

**SELF - SERVICE TECHNOLOGY AND CUSTOMER
SATISFACTION IN COMMERCIAL BANKS IN KENYA**

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DECLARATION

This research project proposal is my original work and has not been presented for the degree in any other university.

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This research proposal has been submitted for examination with my approval as the University supervisor.

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DEDICATION

I would like to dedicate this work to my wife Lilian Mbesa, my kids; MacNobel Masabo Jnr., Winstone Barack and lovely Sybya Ndunge for understanding, moral support and prayers throughout the time I was undertaking this project.

And to my loving mother Sibia Bitengo for her unceasing prayers, and finally to pay tribute to my late father Marco Masabo for setting me on a strong academic foundation.

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Last but not least, great thanks to all those who contributed to my work through their responses.

ABSTRACT

The current proliferations of technologies have allowed service providers to incorporate many different technologies into the delivery of their services. These technologies have been implemented in the service encounter for the customer to use with varying degrees of success. In the Kenyan banking industry, self-service technology is being adopted to allow customers deliver service themselves using some form of a technological interface. There is still a great deal unknown about self-service technology, in particular its impact on consumer satisfaction. With that in mind, this study explores the relative impact of self-service technology on consumer satisfaction.

Based on the literature review, the most frequently used SERVQUAL dimensions were chosen for this study namely; reliability, tangibility, communication, access, responsiveness, security, understanding and competence. Descriptive research was adapted and a questionnaire was administered through a structured interview to collect primary data.

The conclusion of the research showed a significant relationship between self service channels such as ATMs, internet banking, mobile banking and customer satisfaction in Kenyan banks. Self service channels enhances reliability, responsiveness, ensures security of customer transactions and accessibility. Moreover, these channels help in keeping records accurately, provide more information for the customers and provide more punctuality, transparency accountability.

Through the statistical testing of the multiple linear regression model adopted in the study, it was evident that responsiveness, tangibility and communications influence customer satisfaction. This means that self channels introduced by the bank should be able to significantly enhance communication, responsiveness and tangibility since they play a crucial role in ensuring customer satisfaction.

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LIST OF ABBREVIATIONS

SST:	Self Service Technology
ATM:	Automated Teller Machine
KBA:	Kenya Bankers Association
EFT:	Electronic Funds Transfer
CBK:	Central Bank of Kenya
SQ:	Service Quality
CRB:	Credit Reference Bureau
SERVQUAL:	Service Quality
IB:	Internet Banking
POS:	Point of Sale
KCB:	Kenya Commercial Bank
I&M:	Investment and Mortgage
USA:	United States of America
CBD:	Central Business District
ABC:	African Banking Corporation

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CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The Kenyan banking industry has suddenly witnessed a major boom in the recent years. In order for the banks to compete effectively, there has been a major focus to operational improvements with a view of minimizing the resulting impact on attrition, dormancy and loyalty, and in the process achieve a benefit in terms of their costs to serve and at the same time create maximum effect on customer satisfaction.

The need to achieve customer satisfaction lies in its ability to deliver better quality products and convenient solutions to the customers. Therefore, customer satisfaction is now being considered as a pre-requisite for customer retention, loyalty and convenience which ultimately helps in realizing the goals of profitability, market share, growth, return on investment and productivity. Satisfied customers have numerous benefits to the bank like better corporate image, cross selling opportunities, decreased customers defection, increased chances of word to mouth recommendation and facilitates the maintenance of long term and good customer relationships. Therefore in modern banking system, maintaining and developing long term customer relationships is essential for competitive business (Camarero, 2007).

In a bid to stay ahead of competition, most banks have resorted to adopting technology based self-service channels that promise to remove the constraint of time, distance and communication. From the banking institutions' point of view, automated self-service users are no more looked at as customers only, but rather as employees since they are more involved in the service (Honebein and Cammarano, 2005). Another perception of automation in the banking service is its competitive advantage and its use as a weapon of cost-effectiveness (Davies et al., 1996). In the same context Hernando and Nieto (2007) inferred that banks could cut costs pertaining to preservation of bank branches and employee remunerations when adopting self-service technologies. Owing to the recent focus and massive investments by banks on the self-service channels like internet

banking, Mobile banking and ATMs, this study determines the relationship between self-service channels and customer satisfaction among commercial banks in Kenya.

1.1.1 The Concept of Self- Service Technology (SST)

Self service technology is defined as a technological interface that aid users generating service without direct involvement from the service company employee (Meuter et al., 2000). Self-service facilities are where consumers deliver services themselves through the use of technology (Meuter et al., 2000).

Self-service technology cuts across a range of services, from traditional high contact services such as hotels to low contact services such as filling the car with petrol (Curran, Meuter and Suprenant, 2003; Meuter et al., 2000). The purpose of SST usage can be classified as customer service, transactions and self-help (Meuter et al., 2000). SST channels in the banking industry include; Internet banking (IB), Mobile banking, automated teller machine (ATM) and electronic fund transfer (EFT).

These technologies allow customers to withdraw funds, transfer funds anytime, anywhere they want and accessibility has been extended through technological development as it allows customers to do business from their home and office. It makes the banking activities and transaction simpler to understand while reducing the waiting time of the customer; no long queue standing is required. SST ensures there is no requirement of direct control with bank, as services can be operating wherever customer wants 24 hours a day, seven days a week. SST has enabled the corporate and retail customers to transact from home, office and traveling and significantly improved communication, and interaction between the bank and customer has been improved.

Past studies have acknowledged that personal interactions between consumers and front-line employees are important for consumer satisfaction and consumer commitment (Ganesh, Arnold and Reynolds, 2000). And now with rapid adoption of SST, the concern is the impact this potential loss of personal interaction may have on these evaluations, as

consumer satisfaction and consumer commitment that are important for organizational survival (Anderson, Fornell and Lehmann, 1994).

1.1.2 Customer Satisfaction

Customer satisfaction is an ambiguous and abstract concept because the actual manifestation of the state of satisfaction will vary from person to person, product to product and service to service. The state of satisfaction depends on a number of factors which consolidate as psychological, economic and physical factors. The quality of service is one of the major determinants of the customer satisfaction (Parasuraman, Zeithaml and Barry, 1985; 1998; Yi and Donthu, 2001 and Loiacono, Watson and Goodhue, 2002). Many researchers and experts mentioned that, service quality can be enhanced by using advanced information and communication technology.

Ingrid (2004) interpreted customer satisfaction as a feeling which results from a process of evaluating what was received against that expected, the fulfillment of needs and that customers with little expectation are more satisfied. Jochen Wirtz (2003) listed the results of customer satisfaction as follows: repeat purchase; loyalty; positive word -of-mouth and increased long term profitability.

1.1.3 Self-Service Technology and Customer Satisfaction

It is well recognized that front-line employees influence consumers' perceptions of the service encounter (Parasuraman, Zeithaml and Berry, 1985. 1988). As Bitner et al. (1990) states "many times ... personal interaction is the service from the customer's point of view". Personal interactions have been identified as dominant contributors to consumer satisfaction and consumer commitment (Bitner et al., 2000; Reichheld, 1993). Therefore, it is important to understand what impact SST has on consumer satisfaction. The proliferation of and rapid advances in technology-based systems, especially those related to internet are leading to fundamental changes in how companies interact with customers (Chowdhary and Prakash, 2007; Bauer et al., 2005; Akinyele and Akinyele, 2008). This trend is well established in service industry, where service providers are urged to invest

in technology to better secure their future in the electronic age (Zhang and Prybutok, 2005).

Today's winners are those who overcome consumer cynicism by exceeding expectation. The challenging environment in the financial service market has resulted to more pressure on banks to develop and utilize alternative delivery channels with a view of attracting more customers, improving customer perception and encouraging loyalty (Bauer, 2005, Lee and Lin, 1996). A more developed service in Daniel (1999)'s view is one that provides customers with an opportunity to gain access to their accounts and execute transactions. When customers of retail banking avail the services through these SSTs, they get more benefits in terms of time, money, less physical efforts besides 24 hours, seven days 7 access to banking (Bitner et al., 2002; Meuter et al., 2000; Bitner et al., 2000; Brown, 1997).

Customer satisfaction is a function of customer expectation level and service quality level provided by the organization. Technology plays a pivotal role in giving satisfaction to the customers because it fills the gap between the expected and perceived service quality. Technology also delivers the same kind of services to all the customers irrespective of time and place and without human biasness since they do not suffer from any fatigue, forgetfulness and stress.

1.1.4 The Banking Industry in Kenya

Banking in Kenya started in 1896 with the National bank of India opening its first branch. Standard Chartered opened its first branch in Mombasa and in Nairobi in 1911. KCB was established in 1958 with Grindlays Bank of Britain merging with National bank of India. The Co-operative Bank of Kenya was established in 1965 with the aim of supporting cooperative societies financially three years after National Bank was incorporated (Ojung'a, 2005). According to CBK (2012), during the period ended June, 2011 the sector comprised of 43 Commercial Banks, 1 mortgage finance company, 6 deposit taking

micro-finance institutions, 2 CRB companies,³ representative offices and 124 foreign exchange bureaus.

In Kenya the banking industry is governed by the Companies Act, the Banking Act, the Central Bank of Kenya Act and the various prudential guidelines issued by the CBK). The CBK, which falls under the Ministry of Finance, is responsible for formulating and implementing monetary policy and fostering the liquidity, solvency and proper functioning of the financial systems. The banks have come together under the Kenya Bankers Association (KBA), which serves as a lobby for the banking sector's interests.

According to Pricewaterhouse Coopers, over the last few years, the banking sector in Kenya has continued to grow in assets, deposits, profitability and products offering. The growth has mainly been underpinned by an industry's wide branch network expansion strategy both in Kenya and in the East African Community Region and the automation of large number of services and a move towards emphasis on the complex customer needs rather than traditional 'off -the-shelf' banking products. Players in this sector have experienced increased competition over the last few years resulting from increased innovations among the players and new entrants into the market since it was liberalized in 1995 and exchange controls lifted.

1.2 Research Problem

In a competitive market place understanding and responding to customer needs has become an important factor. As a result, companies have moved from product –centric to a customer-centric position (Hanson, 2000). Unlike in manufacturing, in the service industry it's more difficult to make your products differ from the competition. In the banking industry for instance, the current climate is characterized with intense competition, with new financial providers emerging every other day, the level of customer satisfaction is now being perceived as the key differentiator in the market place. According to Parasuraman et al. (1998) the banking industry has been depicted as exhibiting little market orientation and fulfilling service with little regard to customer

needs as well as including branches dissimilar in efficiency, long lines, limited time to customer servicing, transaction errors, excessive bureaucracy, security and network failure.

To answer this call, the adoption of SSTs is becoming a common trend among commercial banks that are pumping a lot of investment into technology based solutions. Whilst the deployment of self-service technology (SST) channels in banking industry is motivated by the desire to lower operating expenses and improve levels of efficiency, there are other motivations, like addressing customer needs, demand or pain-point, to build rapport with clients, to target emerging markets, or to offer a differentiating quality over the competition. SST is a relatively recent service delivery method compared to personal service, and as a result there is comparatively little research on this topic. There have been a number of calls for further investigation into the impact of SST on the service encounter, and in particular its impact on consumer retention (Curran et al., 2003; Meuter et al., 2000).

Recently, academic research has recognized the critical importance of technology in the delivery of services (Meuter et al., 2000; Dahholkar, 1994.1996; Parasuraman, 1996; Quinn, 1996). Some suggest that the traditional market place interaction is being replaced by a market-space transaction (Rayport and Sviokia, 1994. 1995). The new market-space is defined as "a virtual realm where products and services exist as digital information and can be delivered through information based channels" (Rayport and Sviokia, 1995). These technology based interactions are expected to become a key criterion for long-term business success. Parasuraman (1996) lists the growing importance of self-service as a fundamental shift in the nature of services. Although many academic researchers have acknowledged a need for greater understanding in this area (Meuter and Bitner, 1998; Schneider and Bowen, 1995), little is known about how interactions with these technological options affect customer satisfaction.

Several studies have investigated issues involving SST mainly focusing on the development of user profiles (Eastlick, 1996; Greco and Fields, 1991; Langeard et al.,

1981). Langeard and colleagues (1981) attempted to segment markets on the basis of willingness to participate actively in the delivery of services. This is one of the oldest and the most comprehensive early studies done to identify and describe customers who might be willing to use a self-service delivery alternative. Langeard and colleagues (1981) found that participants tend to be younger, single, and better educated with a lower income level.

In the Kenyan context, there have been a number of studies on customer satisfaction, for instance Ndungu (2012) conducted a study on the effects of customer satisfaction in the mobile telecommunication industry and found out that reliability of service, competence, responsiveness and access to service contributes to customer satisfaction. Additionally, the study revealed that there exist a positive relationship between customer satisfaction and service quality. Yator (2012) conducted a study on the effect of service quality on customer satisfaction in the hospitality industry and found out that in the service industry, customer satisfaction has a strong correlation with service quality. Others who have conducted studies on customer satisfaction in Kenya include (Murungi, 2002) in banking, Imbuga (2004) on supermarkets, Mumbi (2003) on Airlines and Waithaka (2006) on learning institutions. All these studies have shown that service quality is the key determinant of customer satisfaction. However little is known as far as self-service technology and customer satisfaction in the Kenyan banking Industry is concerned. In regards to this discussion, the aim of this research was to answer the questions as to what are the most common SST channels used by customers of commercial banks and the relationship between these SST channels and customer satisfaction among commercial banks in Kenya.

1.3 Research Objective

The objectives of the study;

- i. To establish the relationship between self-service technology and customer satisfaction among commercial banks in Kenya
- ii. To determine most commonly used SST channels by bank customers.

1.4 Value of the Study

The findings of this study have valuable implications on the industry, especially to bank managers who will find the information useful in formulating service related strategies and use the outcome of this study as a bench mark to review the present service initiatives.

The finding of this study will form a basis for the bank managers to determining whether the massive investment in adoption of technology is justifiable. Finally, the study contributes to the existing knowledge in self-service technology and customer satisfaction and serves as source of reference to future researchers and academicians in this field.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents the theoretical and empirical literature on self-service technology and customer satisfaction. The chapter focuses on the definition of self-service technology, self-service technology (SST) channels, customer satisfaction, and service quality on customer satisfaction, self-service technology and customer satisfaction and sums up the chapter with a brief summary of the literature review.

2.2 Self-Service Technology

Amanda (2007) defines self-service technologies as services that are performed by customers themselves using various types of technological innovations, such as ATMs, the Internet, touch screens, and interactive kiosks. They represent an alternative way of service delivery using innovative technologies for complementing or even replacing personal services.

Self-service technologies (SSTs) are technological interfaces that enable customers to produce a service independent of direct service employee involvement. SST channels include among others automated teller machines (ATMs), automated hotel checkout, mobile banking and services over the internet such as Federal Express package tracking and online brokerage services. Although extensive academic research has explored the characteristics and dynamics of interpersonal interactions between service providers and customers, much less research has investigated customer interactions with technological interfaces (Fischer, Gainer, and Bristor, 1997).

Customers value the convenience, consistency and self control of automated transactions over a friendly smile, while companies value the increased coverage, low cost of operation and reliability of automating transactions. It is common practice for individuals to encounter long lines and companies that are closed when you want to do business, as a

result opportunities to conduct transactions online or using self- service technologies have become a welcome alternative to most consumers.

2.3 Self- Service Technology Channels

The existing research on SST focuses on either a single technology in a given study Dabholkar (1992) or, in the case of the early studies, primarily low-technology self-service like hotel vending machines versus room service and primitive forms of ATMs (Bateson, 1985; Langeard et al., 1981). None of the research attempts to examine the range of SSTs available to consumers today. In the current study, we explore diverse available SSTs, some are well established, whereas others are in their infancy, and others may never be successful on a large scale.

SST channels are classified into 3 main categories based on their purpose namely customer service, transactional and self help. Customer service facilities include; telephone, flight information, order status, package tracking, account information, ATMs and hotel check out. Transactional such as mobile banking,prescription refills, retail purchasing,financial transactions,pay at the pump,hotel checkout and car rental.Self- help services would include Information telephone lines, internet information search,distance learning, blood pressure machines and tourist information

2.4 Customer Satisfaction

Customer satisfaction is defined as an evaluation of perceived discrepancy between prior expectations and the actual performance of the product (Oliver, 1999). Customer satisfaction is how customers evaluate the ongoing performance (Gustasson et al., 2005). Customer satisfaction is a customer's reaction to the state of satisfaction, and customer's judgment of satisfaction level (Kim et al., 2004).The concept of customer satisfaction and service quality is interrelated with each other, moreover satisfaction of customer depends upon service quality and service quality is increasingly offered as a strategy by marketers

to position themselves more effectively in the market place (Parasuraman et al., 1988; Cronin and Taylor, 1992). Therefore customer satisfaction can be studied with the service quality in mind since level of customer satisfaction is the function of customer expectation level and service quality level provided by the organization.

Customer satisfaction is a result of cognitive and affective evaluation, where some comparison standard is compared to the actual perceived performance. If the perceived performance is less than expected customer will be dissatisfied and vice versa. If the perceived expectations are met with performance, customers are in an indifferent or neutral state. In general increased customer satisfaction leads to higher customer retention rate, increases customer repurchase behavior and ultimately drive higher firm profitability (Egan, 2001). As a result any business is likely to lose market share, customers and investors if it fails to satisfy customers effectively and efficiently as its competitors is doing (Anderson et al., 2004).

Kim et al. (2004) argues that service providers should provide customer oriented service in order to heighten up customer satisfaction. It was also found that customers get satisfied with the brand more if they get all they needed accumulated in that very brand (Ah et al., 2006). Researchers have examined how customer satisfaction is affected by service quality but all agree that the relationship between the two is a subject of contention. Satisfaction is an antecedent of service quality, and this view is seen a global perception (Bitner, 1990; Bolton and Drew, 1991). Consequently Cronin and Taylor (1992) and Spreng and McCoy (1996), state that service quality is the cause of customer satisfaction. Cronin and Taylor (1992), Woodside Frey and Dale (1989) also believe that consumer satisfaction is a cause of purchasing intentions. Therefore assessing overall satisfaction, it is important to identify the key drivers of this satisfaction assessment as they enable managers to ascertain the relative importance of different components of the service (Garbarino and Johnson, 1999).

By identifying these components managers are able to focus on those which are of primary importance to consumers, with the aim of improving overall satisfaction (Ganesh et al., 2000)

2.5 Service Quality on Customer Satisfaction

Relationship stuck between satisfaction and service quality is the key to measure user satisfaction (Pitt et al., 1995). The customer judgment of overall excellence about service quality of a service sector is termed as perceived service quality (Parasuraman et al., 1988). This judgment is based on difference that what a customer expects from his service provider and what the actual service he receives from it (Parasuraman et al., 1988). For the measurement of impact of e-banking on service quality, a model named SERVQUAL was developed by Parasuraman (1988). The model consists of ten components. SERVQUAL provides a technology for measuring and managing service quality (SQ). When the technology was first published, its innovators Parasuraman, Zeithamal and Berry have further promulgated and promoted the technology through a series of publication (Parasuraman et al., 1994). SERVQUAL fills a gap between what the customer expect, by way of SQ and what he is actually getting. SQ is presented as a multi dimensional construct. In the original formulation Parasuraman et al. (1985) identified ten components of SQ. In their 1988 work, these ten dimensions were reduced to five dimensions namely; Tangibility, Reliability, Responsiveness, Assurance and Empathy. The Tangible elements deal with the availability of physical facilities, equipment and personnel. Reliability is the ability of the service provider to perform a service dependably and accurately. Responsiveness is concerned with the willingness of service provider to assist customers and deliver prompt services. Assurance means that customers can put their trust in service provider employees and Empathy is individualized care and attention that customer receives from service provider (Parasuraman et al., 1988).

The applicability of service quality in banking sector has revealed various results. Service quality application in Cyprus banking industry identified three dimensions influencing the service quality i.e. tangibles, reliability, and responsiveness-empathy (Arasli et al., 2005). In Chinese banking sector six dimensions of service quality were revealed namely tangibles, reliability, responsiveness, assurance, empathy 1 (understanding of needs) and empathy 2 (convenient operating hours) (Lam 2002).

The quality of the services that a bank provides is related to the satisfaction of customers and it is estimated by dissatisfying and satisfying the service provided by the bank over time. The perceived service quality has positive effect on satisfaction of customers. Previous studies have revealed that perceived service quality has positive effect on satisfaction of customers in banking (Cronin and Taylor, 1992). Bei and Chiao (2006) also reported positive influence of perceived service quality on three service providers i.e. petrol station, automobile repair and banking. Significant correlations have been found between overall customer satisfaction and service quality dimensions (Aldaigam and Buttle, 2002). The service quality in banking industry relates to assurance, empathy, responsiveness and reliability (Johnston, 1995). Reliability and assurance has strong influence on banking sector service quality and customer satisfaction (Zhou, 2004).

Study carried out in USA, Netherland, Hong Kong, Morocco and Australian banking sector reported direct impact of service quality on customer satisfaction (Brady et al., 2005). Similar results have been reported in Greek banking industry (Arsali et al., 2005). Six dimension scale for evaluating service quality in banks have been developed by Bahia and Nantel (2000) from the original ten dimensions proposed by Parasuraman et al. (1985). The six dimensions were reliability, tangibles, access, effectiveness and assurance, range of services and prices.

The quality of the services that a bank provides is related to the satisfaction of customers and it is estimated by dissatisfying and satisfying the service provided by the bank over time. The perceived service quality has positive effect on satisfaction of customers.

2.6 Self-Service Technology and Customer Satisfaction

As customers become more sophisticated, it becomes essential to consider the use of technology to respond to their continuously changing needs. Banking is an industry which is highly involved with the customers. Customers in developing economies seems

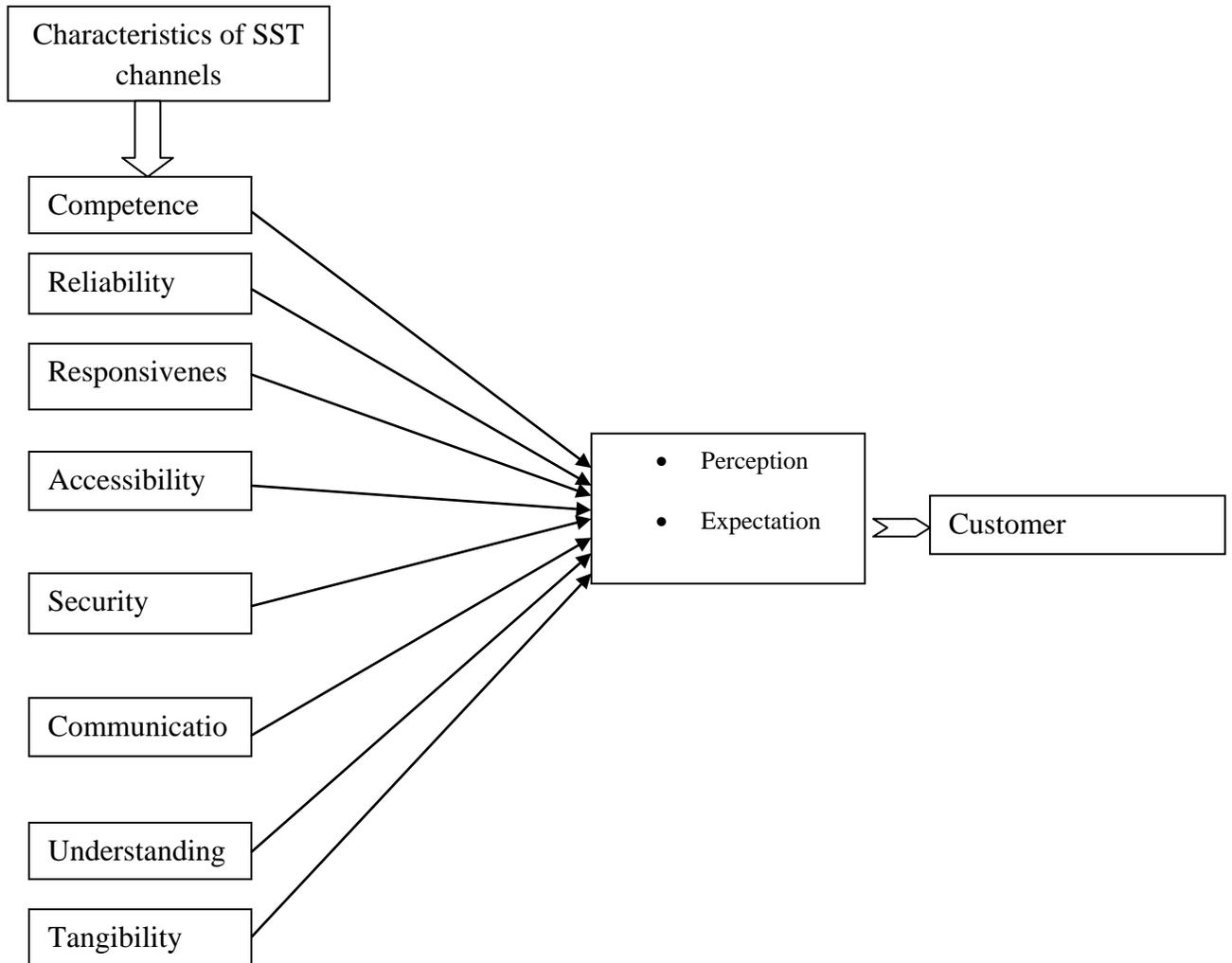
to keep the “technological factors” of services as the yardstick in differentiating good and bad services and the human factor – the employees seem to play a lesser role in discriminating the quality of service for banks. The variation in services offered by the banks develops the excellence for service quality. Banking is no longer regarded as a business dealing with money transaction alone, but it is also seen as a business related to information on financial transaction (Padwal, 1995). Customers whether at the corporate level or at retail level have always been important for the banks. As SST is becoming more prevalent, so level of customer satisfaction is also changing the scenario of technological environment. SST plays a significant role in providing better services at lower cost. Several innovative SST such as Automated Teller Machine (ATM), Internet banking, Smart cards, Credit Cards, Mobile banking, anywhere-anytime banking have provided number of convenient services to the customer. So as the service quality improves, the probability of customer satisfaction increases which in turn increases the mutual understanding, customer retention and a bond of trust between customer and bank. The banks which are providing these services at large extent to customers are more reputed in the eyes of customers.

SST has revolutionalized traditional banking systems because it has reduced the cost of transaction processing, improved the payment efficiency, financial services and improved the banker-customer relationship. The relationship between SST and customer satisfaction can be studied with the service quality in mind.

2.7 Conceptual Framework

Figure 2.1

Conceptual Framework



Independent Variables

Moderating Variable

Dependant variable

2.8 Summary

Self-service technologies are defined as services that are performed by customers themselves using various types of technological innovations, such as ATMs, the Internet, touch screens, and interactive kiosks. The technological interfaces that enable customers to produce a service independent of direct service employee involvement. Customer satisfaction is defined as an evaluation of perceived discrepancy between prior expectations and the actual performance of the product (Oliver, 1999).

Customer satisfaction is a customer's reaction to the state of satisfaction, and customer's judgment of satisfaction level (Kim et al., 2004). The concept of customer satisfaction and service quality is interrelated with each other; moreover satisfaction of customer depends upon service quality. The relationship between satisfaction and service quality is the key to measure user satisfaction (Pitt et al., 1995). For the measurement of impact of e-banking on service quality, a model named SERVQUAL was developed by Parasuraman (1988). The model consists of ten components. SERVQUAL provides a technology for measuring and managing service quality.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology that has been used in this study. The key areas tackled include; research design, target population, sample of the study, data collection instruments and procedures and data analysis.

3.2 Research Design

The research design adopted was descriptive. A descriptive research aims at describing the characteristics of the population under study (Quee, 1999).

Thomas (2011) offers the definition of a study as the analysis of persons, events, decisions, periods, projects, policies, institutions, or other systems that are studied by one or more methods. The case that is the subject of inquiry will be an instance of a class of phenomenon that provides an analytical frame and object within which the study is conducted and which the case illuminates and explicates. The subject of inquiry in this study is the relationship between SST and customer satisfaction

3.3 Target Population

The target population was clients of all commercial banks in Kenya.

3.4 Sample Design of the Study

A two-stage sampling technique was adopted. In the first stage a list of all commercial banks was compiled and ten banks randomly selected. Stage two was to list all the branches of the selected banks that are found within the central business district (CBD) and randomly select one branch for each bank. Afterwards a questionnaire was administered to 15 customers from the branches identified through a structured interview.

3.5 Data Collection Instruments and Procedures

Questionnaire was used to collect primary data through a structured personal interview. The questionnaire comprised of two sections, A and B. Section A collected data on the profile of the respondent, section B collected data relating to the study objectives on customer satisfaction levels on particular independent variables in order to generate statistically the people's attitudes and opinions. The questionnaire adopted Likert scale of 1-4.

3.6 Data Analysis

Descriptive analysis of the data was done through calculation of mean scores and standard deviation, proportions, frequency distribution tables and cross tabulations. Chi-square test was used to determine relationship between demographic variables. Regression analysis was employed to analyze relationships on variables while ANOVA was also used to test the appropriateness and reliability of the model results.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

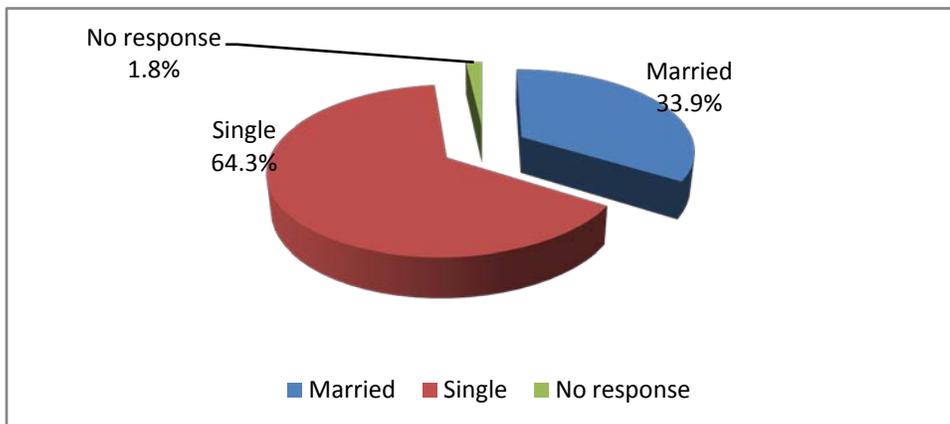
4.1 Introduction

This chapter contains the findings of the study based on the data collected from the field. The study sought to investigate the relationship between self service technology and customer satisfaction among commercial banks in Kenya. The data was analyzed and the information presented in form of pie charts, bar graphs and cross tables.

4.2 Demographic Information

Respondents form an important component of the primary data. So it is very essential that the personal profile of the respondents undergo a study. Descriptive analysis was done to represent the demographic information of the respondents. The sample size consisted of 112 respondents from 10 commercial banks that were selected randomly. As such the first section of questionnaire, contained questions on basic attributes of the respondents such as gender, age, marital status and educational qualification. Tables 4.1 and 4.2 present this information.

Figure 4.1: Respondents' Marital status



From figure 4.1 the study established that majority (64.3%) of the respondents were single while 33.9% were married and paltry 1.8% declined to respond on this question possibly because they considered the question too personal.

This means that the majority of the respondents were single and also this findings are consistent with the findings on age of the respondents which shows that majority of the respondents were below thirty years of age.

Figure 4.2: Education Levels of the Respondents

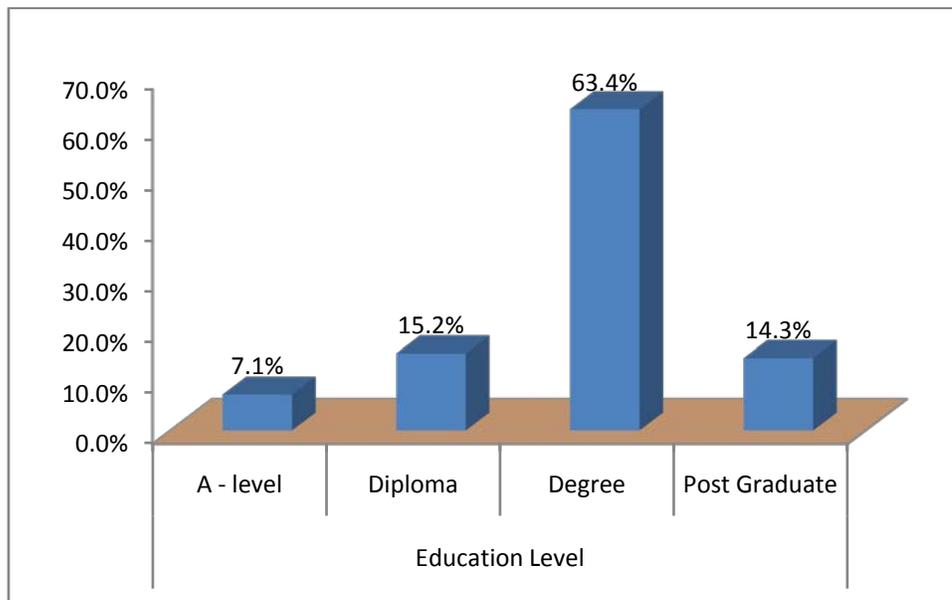


Figure 4.2 shows that majority (63.4%) of the respondents had attained an undergraduate degree while 15.2% had attained a diploma, 14.3% had attained a post graduate degree as their highest level of education. This shows that majority of the respondents were educated thus they understood well the self service technology in their specific banks.

This findings are very much consistent with earlier studies that were done that showed that the majority of the people who seeking banking services are more knowledgeable nowadays as opposed to the past.

4.2.1 Age and Gender Cross Tabulation

In order to understand the dynamics around relationship between demographic variables like age/gender, across tabulation was carried out. Table 4.1 exhibits the cross tabulation between age and gender.

Table 4.1: Age and Gender Cross Tabulation

Age of the Respondents	Gender				Total	
	Male		Female			
	F	Percent	F	Percent	F	Percent
Below30 years	52	46.4	32	28.6	84	75.0
31 - 40 years	12	10.7	5	4.5	17	15.2
41 - 50 years	3	2.7	4	3.6	7	6.3
51 years and above	4	3.6	0	0	4	3.6
Total	71	63.4	41	36.6	112	100.0

It was observed that 63.4% and 36.6% of the respondents were male and female respectively. Of these groups 46.4% and 28.6% of the female and of the male respondents were 30 years and below respectively. 10.7% of the male respondents and 4.5% of the female respondents were between 31-40 years of age. This shows that majority of the clients from the sampled banks were young people mostly below 40 years of age.

This study actually serves to prove that unlike the olden days; more young people are now accessing banking services early in life and that the SST channels are meant to target this segment of the population.

4.3 Self-Service Technology Channels Signed up by the Respondents

In order to have perspective of the responses given on the relationship between SST and the level of customer satisfaction, it was important to collect data on the level of uptake of various channels by the customers. Table 4.2 presents the data on the how various channels were distributed among the interviewed customers

Table 4.2: Type of self-service channels Signed up by the Respondents

Self-Service Channels	Frequency	Percent
Mobile banking	45	40.2
Internet banking	22	19.6
ATM facility	91	81.3

The study established that majority of the respondents (81.3%) had signed up for ATM facility, followed by 40.2% who had signed up for mobile banking. The increased use of mobile banking may be attributed to the increased use of mobile phones in the country. On the other hand, 19.6% of the respondents revealed that they had signed up for internet banking.

This means that ATM services accounted for the majority of the users of SST mainly because the service is relatively old in the country-it was the first SST channel to be introduced by commercial banks in Kenya. The other reason for more up take is because virtually all accounts are accompanied by an ATM card and that it is the only facility that dispenses cash as opposed to the other two. The other two services-internet banking and mobile banking are relatively new in the markets as such the up take levels are still low.

4.4 Relationship of Customers with their Banks

In order to investigate the relationship between SST and the level of customer satisfaction, it was important to explore for how long respondents held their accounts in the banks. Table 4.3 presents the historical perspective on the banking relationship for the interviewed customers while table 4.4 presents the cross tabulations between the customers' duration and the SST channels signed up.

Table 4.3: Duration Stayed with the Bank

Duration	Frequency	Percent
Less than 1 year	23	20.5
1 - 3 years	36	32.1
3 - 5 years	23	20.5
Above 5 years	30	26.8

The study established that most of the respondents (32.1%) had stayed with their respective banks for duration of 1-3 years while 26.8% indicated that they had stayed with their respective bank for a period of more than five years. This therefore implies that majority of the respondents had stayed with their banks for a longer period thus they were conversant with the products and the self services offered by their banks. Only 20.5% of the respondents had stayed with their respective banks for duration of less than one year.

This study shows that the majority of the customers are relatively new in the bank. This will be explained by the fact that more young people especially college going children are now encouraged to open and run accounts. The proliferation of commercial banks in the last five years also explains why majority of the account holders are relatively younger with their banks.

Table 4.4: Cross tabulation: Duration with the Bank and the Type of SST Channels Signed Up

Duration stayed with the Bank	Mobile Banking		Internet Banking		ATM Facility	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Less than 1 year	10	8.9	3	2.7	17	15.2
1 - 3 years	12	10.7	6	5.4	25	22.3
3 - 5 years	12	10.7	8	7.1	21	18.8
Above 5 years	11	9.8	5	4.5	28	25.0
Total	45	40.2	22	19.6	91	81.3

The study shows that 15.2% of the respondents who were using ATM had been with their respective bank for less than one year while 22.3% had been with their banks for 1-3 years while 25% of the respondents who had signed up for ATMs had been with their banks for more than five years. On the other hand, 10.7% of the respondents who had signed up for mobile banking revealed that they had been with their banks for duration of 1-3 years and 3-5 years respectively.

This trend is very consistent with the literature review that revealed ATM machines were among the first SST to be adopted in Kenya and as such uptake is expected to be high among the older clients. Mobile banking is also prevalent due to the convenience of the usage of mobile devices. Internet banking has the lowest uptake among the older groups mainly because of the usage of internet is becoming common with the younger generation.

4.5 Exploring the Relationship between SST and Customer Satisfaction

For the measurement of the relationship between SST and customer satisfaction, SERVQUAL model developed by Parasuraman et al. (1985) has been used. Various statistical tools were applied for the said purpose like mean, standard deviation, regression analysis, significance level and ANOVA. Various dimensions of SERQUAL were investigated independently and the findings have been discussed below.

4.5.1 Reliability Dimension

This section sought to establish the level of reliability of the self-service channels provided by the commercial banks. A scale of 1-4 was used where: 1=No extent, 2= little extent, 3=Moderate extent, 4=Great extent. Means and standard deviation were used to analyze the data. The results are as shown below in table 4.5.

Table 4.5: Analysis of Customers' Perceptions Regarding Reliability Dimension

	Mean	Std. Deviation
Provides accuracy in billing	3.06	0.783
Helps in keeping records accurately	3.29	0.767
It performs the service at designated time	3.09	0.870
Average	3.15	0.807

The study reveals that the respondents agreed to a moderate extent on all the three questions that were asked. On the accuracy of billing the respondents agreed to a moderate extent as well as in keeping records accurately as represented by a mean score of 3.06 and 3.29 respectively. On the other hand, the respondents agreed to a moderate extent that that self service channels performed the service at designated time and shown by a mean score of 3.09. On overall, the customers' perceptions regarding reliability dimension was at moderate extent as shown by a mean score of 3.15.

The respondents exude a lot of confidence in as far as reliability of SST is concerned. They agreed to moderate extent to all the questions asked under this dimension, this means that they are actually satisfied with the SST channels in as far as the level of reliability is concerned. They acknowledge that the SST is accurate in billing as such this reduces time wasted on queries about costs of services. With this perception it is clear that this dimension will greatly influence the levels of uptake of SST channels.

4.5.2 Responsiveness Dimension

On this dimension the study sought to establish the extent to which the respondents agreed with SST's responsiveness. A scale of 1-4 was used to measure the level of perception where represented 1= strongly disagree, 2=disagree, 3=agree, 4=strongly agree. The results of the study are as shown below.

Table 4.6: Analysis of Customers' Perceptions Regarding Responsiveness

Dimension

	Mean	Std. Dev.
Availability of service is faster in SST compared to manual banking	3.19	0.804
Response of service is very prompt and quick	3.11	0.743
Response of service through e-banking is very prompt and quick	3.03	0.844
Average	3.11	0.797

In regards to this dimension the respondents agreed that availability of service is faster in SST compared to manual banking. Further the respondents agreed that response of service was very prompt and quick; this was presented by a mean score of 3.19 and 3.11 respectively. The study also shows that the respondents agreed that response of service through e-banking was very prompt and quick; this is presented by a mean score of 3.03. In general the respondents agreed on the responsiveness of SST channels as shown by an average mean score of 3.11.

This means that on the overall perception, the respondents agreed that SST channels increases the level of satisfaction in as far as responsiveness of is concerned. This level of comfort on virtually all the aspects regarding responsiveness translates to increased levels of satisfaction amongst the users of the services and serves to encourage the usage of the facilities as intended by the commercial banks.

4.5.3 Security Dimension

With regards to the perception on security dimension of self service channels offered by the commercial banks in Kenya. The study used a scale of 1-4 where: 1=strongly disagree 2=disagree, 3=agree, 4=strongly agree. The results are as shown below:

Table 4.7: Analysis of Customers' Perceptions Regarding Security Dimension

	Mean	Std. Dev.
Ensure physical safety of the transaction	3.10	0.852
It increases the financial security	3.09	0.781
Privacy can be easily maintained	3.07	0.836
Password facility provides confidentiality to transaction	3.31	0.848
Average	3.143	0.829

Table 4.7 shows that the respondents agreed that self service channels ensure physical safety of the transaction in regards to all the questions that were asked. On specific questions, the respondents agreed that they increase the financial security; this is shown by a mean score of 3.09. The respondents also agreed that, with self service channels privacy can be easily maintained; this is presented by a mean score of 3.07. On the other hand, majority of the respondents agreed that self service channels have password facility which ensures confidentiality to transaction; this is also shown by a mean score of 3.31. On overall, the respondents agreed on security dimension of the self service channels as shown by a mean score of 3.143.

This means that on the overall perception, the respondents agreed that SST channels are more secure and that they are more comfortable using the services without fear of losing money or fear of their accounts being hacked by fraudsters. This level of comfort actually increases the level of satisfaction amongst the users of the services and serves to encourage the usage of the facilities as intended by the commercial banks.

4.5.4 Access Dimension

Table 4.8 below presents the results in regard to the respondents' perception on the access dimension of the SST in commercial banks bank in Kenya. On a scale of 1-4 on likert scale the outcome is represented below.

Table 4.8: Analysis of Customers' Perceptions Regarding Access Dimension

	Mean	Std. Dev.
Services is easily accessible Self service technology channels	3.28	0.829
Provides convenient location of service facility	3.22	0.759
Reduces the waiting time to receive the service	3.14	0.837
Online purchase of goods and services is easier	3.13	0.833
Average	3.193	0.815

On the access of self service channels, the respondents agreed that the services were easily accessible via internet banking, mobile and ATM banking; this is also shown by a mean score of 3.28. On the other questions the respondents agreed that the self service channels provided convenient location of service facility, reduced the waiting time to receive the service and made online purchase of goods and services was easier. On overall, the respondents' perception on the access dimension of self service channels in high as shown by a mean score of 3.193.

What this implies is that SST channels are more accessible compared to the traditional banking hall, the services have also proven to be convenient in the sense that the services can be accessed from anywhere any time and for a variety of transactions and that the waiting time has been reduced. All this factors serve to increase the satisfaction levels thus making these channels a preferable option.

4.5.5 Communications Dimension

Table 4.9 below presents the results in regard to the respondents' perception on the communication dimension. The study sought to determine the perception of the respondents in regards to this dimension and the results are presented in the table below.

Table 4.9: Analysis of Customers' Perceptions Regarding Communications

Dimension

	Mean	Std. Dev.
Self-service channels explain the service	2.91	0.780
Explains the cost of service being used	2.77	0.849
Assures the customer that problem will be handled	2.79	0.998
Provides up to date information	3.02	0.858
Provides more information for the well educated customers	3.02	0.951
Average	2.902	0.887

The respondents disagreed that self-service channels explained the service; this is presented by a mean score of 2.91. They also disagreed that the self service channels explains the cost of service being used; this is shown by a mean score of 2.77. The study also established that self service channels provided up to date information as shown by a mean score of 3.02. However the respondents agreed that the self service channels provided more information for the well educated customers; this is presented by a mean score of 3.02. On overall, the respondents had a mixed perception on this dimension though the overall conclusion represents a low perception as shown by a mean score of 2.902.

Regarding communication the clients exuded mixed reaction on the perception but generally the responses showed that the SST channels are not friendly in as far as communicating to various clients' needs are concerned. The fact that the respondents indicated that they are not satisfied with the manner in which this services explain the costing of its service and assurance of problem resolution shows that a lot of improvement needs to be done by the commercial banks to customize the services according to the needs of individual users so as to take care of the various levels of the customer's academic orientations. Otherwise this dimension may account for low level of uptake of these services if it's not addressed properly.

4.5.6 Understanding Dimension

In table 4.10 below, the study sought to establish the respondents' perception on understanding dimension of the self service channels. A scale of 1-4 the results were presented below.

Table 4.10: Analysis of Customers' Perceptions Regarding Understanding Dimension

	Mean	Std. Dev.
It provides individualized attention to the customers	2.95	0.880
It provides necessary information to the customers	3.07	0.828
Technologies are designed according to the need of the customer	2.98	0.892
It ensures to provide necessary information to the customer	3.19	0.833
Average	3.048	0.859

Table 4.10 shows that the respondents' perceptions in as far as understanding dimension is concerned. Respondents agreed that self service channels provide necessary information to the customers; this is presented by a mean score of 3.07. The respondents also agreed that the self service channels ensure to provide necessary information to the customer; this is presented by a mean score of 3.19. However, the respondents disagreed that these technologies were designed according to the need of the customer; this is presented by a mean score of 2.98. On overall there were mixed perceptions' given that some responses scored above 3.0 while others scored below.

The general outcome of this dimension shows that the respondents are actually happy with the extent to which that SST serve in understanding their needs. They are happy that they are able to get information that they require. However the respondents were concerned that the SST are not customized enough to address individual problems and that the level of individual attention is not to their expectation. But this agree that this aspect of SST do contribute to increased level of user satisfaction which in turn impacts positively the overall satisfaction levels

4.5.7 Tangibility Dimension

In this section, the study sought to establish the respondents' perception on tangibility of the self service channels. To achieve this, a scale of 1-4 was used where 1 depicted a strong disagreement while 4 meant a strong agreement with the statement. The results are as shown below in table 4.11.

Table 4.11: Analysis of Customers' Perceptions Regarding Tangibility Dimension

	Mean	Std. Dev.
Provides 24hrs, 365 days a year service to customers	2.95	0.907
It helps in reducing the number of queues in the bank branches	3.16	0.915
Provides more physical facilities to the customers	3.05	0.745
Physical representation of service through plastic card, credit and debit card is easy	3.28	0.803
Average	3.11	0.8425

On tangibility of self service channels, the respondents disagreed that self service channels provides 24hrs, 365 days a year service to customers; this is presented by a mean score of 2.95. They however agreed that they helped in reducing the number of queues in the bank branches; this is shown by a mean score of 3.16. Majority of the respondents agreed that they provided more physical facilities to the customers; this is presented by a mean score of 3.05. The respondents respectively agreed and strongly agreed that physical representation of service through plastic card, credit and debit card was easy; this is presented a mean score of 3.28.

This observations show that the clients are actually influenced by the tangibility aspect of SSTs. This dimension explains the fact that up take of the SST services have also been influenced by the fact that clients are satisfied with the element of availability of the services at any day and any time. Clients no longer need to queue to seek banking services. The overall impact of this assessment is increased satisfaction with the usage of SSTs. This has also had significant influence on the uptake of the services since most

customers are too busy to keep visits banking halls to transact.

4.5.8 Competence Dimension

Table 4.12 presents the results on the extent to which the respondents agreed on the competence of self service channels offered by the commercial banks. A scale of 1-4 was used where 1 was strongly disagree, 2 disagree, 3 agree while 4 meant a strong agreement with the statement. The results are presented below in means.

Table 4.12: Analysis of Customers' Perceptions Regarding Competence Dimension

	Mean	Std. Dev.
Provides more punctuality, transparency accountability	3.12	0.787
Transfer of funds is faster as compared to manual banking system	3.24	0.811
Average	3.18	0.799

On competence of self service channels offered by the banks, the respondents agreed that self service channels ensured more punctuality, transparency accountability; this is presented by a mean score of 3.12. On the other hand, the respondents agreed that these channels ensured that the transfer of funds was faster as compared to manual banking system; this is shown by a mean score of 3.24.

This means o that the respondents are actually happy with the competence of SSTs offered by their banks. They agree that punctuality, transparency and accountability has been catered for, this has actually impacted positively on increasing the level of satisfaction and maybe attributed to one of the factors that have influenced customers to consider taking up SST channels.

4.6 Satisfaction Levels on the usage of SST

Different SST channels offered by various banks offer various levels of satisfaction. Table 4.13 reveals the satisfaction level of respondents regarding the usage of each channel as rated by the respondents on a scale of 1-4 where 1=Poor, 2=Average, 3=Good, 4=Very good.

Table 4.13: Analysis of Overall Level of Satisfaction in Using the Self service Channels

	Mean	Std. Dev.
Internet banking	2.72	0.851
Mobile banking	2.89	0.994
ATM	3.28	0.841
	2.963	0.895

The study shows that there was variability on the overall satisfaction of the three self service channels used by the customers. The respondents rated their overall satisfaction with ATM as good as shown by a mean score of 3.28; this may be attributed to the fact that majority of the respondents used and experienced this service and therefore they were able to rate it objectively. However, the satisfaction on internet banking and mobile banking were a little bit low; this may be attributed to the fact that, very few customers used these two services but they gave their contributions either based on their personal opinion or hearsay but not from experience in usage as it was the case with the ATMs.

This generally means that the ATM is the most popular channel that is preferred by customers compared to mobile and internet banking. This may be attributed to the fact that most if not all clients have experienced the service-actually all account holder are encouraged to use ATM services since it is the only SST channel that dispenses cash.

Mobile banking is also becoming common with the transfer of money services like M-Pesa and pay bill. These facilities have become so common that most people prefer to interact with their bank accounts via mobile banking. On the other hand internet banking

services accounted for least satisfaction mainly because it is not very common due to high cost of internet services in Kenya.

4.7 Operational Challenges Associated with Self-Service Channels

In order to appreciate the interaction of the respondents with the various SST channels, the section sought to determine the operational problems in the existing self-service channels. Table 4.14 reveals the various severities of the challenges commonly encountered when using the channels.

Table 4.14: Operational Problems Encountered When Using Self-Service Channels

Operational Problems	Frequency	Percent
Server down	68	60.7
Delay services	42	37.5
Risk of loss of currency	9	8.0

From the table above the most common operational problems encountered when using the self service channel was server being down as revealed by 60.7% of the respondents; followed by delay in services as reported by 37.5% of the respondents. Only 8% indicated that risk of loss of currency was a common operational problem.

It is apparent that down time was the most common challenge that users of SST encountered. This can be attributed to the internet connectivity problem in country, many of the banking institutions have not yet migrated to broadband networks as such they experience regular internet disconnections that result to servers failing or being down. The recent example happened with equity bank, for over seven days customers were not able to access ATM and other banking services due to a severe internet disconnection. The other was delayed services such as M-Pesa transmission delays that can also be attributed to weak internet link. Other services like mobile money transfers that usually take a long to be affected, delays on internet banking requests all account for operational

challenges. However there is little fear for loss of money mainly because the respondents already had indicated that the security levels provided by the SST were satisfactory.

4.8 Regression Model

A multiple regression model was applied to determine the form of relationship between customer satisfaction and self service channels technologies in commercial banks in Kenya such as mobile banking, internet banking and ATMs. Below is the summary of the results:

Table 4.15: Model Summary

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
	0.640(a)	0.410	0.357	0.647

(a) Predictors: (Constant), Reliability, Responsiveness, Security, Access, communications, Level of Understanding, Tangibility, Competence

Adjusted R² is called the coefficient of determination and tells us how the customer satisfaction among customers in commercial banks in Kenya (Dependent variable) varied with reliability, responsiveness, security, access, communications, and level of understanding, tangibility, and competence of the self service technologies (independent variables). From the regression model summary above, the value of adjusted R² is 0.357.

This means that the independent variables accounted for up to 35.7% of customer satisfaction in commercial banks (dependent variable). The remaining 64.3% can therefore be achieved through other factors outside the eight variables analyzed such as marketing, pricing, and interactions among others.

ANOVA was used to establish the appropriateness of the regression model in giving reliable results. The regression model is deemed appropriate when the confidence level is 95% and above.

Table 4.16: ANOVA- Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.898	8	3.237	7.725	0.000(a)
	Residual	37.296	89	.419		
	Total	63.194	97			

Table 4.16 above shows that an F-significance value of $p < 0.001$ was established.

This means that the regression model has a less than 0.001 likelihood (probability) of giving a wrong prediction. Hence the regression model has a confidence level of above 95% which confirms that our regression model was appropriate and the results reliable.

The results for the coefficient results have presented in the table 4.17 below.

Table 4.17: Coefficients Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			

(Constant)	0.655	0.499		1.312	0.193	NS
Reliability	0.158	0.095	0.146	1.672	0.098	NS
Responsiveness	0.355	0.096	0.330	3.712	0.000	S
Security	-0.054	0.088	-0.055	-0.617	0.539	NS
Access	0.023	0.090	0.024	0.262	0.794	NS
Communications	-0.223	0.075	-0.275	-2.979	0.004	S
Level of Understanding	0.027	0.091	0.028	0.298	0.766	NS
Tangibility	0.386	0.090	0.437	4.302	0.000	S
Competence	0.119	0.109	0.113	1.092	0.278	NS

Looking at the significance levels, the study established that there is a significant relationship between customer satisfaction among commercial banks and three dimensions of SST namely; responsiveness, Communications and tangibility.

This means that this three dimensions account for the greatest contributions on the attainment of the satisfaction. It therefore means that commercial banks need to satisfy these dimensions by all means in order to achieve customer satisfaction.

4.9 Summary of the Variables

Table 4.18 below shows the average means scored by each variable to the study.

Table 4.18: Summary of the Variables

Variables	Mean	Standard Deviation
Reliability	3.15	0.807

Responsiveness	3.11	0.797
Security	3.143	0.829
Access	3.193	0.815
Communications	2.902	0.887
Level of Understanding	3.048	0.859
Tangibility	3.11	0.843
Competence	3.18	0.799
Average	3.1045	0.8295

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the findings of the research, the conclusion and recommendations of the study which sought to establish the relationship between self service technology and customer satisfaction among commercial banks in Kenya.

5.2 Summary of findings

The study first sought to establish how self service technologies impact on the level of customer satisfaction. This was done by systematically seeking customers' opinions on eight dimensions of SQ namely reliability, responsiveness, security, access, tangibility, communication, competence and understanding levels of the self service channels. Majority of the respondents agreed to a moderate extent that self service channels provides accuracy in billing and that self-service channels helped in keeping records accurately in as far as reliability is concerned. Most of the respondents also agreed to a moderate extent that self service channels performed the service at designated time. On responsiveness, majority of the respondents agreed that availability of service is faster in SST compared to manual banking; in that response of service was very prompt and quick; and that response of service through SST was very prompt and quick.

On the security, the study established that self service channels ensured physical safety of the transaction; increased financial security; and that privacy could be easily maintained. Majority of the respondents further agreed that self service channels had password facility which ensured confidentiality to transaction. On the access, majority of the respondents agreed that the services were easily accessible via internet banking, mobile and ATM banking and that the self service channels provided convenient location of service facility. The study further established that the channels had reduced the waiting time to receive the service and that online purchase of goods and services was easier.

In as far as communications of self service channels offered by the banks is concerned. Majority of the respondents agreed that self-service channels explained the service; and

that the self service channels provided up to date information and provided more information for the well educated customers. However, while most of the respondents agreed, a significant number disagreed that the self service channels explained the cost of service being used.

On the level of understanding of the customer by the self service channels; the study established that self service channels provides individualized attention to the customers; and that they provide necessary information to the customers. Majority of the respondents further agreed that these technologies were designed according to the need of the customer; and that the self service channels provided necessary information to the customer. On tangibility of self service channels, majority of the respondents agreed that self service channels provides 24hrs, 365 days a year service to customers and that they helped in reducing the number of queues in the bank branches. The respondents further agreed that self service channels provided more physical facilities to the customers; and that physical representation of service through plastic card, credit and debit card was easy. On competence, majority of the respondents agreed that self service channels ensured more punctuality, transparency accountability. The respondents further agreed that these channels ensured that the transfer of funds was faster as compared to manual banking system.

In order to have an overall picture of the opinions, the study sought to establish the overall satisfaction levels in using self service channels. The study established that most of the respondents rated their satisfaction with ATM as very good while a significant number rated their satisfaction was good. On mobile banking, most the respondents rated their satisfaction as good while a significant number rated it as very good. ATM and mobile banking were found to be the most used self service channels. Out of the few respondents who revealed that they had signed up for internet banking, most of them reported that their overall satisfaction with this self service channel was good. It was also established that the most common operational problem encountered when using the self service channel was that most of the time the servers were down.

5.3 Conclusions

Based on the findings of the study, the following conclusions were made; there is a relationship between self service channels such as ATMs, internet banking, mobile banking and customer satisfaction in Kenyan banks. Self service channels enhance reliability, responsiveness, ensured security of customer transactions and they were accessible. Moreover, the self service channels helps in keeping records accurately, provides more information for the customers and provides more punctuality, transparency and accountability.

The most operational challenge that was experienced with the self service channels was the fact that servers are down and this hinders the usage of the services effectively. However, these did not supersede the satisfaction achieved by customers from the use of the self service channels.

Through the statistical testing of the multiple linear regression model adopted in the study, it can be concluded that responsiveness, tangibility and communications influence customer satisfaction the most. This means that the self channels introduced by the bank should be able to significantly enhance communication, responsiveness and tangibility since they play a crucial role in ensuring customer satisfaction.

5.4 Recommendations

Banks should invest more on technologies that will ensure efficiency in serving customer and overall satisfactions of the customers. Customer satisfaction should be kept in mind as banks upgrade existing systems or while buying new systems altogether. Further, banks should re-engineer and modify their systems in order to enhance their efficiency in service and embrace the use of Customer Relationship Models.

In order to invest in infrastructure and modern technologically mediated systems to boost their efficiencies, banks should have adequate budgets for the development of infrastructure to ensure their presence by extending their ATM networks, mobile banking and internet banking. It is recommended that Kenyan banks harness their efforts at every functional level such as front office operations, customer service, and marketing in order

to come up with products/services that meet customer needs and thereafter, offer quality service in order to enhance customer satisfactions. Banks should deliberately seek the customers' input before and during the development of new products/services.

In order to differentiate themselves, banks will need to go out of their way to deliberately listen to the needs of customers and ensure that strategies are customer focused. It is only when the banks know what the customer wants that it can be able to hard wire their voice and adopt voice-of-the-customer model where the customers' input especially during new product development is key. Products/services developed using the customer mediated approach should be adopted and their perceived value and benefits clearly communicated to the product development department in the banks.

In resolving operational challenges associated with SST, banks should have qualified staff in customer service departments to ensure that customer issues are dealt with professionally and in time. Timeliness in resolving customer issues is also a key contributing factor to customer satisfaction. The bank's image to the customer is also determined by the way the staff handles the customer which in turn will determine whether the customer is satisfied or not. There is also need to invest in an efficient technology that will avoid lots of queries and serve customers faster and efficiently.

5.5 Suggestions for Further Research

Based on the finding that there is low uptake of internet banking, there is need to conduct a research to establish the factors hindering the adoption of this service by customers in commercial banks given that there is high internet penetration in the country which has been enhanced by the growth of telecommunication companies.

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APPENDIX I: Questionnaire

Section A: Demographic information

Instructions: Tick where appropriate

1. Gender:

Male Female

2. Age:

Below 30 years 31-40 years

41-50 years 51 years and above

3. Marital information.

Married Single

4. Education level:

A –level Diploma

Degree Post graduate

Others (please specify).....

5. What type of self –service channels have you signed up.

Mobile banking Internet banking

ATM facility Others (please specify).....

6. How long have you been with the bank?

Less than 1 year 1-3 years

3-5 year 5 years and above

Section B:

7. How can you rate the level of reliability of the self-service channels provided by your bank?

Use scale of 1=No extent, 2= little extent, 3=Moderate extent, 4=Great extent

	1	2	3	4
Provides accuracy in billing				
Helps in keeping records correctly				
It performs the service at designated time.				

8. To what extent do you agree with the following in as far as responsiveness of self-service channels are concerned?

Use scale of 1=Strongly disagree 2=Disagree, 3=Agree, 4=Strongly agree

	1	2	3	4
Availability of service is faster in SST compared to manual banking.				
Response of service through SST is very prompt and quick				

9. To what extent do you agree with the following statements as far as the securities of self service channels offered by your bank are concerned?

Use scale of 1=Strongly disagree 2=Disagree, 3=Agree, 4=Strongly agree

	1	2	3	4
Ensures physical safety of the transaction				
It also increases the financial security				
Privacy can be easily maintained.				
Password facility provides confidentiality to transaction.				

10. To what extent do you agree with the following statements regarding access of self service channels offered by your bank are concerned?

Use scale of 1=Strongly disagree 2=Disagree, 3=Agree, 4=Strongly agree,

	1	2	3	4
Services are easily accessible via Internet banking, mobile banking, ATM				
Provides convenient location of service facility (location of ATM, POS terminals)				
Reduces the waiting time to receive the service.				
Online purchase of goods and services Including online payment is easier.				

11. To what extent do you agree with the following statements regarding communications of self service channels offered by your bank are concerned?

Use scale of 1=Strongly disagree 2=Disagree, 3=Agree, 4=Strongly agree

	1	2	3	4
Self-service channels explain the service.				
Explains the cost of service being used.				
Assures the customer that problem will be handled.				
Provides up to date information.				
Provides more information for well educated customers.				

12. To what extent is the level of understanding of the customer by the self-service channels offered by your bank are concerned?

Use scale of 1=No extent, 2= little extent, 3=Moderate extent, 4=Great extent

	1	2	3	4
It provides individualized attention to the customers.				
It provides necessary information to the customers.				
Technologies are designed according to the need of the customer.				
It ensures to provide necessary information to the customer.				

13. To what extent do you agree with the following statements regarding tangibility of self service channels offered by your bank are concerned?

Use scale of 1=Strongly disagree 2=Disagree, 3=Agree, 4=Strongly agree

	1	2	3	4
Provides 24 hours, 365 days a year service to customers.				
It helps in reducing the no. of queues in the bank branches.				
Provides more physical facilities to the customers.				
Physical representation of service through plastic card, credit and debit card is easy				

14. To what extent do you agree with the following statements regarding competence of self service channels offered by your bank are concerned?

Use scale of 1=Strongly disagree 2=Disagree, 3=Agree, 4=Strongly agree

	1	2	3	4
Provides more punctuality, transparency, accountability.				
Transfer of funds is faster as compared to manual banking system.				

15. How would you rate the overall level of satisfaction in using the following self - service channels?

Use scale of 1=Poor, 2=Average, 3=Good, 4=Very good

	1	2	3	4
Internet Banking				
Mobile Banking				
ATM				
Any other(Specify)				

16. What would you consider as the most common operational problems encountered when using self -service channels?

Tick one

Server down	
Delay in Services	
Risk of Loss of Currency	

THANK YOU STRONGLY FOR YOUR PARTICIPATION

APPENDIX II: COMMERCIAL BANKS IN KENYA

1. Bank of Africa
2. Bank of Baroda
3. Bank of India
4. Barclays Bank
5. Brighton Kalekye Bank
6. CFC Stanbic Bank
7. Chase Bank (Kenya)
8. Citibank
9. Commercial Bank of Africa
10. Consolidated Bank of Kenya
11. Cooperative Bank of Kenya
12. Credit Bank
13. Development Bank of Kenya
14. Diamond Trust Bank
15. Dubai Bank Kenya
16. Ecobank
17. Equatorial Commercial Bank
18. Equity Bank
19. Family Bank
20. Fidelity Commercial Bank Limited
21. Fina Bank
22. First Community Bank
23. Giro Commercial Bank
24. Guardian Bank
25. Gulf African Bank
26. Habib Bank
27. Habib Bank AG Zurich
28. I&M Bank
29. Imperial Bank Kenya

30. Jamii Bora Bank
31. Kenya Commercial Bank
32. K-Rep Bank
33. Middle East Bank Kenya
34. National Bank of Kenya
35. NIC Bank
36. Oriental Commercial Bank
37. Paramount Universal Bank
38. Prime Bank (Kenya)
39. Standard Chartered Kenya
40. Trans National Bank Kenya
41. United Bank for Africa
42. Victoria Commercial Bank
43. ABC Bank (Kenya)