>CBB1</b>	<b>&lt;---</b>	<b>CBB</b>	<b>1.000</b>				
<b>CBB2</b>	<b>&lt;---</b>	<b>CBB</b>	<b>1.024</b>	<b>.054</b>	<b>19.083</b>	<b>***</b>	
<b>CBB3</b>	<b>&lt;---</b>	<b>CBB</b>	<b>.998</b>	<b>.059</b>	<b>16.952</b>	<b>***</b>	
<b>CBB4</b>	<b>&lt;---</b>	<b>CBB</b>	<b>1.112</b>	<b>.064</b>	<b>17.470</b>	<b>***</b>	
<b>CUR3</b>	<b>&lt;---</b>	<b>CURT</b>	<b>.861</b>	<b>.043</b>	<b>19.962</b>	<b>***</b>	
<b>CBB5</b>	<b>&lt;---</b>	<b>CBB</b>	<b>.998</b>	<b>.056</b>	<b>17.875</b>	<b>***</b>	
<b>CE1</b>	<b>&lt;---</b>	<b>CE</b>	<b>1.186</b>	<b>.057</b>	<b>20.750</b>	<b>***</b>	
<b>ATT1</b>	<b>&lt;---</b>	<b>ATT</b>	<b>.829</b>	<b>.063</b>	<b>13.219</b>	<b>***</b>	

### Appendix 17: Process simulation interaction effect results

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Release 2.13 \*\*\*\*\*  
 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D. [www.afhayes.com](http://www.afhayes.com)  
 Documentation available in Hayes (2013). [www.guilford.com/p/hayes](http://www.guilford.com/p/hayes)  
 3

\*\*\*\*\*  
 \*\*\*\*\*

Model = 59  
 Y = CBB  
 X = CRM  
 M1 = CL  
 M2 = CURT  
 M3 = CS  
 M4 = SQ  
 M5 = CA  
 W = LOPCAT

Statistical Controls:  
 CONTROL= Age Edu Occu Gender

Sample size  
400

\*\*\*\*\*  
\*\*\*\*\*

Outcome: CL

Model Summary

R	R-sq	MSE	F	df1	df2	p
.7407	.5486	.8237	76.0650	7.0000	392.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	-.3803	.3073	-1.2376	.2166	-.9846	.2239
CRM	1.2912	.0603	21.4066	.0000	1.1726	1.4098
LOPCAT	.0643	.1244	.5169	.6055	-.1803	.3089
int_1	.0326	.1492	.2189	.8269	-.2606	.3259
Age	-.0113	.0988	-.1143	.9091	-.2056	.1830
Edu	-.0271	.0609	-.4452	.6564	-.1468	.0926
Occu	.1135	.0400	2.8373	.0048	.0349	.1921
Gender	.0979	.0925	1.0586	.2905	-.0839	.2797

Interactions:

int\_1 CRM X LOPCAT

\*\*\*\*\*  
\*\*\*\*\*

Outcome: CURT

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1999	.0400	2.8136	2.0718	7.0000	392.0000	.0456

Model

	coeff	se	t	p	LLCI	ULCI
constant	.7990	.5241	1.5245	.1282	-.2314	1.8295
CRM	.3929	.1213	3.2383	.0013	.1544	.6315
LOPCAT	.2403	.2302	1.0440	.2971	-.2122	.6928
int_1	-.0063	.3146	-.0200	.9841	-.6249	.6123
Age	-.0962	.1645	-.5850	.5589	-.4197	.2272
Edu	-.1286	.1160	-1.1086	.2683	-.3567	.0995
Occu	-.0077	.0739	-1.046	.9168	-.1530	.1376
Gender	-.1952	.1736	-1.1241	.2617	-.5366	.1462

Interactions:

int\_1 CRM X LOPCAT

\*\*\*\*\*  
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Outcome: CS

Model Summary

R	R-sq	MSE	F	df1	df2	p
.7216	.5208	.5771	72.8625	7.0000	392.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.1461	.2321	.6293	.5295	-.3103	.6024
CRM	1.0194	.0502	20.3028	.0000	.9207	1.1181
LOPCAT	.0773	.0988	.7819	.4347	-.1170	.2715
int_1	.0049	.1097	.0444	.9646	-.2108	.2205
Age	-.1617	.0785	-2.0597	.0401	-.3161	-.0074
Edu	-.0519	.0536	-.9674	.3340	-.1573	.0536
Occu	.0365	.0346	1.0551	.2920	-.0315	.1046
Gender	.1387	.0778	1.7835	.0753	-.0142	.2917

Interactions:

int\_1 CRM X LOPCAT

\*\*\*\*\*  
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Outcome: SQ

Model Summary

R	R-sq	MSE	F	df1	df2	p
.6600	.4356	.5737	58.4380	7.0000	392.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.1383	.2408	.5744	.5660	-.3350	.6116
CRM	.8567	.0450	19.0373	.0000	.7682	.9452
LOPCAT	.0305	.0995	.3065	.7594	-.1651	.2260
int_1	-.0221	.1097	-.2016	.8404	-.2378	.1935
Age	-.1263	.0743	-1.7007	.0898	-.2724	.0197
Edu	-.0501	.0560	-.8955	.3711	-.1602	.0599
Occu	.0335	.0372	.9018	.3677	-.0396	.1066
Gender	.0970	.0775	1.2517	.2114	-.0553	.2493

Interactions:

int\_1 CRM X LOPCAT

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Outcome: CA

Model Summary

R	R-sq	MSE	F	df1	df2	p
.7693	.5918	.5243	99.3639	7.0000	392.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	-.0334	.2368	-.1408	.8881	-.4990	.4323
CRM	1.1359	.0471	24.0925	.0000	1.0432	1.2286
LOPCAT	.0302	.0969	.3120	.7552	-.1602	.2207
int_1	.0165	.1108	.1491	.8815	-.2014	.2345
Age	-.0418	.0716	-.5829	.5603	-.1826	.0991
Edu	-.0358	.0546	-.6555	.5125	-.1431	.0715
Occu	.0604	.0341	1.7723	.0771	-.0066	.1275
Gender	.0199	.0731	.2729	.7851	-.1237	.1636

Interactions:

int\_1 CRM X LOPCAT

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Outcome: CBB

Model Summary

R	R-sq	MSE	F	df1	df2	p
.9537	.9095	.1470	277.5705	17.0000	382.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9679	.1194	41.6106	.0000	4.7331	5.2026
CL	.2919	.0511	5.7088	.0000	.1914	.3925
CURT	.0534	.0127	4.1903	.0000	.0283	.0785
CS	.2860	.0576	4.9670	.0000	.1728	.3993
SQ	-.1071	.0607	-1.7643	.0785	-.2264	.0123
CA	.7022	.0818	8.5845	.0000	.5414	.8630
CRM	-.3113	.0550	-5.6555	.0000	-.4195	-.2031
int_2	.1651	.1159	1.4244	.1552	-.0628	.3931
int_3	-.0243	.0268	-.9094	.3637	-.0770	.0283
int_4	.0704	.1572	.4477	.6546	-.2387	.3794
int_5	-.0865	.1283	-.6740	.5007	-.3387	.1658
int_6	-.2768	.1536	-1.8026	.0722	-.5787	.0251
LOPCAT	.0447	.0476	.9402	.3477	-.0488	.1382
int_7	.2252	.0996	2.2607	.0243	.0293	.4211
Age	-.0284	.0358	-.7937	.4279	-.0989	.0420
Edu	.0026	.0229	.1134	.9098	-.0424	.0476

Occu	-.0098	.0180	-.5426	.5877	-.0451	.0256
Gender	-.0792	.0392	-2.0231	.0438	-.1562	-.0022

Interactions:

int_2	CL	X	LOPCAT
int_3	CURT	X	LOPCAT
int_4	CS	X	LOPCAT
int_5	SQ	X	LOPCAT
int_6	CA	X	LOPCAT
int_7	CRM	X	LOPCAT

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS \*\*\*\*\*  
\*\*\*\*\*

Conditional direct effect(s) of X on Y at values of the moderator(s):

LOPCAT	Effect	SE	t	p	LLCI	ULCI
-.2325	-.3637	.0678	-5.3612	.0000	-.4970	-.2303
.7675	-.1384	.0739	-1.8734	.0618	-.2837	.0069

Conditional indirect effect(s) of X on Y at values of the moderator(s):

Mediator

	LOPCAT	Effect	Boot SE	BootLLCI	BootULCI
CL	-.2325	.3254	.0717	.1850	.4706
CL	.7675	.5511	.1480	.2856	.8643

Mediator

	LOPCAT	Effect	Boot SE	BootLLCI	BootULCI
CURT	-.2325	.0233	.0102	.0072	.0477
CURT	.7675	.0135	.0139	-.0022	.0606

Mediator

	LOPCAT	Effect	Boot SE	BootLLCI	BootULCI
CS	-.2325	.2746	.0618	.1542	.3940
CS	.7675	.3479	.1384	.1029	.6376

Mediator

	LOPCAT	Effect	Boot SE	BootLLCI	BootULCI
SQ	-.2325	-.0750	.0604	-.1935	.0411
SQ	.7675	-.1457	.0848	-.3448	-.0002

Mediator

	LOPCAT	Effect	Boot SE	BootLLCI	BootULCI
CA	-.2325	.8678	.1138	.6589	1.1049
CA	.7675	.5625	.1301	.2965	.8116

Values for quantitative moderators are the mean and plus/minus one SD



from mean.

Values for dichotomous moderators are the two values of the moderator.

\*\*\*\*\* INDEX OF MODERATED MEDIATION \*\*\*  
\*\*\*\*\*

Mediator

	Index	SE(Boot)	BootLLCI	BootULCI
CL	.2257	.1632	-.0726	.5632
CURT	-.0098	.0172	-.0383	.0308
CS	.0733	.1526	-.2058	.3980
SQ	-.0707	.1049	-.2875	.1192
CA	-.3053	.1710	-.6637	.0160

When the moderator is dichotomous, this is a test of equality of the conditional indirect effects in the two groups.

\*\*\*\*\* ANALYSIS NOTES AND WARNINGS \*\*\*  
\*\*\*\*\*

Number of bootstrap samples for bias corrected bootstrap confidence intervals:

5000

Level of confidence for all confidence intervals in output:

95.00

NOTE: The following variables were mean centered prior to analysis:

CRM CL CURT CS SQ CA LOPCAT

NOTE: All standard errors for continuous outcome models are based on the HC3 estimator

----- END MATRIX -----

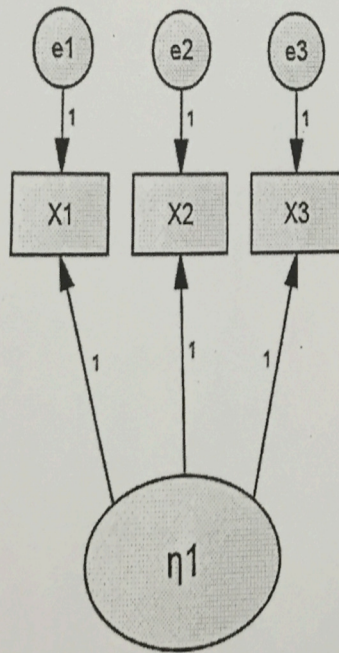
**Appendix 16:** British Academy of Management proceedings

Separately attached.

**Appendix 17:** Over-identified model

Constrain factor loadings = 1

Non-redundant parameters



$$\frac{1}{2}s(s+1) = 6$$

parameters to be estimated

3 \* error variance +

0 \* factor loading +

1 \* latent variance = 4

6-4 = 2 degrees of freedom, model is **over-identified**