

**EVALUATING RETAIL BANKING CLIENTS' SUBJECTIVE
RECEPTION TO TECHNOLOGY BASED SELF-SERVICE
BANKING PRODUCTS IN KENYA**

BY

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DECLARATION

This is my original work presented in partial fulfillment of the award of MBA at the University of Nairobi. It has not been previously submitted in pursuit of a degree in any University or institution.

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ABSTRACT

The liberalization of the Kenyan banking sector and lifting of exchange control in 1995 brought rapid expansion and increased competition to the sector. This made the banks in Kenya to push for growth of their retail banking sector. Banks, forced by competition to grow their retail banking business, are pursuing technology based self-service channels to enable provision of service to this sector profitably. The self-service technology in banking includes mobile banking, internet banking and ATMs. Theoretically the self-service lowers cost and enables management of the mass-market that the retail sector is to the banks.

Self-service technology (SST) is advanced with a business model that requires a given level of activity that would justify its use as a channel of service delivery. The retail clients on the other hand, are the ones to decide on their level of usage of the SSTs. The factors that influence the retail clients' perception and use of SSTs are thus critical to the success of the retail banking strategy.

Perception is largely subjectively determined. The study was therefore undertaken to evaluate factors underlying retail banking clients' subjective reception to the technology based self-service banking products in Kenya. The study used Q-Methodology to profile the users of SST. Data analysis revealed the existence of at least five perspectives on SST usage in banking. These perspectives were found to be explaining 63% of variance of the population of banking SST users in Kenya. The five perspectives were grouped into factors labeled as *laggards*, *technogenics*, *personalized service disposed clients*, *ad-hoc SST users* and *security conscious convenience seekers*. The different perspectives

revealed the diversity in perception that these users have and as such the need for diverse marketing programs to support these users adoption of SST based on their profiles.

Provision of organizations' support to SST users, education, reasonable costs and exit points, in case of SST failure, were some of the recommendations of the study. SST should also be advanced as an extension of the organization's customer service philosophy; this is by careful implementation to avoid it just being an organization's cost reduction venture without factoring users' needs. To this end, organizations should also resist the temptation to automate all of its service interfaces.

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LIST OF ACRONYMS

EFTPOS	Electronic Funds Transfer at Point of Sale
CBK	Central Bank of Kenya
SST	Self Service Technologies
MNO	Mobile Network Operators
ATM	Automated Teller Machine
PIN	Personal Identification Number
TAM	Technology Acceptance Model
ETAM	Extended Technology Acceptance Model
MFI	Micro Finance Institutions

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Modern organizations are operating in a rapidly changing environment. Some of the factors cited as causes include globalization, changes in the socio-economic environment and technological advances. These organizations, faced with the challenge of a dynamic environment and competition from other players in the market will reorganize themselves to remain effective to their target market and increase efficiency.

The need for effectiveness and efficiency has seen organizations aim for a leaner and more flexible workforce that can adapt fast to the market needs with the help of modern technology. This is in line with what Johnson and Scholes (1999) refer to as organizations undertaking changes to align their business strategies to the environment and matching the resources and activities of the organization to the environment. Laudon and Laudon (2004) state that information system is an information technology-oriented solution to organizational and management challenges. This implies the harnessing of technology to gain competitive advantage in the organization.

The changing technology, on the other hand, leads to organizational changes that consequently affect the way business operation is undertaken (Yeates and Wakefield, 2004). For the banking industry, the changes are such that the technology driven

globalization of banking infrastructure threatens to marginalize parties who choose not to adapt (Sannes 2001). Some of the recent developments have seen technology being harnessed towards empowering clients to transact their businesses away from the organizations banking halls (Fickel, 2000). This has taken the form of self-service, enabled through such technologies as internet banking, mobile banking, Electronic Funds Transfer at Point of Sale (EFTPOS) and automated teller machines (ATM) (Rose, 2007). Self-service in this case would be any service accessed by a client without interfacing with the employees of the given organization. Goul (2008) defines technology enabled self-service as software based interfaces whereby market space service encounters require no interpersonal contact; whereby customers can produce a service independent of direct service employee involvement.

1.1.1 Self-Service

Any product that is offered in the market generally falls into one of the two major classifications, namely, goods or service. Traditionally the term service is used to distinguish a product item being offered through interpersonal relationship rather than an object (Bitner, Boons & Tetreault, 1990). A service entails a person carrying out a task to satisfy the client (Lipsey, 1989). Self-service can hardly meet that definition. Instead of the interpersonal relationship that was core to the carrying out of the given task, it entails the customer being empowered to produce the service they require on their own (Goul, 2008). Although information technology has revolutionized self-service, the concept has existed without it. Services such as supermarkets, hotel buffets, cafeterias, and vending machines are founded on the same principle - of customers producing some level

of their desired service - as the information technology enabled self-service (Rose, 2007).

The rationale for self-service is that it has the potential to serve the interests of both stakeholders, i.e. the vendor and the client. Chang (2005) asserts that with self-service, the company has the potential to serve more customers with fewer resources, save on costs, while the customer has the ability to customize the service and access it at their own convenience.

According to Pujari (2004), the growth of customer focus in the market is one of the key driving forces towards self-service. Generally, the market has continually developed towards focusing on customers, their needs, and how to meet them effectively. Clichés such as the ‘customer is king’ only emphasize this focus. Self-service has grown from realizing the need to meet customers’ needs effectively and the recognition of the complexities involved in determining the actual service they require. Self-service is therefore based on the understanding that the customer knows best what they require and as such can be the best producers of their desired service (Fickel, 2000). As a result, organizations seeking to meet customer needs more effectively incorporate self-service. This is by empowering their customers as much as possible to be their own solution providers on the platforms or forums that the organizations provide. Pujari (2004) asserts that predicting what will appeal to customers is tricky hence the need to give them production capacity.

Self-service as a ‘market economy concept’ can be said to be the latest development since the invention of money as a medium of exchange in the market economies. Lipsey (1989)

traces the evolution of modern day market economies through four distinct phases of production for subsistence, development of primitive exchange, development of a market place and development of money as a medium of exchange. From these, self-service has cropped up to resolve the problem of meeting customers' needs as 'they need them met'. This has been by involving them in the production of the service they require (Bitner, 2001). Self-service is also a 'marketing concept of utility creation to the customers'. Utility in this case is defined as the satisfaction derived by consumers from the use of or access to a given product (Unruh, 1996). Five kinds of utilities are created in the market, namely, form utility, task utility, possession utility, time utility and place utility.

Any item that is advanced in the market therefore, offers at least one or a combination of these utility creation options (Zeithaml and Bitner, 1996). Self-service as offered in the market, best creates utility in terms of task, place and time utility. In the case of task utility, self-service in itself creates satisfaction to the customers by enabling or enhancing access to a desired service: self-service is all about customers getting the service they want the way they want it (Fickel, 2000). In the case of the automated teller machine, a customer can be able to make deposits, withdraw money, check their balances, and transfer funds, meaning that a service is rendered through the task performed. Time and Place utility is created when timely and convenient access to a service is presented by a given channel apart from the alternative channels of access (Carlson and Zmud, 1999). Using the example of the automated teller machine, time utility is created by enabling a 24 hour access to some of the banking services beyond the traditional operating hours of the banks. On place utility, some of the self-service technologies such as those that

incorporate the use of mobile telephony enable clients to access the service everywhere giving the clients place utility.

1.1.2 SST in Retail Banking in Kenya

Ngahu (2002) defines retail banking as banking services for small and medium sized enterprises and private customers. Mukule (2006) defines retail banking as a mass-market banking where individual customers use local branches of large commercial banks to access financial services. Recent years have seen the Central Bank of Kenya driving the growth of retail banking to enable access to financial services to the previously un-banked population in Kenya (Central Bank of Kenya [CBK], 2008). The 2009 National Financial Access Survey revealed that only 19 per cent of Kenyans have formal access to financial services. In the same survey, 38 per cent of Kenyans were reported to have neither formal nor informal access to financial services (FinAccess, 2009).

Githinji (2010) states that, the reason for the large un-banked population in Kenya is that, the existing banking environment cannot allow the banks to serve them profitably. Most banks have difficulties meeting their needs because of the high cost of offering financial services given that retail banking entails growing numbers of clients and lower mark-ups. In a retail banking strategy, banks try to woo individual customers by meeting their expectation with an aim of retaining them through quality service and fair bank charges (Ngahu, 2002). To enable delivery of quality service and sustain profitability in retail banking therefore, banks in Kenya are pursuing branchless banking as a low cost channel of service delivery. According to Githinji (2010), several financial institutions have

begun moving away from the traditional and expansive banking halls in favor of branchless banking to accelerate market penetration. Branchless banking generally entails use of SST to deliver services and establish presence away from physical banking halls.

To address the 'mass-market' therefore, banks have ventured into cheaper technology-aided service delivery channels that can also handle the growing numbers. Lovelock, Vandermerwe & Lewis (1996) assert that banks have adopted other approaches such as service delivery options which include the use of telephones and the internet. White (1998) supports this with his argument that technological developments fundamentally alter the cost structure, output mix and distribution channels of banks. He goes further to say that the developments in information technology are the most fundamental force for change in the financial sector. Generally the success of the retail banking strategy by banks in Kenya depends greatly on successful implementation of self-service technology (SST). For one, the 2009 Survey revealed that mobile phone banking would reduce the cost of running banking operations to enhance access to affordable, flexible and faster services to customers (FinAccess, 2009).

1.2 Statement of the Problem

Given that technology has the potential to offer competitive advantage to organization, a lot of investment is being undertaken in the same line. As banks invest in self-service technology there is an underlying assumption that clients will have all the right factors to cause them to adopt the technological self-service solutions offered. SST just like any other business venture is based on a business model that demands a given level of activity

to justify the cost incurred in its provision (Zhu, Nakata, Sivakumar & Grewal (2007)). The SST provided at a given cost will require the value, either in commissions or cost reduction, to be realized by an equivalent level of activity. This for example will mean a given minimum number of customers will need to adopt the use of a given SST to justify its continuity as a business venture given the organizational objective of its provision.

Given the fact that SST are advanced to the customer based on service demand-forecasting and projections, it is essential that it be clear on what is to be expected of the customers. Rose (2007) states that investment in information technologies is substantial for most firms with the value being realized only when it is utilized by the intended users. This means that the clients of the given financial institutions should have a congruent reception to the SST solutions offered. Their willingness to adopt these technological solutions is of great importance since unlike the case of employees, whereby the organization has coercion power on them adopting the organizational technologies, the client has more discretion. These clients choice on the self-service products is critical for the organization to realize the full advantage of the SST put in place. This is because the SST is provided with an expected level of activity that would justify the cost incurred in its provision (Bitner, 2001).

Whereas in the corporate segments SST may be embraced easily as each organization assimilates the service towards the realization of its goals, in retail banking the congruence of objectives may not be as clear. Self-service banking in the retail segment is very different from the electronic integration in the corporate segment (Sannes 2001).

This is because the goals of the retail banking clients in usage of SSTs is distorted by their subjective perception of the SSTs. This subjective perception eventually is what determines the retail banking clients' receptivity to SSTs and not the theoretical advantages with which banks may advance SSTs.

The Kenyan banking scenario poses a special case for the SST application. Two factors set Kenya as a case apart from all the others and thus needing special regard. First is the drive by the industry - spearheaded by the CBK - to bank the previously un-banked Kenyan population. This has made the focus of the banks to grow towards retail banking in the recent past and increase in numbers which consequently demand technological intervention such as SST to enable service provision. Second is the Mobile Network Operator's (MNO) money transfer's infringement on the banking industry. To this infringement, SSTs give the banks a fighting frontier and leverage against the MNOs. Given SST importance in retail banking strategy and the role of customers in SST, this research seeks to address the problem of retail banking clients' receptivity to technologically enabled SST services in Kenya by answering the research question:

What subjective factors underlie the reception of technologically enabled self-service banking products by the retail clients in Kenya?

1.3 Research Objective

The objective of the study is to determine the subjective factors underlying the reception of technologically enabled self-service banking products by the retail clients in Kenya.

1.4 Importance of the Study

SST is a fairly new concept yet of critical importance to modern day service provision. As such this study is to open doors for better understanding of the field both for academic research and industrial use. Rose (2007) states that with the diffusion of SSTs in the market space, understanding the factors that explain consumers' interaction and use of these technologies is a vital issue for researchers and management.

But as it is, empirical research on customers' propensity to use SST is new in the area of marketing research (Curran, Meuter & Surprenant, 2003; Dabholkar, 1996). Therefore this study will open new frontiers of knowledge for the academic community. This is by enhancing understanding of the customer SST interactions.

For the organizations, the knowledge will equip them with fore knowledge of customers' reception to their SSTs making it easier to match them to business objectives.

For the customers, well designed SST will mean lower organizational costs that may trickle down as fair prices. Well designed SST, on the other hand, will also be easier and more pleasant to use.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

The literature review builds a case for SST as a technology solution to the growing retail banking sector and the importance of the customers' role in SST. This is by a review of developments in retail banking, literature on SST and finally the determinants of customers' reception to SSTs. Theoretical models on technology acceptance are discussed in the end to summarize the determinants reviewed for the purpose of this study.

2.2 Retail Banking

A bank can be defined as a company, which carries on, or purposes to carry on banking business, (Banking Act, Cap 488): It collects deposits from savers and pays interest to the depositors and on the other hand uses the savers deposits to grant loans to borrowers who in turn pay interest and fees (Mukule, 2006). The traditional bank had four major functions namely:

1. Safekeeping of money and other valuables;
2. Transaction and payment facilitation;
3. Investment and financial advisory; and
4. Credit creation.

(Wamalwa, 2008)

Ngahu (2002) segments the provision of banking services into two groups, with personal (retail) banking as one and corporate and business banking as the other. Pearce (2004) asserts that banks strive towards achieving an integrated banking business which is operationally efficient and realizing growth in both the retail and corporate banking market share but with the super objectives of strong organic revenue growth, improved customer loyalty, and improved productivity. Given these super objectives, banking was previously focused on the corporate sector than retail banking.

According to Kotler (1999) retailing includes all activities involved in selling goods or services directly to final consumers for personal non-business use, which for the banks is the provision of financial services to individuals for their own consumption. Mukule (2006) defines retail banking as a typical mass-market banking where individual customers use local branches of large commercial banks, with the services offered under retail banking including saving and checking accounts, mortgages, personal loans, debit cards and credit cards. Ngahu (2002) defines retail banking as banking services for small and medium sized enterprises and private customers.

In order to address the environmental challenges such as competition, banks are evaluating their retail banking services with the aim of coming up with more focused strategies that help them meet their unit and company wide objectives. Most of the banks have since been working towards coherent strategies on how to differentiate and add value to retail customers (Eaglesham, 1990). Stanger (1990) argues that banks have been



forced to be flexible in their attitudes, structures, management and approach to personal customers. Banks have moved away from the attitude that retail customers are in some way second class citizens - a mass market that can be relied upon to accept whatever service the banks choose to offer.

Whereas most of the traditional bank functionalities have been retained, the banking industry has incorporated technology to enable better service provision (Mattila, Karjaluoto & Pento, 2003). Where applicable, technology has been harnessed with goals of leveraging on cost reduction, provision of flexible service, voluminous transaction processing, reduction of human error, product development, enhanced service delivery and customer satisfaction (Ulrike, 2003). The versatile technology application in banking means that banks are able to mobilize deposits from even the smallest saver, differentiate their products within their client base and as such fetch the best price for every market segment and finally handle a larger client base effectively and efficiently (Eaglesham, 1990).

2.3 Self – Service Technology in Retail banking

The evolution of self-service technology (SST) has tremendously changed the way customers interact with firms to create service outcomes (Suoranta & Mattila, 2004). This is because with SST, customers are no longer passive recipients of services but active participants to its production (Bitner et al., 2002). The self-service option not only gives customers more control over the service process but also reduces the workload of service vendors. The business model of SST is usually to support and appeal to customers by

offering them convenience, flexibility, control and sometimes even lower tariffs (Dabholkar 1996; Meuter, Ostrom, Roundtree & Bitner 2000). Kelley, Donnelly, James & Skinner (1990) assert that involving customer participation eventually enhances service quality and customer satisfaction. On the organizational side, the model is geared towards availing service efficiently and at a lower cost. Self-service is based on the notion that customers know their needs best and as such are better placed to produce value for themselves using the organization's SST infrastructure (Pujari, 2004). Standard and straight-forward services are usually the best candidates for automation, given that to produce service does not require complex decision and enriched information exchange. This means that even with automation there will be continued demand for non-standard, differentiated transactions and services (Emmons and Greenbaum, 1998).

Initially SST in banking targeted the corporate sector only. This was by organizations harmonizing their systems to enable information exchange between the corporate customers and the banks. This according to Sannes (2001) was through electronic integration. But the growth of retail banking has seen banks implement SST to help manage the growing numbers of retail clients. Mukule (2006) views the use of SST e.g. ATM by the banks as an extension of the distribution channels in order to reach the maximum possible number of customers. Chang (2005) on the other hand views it as a technological solution that has the potential of serving both the interests of the customer and the organization. This is by the organization's potential to lower costs and serve more customers and the customers' empowerment to customize their desired service and convenience in partaking of the service. Therefore, SST in retail banking is a tool for

lowering cost and for organizational realignment to enable service provision to the low-mark-up mass market of retail clients (Mukule, 2006; White, 1998).

2.4 Relationship Marketing Versus SST

Interwoven Inc (2009) in their compilation *Building And Nurturing Profitable Relationships Online* state that building a successful customer relationship depends on a company's ability to attract visitors and engage their attention long enough to win their business or their attention, then retain their brand loyalty to pave the way for future engagement and positive word of mouth. Their proposed model for achieving this is; attract, engage, convert and retain, that is, marketing through relationships. Kotler (2002) states that relationship marketing aims at building long term mutually satisfying relations with key parties in order to earn and retain their long term preference and business. In this case relationship marketing is a marketing strategy that builds on the goodwill that is built between two parties established through interpersonal interaction in creating future business prospects. Interpersonal interaction is viewed as the best channel for establishing relations and is easily compromised by use of SST (Chang, 2005; Ulrike, 2003). However, well implemented SST is an extension of value to the customers rather than a substitute for relationships (Bitner, 2002; Mukule, 2006).

SST also has the advantage of eliminating the principal-agent problem that arises through interpersonal interactions when a service vendor (principal) has to deliver the service through a proxy (agent). Lipsey (1989) defines the principal as the person who wants the

job done and the agent as the person who is hired to do the job. A bank (The principal) may have a relationship with a client but will have to provide its service through an employee (an agent) who may not share the value that the principal has for the client. Self-service thus comes in as an intervening platform whereby the principal and client reduce the control of the agent by empowering the client with the agency powers to produce desired service.

Relationship marketing though, has been used to build a case against SST by the argument that SST easily alienates customers (Chang, 2005). Embedded relationships between customers and providers (e.g., sales representatives) have traditionally been key in generating repeat business and financial success (Gronross, 1996; Kotler, 1991; Ulrike, 2003). Ulrike (2003) further raised questions about the impact of using SSTs to complement service relationships, a strategy that an increasing number of firms are employing. He developed a relationship-SST continuum to create a balance between the two. He asserts that various factors determine the individual customer's location on that continuum. Chang (2005) on the other hand, asserts that an effective relationship-SST balance can only be realized if the SST is implemented as an extension of the wider company philosophy since it is not just about operational efficiency but also about adding value to the customers.

2.5 The Customer's Role in the Success of SST

As banks implement SST, one important aspect that affects successful implementation is the transfer of sanction power from the bank's employees to the customers. The self-

service technologies are loading the sanction power of transacting on the clients by eliminating the human interfaces. Chang (2005) states that SST empower authorized persons and machines to perform qualified transactions on organizations databases without depending on human intervention. Sanction power means the authority and ability to effect legitimate transactions from a legal and organization point based on ones role in the organization (Kelley et al., 1990). This means that to some extent the customer becomes the producer and consumer of the service they require. Generally, convenience is the main product on offer to customers through these technologies; customers appreciate self-service technologies that make transacting with a company easier and efficient (Goul, 2008). The only responsibility of the organization in this case remains to be ensuring a reliable and secure system to facilitate transactions by the clients.

SSTs are being provided at very high costs to the organization: According to VDC Research Group (2009), retailing, hospitality and health-care firms in America spent \$2.8 billion on self-service technology in 2008 with a projected annual growth of 15% per year up to 2013. The optimal use of SST has the potential of being more efficient than the use of human resource (Bettman, Johnson & Payne, 1990). This is the major reason for adopting SST by organizations. Take the case of an automated teller machine against a human teller, the latter will cost the organization more and will not always be available as compared to the machine which is usually available at all times.

The expected advantage that this brings to banks, like to all other organizations adopting self-service technologies (SST), is in enhancing effectiveness in service availed to the

clients and efficiency. SST also has the potential to reduce the cost of information management (Emmons and Greenbaum, 1998). According to Summit Research Associates (2003) transactional costs reduce by 90% when undertaken by SST rather than human interface; their report goes on to assert that in the grocery stores a self service point replaces 2.5 employees who would need a salary and associated benefits.

Given the direct interface of clients with the organizational SSTs, the success of its implementation is largely dependent on these clients' ability and willingness to adopt the new ways introduced of transacting: It is in their use of these SST that the organization's objective of efficiency and effectiveness can be realized (Rose, 2007). As such the success of an SST business solution is dependent upon customer oriented design (Bitner et al., 2002). The adoption of self-service technology (SST) by customers is arguably the hallmark of a successful dot-com venture. The more customers go online to fulfill their service needs themselves, the more scalable and cost-effective the business model (Ulrike, 2003). For the clients to adopt the technologically enhanced solutions they will need to have right knowledge on the service offered, right skill to interface the given organization's enabling infrastructure, the right infrastructure to complement that of the organization in delivering the service to them and finally right attitude towards the service being offered (Unruh, 1996). Right knowledge on service entails awareness of its availability, cost and security implication to the user among other features of the product. Right skill would entail knowing the procedure of accessing the service and complementing infrastructure would be things like internet and cell phones as would be demanded by a given service. Finally the right attitude would entail clients' willingness

to access the given service in the technologically enhanced method against the traditional mode of accessing banking services (Chang, 2005).

On the other hand, with the transfer of sanction power also comes greater responsibility on the part of the customer to safeguard their own interest and security. An enabling concept for SST in cases of sensitive or risky information access is that of digital signature; this is mostly held in the form of a PIN (personal Identification Number). The PIN gives the user access and as such represents them in the information system. Given the role of the customers as primary users and beneficiaries of SST, their successful implementation relies on these customers adoption therefore. This is because as more customers adopt SST they will be supporting the underlying business model with which the SST is advanced to them (Ulrike, 2003). This means that even the broader retail banking strategy pursued by banks rely on the customers' use of SST to succeed.

2.6 Determinants of Clients' Reception of Self-Service Products

Organizations providing SSTs hope that the client will move beyond part-time or casual trial of the self-service and instead adopt it as a continuous way of interfacing the organization (Chang, 2005). On their part, the clients will only adopt SST if it actually solves their problem, adds extra value to alternative services on offer and fits better to their expectation. In essence it offers them their desired quality of service (Lee & Allaway, 2002). Customers hence are the most important human component of the SST information system. Yeates and Wakefield (2004) state that many IT benefits fail to be realized because IT professionals and managers in organizations overlook a critical

success factor: the people who actually use the IT system. Without adequate consideration of their needs; who they are; how they are motivated; what they know about the system they are getting; aspects of change to a new system they are likely to resist or embrace, and the skill and guidance they will need so as to get maximum benefits out of the new system, the system is bound to fail no matter how well-designed.

Chang (2005) on SST adoption summarized some of the factors that affect adoption of SST as;

1. Quality of Product;
2. Primary service offered by the organization;
3. Cost of product;
4. Presentation of service;
5. Design of SST;
6. SST service resilience (Incase of failure);
7. Advertisement and access to information;
8. Alternative access to primary service; and
9. Firms' ability to update and improve their SST.

Weijters, Schillewaert, Rangarajan & Falk (2005) in their study, came up with ease of use, usefulness, fun, and reliability as drivers of attitude towards the SST, which in turn significantly predict actual usage of the SST. To their study they also added on the moderating effects of age, education and gender as key demographic variables. For the purpose of this research the determinants of retail banking clients' reception to SST have

been summarized to value of information exchanged, reliability and validity of service, cost of service and behavioral control as discussed in this section.

2.6.1 Value of information exchanged

Generally, successful implementation of SST requires information exchange between the clients and the banks. This is because as clients adopt SST they become their own producers and also consumers of the process and the information generated. This means that value of the information exchanged between the bank and the client will be of much importance. A major functional requirement is that self-service technology must enable the customer to complete a transaction or service function without help (Sannes 2001). More so, the more complex the service the larger is the requirement for information content, its organization and availability to the customers to enable self-service.

Grover and Ramanlal (1999) state that banks, wishing its client base to adopt the self-service options they render, will have to grapple with the question of determining how much information to give to the clients; a challenge for the banks is in establishing what information they need to reveal in order to empower clients for accessing their SST against the information they need to hide so as to manage and control the client. The risk of information asymmetry may cause the banks to withhold necessary information from the client. This is because the client's easy access to information may cause them to have more information than the bank and in some cases opt for services offered elsewhere (Sannes, 2001). On the other hand, to be effective producers of the service they require, the clients will need information to reduce the uncertainty and equivocality of carrying

out the self-services (Daft and Lengel, 1984). Equivocality refers to vagueness in selection among different service options while uncertainty is related to information access necessary to control or undertake a given operation. The twin factors will need to be significantly low for the client to have a sense of control and be willing to embrace the given SST (Sannes, 2001). In a choice between the traditional branch service access and SST, the client will opt for the choice with the richest information exchange as demanded by their need.

Sannes (2001) analysis of the value configuration model by Stabell & Fjeldstad assesses the relationship between value creation and information exchange with relation to self-service banking. According to this model, firm level value creation for clients takes the form of value chain, value shop and value network with the primary activities involved in the value creation being the criteria of classification. In the three models value creation is in transforming inputs to products, client's problem solving and linking clients respectively. Due to the different methods of value creation the information exchange between the client and the bank may vary. Sannes continues to argue that Banks are value shops and value networks but not value chain as they lack the throughput characteristic of the model. The nature of information exchange in value shop model, as applied to self service banking, will be such as to enable the client to be their own source of solution in value creation. As for value network, banks will need to give all information to aid customers in picking the appropriate service in the choices available (Sannes 2001).

The business objective of the SST also will determine the information exchanged between the customer and the bank or SST provider. Three broad categories define the function and business objectives of these SST namely direct transaction, customer service and self-help and client education (Chang 2005; Sannes 2001).

2.6.2 Reliability and validity of service

Customers equipped with information will possibly put the systems to test with regards to what they are told it does (Lee, Lee & Eastwood, 2003). This raises the question of reliability and validity of the SST. Reliability has to do with how dependable a solution is while validity is tied to the customers' expectation being met by the service provided.

Miller (2007) states that web self-service is a matter of making it simple for customers and partners to receive information and take action without having to drive to the store or pick up the phone-whether to research, purchase or return a product, voice concern or manage an account. In essence this means that the service is only valid as a self-service solution if the customer has no reason to revert to alternative ways of interfacing the organization. However, service validity becomes subjective as customers judge the service based on their expectation and understanding rather than reality. Chen, Huei & Mei (2009) assert that customer perception greatly influence their satisfaction with SST and consequently determined their continuity in use. The logical implication in this case is that, to mitigate the service being invalid in the customers point of view, clear communication about the functionalities of the self-service offered will help shape the customers expectations as close as possible to that which is. Lee, Lee and Schumann (2002) studied the importance of communication on adoption of technology and from the

study recommended that organizations should communicate and demonstrate their product as best as possible to their intended customers.

Reliability on the other hand deals with the question of dependability of the service. This is important because as the self-service solutions are offered to the clients they tend to make calculations in a complex model of their lives to fit in the new solutions in line with their understanding of its utility. Wang and Namen (2004) state that technology-based self-service (TBSS) requires much effort from customers, and changes their behavior and habit to some extent. This, for example, would mean that a customer who used to spend a long time accessing a certain service that is now easily accessed, will commit the time saved to other activities and would be greatly inconvenienced if the more efficient mode of service access fails: if a check in system cuts down the time a customer checks in from two hours to ten minutes the customers reorganize their schedules to arrive just in time based on the reliability of the service; otherwise they continue arriving two hours earlier if the system is not reliable. For reliability reasons therefore, when an organization offers its client solutions it creates a new challenge for itself of ensuring that their solution actually works as expected lest it become a source of customer discontent rather than solution (Mick & Fournier 1998). Even with SST, customers want what they have always wanted: they want reliable, affordable, quality service that is convenient and easy to acquire (Chang, 2005). Ease of access to self-service has been cited severally as an important determinant to customers adoption of self-service (Janisch, 2004; Sannes, 2001; Wang and Namen, 2004; Weijters, 2005).

2.6.3 Cost of service

With the information to the customer being right and the service reliable and valid, customers would be concerned about the cost of the service. The relevance of cost saving in self-service technologies is evident when companies encourage the use of self-service technologies by making traditional service encounters increasingly unattractive (Chen et al., 2009). One of the ways is charging extra fees on the traditional service. On the other hand Chang (2005) asserts that an organization with SST has the potential to avail service to more customers using minimal resources and by so doing reduce costs. Logically, as the organizations realize this advantage, they would be expected to trickle down the reduced cost benefit of SST to their clients in lower tariffs for accessing these services, as they attempt to lure their clientele to this more efficient service delivery method. Saved money, in terms of lower expenditure, is among the factors driving customers to choose self-service (Meuter et al., (2000)). This means together with all other factors that are key to customers adopting of self-service, low tariffs are among the most important.

2.6.4 Behavioral control

Even with all the other factors being 'just right'- that is, factors such as low cost, convenience, user friendliness-to induce customers to adopt the availed self-service products of an organization, at times there still remains the challenge of convincing the customer of the viability of them producing the service for themselves. This is due to perceived behavioral control, defined as a person's ability to successfully perform a task. Lee et al. (2002) in his study on attracting clients to at least try out the service offered, explained the variable of customer readiness to adopting technology as being explained

by three factors namely; Ability, Role clarity and Motivation. Role clarity is with regards to customers understanding their part well and motivation is with regard to customers' expected gain from the use of SST.

The perception of control has been found to be a great driver in customers' adoption of SST. Meuter et al. (2000) state that most of the perceived gain from self-service use can be attributed to aspects of enhanced perceived control. Zhu et al., (2007) propagates that the design of SST in terms of information access and interactivity affects customers perceived control and assessment of the given SST. Consequently it affects the customer's willingness to use the SST. Meuter, Ostrom, Bitner & Roundtree (2003) in their research on customer behavior relative to technology interaction found people with higher technology anxiety with a lower inclination to usage of SST. Unruh (1996) argues that the organization should appeal to the human value of security, control and esteem to be effective in SST implementation.

2.7 Theoretical models of people and technology adoption

To address the people factor in information technology, technology acceptance research has had to find its rooting in Psychology and Sociology (Rose, 2007). Davis, Bagozzi & Warshaw (as cited in Rose, 2007) developed the Technology Acceptance Model (TAM) drawing from the theory of reasoned action. TAM is used to predict usage intention and technology acceptance behavior. According to TAM, perceived ease of use and perceived usefulness are the twin determinants of individuals' technology acceptance.

According to Rose (2007) TAM has extensive empirical support from studies that have validated and replicated its findings. Various research works have acknowledged the

parsimony of TAM, to which they attribute its ease of application (Rose, 2007; Sun and Zhang, 2006; Venkatesh, 2000). Venkatesh (2000) though states that this parsimony is also the key limitation of this model. Rose (2007) states that understanding the antecedents of the perceived usefulness and perceived ease of use will enable the development of more meaningful interventions to improve user acceptance of information technologies.

Rose (2007) advanced the Extended Technology Acceptance Model (ETAM) from TAM to explain further the factors that will determine the perceived usefulness and perceived ease of use of technology. ETAM holds that subjective norm, compatibility, perceived risk, personal contact, technology discomfort and self efficacy determine the perceived usefulness and perceived ease of use that in turn determines technology acceptance. However even with ETAM perceived usefulness and perceived ease of use remains as the direct determinant or gateway to the customers' action with regards to technology adoption.

Perception, given the theories above, greatly influences people's adoption of technology. This however is not based on a logical utilitarian mindset with which organizations may advance technology to users. Perception is all a matter of opinion, preferences, attitudes and other subjective views based on individuals' background and experience (Lipsey, 1989). This means that technology adoption by individuals will not abide to the normative advantage with which organizations may advance it to users. The perception will tend to distort the users actual behavior. It is therefore important to factor in the subjectivity of users to get an accurate view of their technology adoption.

2.8 Developments in Retail Banking in Kenya

The growth of retail banking in Kenya has accelerated over the past few years. Banking in Kenya started with the British colonialist and the Indian traders towards the end of the 19th Century. According to Wagacha and Ngugi (1999), the first bank to start in Kenya was the National Bank of India now called the Kenya Commercial Bank in 1896. The banking sector in Kenya has been changing over the years in a number of areas such as asset base, target customers, marketing strategies, competitive strategies, information technology and their role in the economy. The most significant change in Kenya's banking sector was its liberalization in 1995 (Mukule, 2006). This change caused increased competition. As a result, banks have had to change their ways of doing business. The Kenyan banking sector is characterized by stiff competition. Since its liberalization and lifting of exchange control of the sector in 1995, the sector has witnessed rapid expansion both in size and variety of service. As of June 2009, registered financial institutions were 43 with total branches of these institutions standing at 930, up from 772 in 2008. The growth also has been towards retail banking rather than corporate banking (CBK, 2009). The period between 2006 and 2009, numerous bank branches were approved by the Central bank of Kenya. Some of these branches are in rural areas, previously shunned by the financial institutions. Mukule (2006) observe that most banks are now moving their branches to areas of high pedestrian flow and aims to maintain effectiveness of branch network. This venture downstream is an attempt to tap into the previously untapped retail market (CBK, 2009).

But as the banks move out from the metropolis, where they previously would base their operations, they are expected to be faced with a more fragmented market. This means the

overheads that these banks incur would be exorbitant vis-à-vis the expected returns. To address this problem, most banks are using technological solutions to enable them carry a larger client base effectively. For one, most banks are working towards harnessing the clients, through the sale of their accounts and other services, but hope to reduce the need of these clients accessing their banking halls. Such services as direct money transfers, ATM's, VISA[®], Mobile banking, internet banking implies the desire of the banks to have their clients accessing and transacting their accounts away from the banking halls (Mukule, 2006). This way they are able to carry a larger client base efficiently as the service delivery becomes more 'self-service' oriented. (CBK, 2009).

The CBK attributes the continued design of aggressively new products leveraging on ICT by commercial banks in Kenya as an attempt to remain competitive while down streaming into the retail market: The CBK cited the growth of ATMs, which increased from 1,078 to 1,510 over the year 2008, to commercial banks expansion strategy targeting the retail customers (CBK, 2008). The potential advantage that SST offers to retail banking has led to most financial institutions in Kenya adopting it. Generally, self-service in the Kenyan banking industry is emerging through ATMs and plastic cards, mobile banking and internet banking (CBK, 2008). Automated teller machines and card based transactions however were the pioneer of self-service in retail banking having accessed the Kenyan market in the early 1990s targeting the individual customer. A report by Visa International indicated that local banks had issued more than 2 million Visa cards in Kenya by end of 2009 with card based transactions having reached 254.1 billion over the period of 19 years. (Financial Technology, 2010). This is a key indicator of the growth of SST use by retail banking clients in Kenya. Mobile banking and internet

banking are more recent SSTs to be introduced into retail banking in Kenya. In 2004, Co-operative Bank pioneered mobile-banking as a self-service product through which customers could access their accounts through their mobile phones. (Co-opbank, 2008). Other banks followed suit thereafter with Equity bank launching Eazy 24/7 and later M-Kesho which were value added mobile banking applications. Internet banking too has taken root in Kenya although the deeper penetration of mobile phones has seen more growth of mobile banking (CBK, 2008). Generally, collaboration with the MNOs is leading to banks coming up with versatile and innovative self-service banking products that depend on the mobile phone platform (Githinji, 2010).

On the other hand, the independent growth of mobile telephony and its versatile application in Kenya is of significant importance as an impetus to Banks embracing SST. This is because the MNO (mobile network operators) have infringed into what would have been considered as core banking business and thus increased competition. For this reason banks are forced to embrace SST even more to leverage against this infringement by making access to their services versatile and convenient (Nduati, 2010). With the Kenyan government licensing the MNO's to facilitate money transfers through such services as M-Pesa and Zap, the threat this poses to the banking sector cannot be ignored. Between June 2008 and June 2009, the MNO's money transfer client base had risen to 7.4 million up from 3.0million with the value transferred rising to 318.4 billion from 61.1 billion This diversion implies loss of business to the banking sector in terms of funds availability and related transaction commissions (CBK, 2009). The MNO's money transfers have also proven more versatile in setting up, application and adoption by the Kenyan population than traditional banking. On setting up MNO's are using agent's

kiosk and thus reducing their cost of business, unlike banks that have previously incurred huge costs to set up physical branches in various locations. On application, the MNO's money transfer services have facilitated payment for air travel, road travel, purchase of wares, transfer of funds from person to person without much barrier that would face payment using cards and other bank transfer services (CBK,2008). With its continued application MNO's money transfer may simultaneously replace paper money and plastic cards in Kenya (Rosenberg and Morawczynski, 2008). Some of the relevant statistics on MNO's transfer M-pesa in particular showed that 70% of users in 2008 were banked population; of those interviewed 90% felt safe using the service and derived a high level of satisfaction or utility from the same (Nduati, 2010)

The Central Bank of Kenya advanced agency banking model brought a new twist to the MNO's and banks rivalry. The Agency Model which was operationalized by the Finance Act, 2009 allowed banks to use third party agents in their distribution channels. The same also de-linked the need for physical premise for banking operations. Whereas the Agency banking model was focused on microfinance institutions acting as bank agents, it has opened doors for MNO's to also act as banking agents too. This is stated in the M-pesa objective as;

In future we plan to offer M-PESA to facilitate money movement between banks & MFIs and their customers in a convenient, cost effective manner.

(Safaricom, n.d.)

SST therefore has not only opened the retail banking market but it has also introduced new frontiers for rivalry for the banking sector (Nduati, 2010).

2.8 Summary of Literature Review.

The literature review above sheds light on the factors that influence retail clients' adoption of SST in banking and its importance on the success of retail banking in Kenya. In the review, retail banking comes out as a mass market with lower markups to the banks. The rapid growth in retail banking in Kenya is attributable to the liberalization of the industry and the consequent competition. This has also been supported by the CBK review of regulations to enable access of banking services to the un-banked population in Kenya. The review has linked the mass market problem to SST as a solution to the growing numbers: The growing numbers have necessitated the use of cheaper but effective service delivery channels availed in the form of self-service. Further on the review shown how self-service elevates the role of the clients in the success of the business model that incorporates the SST. This is because the clients' role as a component part of this information system becomes of critical importance.

Given this role of the clients in the success of SST, then factors that would determine their use of the same become of great importance to the success of the SST, the underlying business model with which the SST is advanced, and consequently, retail banking. With this therefore comes the need to understand factors that affect retail banking customers' reception of SST which is the subject of interest in this study. TAM and ETAM models show that all factors will first influence customers' perception before translating into action or adoption hence the need to better understand the subjective factors that underlie customers' perception of SST products. This is gap this research seeks to fill.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Research Design

The study was undertaken using the Q-Methodology which is used in the study of operant subjectivity i.e it is environmentally conditioned. Mutuku (2009) states that Q-Methodology is effective in studying and providing deeper understanding of opinions, beliefs, perspectives, decision structures, frames or narratives of individuals on any topic that has a subjective component. Its main output is the structure of existing thought patterns in a community for a given topic. Hence it can shed light on perspectives on self-service banking amongst customers that actually influence their behavior. Q-Methodology has the advantage of operationalizing the subjective opinion of individuals and thus making it measurable. Since retail banking clients' choices are subjective, Q-Methodology avails to this research a systematic method of scientifically analyzing these subjective norms.

3.2 Population

The research population of interest is retail banking clients in Kenya. Most banks in Kenya have a retail banking aspect. The leading retail banks with regard to market share are Kenya Commercial bank, Equity Bank, Co-operative Bank of Kenya and Barclays Bank. These four are also the most aggressive with regard to growing their retail banking base, with each having a direct sales department to drive business in the retail sector.

3.3 Q-Methodology Study Procedure

The Q-methodology offers a scientific approach to the study of subjectivity and as such is appropriate for studying people's perspectives (Brown, 1980). Undertaking a Q-Methodology study involves the following steps: developing a concourse, creating a Q-sample, selecting the P-set or respondents, administering the Q-sort, analyzing and interpreting the Q-factors (Mutuku 2009; Previte, Pini & Haslam, 2007).

3.3.1 The Concourse

The concourse is the communicable subjectivity which according to Brown (2006) comprise of shared knowledge and understanding on a given subject. A concourse is a set of statements that represent possible view points of the given subject. A concourse can be sourced from several sources which include respondents' oral or written communication, blogs, journals, media reports, newspapers (Mutuku, 2009; Van Exel and De Graaf, 2005). For the purpose of this research the Concourse was sourced from Media, preliminary queries and previous research work. A total of eighty six statements were compiled into a concourse.

3.3.2 Selection of Q-Set

Q-set is the subset of the concourse, made up of 30 – 70 broadly representative statements that gets presented to the participants in a study (Van Exel and De Graaf, 2005; McKeown ant Thomas, 1988). The criteria of inclusion according to Brown (1980) is more of an art than a science, with the objective being to have representation of the

wide range of existing opinions about the topic. In the case of this study and based on the literature review two factors remained primary in determining adoption of SST namely perceived usefulness and perceived ease of use of the SST. This has been advanced in predicting IT usage and adoption by the Technology acceptance model (TAM) by Davis et al. (1986). Over time the Technology acceptance model has been widely tested and applied and as such established as a credible model (Lu, Yu, Liu & Yao, 2003; Rose, 2007; Taylor & Todd, 1995). The ETAM model as advanced by Rose (2007) further breaks down TAM into other variables that influence the perceived ease of use and perceived usefulness. Consequently, the ETAM approach was applied in populating variables for the perceived ease of use and the perceived usefulness aspects of technology acceptance for the purpose of this research. This was by acting as a guideline to classify statements from the concourse into factors that were selected into the Q Set.

From the concourse 42 statements were selected to cover the various aspects of retail clients' reception of SSTs with the guide of the ETAM model. A two dimension factorial design was used as prescribed by Brown (1980). A factorial design generally ensures equity in the spread of possible responses Njihia (2008). The statements were organized to cover the various subjects on the orientation of optimistic, neutral and pessimistic, that is, covering all the possible views that a given subject would have.

SUBJECT		ORIENTATION		
		optimistic	neutral	pessimistic
Perceived usefulness	cost	CO	CN	CP
	control	C ₁ O	C ₁ N	C ₁ P
	convenience	C ₂ O	C ₂ N	C ₂ P
	security	SO	SN	SP
	Accessibility to service	A ₁ O	A ₁ N	A ₁ P
	Primary Service required	PO	PN	PP
	Availability of SST	A ₂ O	A ₂ N	A ₂ P
Perceived Ease of use	General technology disposition	GO	GN	GP
	Primary SST Interface	P ₁ O	P ₁ N	P ₁ P
	Self efficacy	S ₁ O	S ₁ N	S ₁ P
	SST learning	S ₂ O	S ₂ N	S ₂ P
	SST trial	S ₃ O	S ₃ N	S ₃ P
	Support in use	S ₄ O	S ₄ N	S ₄ P
	User SST experience	UO	UN	UP

Table 1: Selection of the Q-Set

3.3.3 Selection of P-Set

Njihia (2010) defines P-set as the structured sample of respondents who are theoretically relevant to the issue being studied. These respondents are selected to ensure breadth and comprehensiveness to enable definition of distinctive viewpoints existing within the community. According to Van Exel and De Graaf (2005) the P-set is usually smaller than

the Q-set with the objective being to have groups of four or five persons defining the anticipated viewpoints.

The selection of the P-set, for this study, was based on a two dimension factorial design over the four leading Kenyan retail banks and the nature of the transactional account that broadly classifies their clientele. By product design, Kenyan banks have segmented their retail service to enable better market penetration, effective and profitable service provision (Wamalwa, 2008).

Exclusive membership clubs are generally designed for clients with willingness to pay more for convenience and personalized service in undertaking transactions. Zero balance accounts, on the other hand are designed to encourage the low income retail market to utilize banking services by taking advantage of low tariffs and the nil balance features. As such both the exclusive membership clubs and the zero balance accounts are developed from the minimum balance and monthly fee open accounts that were previously used by the banks to raise income through commissions and funds for credit creation.

The ordinary retail accounts therefore have been developed on one end in enhanced features with higher tariffs and stripped of features on the other end with low tariffs. Thus the banks developed market segmentation form an effective way of classifying the retail clients with regard to desired level of accessibility to financial service.

		Bank			
		Barclays	Equity	KCB	Co-operative
Nature of Account	Exclusive Membership Clubs	BE	EE	KE	CE
	Minimum balance/Monthly fee Open accounts	BM	EM	KM	CM
	Zero balance accounts	BZ	EZ	KZ	CZ

Table 2: Selection of the P-Set

The P-set selection structure was implemented using snowball sampling where a participant who fitted a selection criterion was requested to refer future subjects with similar characteristics. This was necessitated by the fact that banks would not share information on their clients. This however did not compromise the study as it retained the objective in P-set selection of having persons who are expected to have a clear and distinct viewpoint regarding the problem selected in the P-set (Van Exel and De Graaf, 2005).

3.3.4 Q-sorting

The Q-set derived from the concourse was administered to the respondents for sorting in the form of a pack of cards. Administration was mostly through face to face interface; however a few respondents preferred to be emailed an Excel worksheet replica of the score sheet and a list of the statements for sorting at their own convenience. This was done only after the condition of instruction was clearly explained. The distribution table on which the sorting was undertaken was a forced-quasi normal distribution forcing the respondent to think on the weight of their individual statement ranking relative to all other statements. The Score sheet ranking was in a continuum from “most agree” to “most disagree”. Optional post-sorting questions were given to help explain their sorting

especially with regards to the four statements they most agreed and most disagreed with. Respondents were also allowed to make any general comment on the subject of SST in banking.

CHAPTER FOUR:

4.0 DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter entails data analysis, findings and interpretation. Data was analyzed using PQMethod 2.11, a statistical computer program for analyzing Q sort data. The aim of the study was to survey the adoption of self-service technology banking products where 42 statements were sorted by 36 respondents. Data analysis in Q-Methodology is similar to R-factor analysis (Njihia, 2010). A correlation matrix of the Q-Sorts is first obtained before factor analysis is undertaken. Factor rotation is also done. According to Mutuku (2009) this is to purify the factors by eliminating the effects of less similar sorts and identifying the strongest factor representation. By use of factor loading of the individual Q-Sorts, the Sorts are aligned to the factors where their score is highest. Positive loadings indicate shared subjectivity with others on that factor while negative loadings indicate rejection of a factors perspective (Brown, 2004).

Factors represent the different view points on the study subject in a population. The shared viewpoint of a factor is established by use of factor score and the distinguishing statements. Factor score for the statements enable us to relate the composite factors to the original statements (Njihia, 2010). A Distinguishing statement is a statistically significant statement around which the factor view point can be established.

4.2 Correlation

The correlation matrix obtained indicated that Factor 2 had the most significant correlation with all the other factors. Factor 2 had positive correlation with factor 3 of 0.2438, with factor 4 of 0.3434 and with factor 5 of 0.2967. The only negative factor correlation was between factor 1 and 5 of -0.0532

4.3 Factor Analysis

For the purposes of this study a *Principal Components Analysis (QPCA)* was performed. This is because QPCA is statistically formal and minimizes unexplained variance (Njihia, 2010). The *Unrotated Factor Loading* matrix was subjected to *Varimax Rotation*. With the objective of the study being to determine the reception of technologically enabled self-service banking products it was expected that they would group themselves into groups of similar thinkers or viewpoints. Five clusters of opinions on technologically enabled self-service banking products formed, accounting for 63% of the total variability in the P sample. Factor 1 was represented by 4 sorts, Factor 2 by 4 sorts, Factor 3 by 5 sorts, Factor 4 by 5 sorts, and Factor 5 by 6 sorts. The individual sorts, which are the variables in a Q-methodology study, are basically the profile of the individual respondents showing the structure of their views with regards to the subject being studied.

4.4 Factors that underlie customer perceptions of SST

From the analysis the *Factor Scores* and *Distinguishing and Consensus Statements* were considered to describe the five Factors. *Factor Score* is a statements normalized weighted average score (Z- score) of respondents that define the given factor (Van Exel and De Graaf, 2005). The *Factor Scores* are tabulated into a *Factor Array Matrix*. *Distinguishing and Consensus Statements* on the other hand are based on whether they distinguish between the factors or not. *Distinguishing Statements* are those that are statistically significant in their difference score between any two factors. Consensus Statements on the other hand do not distinguish between the factors. From the study findings, there was no *Consensus Statements* among the five factors. The factors clustered around viewpoints grouped as Factor 1; *The Laggards*, Factor 2; *The Technogenics*, Factor 3; *Personalized service disposed clients*, Factor 4; *Ad-hoc SST users*, Factor 5; *Security conscious convenience seekers*.

Factor 1: Laggards

Factor 1 accounted for 11% of the total variance. The group was labeled *Laggards* from the factors two distinguishing statements; (3) I prefer doing things in a way that has been established for long and thus slow in adopting new technologies and (21) SSTs are complex and each comes with its own ways requiring you to learn all over again. Subjects agreed with both statements indicating slow adoption of technology and consequently the SST advanced in banking.

The subjects also agreed with statements; (1) low cost of a given SST would not make me use it; (9) I prefer personalized service rendered when you interface a service provider rather than an SST; (12) SSTs have not changed the way I access my bank much; and (15) I do not try out SSTs I do not understand, I only adopt what I am comfortable using.

The subjects in this group disagreed with statements; (10) Compared to face-to-face banking, Self-service banking methods provide greater control over managing my financial affairs; (13) I prefer SST to avoid interpersonal access as it makes one sometimes uncomfortable; (4) I'd pay more to have the convenience of SSTs; (7) I'm quick to adopt new technology as it makes life easier; and (22) I am confident of my ability to execute transaction thru SSTs.

Factor 2: Technogenics

Factor 2 accounted for 9% of the total variance. This factor however did not have a distinguishing statement at ($P < 0.5$). Nonetheless the subjects in this group agreed with statements; (19) I will try out any new SST even if I do not have to incorporate it in my banking access; (42) I use all the available SSTs in my financial service access i.e. ATMs, mobile banking, internet banking and swipe my cards; (7) I'm quick to adopt new tech as it makes life easier; and (18) I need guidance to access SST.

The subjects on the other hand disagreed with statements; (6) There is more control and reassurance in face to face banking as you are able to hold somebody responsible; (14) Sometimes SST gives one convenience but in other instances its best to interface the

service provider; (11) My choice between face to face banking and SST is an ad-hoc decision based on what I deem fit then; (13) I prefer SST to avoid interpersonal access as it makes one sometimes uncomfortable; and (15) I do not try out SSTs I do not understand I only adopt what I am comfortable using.

Factor 3: Personalized service disposed clients

Factor 3 accounted for 16 % of the total variance. The distinguishing statements for this group were; (33) My financial service needs require enhanced security for my money and is a key factor in my choice of financial service; (40) My financial services needs require alot of convenience and accessibility and thus is a primary factor in choice of financial service; (37) My choice of a financial partner is based on easy access to their SST services rather than branch network. The group disagreed with all the given statements.

They also disagreed with statements; (29) I feel some SST are secure than others; (10) Compared to face-to-face banking, self-service banking methods provide greater control over managing my financial affairs.

The group agreed with statements; (9) I prefer the personalized service rendered when you interface a service provider rather than as SST; (18) I need guidance to access SST; (27) I do not trust SST as I don't think they are secure environment for conducting financial transactions; (36) my choice of financial partner is based on accessibility of their branch network rather than SST; and (32) compared to other factors accessibility is not a key factor in my choice of financial partner.

The Factors sorts did not clearly give the groups disposition forcing the study to consider the post sorting narratives of subjects. The narratives revealed that these clients either found SSTs limiting given the nature of their transactions or the primary service they demand from the banks is not transactional in nature. The security features on SSTs limiting the amounts transacted was cited as a hindrance to SST usage for individuals transacting large sums regularly. This was congruent to their preference to accessing the branch network whereby their transactions would be unlimited. Interestingly, a narrative revealed that the primary service demanded from the bank made SSTs unnecessary: this is for clients whose need for banking service is primarily for access to credit. Their demand for banking services was more credit oriented; that is, access to credit than transactional service. Since the primary service required was not transactional SST was not a very important factor in their banking. However one respondent indicated that in spite of whatever other service one may require from the bank it is impossible to ignore SST completely as at one time or another one would be forced to transact using SST.

Factor 4: Ad-hoc SST users

Factor 4 accounted for 14 % of the total variance. It also did not have a distinguishing statement.

However the typical subject agreed with statements; (12) SST has not changed the way I access my bank much; (15) I do not try out SSTs I do not understand I only adopt what I am comfortable using; (32) compared to other factors accessibility is not a key factor in my choice of financial partner; (1) low cost of a given SST would not make me use it;

and (11) my choice between face to face banking and SST is an ad-hoc decision based on what I deem fit then.

The factor was in disagreement with statements; (3) I prefer doing things in a way that has been established for long and thus slow in adopting new technologies; (10) Compared to face-to-face banking, self-service banking methods provide greater control over managing my financial affairs; (2) I will opt for what is cheaper btw SST/face to face; (7) I'm quick to adopt new tech as it makes life easier; and (9) I prefer the personalized service rendered when you interface a service provider rather than as SST.

Factor 5: Security conscious convenience seekers

Factor 5 accounted for only 14 % of the total variance. The groups distinguishing statements were; (37) my choice of a financial partner is based on easy access to their SST services rather than branch network; (38) I do not have a fixed choice between convenience and security as I alternate between the two from time to time in considering financial service; (40) my financial services needs require alot of convenience and accessibility and thus is a primary factor in choice of financial service which they agreed with and; (30) I do not trust banks generally to support users fully in the use of SST; (33) my financial service needs require enhanced security for my money and is a key factor in my choice of financial service; (11) my choice between face to face banking and SST is an ad-hoc decision based on what I deem fit then which they disagreed with.

The group also agreed with statements; (4) I'd pay more to have the convenience of SST; and (32) compared to other factors accessibility is not a key factor in my choice of financial partner and disagreed with; (16) SST has enhanced access to financial services which is what I like; (6) there is more control and reassurance in face to face banking as you are able to hold somebody responsible; (15) I do not try out SSTs I do not understand I only adopt what I am comfortable using; and (22) I am confident of my ability to execute transaction thru SSTs.

4.5 Narrative Interviews

The researcher had provided space for subjects to narrate their argument in their Q-sorts. In the study, subjects were required to explain further why they agreed or disagreed with four statements on the extremes of the sorts. From the narratives the below observations were made.

Some subjects argued that, with self-service one does not mind so much the physical accessibility of the bank or its location since ATM technology has fitted well with their schedule as the banking hours are not convenient with their work. At the same time, SSTs, especially ATMs, have enhanced access to banking services, reducing the need to carry cash. Primarily, the subjects would rather use the self-service options and only visit the branch to access the service that one cannot get through the self-service or resolve issues.

Some of the subjects said that they like learning more of what they already know rather than learning new technology as they expressed concerns regarding crimes on internet.

Subjects also expressed the anxiety they feel in case the SST fails them and they get stuck without support or they get charges that were not clearly communicated on use. However even for some people with skill in use of SST there were reasons for refrain including limitations on SST and the fact that the primary service they required did not necessitate regular use of SSTs.

Generally there was an inclination towards the opinion that financial services are greatly improved with technology. Technology provides transferring of funds and paying of bill with the click of a button and easy to use instructions, services that would have been otherwise impossible a few years ago.

4.6 Discussion

As organizations implement service automation, generally there is ambivalence in the objectives; on one hand, the organizations are trying to harness technology towards efficiency in operations by lowering costs but on the other hand they are trying to improve service provision for their clients (Chang, 2005). The Technology Acceptance Model which has been replicated by several research works (Meuter et al., 2003; Rose, 2007; Venkatesh, 2000;) reveals the complexity of improving service for their clients because the service improvement is a function of the clients' subjective opinion on the same. The research revealed that different factors played a role in determining how different people receive SST in retail banking. This means that besides designing the SST the banks have to design programs to address the intervening factors of the different opinion groups in their client base.

The laggards are more concerned about self efficacy and technology discomfort with regards to SST: they see SST as complex and are not confident of their ability to execute a transaction through them. This means that for the laggards, behavioral controls are the primary factor to their adoption or refrain from SST. Rose (2007) links self efficacy to intention and consequent behavior with regards to SST. The laggards find the self-service technology as too demanding in terms of skill required to operate them. Consistent with Rose's study, the laggards, given their technology anxiety fall short in appreciating the full potential that the technology may entail and would rather continue operating in the old established ways that they are familiar with.

Interestingly these subjects would rather even pay more to keep doing things in their old established way. This means that to this group it is not about the core service quality but ease of use. This goes on to imply that the advantage of lower costs or convenience in use of SST may not be effective in getting the laggards to use them. Rose (2007), reveals that a feeling of being overwhelmed and loss of control was a major inhibiting factor in technology adoption, in this case, its effect is greater than convenience or cost effectiveness to the laggards.

The technogenics unlike the laggards view technology as a provider of solutions: they believe in it and will try it out to see what it has to offer. Lee et al. (2003) holds that this group would typically compose of a younger, affluent and educated population who are more likely to try and adopt new technologies and consequently SST. Moschis (as cited

in Rose, 2007) however asserts that mature users of SST are heterogeneous in characteristics rather than a block of technology resisters. The technogenics willingness to try out the newly advanced technology makes them the best to use in introducing technology to the market. Contrary to expectation and also like the laggards the subjects did not express concerns for security. This possibly is taken for granted as one of the key services of a bank is security for the money. However this agrees with Rose's (2007) assertion that security does not predict intention or behavior with regards to technology adoption.

From the narratives, one subject explained their preference for self-service as 'they get to save a lot of time and do not have to experience cold, unfriendly service or face an employee who gets irritated by their enquiry or complaint'. This means that some of the technogenics may be finding the drive to adopt SST from social anxiety (Dabholkar, 1996). This is similar to the technology discomfort that laggards would have with technology. Bowen (1986) study found that participative, high-technology ready users of self-services are more likely to be impatient with human contact and to enjoy playing with machines. In the study a subject excused the technological failures as teething problems that eventually get resolved through communication between clients and service vendor. This shows the technogenics disposition to SST even when it fails to perform.

Of concern to the technogenics however was the failure of the bigger organization to provide to their clients a way out in cases of the 'unthought-of and non-standard'

complaint arising from the self-service that cannot be internally resolved. This was explained by a subject as 'automation which does not work and takes you round in circles with no exit point'. This means that even the technogenics will develop negative sentiments towards self-service technologies that fail them or are poorly designed (Mick & Fournier, 1998). Thus technogenics would be mainly interested with the design of the SST, presentation of service and fun in use in their adoption of SSTs (Chang, 2005; Weijster, 2005). Some of the cases that were stated as exemplary in service automation included Amazon.com, an on-line shop for electronics and books, and Visa application and payment at the US embassy in Kenya.

The Personalized service disposed clients do not trust technology. They are also not keen on convenience and security in SST usage as they do not consider them primary factors in determining their adoption of the same. They treasure the human interaction in their transactions and tend to question the ability of the machines to clearly understand and execute their needs. Rose's (2007) ETAM model, captures personal contact as a peer to all the other factors that determine the perceived usefulness and perceived ease of use that subsequently determine technology adoption.

Further still, the primary service that some of these clients demand tended to diminish the importance of self-service, either because self-service was not key as in the case of access to credit or the limits on the SSTs were inhibiting their transactions as in the case of the voluminous transaction clients. In consideration of their narrative, the group tends to be subdivided into three sub groupings; of those who like personalized service, those

who find SSTs limiting and those whose the primary service demand from the banks is non transactional in nature.

Organizations equipped with this knowledge are in a better place to develop their services for this group of people and even profit from it rather than try to force them to a service which, though better theoretically, they will not appreciate. Lee and Allaway (2002) agree that there are customers who prefer personal interaction with service personnel and other customers and may be less than eager or could even resist using SSTs. This may be the driving force behind the exclusive membership clubs that have been developed as a product in the financial institutions in Kenya.

The Ad-hoc SST users from the study revealed an elusive characteristic as they did not consider SST as meaningful in their access to financial services. For Ad-hoc SST users, whereas they formed a distinct group from the personalized service disposed clients, their elusive characteristics imply they may have common needs with the latter but a different approach.

Their decision to use or refrain from SST is a moment by moment decision and therefore they would probably like to have the alternative channels open to them at all times.

However their moment by moment choice possibly would be better inclined towards SST as they realize it works and is reliable. As Wang and Namen (2004) states, clients make adjustments in their schedule and behavior to incorporate the advantages or disadvantages they encounter in change. This means that as these Ad-hoc SST users find them reliable they will eventually have a bias for SST use. Thus as Lee et al. (2003)

observes, customers who try out systems, will put them to test and if they find them functional will eventually adopt them.

The Security conscious convenience seekers interestingly are keen on convenience than security. Their choice between face to face banking and SST is a choice deliberated on the value it offers between security and convenience. This group thus would be said to perceive SST as a trade off between security and convenience meaning that once they are assured of security they will have no problems adopting SST. This contrasts Curran and Meuter's (cited in Rose, 2007) research focusing on perceived risk as an antecedent of attitude towards technology that found risk to be a predictor of attitude only in the online banking context, with usefulness predicting mobile banking use, and usefulness plus ease of use predicting ATM use.

Generally the research reveals the diversity in the factors that underlie use of SSTs in retail banking: Laggards attitude towards SST was revealed as being mainly based on technology discomfort and self efficacy; technogenics on fun in use and perceived control; Personalized service disposed clients on embedded interpersonal relationships with the service provider, perceived control and perceived usefulness; Ad-hoc users on perceived usefulness and convenience; Security conscious convenience seekers on security and convenience. This gives a clearer picture of who the users are irrespective of the behavior they exhibit. This is because in some environments subjects from different view points may behave the same towards banking SST and give an incorrect expectation if the environment is to change. The lack of consensus statements, in the clustering of viewpoints on SST in banking, emphasizes the distinctiveness of these groups.

The research further reveals that contrary to what would be expected, as far as SST usage in banking is concerned security is not a very dominant factor. Four of the viewpoint clustering did not give security the kind of consideration that would have been expected. On the other hand the use of Q-Methodology has enriched the models previously used to explain technology adoption by revealing how individuals combine their subjective opinions on the individual factors such as self efficacy and technology discomfort into a profile that determines disposition towards SST. This is a richer understanding of individuals' resultant behavior towards SST for the research community and the banking industry at large.

CHAPTER FIVE:

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The increased competition in the banking industry in Kenya has forced the banks to embrace the mass-market of retail banking. To this, self-service technology (SST) is being adopted by banks as a solution for effective and efficient service provision to the retail market segment. This is through such services as ATMs, mobile banking and internet banking. However, the solution that SSTs are to the banks is only realized through the usage of the SST by the retail clients. The subjective factors that influence the retail client's usage of SST is thus of interest to this study. The study was undertaken therefore to determine the behavioral subjective factors underlying the reception of technologically enabled self-service banking products in Kenya

Q-Methodology was employed as an effective tool of the study of subjectivity in the retail client's adoption of SST in banking. From the study five factors, which were grouped into similarity of view points, were revealed as influencing retail client's adoption of SSTs. The factors namely; laggards, technogenics, personalized service disposed clients, ad-hoc SST users and security conscious convenience seekers were distinct and needed diverse programs to support SST adoption.

5.2 Conclusion

Given the importance of SSTs in retail banking strategy in Kenya, the study objective was to determine the factors underlying the reception of technologically enabled self-

service banking products in Kenya. It was motivated by the amplified role of the customer in producing service outcome using the SST and the role of their subjective opinion in determining their usage of the SST. By use of Q-Methodology these factors were grouped into user profiles that determine behavior with regards to SST in banking.

The profiles revealed by the research showed the diversity of factors that influence usage of SST in the Kenyan retail population: the profiles generated were the laggards, the technogenics, the personalized service disposed clients, the ad-hoc SST users and the security conscious convenience seekers. This implies that people view the technological solutions from diverse view points as opposed to being just a source of convenience as advanced by the banks. Cowles and Crosby (1990) assert that different people view the tradeoff between human interaction and machines differently, that is to say beyond convenience, users subjective opinion enable or inhibit SST adoption by the intended users. Previous empirical research shows that there is a complex matrix involving attitudes and intentions that consequently produce behavioral outcome when it comes to SST adoption; these combinations diversify the behavioral outcome into the different profiles of users (Dabholkar 1996; Venkatesh, 2000; Taylor & Todd, 1995). Zhu et al. (2007) in their study reaffirmed that SST lose effectiveness from failure to consider customers' competence and preferences.

The diversity of the clusters of the view points reveal that no single intervention by financial institutions advancing the SSTs would yield the desired results from the population. Personal difference has in previous studies been found to be significant

determinants of TAM variables (Mattila et al., 2003; Venkatesh, 2000). As such well designed SST need to be reinforced with education to customers, affordability, continuous research and market intelligence to support their effectiveness alongside efficiency goals. Well designed would mean it should be reliable and pleasant to use.

Reliable and readily available exit points should be available to customers in case of undesirable exceptional cases that customers may encounter in use. This is by easily accessible customer support provided by human interface because when customers get stuck, they want someone to take the responsibility of resolving their problems, in such cases SST may not provide the necessary reassurance. The study revealed that even the SST receptive technogenics have a problem with SST without good support in cases where they fail.

To advance SSTs marketing programs, on the other hand, should be broad based to capture the different viewpoints in the user population because they create different expectations in users. For one, understanding the personalized service disposed clients will help organizations customize appropriate service for them, and find a way to profit from it rather than try to force them to use SST that they may not fully appreciate. Laggards may need programs to convince them of their ability to generate service outcomes by themselves such as demos, free trials, and readily available human support. Ad-hoc users may not adopt SST fully but as they prove reliable and convenient, they may increase usage significantly. This understanding of SST usage from a subjectivity perspective leads to a much better understanding of customers and their needs leading to

the more effective positive rather than normative policies in SST implementation by organizations.

5.3 Recommendations

As banks design SSTs the emphasis should be on providing pleasant service rather than minimizing costs. Given the ambivalent objectives of SST, of lowering organizational costs and providing good service to customers, the risk of compromising customer service for lower costs is always close by. An example in this would be whereby a customer calls an organizations call centre with a problem and is lost in a maze of automated menu instead of an officer. Even with the theoretical advantage of service automation the banks should therefore avoid automating all of their customer interfaces. The banking sector however, should be more aggressive in marketing mobile banking and self-service banking as well as giving access to support facilities and information. Educational support from the bank would boost SST adoption by countering wrong perception that users may have.

Customers' evaluation of automated service options directly affects their perception towards the SST attributes. This calls for frequent market survey by the industry on the customer perception of the automation services provided, and the possible action for improvement. Even though many people are inclined towards the manual banking, these can be turned to SST users through friendly policies and charges by the organizations advancing them. Clearly communicated charges and free periodic trials would also

support the customers in adopting SST. Timely supports such as call centers should be available to provide support incase customers are stuck or the SST fail.

More specifically, banks should develop programs specifically to support their diverse client base to usage. For technogenics, they should simply provide functional SST and support as this group is readily receptive to technology that works. Banks should try and find out who their technogenics are as they may come in handy in introducing further SST interfaces. This is because this group may provide the banks with useful information on the functionality of their product as they advance it in the market.

The laggards will need comprehensive support in education, trials, simulations and continuous customer support, as they will adopt slowly by themselves or not adopt at all. These programs combined will enhance these users self efficacy and help reduce their technology discomfort enabling better SST usage.

The Personalized service disposed client and the Ad-hoc SST users will need a better understanding based on the primary service they demand from the bank as it plays a greater role in determining their usage of SSTs rather than just convenience. This would be useful in designing appropriate products rather than assuming they fit the mass market solution of SST. However well functioning SST will be useful in convincing ad-hoc users to pick it as a first choice in which case they will increase usage.

The Security conscious convenience seekers will need marketing programs that sell the security features of the SSTs. This would counter the anxiety that clients would have from their perception of risk that may be inaccurate but inhibit usage of SSTs. This will keep them from alternating between security and convenience and as such increase SST usage.

5.4 Limitations of the study

Q-Methodology which was used in the study limited the study in that it only profile users but does not give population statistics on how many users subscribe to the given view points. This information that the study is unable to yield is critical in SST policy formation as the numbers would determine the cost effectiveness of the banks investments both in the SST and the marketing programs to support usage.

Q-Methodology also is not common to the Kenyan population and as such most subjects requested to do the Q-sorting refused on the ground that it is cumbersome. Banks too would not share information on their clients. For this reason, though the structure of selecting the P-set was retained, the study had to use snowball referrals to select the P-set. For this reason, the demographic profile of the P-set which is possibly a moderating factor to the different view points was not considered.

5.5 Recommendations for further research

Q-Methodology which has been used in the study only gives the profiles of users but does not reveal their distribution in the population. A study that reveals the statistical

information on the population's distribution among the viewpoints revealed by the Q-methodology would increase our understanding. Further research could also be pursued on the loss of customer relations and brand loyalty as the customers get alienated in technological indifference.

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APPENDICES

APPENDIX A:

Factor Matrix with an X Indicating a Defining Sort

		Loadings				
QSORT		1	2	3	4	5
1	sst1	0.7968X	-0.0573	0.1103	0.0158	-0.0159
2	sst2	0.6173X	-0.0537	0.0735	0.2084	-0.1785
3	sst3	-0.0943	0.3852	-0.0949	-0.2054	0.1845
4	sst4	-0.0137	0.0577	0.9385X	-0.0099	0.0446
5	sst5	0.2881	0.6225X	0.1843	0.3382	0.1148
6	sst6	0.035	0.0836	0.1294	0.6407X	0.1414
7	sst7	0.4633	-0.0658	0.4042	-0.2184	0.0941
8	sst8	-0.2898	0.0335	-0.1561	-0.1433	0.5138X
9	sst9	-0.6975X	-0.0314	0.1911	-0.1472	0.0226
10	sst10	-0.5515	0.2199	0.0933	0.3808	0.2696
11	sst11	0.1279	-0.4632	0.3397	0.2157	0.1361
12	sst12	-0.009	0.0836	0.152	0.3482X	-0.0515
13	sst13	-0.124	0.5139X	0.0748	0.0843	0.0778
14	sst14	0.2592	-0.1388	0.5508	0.0687	0.0683
15	sst15	0.3021	-0.1974	0.1193	0.6915X	-0.1007
16	sst16	-0.6924X	0.0222	0.0286	0.1272	0.0421
17	sst17	-0.0666	0.133	-0.1598	0.7735X	-0.0561
18	sst18	0.0137	-0.0577	0.9385X	0.0099	-0.0446
19	sst19	-0.0853	0.0341	0.7099X	0.0938	-0.1163
20	sst20	-0.1539	0.4189	0.1503	0.3318	-0.1538
21	sst21	-0.2643	-0.0044	0.7725X	0.1824	0.094
22	sst22	-0.2554	0.0734	-0.0209	-0.1472	0.5615X
23	sst23	0.0222	0.4341	0.0882	-0.0077	-0.2596
24	sst24	-0.2847	-0.1612	-0.0292	0.4589	0.505
25	sst25	0.0042	0.2439	0.2266	-0.0476	0.7582X
26	sst26	0.1068	0.1355	0.3335	0.5109X	-0.0648
27	sst27	-0.0112	0.4616	-0.138	0.1736	0.5337X
28	sst28	0.2731	0.3406	0.2908	0.4614	-0.0063
29	sst29	0.4696	0.3184	0.1233	0.4325	-0.2881
30	sst30	0.1447	0.1786	0.5153	0.2197	0.6294X
31	sst31	0.2992	0.0179	0.2067	0.1964	0.7231X
32	sst32	0.0181	0.7793X	0.0802	0.052	-0.034
33	sst33	0.2805	0.2592	0.8070X	-0.0972	-0.0216
34	sst34	-0.1808	0.1637	0.1956	0.3855	0.2802
35	sst35	-0.1638	0.6873X	0.0333	0.2346	0.2539
36	sst36	-0.4082	0.2992	-0.1519	0.2716	0.0729
expl. Var.		11	9	16	14	13

APPENDIX B:

Correlation Between Factor Scores

	1	2	3	4	5
1	1	-0.0566	0.0441	0.0345	-0.0532
2	-0.0566	1	0.2438	0.3434	0.2967
3	0.0441	0.2438	1	0.0884	0.0629
4	0.0345	0.3434	0.0884	1	0.1009
5	-0.0532	0.2967	0.0629	0.1009	1

APPENDIX C:
Factor Array

No.	Statement	No.	1	2	3	4	5
1	low cost of SST will not make me use	1	3	0	1	4	0
2	I opt for what is cheap	2	0	-2	2	-3	1
3	I prefer doing things in established ways	3	2	-2	1	-4	0
4	I'd pay more for SST	4	-3	1	1	-1	3
5	I adopt SST once I understand it	5	1	-2	-1	2	-1
6	There's more control in Face to face banking	6	-1	-4	0	2	-3
7	I adopt technology fast	7	-3	4	1	-3	2
8	Control is not important in my banking	8	-1	-1	1	0	1
9	I prefer personalized service	9	3	0	4	-3	1
10	. SST provides greater control	10	-4	2	-3	-4	0
11	. My choice of banking is ad-hoc	11	1	-3	1	4	-1
12	. SST has not changed my banking much	12	3	3	2	3	-1
13	. I choose SST to avoid interpersonal encounter	13	-4	-3	2	-2	1
14	. Sometimes its best to interface service provider	14	0	-4	0	0	-1
15	. I only adopt SST I Understand	15	4	-3	-1	3	-3
16	. SSTs have enhanced access to banking	16	-2	-2	-2	-1	-4
17	. I try out SST but it does not mean I'll adopt	17	-1	-2	1	2	2
18	. I need guidance to access SST	18	2	4	3	1	2
19	. I will try out any new SST	19	-2	3	2	-2	-2
20	. I struggle with SSTs but get thru	20	-1	-1	-1	1	-1
21	. SSTs are complex	21	4	0	0	-2	-2
22	. I can transact on SST comfortably	22	-3	-1	0	-1	-3
23	. SST require new skills & previous experience help	23	-2	-1	-1	0	0
24	. One easily gets lost in SSTs and cannot transact	24	2	-1	0	1	-1
25	. once you learn one SST you can get thru others	25	-2	0	0	-2	1
26	. Some SSTs have easy interfaces than others	26	0	-1	-1	-2	0
27	. I do not trust SSTs to be safe	27	0	2	3	-1	-2
28	. SSTs have easy interfaces	28	-2	2	0	0	-1
29	. Some SSTs are more secure than others	29	0	-1	-3	-1	0
30	. I do not trust banks to support users on SSTs	30	1	0	-2	2	-4
31	. Banks support would enhance my SST use	31	-1	0	-2	0	1
32	. Accessibility is not key to my banking	32	2	1	4	3	3
33	. Security is key to financial services	33	0	0	-4	1	-2
34	. SSTs are credible coz of their organizations	34	1	1	-2	-1	2
35	. Family support determines my SST use	35	2	1	-1	-2	-2
36	. Access to branches is key to my financial needs	36	1	2	3	0	0
37	. Access to SST is key to my financial needs	37	-1	0	-3	0	3
38	. convenience and security are alternate choices	38	1	2	0	1	4
39	. I only use SSTs I must	39	1	1	-1	1	1
40	. I require alot of convenience in financial service	40	0	1	-4	0	4
41	. I have some but not all SSTs	41	-1	1	-2	1	0
42	. I use all available SSTs	42	0	3	1	2	2

Variance = 4.095 St. Dev. = 2.024

APPENDIX D:
Factors Distinguishing Statements

Distinguishing Statement for Factor 1
(P<0.5; asterisk (*) Indicates Significance at P<0.1)

Both the Factor Q-Sort Value and the Normalized Score are shown
Factors

No.	Statement	1		2		3		4		5		
		No.	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE
21	21 SSTs are complex .	21	4	1.75	0	0.02	-1	-0.07	-2	-0.9	-2	-0.97
3	3 I prefer doing thin .	3	2	1.45	-2	-1.05	-2	0.59	-4	-1.79	0	-0.09

Distinguishing Statement for Factor 2

No Distinguishing Statement for Factor 2

Distinguishing Statement for Factor 3
(P<0.5; asterisk (*) Indicates Significance at P<0.1)

Both the Factor Q-Sort Value and the Normalized Score are shown
Factors

No.	Statement	1		2		3		4		5		
		No.	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE
37	37 Access to SST is k ...	37	-1	-0.48	0	0	0	-1.61	0	-0.13	3	1.22
40	40 I require alot of ...	40	0	-0.09	1	0.65	0	-1.77*	0	-0.18	4	2.23
33	33 Security is key to ...	33	0	0.12	0	-0.01	0	-2.06*	1	0.54	-2	-0.91

No Distinguishing Statement for Factor 4

Distinguishing Statement for Factor 5

(P<0.5; asterisk (*) Indicates Significance at P<0.1)

Both the Factor Q-Sort Value and the Normalized Score are shown

Factors

No.	Statement	No.	1		2		3		4		5	
			RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE	RNK	SCORE
40	40 I require alot of ... convenience and se	40	0	-0.09	1	0.65	0	-1.77	0	-0.18	4	2.23*
38	38 ...	38	1	0.34	2	0.87	1	-1.43	1	0.45	4	1.92*
37	37 Access to SST is k ...	37	-1	-0.48	0	0	0	-1.61	0	-0.13	3	1.22*
11	11 My choice of banki ...	11	1	0.61	-3	-1.8	-3	0.46	4	1.93	-1	-0.59
33	33 Security is key to ...	33	0	0.12	0	-0.01	0	-2.06	1	0.54	-2	-0.91
30	30 I do not trust ban ...	30	1	0.59	0	-0.12	2	-0.94	2	1.03	-4	-2.56

APPENDIX E: CONDITION OF INSTRUCTION

This is a step by step guide to undertaking Q-Sorting. Please read through before sorting and follow through each step as you undertake it.

1. To undertake the Q-Sorting take the deck of 42 cards supplied to you and the score sheet and places them on a spacious table. The 42 cards contain statements about Self-service technology in relation to banking. The cards are numbered 1 – 42 but the numbers are for labeling purpose only and as such are assigned randomly and have no special meaning.
2. In consideration to Self-service technology in banking, you are required to rank the statements from your point of view with the question posed being: “To what extent do you agree or disagree with the following statement”. There is no right, wrong or better answer as its all in consideration to your viewpoint to the subject of self-service technology in banking.
3. Read the statements carefully and split them to three piles: Statements you agree with, statements you disagree with and statements that you are neutral to. Count each pile and record their number on the summary count on the score sheet.
4. Take the cards from the “AGREED” pile and reread them. From the pile select the two statements you most agree with and place them on the right end of the score sheet below column labeled “9”. From the remaining pack of cards select the three statements you most agree with and place them on the three boxes on column labeled “8”. Repeat this procedure for the next available column until all the “AGREED” pile is exhausted.
5. Repeat the above procedure for the “DISAGREED” pile only that this time you work starting from the left end of the score sheet below column labeled “1” working towards the centre of the sheet.
6. Take the pile labeled “NEUTRAL” and reread them. Distribute them on the remaining spaces of the score sheet until they are all used up.
7. Review your distribution and shift cards if necessary.

8. Please explain why you agree most with the two statements you placed below column "9".

Card Number _____

Card Number _____

9. Please explain why you disagree most with the two statements you placed below column "1".

Card Number _____

Card Number _____

10. Please give any general observation you would wish to make with regards to self-service technology in banking.

11. Finally write down the (number) label of the cards in the boxes you placed them on.

Most Disagreed



Most Agreed

1 2 3 4 5 6 7 8 9

--	--	--	--	--	--	--	--	--

COUNTS

DISAGREE _____

NEUTRAL _____

AGREE _____

--	--	--	--	--	--

--	--	--	--

--	--	--

--	--

me use it

do with the need for control

only adopt what I am comfortable using

2. I will opt for what is cheaper between SST and face to face banking

9. I prefer the personalized service rendered when you interface a service provider rather than as SST

16. SSTs has enhanced access to financial services which is what I like

3. I prefer doing things in a way that has been established for long and thus slow in adopting new technologies

10. Compared to face-to-face banking, self-service banking methods provide greater control over managing my financial affairs

17. With support from family or my bank I try out SSTs though it does not determine my adoption of the same eventually

4. I'd pay more to have the convenience of SST.

11. My choice between face to face banking and SST is an ad-hoc decision based on what I deem fit then

18. I need guidance to access SSTs

5. I'm not an early adopter of technology but will adopt once I get to understand it

12. SSTs has not changed the way I access my bank much

19. I will try out any new SST even if I do not have to incorporate it in my banking access

6. There is more control and reassurance in face to face banking as you are able to hold somebody responsible.

13. I prefer SSTs to avoid interpersonal access as it makes one sometimes uncomfortable

20. I struggle through SSTs but get through eventually

7. I'm quick to adopt new technology as it makes life easier

14. Sometimes SSTs gives one convenience but in other instances its best to interface the service provider

21. SSTs are complex and each comes with its own ways requiring you to learn all over again

transaction thru SSTs

accessibility of their branch network rather than SSTs

23. SSTs require one to learn new skills but previous experience sometimes aids one to learn the newer ones

30. I do not trust banks generally to support users fully in the use of SSTs

37. My choice of a financial partner is based on easy access to their SST services rather than branch network

24. The interfaces of SSTs are complex and one easily gets lost or is unable to complete transactions by themselves

31. Bank support in terms of education and guidance would enhance my adoption of SST

38. I do not have a fixed choice between convenience and security as I alternate between the two from time to time in considering financial service

25. Once you learn one kind of SST it's easier to get around others

32. Compared to other factors accessibility is not a key factor in my choice of financial partner.

39. I minimize the use of SST in financial service access and only opt for what is really necessary

26. SSTs have easy to use interfaces but others demand alot from the user

33. My financial service needs require enhanced security for my money and is a key factor in my choice of financial service

40. My financial services needs require alot of convenience and accessibility and thus is a primary factor in choice of financial service

27. I do not trust SSTs as I don't think they are secure environment for conducting financial transactions

34. I believe SSTs are secure as they are advanced by credible organizations

41. I have some form of SST although not all in my access to financial services.

28. I believe SSTs are build with an easy to use interface that one can get around easily and undertake transaction

35. I depend more on family and friends for support in choosing SST rather than bank staff

42. I use all the available SSTs in my financial service access i.e. ATMs, mobile banking, internet banking and swipe my cards