A SURVEY ON THE RELATIONSHIP BETWEEN TECHNOLOGY AND SERVICE QUALITY IN THE BANKING INDUSTRY IN KENYA

BY

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A research project submitted in partial fulfillment of the requirements for the award of a degree of Master of Business and Administration (MBA), School of Business, University of Nairobi
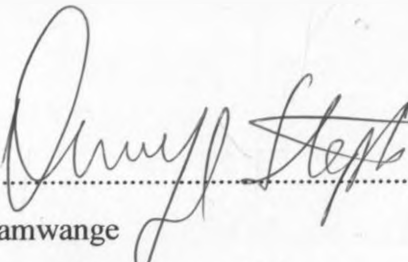
2007

DECLARATION

This research project is my original work and has not been submitted for a degree in this or any other University for examination.

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This research project has been submitted with our approval as University supervisors.

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DEDICATION

First and foremost, this project is dedicated to my God whose provision, grace, and care I cherish. Secondly, this project is dedicated to the University of Nairobi for awarding me a University scholarship which enabled me accomplish the entire MBA programme.

Thirdly, this project is dedicated to my dear wife Mrs. Hyline Ogoro, my children, Kingston Magata and Hilda Gesare who have tireless endured my absence. Finally, this project is dedicated to my parents, Mr. Peter Ombati and Florence moraa for their continuous support and encouragement. I also dedicate this project to my dear uncle, Peterson Mogire and aunt Isabella Mogire for their continuous support and encouragement throughout the program.

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ABSTRACT

The use of technology has become prevalent in the current banking institutions. Due to the competitive nature of this industry, almost every bank is embracing technology to increase its competitiveness. This study establishes the relationship between technology and service quality in banking industry, and determines the factors that lead to customer preference of different electronic banking channels.

The research was carried through across-sectional survey design which questioned respondents on e-banking services. The population of study mainly constituted of customers of banks within the Central Business District (CBD), Nairobi. The respondents of the study were customers of banks using e-banking services (internet banking, mobile banking and ATM). The sample in this study consisted of 120 respondents who are users of the e-banking services. The data collected was analyzed by use of frequency, percentage, means and correlation analysis.

The rank order of service dimensions indicated that, 66.2 percent of the respondents revealed that, secure services as the most important dimension, followed by convenient location of ATM, efficiency (not need to wait), ability to set up accounts so that the customer can perform transactions immediately, accuracy of records, user friendly, ease of use, complaint satisfaction, accurate transactions and operation in 24 hours.

The study though successful, had some limitations in response rate due to suspicion by customers of any inquisitive personality especially on technological issues which are believed to have posed a lot of theft cases in the banks. The customers of the banking institutions were also very busy and as such dedicating their time to fill the questionnaires was problematic.

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CHAPTER ONE: INTRODUCTION

1.1 Background

Recent advances in technology have created a surge in "technology-based self-service" (Dabholkar et al. 2003). Such developments are changing the way that service firms and consumers interact, and are raising a host of research and practice issues relating to the delivery of e-service. E-service is becoming increasingly important not only in determining the success or failure of electronic commerce (Yang et al., 2001), but also in providing consumers with a superior experience with respect to the interactive flow of information.

The financial system around the world has been facing a lot of changes. Mergers and acquisitions, deregulation, increased competition, changing information systems and technology, and human resources with different skills are just a few 'forces' that are influencing the banking business (Pereira, 1995).

Technology is one leading 'driving force' nowadays, in different businesses (Tavares, 2000). It is therefore important to research the investments in technology and their impact in the bank business (Saunders and Walter, 1994; Sethi and King, 1994). It is particularly important to assess how technology is reducing the 'labour intensive activities, reducing service and processing cost, increasing service levels, and improving the productivity and competitiveness of the Kenyan financial sector.

Technology is made up of discoveries in sciences, product development and improvement in machinery, process, automation and information technology. It also includes a combination of knowledge, information and ideas (Murungi 2003).

The literature provides an extensive account of the relationships between service quality, customer satisfaction, and financial performance where face-to-face interaction between customer and employee is the only focus. Recently, however, technology has had a remarkable influence on the growth of service delivery options (Dabholkar and Bagozzi, 2002).

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Dabholkar (1994) claims that when the customer is in direct contact with the technology there is greater control such as with Internet banking. However, if there is an absence of direct contact, such as with telephone banking (since the technology itself is not visible to customers who are able only to press numbers on their telephone keypad) it is assumed that there is less control perceived by the customer during this transaction. Bateson (1984) has conducted a number of studies on the need for consumers to have control during service encounters. When a consumer freely chooses to use technology as a form of service delivery the impact is high in terms of quality attributes. Some of the quality factors that are highly important to consumers are efficiency and speed (Bateson, 2000).

This concept is supported by Weatherall et al., (1984), who state that consumers are thought to have a positive perception of technology based service attributes since they believe technology will deliver a faster and more efficient service than that of the employee. Gummesson (1991) also stresses that reliability and user-friendliness are important factors in the evaluation of technology-based services.

Service quality can be seen as the extent to which a service meets customer's needs and expectations (Lewis and Mitchell, 1990). Service quality can thus be defined as the difference between customer expectations of service and perceived service. If expectations are greater than performance, then perceived quality is less than satisfactory and hence customer dissatisfaction occurs (Parasuraman et al., 1985).

Service quality has been recognised as having the potential to deliver strategic benefits, such as improved customer retention rates, whilst also enhancing operational efficiency and profitability (Cronin, 2003; Rust et al., 2001; Zeithaml, 2000). Oliveira et al. (2002) suggest that e-service quality is amongst a firm's competitive capabilities that lead to business performance, Roth and Menor (2003) see issues in implementing service technology and e-services as critical in service operations, and Al-Hawari and Ward (2006) demonstrates that service quality impacts on customer satisfaction which in turn affects the financial performance of banks.

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Banking can be traced back to the year 1694 with the establishment of the bank of England. The bank was started by a few individuals who were actually money lenders with an aim of lending money at interest. Banking in Kenya started in 1896 with the National Bank of India opening its first branch. Standard Chartered Bank opened its first branches in Mombasa and Nairobi in January 1911.The Kenya Commercial Bank was established in 1958 with Grindlays Bank of Britain merging with the National Bank of India. The Cooperative Bank of Kenya was established in 1965 for the express purpose of providing financial services to Co-operative societies. Three years later, National Bank of Kenya (NBK) was incorporated (Ojung'a 2005). There is about one Automated Teller Machine (ATM) for every 100, 000 people in Kenya according to a paper presented at a South African university by Central Bank of Kenya (CBK) official. Currently, there are 43 commercial banks for 33million Kenyans (www.sun.ac.za).

The banking industry has already been depicted (e.g. in Parasuman et al., 2001) as exhibiting little market orientation and fulfilling services with little regard to customer needs as well as including branches dissimilar in efficiency. Long lines, limited time for customer servicing, transaction errors, excessive bureaucracy, security and network failures have been said to be the most frequent problems using banking services (Mattos, 1999). This highly lower customer's perception on the quality of service offered and hence reduces the bank's profitability and credibility.

1.2 Statement of the problem

In the current climate, competition in the banking industry is intense, with new financial service providers emerging all the time. Quality of service is seen more than ever as a key differentiator in the marketplace. One question relates to whether automated, telephone and Internet banking represent positive change and are delivering enhanced service quality. There is then the further question as to who receives benefit from the use of IT – the customer, the employee or the bank? Whilst technology can save time and money and eliminate errors, thereby addressing certain issues associated with changing cultural and social trends, it can also minimize direct customer interaction and any associated service value to be gained (Bitner,2001). According to Joseph et al. (2003), reliable and accurate banking services; customer services; personalized services; and accurate records are some of the factors which are considered by the customers in their choice of a given type of service delivery channel.

Since the year 2000, technology has increasingly been employed in the delivery of services in the Kenya banking industry. The adoption of technology into service industries, more so in banking is becoming a strong trend as service providers are now being urged by industry bodies to invest in technology. The small business segment (retail and corporate services) has not been an easy one for the main banks to target and a number of studies have highlighted imperfection in service provision and problems regarding service quality (Ennew et al., 1993; Smith, 1989; 1990). Particular problematic areas include knowledge and understanding, providing explanations for decisions, queuing, charges, collateral requirements, network failure and insecurity. Due to this, customer satisfaction levels are at all time low, dragging the bank's image, credibility and staff morale down (Joseph et al., 2003).

A number of studies have been done on service quality delivery in the banking industry. These include relative importance of technology in service delivery in banking (Adrienne et al., 2003) which concluded that technology provides a different type of value and the benefits to be gained are largely efficiency based. Mugambi (2006) also attest that researches have been done on areas of service excellence and customer satisfaction in the banking industry. However, there is no study in Kenya that had looked at the relationship between technology and service quality in the Kenyan Banking industry. This study therefore, sought to investigate the relationship between technology and service quality in the Kenyan banking industry. What is the relationship between technology and service quality? Which are the factors that lead to customer preference of different service delivery channels?

1.3 Objectives of the study
The following were the objectives of this study:

a) To establish the relationship between technology and service quality in banking industry.

b) To determine the factors that lead to customer preference of different electronic banking channels.

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1.4 Importance of the study

The results from this study will be useful to the following groups as follows:

a) Academicians/Researchers: The findings of this research will enable the academicians in broadening of syllabus with respect to the impact of technology in service delivery as a tool for customer focus, continuous improvement and competitive edge.

b) Banking sector: The results of the study will also assist the management of the Banking industry, employees and customers of the bank in improving its job satisfaction levels to achieve the domains of profitability, efficiency, reliability and timeliness.

CHAPTER TWO: LITERATURE REVIEW

2.1 Overview

The proliferation of, and rapid advances in, technology-based systems, especially those related to the internet, are leading to fundamental changes in how companies interact with customers (Parasuraman and Zinkhan, 2002; Bauer et al., 2005). This trend is well established in the service industry, where service providers are increasingly urged to invest in technology to better secure their future in the electronic age (Zhang and Prybutok, 2005; Bauer et al., 2005).

Today's winners are those who overcome consumer cynicism by exceeding expectation and going beyond the point of encounter. These firms are successful because they have invested for the long term through recognizing that service fulfillment not only promotes growth of their customer base but retains customer loyalty (Lake and Hickey, 2002).

The challenging business environment in the financial service market has also resulted in more pressure on banks to develop and utilise alternative delivery channels, with a view to attracting more customers, improving customers' perceptions, and encouraging loyalty (Bauer et al., 2005; Lee and Lin, 2005; Parasuraman et al., 2005). Among the more recent delivery channels introduced is electronic banking. In its simplest form, electronic banking means the provision of information about the bank and its products via a page on the internet.

Davis et al. (1989) however, defines the term as the provision of information and/or services by a bank to its customers via computer, telephone or television. A more developed service, in Daniel's (1999) view, is one that provides the customers with the opportunity to gain access to their accounts execute transactions or buy products online or via other electronic means such as TV, telephone or Automated Teller Machines (ATM).

The installation of customer friendly technology (such as menu driven automated teller machines, telephone and Internet banking services) as a means of delivering traditional banking services has become commonplace in recent years as a way of maintaining customer loyalty and increasing market share. Traditional brick and mortar banks are using technology to meet the

competitive challenge posed by online banks, as well as a method of reducing the cost of providing services that were once delivered exclusively by bank personnel (Joseph et al., 2003).

2.2 Service Quality

Managers in virtually all industries understand that providing quality customer service is a key strategic component in firm profitability. The importance of service delivery and its impact on improving satisfaction and retention of customers, improving sales and market share, and improving corporate image cannot be overstated (Lewis et al., 1994). As with most other service providers, banks have moved quickly to invest in technology as a way of controlling costs, attracting new customers, and meeting the convenience and technical innovation expectations of their existing customers (Pyun et al., 2002).

Service quality differs from material goods quality. Bateson and Hoffman (1999) defined services as deeds, efforts or performance whilst Regan (1963) saw services as activities, benefits or satisfactions offered for sale or provided in connection with the sale of goods. E-service is deeds, efforts or performances whose delivery is mediated by information technology (including the Web, information kiosks and mobile devices). Such e-service includes the service element of e-retailing, customer support and service, and service delivery (Zhang and Prybutok, 2005).

Services, by definition, are intangible and easily duplicated. They can be divided into high-touch or high-tech services. High-touch services are mostly dependent on people in the service process producing the service, whereas high-tech services are predominantly based on the use of automated systems, information technology and other types of physical resources. However, one should always remember that high-touch also includes physical resources and technology-based systems that have to be managed and integrated into the service process in a customer-oriented fashion (Gronroos, 2001). Thus, in this study, technology banking services include both high-tech and high-touch services. For example, high-tech services include Internet/Telephone/Short Messaging Service (SMS), ATM machines whereas high-touch services consist of instructions and personnel assistance in using the services.

Quality is differentiable and stem from the expectations of customers. Hence, it is necessary to identify and prioritize expectations for service and incorporate these expectations into a process

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for improving service quality (Kassim and Bojei, 2001; Goodman et. al., 1986). Implementing and evaluating service quality is a very complex process. Two aspects need to be taken into consideration when evaluating service quality: content and delivery (Zeithaml and Bitner, 1996). Customers may be in the best position to evaluate the quality of delivery, while the service providers are the best judges of the content of the message. Though there are a number of different aspects of services involved, this study focuses on only one: the perceptions of technology users as to the quality of the services.

Quality has been defined from different perspectives and orientations, according to the person making the definition, the measures applied and the context within which it is considered (Tapiero, 1996). It has been defined as "excellence" (Peters and waterman, 1995) "value" (Feigenbaum, 1995), "fitness for use" (Juran and Gryana, 1988), "conformance to requirement" (Crosby, 1979) and meeting and/or exceeding customers expectations" (Parasuraman et al., 1985). More often than not customers demand quality experience and their resultant behaviour is replicated in terms of an attitude towards consumption behaviour, which has led researchers and analysts to regard quality as a single most important factor for long term success and survival. Because of this Deming (1982) asserts that quality aims at the needs of the customer, present and future.

As perceived service quality portrays a general, overall appraisal of service i.e. a global value judgment on the superiority of the overall service, it is viewed as similar to attitude. Prescriptions of service quality could occur at multiple levels in an organization – e.g. with the core service, physical environment and interaction with service providers (Bitner and Hubert 1994) on the other hand customer's overall satisfaction with the service organization is based on a function of all the encounters or experiences of the customers with that of the organization. Similar to service quality, customer satisfaction can occur at multiple levels of an organization for example with the contact person, satisfaction with the core service and satisfaction with the organization as a whole.

Service quality is a concept that has aroused considerable interest in the research literature because of the difficulties in both the defining it and measuring it with no overall consensus

emerging on either (Wisniewski, 2001). There are a number of different other definitions as to what is meant by service quality. One that is commonly used defines service quality as the extent to which a service meets customer's needs and expectations (Lewis and Mitchell, 1990). Service quality can thus be defined as the difference between customer expectations of service and perceived service. If expectations are greater than performance, then perceived quality is less than satisfactory and hence customer dissatisfaction occurs (Parasuraman et al., 1985).

Degree of intangibility has been proposed as a means of distinguishing between products and services (Levitt, 1981) and Darby and Karni (1973) and Zeithaml (1981) highlight the fact that degree of tangibility has implications for ease of service or product quality evaluation. Onkvisit and Shaw (1991) feel, however, that the significance of intangibility is over-emphasized and that the service provider's offer is their productive capacity. As services are produced and consumed simultaneously, customers are present and may take part in the delivery process. They may, therefore, affect or shape the performance and quality of the service, in some cases causing disruption and increased waiting time and consequently lower customer satisfaction (Zeithaml and Bitner, 1996).

Vandermerwe (1993) suggests that connections between the employee and customer can be made through physical, psychological or electronic means, but some sort of interactivity must be present if a quality service that sustains long term customer satisfaction is to be the result.

Quality in the service operation is actually created at the "moment of truth" (Carlzon, 1989) and Gronroos (2001) refers to this as the "moment of opportunity" where value can be added to the perceived service quality. Once the customer has left, however, a new moment of truth must be created, such as a service "recovery" (Hart et al., 1990) to correct a previously created problem. Vandermerwe (1993) goes further to say that "in services the offering and the employee are inseparable".

Banks have largely implemented service delivery technology as a way of augmenting the services traditionally provided by bank personnel. Implementation results both from the need to reduce the cost of delivering service primarily through personnel, and, the corresponding need

to meet the challenge posed by technologically innovative competitors (Byers and Lederer, 2001; Howcraft and Beckett, 1996; Kelley, 1989). Changes in the banking industry such as those resulting from deregulation, rapid global networking, and the rise in personal wealth have thus made the implementation of sophisticated delivery systems (e.g. online and telephone banking, remote site automated teller machines, etc.) a strategic necessity in many cases (Lewis et al., 1994).

Dabholkar (1994) discusses how technology-based services have made new service delivery options available to organizations, making customer participation more widely possible. Customers use touch screen "kiosks" to order take-away food, whilst banks have widely distributed automatic teller machines to withdraw, transfer funds, make deposits into accounts or conduct any other transactions e.g. balance inquiry.

The difficulty with technology in services is that it tends to make the 'moment of truth' a mechanical experience, lacking in emotion. For the customer to remain satisfied, everyone in the organization has to take the responsibility for helping the customer (Goldzimmer, 1990). Berry (1995) talks of competing for talent in employees, setting high standards and sticking to those standards, whilst Berry and Parasuraman (1991) highlight the importance of bringing purpose and meaning to employees' jobs and of empowering them without the fear of reprisal. Additionally, changing the organizational culture to encourage employees to adopt the "right first time" philosophy is essential (Oakland 2000). Whilst training is of importance, it is also costly and careful consideration must be given as to how it can help improve process management, as well as meeting needs and expectations (Oakland, 2000).

Technology can help people fulfill their requirements more efficiently, but a company is still "only as good as its people" (Gronroos, 2001)." The difficulty comes in identifying individuals' motivating factors and harnessing them in the right way. No matter which service delivery channel is used, the service provider/service user relationship must be nurtured at all costs (Grant and Schlesinger, 1995). The more customers go online to fulfil their service needs themselves, the more scalable and cost-effective the business model (Schultze, 2003). This association between service quality and business performance has driven interest in e-service,

online service and Internet retailing. This interest has been further fuelled by evidence of poor e-service quality in some contexts (Boyer et al., 2002; Janda et al., 2002; Zeithaml, 2002). Zeithaml (2002) identifies the need for businesses to focus on the e-service in their e-business, and to understand the importance of e-service quality as a differentiating strategy. Businesses also need to recognise that the web experience presents the brand positioning to online consumers (Kolsear and Galbraith, 2000; Rowley, 2004), and may be an important element in the establishment of trust and relationships with customers (Roy et al., 2001; Yang, 2001; Zeithaml et al., 2002; Lee and Lin, 2005).

2.3 Exploring e-SERVQUAL

The importance of measuring and monitoring e-service quality has been recognised by managers and academics (Johnson and Whang, 2002). Service quality is a key determinant in differentiating service offers and building competitive advantage (Santos, 2003; Gronroos et al., 2000; Bauer et al., 2005). In addition a rich seam of academic research on e-service quality has emerged over the past few years since early work by Zeithaml et al. (2000) and Rust and Lemon (2001). Such work is useful in seeking to surface dimensions of the e-service experience from the customer experience and evaluation perspective.

There is growing recognition of the considerable variability in the outcomes of these studies on service quality in terms of the dimensions that are being surfaced (Waite, 2006; Kim et al., 2006). There are no well-accepted conceptual definitions and models of service quality and its measurement (Seth et al., 2005).

Technology readiness or stage of e-service adoption may impact on the service experience and perceptions of e-service quality (Zeithaml et al., 2002; Tsikriktsis, 2004). Nilsson-Witel and Fundin (2005) suggest that the dynamics of service attributes are dependent on the stage of the customer adoption curve at which the customer has arrived, and Yen (2005) articulates the same theme more specifically when she suggests that the importance of attributes of user satisfaction with Internet-based self-service technology is dependent on technology readiness.

The complementary body of work on the antecedents to e-service adoption also suggests caution in interpreting customer evaluations of e-service, when their experience of e-service is much

Rogers (2004) identified five characteristics or attributes of innovations that affect the rate at which innovations are adopted (and ultimately their usage patterns): their relative advantage, compatibility, complexity, divisibility (trialability), and communicability (observability). Additional characteristics were later added; perceived risk (Ostlund, 2005) and financial and social cost (Zeithaml, 2005).

2.5 Impact of technology on the banking sector

In the categorization of services in technology-based service delivery options Dabholkar (1994) suggests there are a number of relevant classifications that will apply to industries employing technology based service delivery. The classification analyses "who" delivers the service. That is, person to person, where the employee uses the technology or consumer to technology, such as the use of an ATM. The next categorization looks at where the service is delivered. Either on the service firm's sites themselves, at the customer's home or office or at a "neutral" site such as an ATM located at an airport. The final categorization looks at the contact the customer has with the service operation, either direct or indirect such as in the case of telephone banking.

Dabholkar (1994) stipulates that there should be flexibility in the design of the technology to allow customers to make changes during the transaction and make available a customer service adviser if required, with "minimum waiting". This also raises the design issue of sufficient menu options for ATM/Telephone and Internet bankers. In most cases the transaction occurs in a neutral location and the availability of an employee may not always be feasible since these facilities often operate 24 hours a day, seven days a week.

Continuous improvements in the information technology have enabled banks to provide their services in a more direct manner to adjust their products better to the clienteles' needs. Although banking has always been an information business, until now information technology was mainly used to automate administrative processes. The shift from automating to informating-using information and its flow to inform managers provides opportunities to track a customer's behavior and respond at the right time. By making effective use of these opportunities, banks are able to transfer a great deal of transactions from branch offices to a call-centre (John, et al., 2005). Accessibility has been extended through technological developments as well as the

introduction of new service delivery methods that allow consumers to do business with service firms from the home and office.

2.6 Electronic banking

Electronic banking is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution. The following terms all refer to one form or another of electronic banking: personal computer (PC) banking, Internet banking, virtual banking, online banking, home banking, remote electronic banking, and phone banking. PC banking and Internet or online banking are the most frequently used designations. It should be noted, however, that the terms used to describe the various types of electronic banking are often used interchangeably (Dirk de Villiers, 2003).

Electronic banking refers to the use of the internet as a remote delivery channel for providing services, such as opening a deposit account, transferring funds among different accounts and electronic bill presentment and payment. This can be offered in two main ways. First; an existing bank with physical offices can establish a Website and offer these services to its traditional delivery channels. Second, is to establish a virtual bank, where the computer server is housed in an office that serves as the legal address of such a bank. Virtual banks offer their customers the ability to make deposits and withdraw funds via ATMs (Automated Teller Machines) or other remote delivery channels owned by other institutions, for which a service fee is incurred (Zairi et al., 2003).

Dirk de Villiers, (2003) in his book *Do You Know Your Bank* describes PC banking as a form of online banking that enables customers to execute bank transactions from a Personal Computer (PC) via a modem. In most PC banking ventures, the bank offers the customer a proprietary financial software program that allows the customer to perform financial transactions from his or her home computer. The customer then dials into the bank with his or her modem, downloads data, and runs the programs that are resident on the customer's computer. Many banks offer PC banking systems that allow customers to obtain account balances and credit card statements, pay bills, and transfer funds between accounts.

2.6.1 Internet banking

Internet banking is predicted to transform and revolutionalize traditional banking industry (Mols, 2000; Daniel, 2000; Carrington et al, 2002). Banking services are easily digitalized and automated and, thus, from an operational perspective, lend themselves to the internet (Elliot and Loebbecke, 2000; Daniel, 1998) the potential competitive advantage of the internet for banks lies in the areas of cost reduction and satisfaction of consumer needs.

Internet banking uses the Internet as the delivery channel by which to conduct banking activity, for example, transferring funds, paying bills, viewing checking and savings account balances, paying mortgages, and purchasing financial instruments and certificates of deposit. An Internet banking customer accesses his or her accounts from a browser— software that runs Internet banking programs resident on the bank's World Wide Web server, not on the user's PC. Net Banker defines a "true Internet bank" as one that provides account balances and some transactional capabilities to retail customers over the World Wide Web.

To date, more banks have established an advertising presence on the Internet— primarily in the form of informational or interactive web sites—than have created transactional web sites. However, a number of Banks that do not offer transactional Internet banking services have indicated on their web sites that they will offer such activities in the future.

Although Internet banks offer many of the same services as do traditional brick-and-mortar Banks, analysts view Internet banking as a means of retaining increasingly sophisticated customers, of developing a new customer base, and of capturing a greater share of depositor assets. A typical Internet bank site specifies the types of transactions offered and provides information about account security, Mossfet (2004).

2.6.2 Mobile banking

According to Siau et al. (2001) m-commerce (mobile commerce) that includes WAP has some features of mobile business include; Ubiquity. Mobile technology enables the user to access information wherever they are assuming the user is within the cellular broadcast area, personalization. Due to the limited memory capacity of the mobile hardware, software enables a finer degree of sorting and categorization to meet the mobile users' needs, flexibility. The

mobility of the hardware, e.g cellular handsets permits the user to conduct transactions and/ or receive information even when the user is engaged in another activity such as traveling or working, dissemination. Originators of information, for example local retailers, may use the wireless network of m-commerce to deliver specific information to some or all WAP users that come into the geographic region.

The study (Distr, 2003) indicated that, Electronic Funds Transfer (EFT) was introduced in the late 1970s.ATM; telephone banking and the acceptance and growth of credit cards were introduced in the 1980s.It costs just two cents for an internet transaction, compared with 36 for an ATM transaction and $1.15 for a teller-assisted service. Despite that, consumers have still given their orders to transfer money in traditional ways (Moon et al., 2000).The main reasoning is that since no internet security firewall can be guaranteed perfectly, both sellers and buyers may be concerned that competitors will be able to extract sensitive or proprietary information, or a virus might spread from one participant in the exchange to others (Doyle et al., 2001).

Consumers are demanding and expecting more than just one set of banking products from their forays online and off-line. Banks are using the internet as a strategic weapon, leveraging it as a distribution channel to offer complex products at the same quantity they can provide from their physical branches, at a lower cost, to more potential customers, without boundaries (Dial 1995).

Banks can become technology providers by spinning off technology resources to start up new business streams, they can become content providers for information regarding products, indices etc, they can become context providers for setting-up e-market spaces , and also enablers by providing back bone systems to support multiple payment system alternatives. According to Hawkins (2001), the online channel enables banks to offer low-cost, value-added financial services and also benefit from the promotional opportunity to cross-sell products such as credit cards and loans.

Turban (2000) indicated in his study that, online transactions costs can be as low as 1% of an equivalent off-line transaction, rapidly increasing the popularity of the online option with consumers as well as banks. In saving time and money for users, banks offer online banking as a

less expensive alternative to branch banking. In addition, on-line banking enables banks to acquire information on consumer habits and preferences. An expanding customer base and transaction cost savings are major benefits for banks.

2.6.3 Automated Teller Machines (ATMs)

Automated Teller Machines (ATMs) are also known as electronic cash machine: an electronic machine that enables customers to withdraw paper money or carry out other banking transactions on insertion of an encoded plastic card (msn.encarta).

Automated teller machines (ATMs) are nothing new, but not all cardholders make full use of all the facilities that ATMs offer. Due to ignorance or technophobia, many clients still opt for more cumbersome and costly methods of banking (Stanley et al., 2000). Bank clients, who hate waiting in long queues at the bank, prefer ATM banking. It offers the customer the convenience of being able to do most of their banking from a machine often situated outside the bank, so that they have access to their bank account 24 hours a day.

ATM banking is also considerably cheaper than other methods of payment, such as issuing cheques or doing transactions over the counter inside the bank. With ever-increasing bank charges eroding your cash, you have to be mindful of these costs, Hirsch et al. (2001). The one drawback of ATM banking is that it has become the target of thieves, whose most popular modus operandi is to distract the customer, watch him punch in his personal identification number (PIN), which they memorise, and then surreptitiously swop his card for a dud or a stolen card. The thieves make off with the card and with the PIN memorised, they draw money from his account (Stanley et al., (2000).

It is preferable to keep this limit as low as possible because if criminals obtain your card and PIN they will be limited to draw this sum of money. By lowering your limit you are reducing your risk should your card be lost or stolen. But criminals can also draw an electronic cheque to the value or whatever balance you have in your account or up to your maximum withdrawal limit. Furthermore, criminals can shop at certain stores with your ATM card, so it is vital that if it is lost or stolen, you report it to your bank immediately. Also remember that if your card is

legitimately retained by an ATM, the machine will issue you with a slip. If you are not issued with a slip, cancel your card immediately (Dirk de Villiers, 2003).

2.7 Issues in technology- enabled services

Technology, an aspect of the design, means the process for transforming materials to finished products. In the public sector, the information constitutes the material and the public service the product. More broadly stated, to include the types of work done in the most public agencies, technology refers to the programme and procedure designed to respond to situations and process cases to achieve the results specified in the mandate of the agency. It does not refer to machines and equipment only but to the programmes and performance routines of the agency (Gortner et al., 1989). Utilization of technology today, offers dramatic and enduring improvements in enhacing organizational performance (Daven Port, 1993; Hammer and Champy, 1993; Holzer and Callanhan, 1998; Morton, 1991).

Technology facilitates basic customer service functions, transactions and information seeking and has changed the face of customer service, but many organisations now offer human contact as the ultimate form of customer service, such as a "live chat" option or phone contact when people have a problem with an Internet-based service (Bitner, 2001).

Technology enables both customers and employees to be more effective in receiving and providing the service (Bitner et al., 2000). Self-service technologies (SSTs) can enhance customer relationship management and service customisation but they must be well designed and appropriate. M ick and Fournier (1998) have, however, highlighted paradoxes in technology products and services: technology can both assimilate people while at the same time isolating them; it can provide a sense of control with a sense of ineptitude; it can facilitate involvement and activity between people while leading to disconnectivity and passivity; it can result in greater efficiency and productivity and can result in wasted time and effort.

The question of acceptability is a crucial one. Research looking into "customer technology readiness" suggests there are segments of customers simply not interested or ready to use technology (Parasuraman and Colby, 2001). Employees can also be reluctant to accept and integrate technology into their working lives either because they do not wish to change or do not

perceive any value in learning the new technology (Bitner, 2001). Walker et al. (2002) view a customer's decision to adopt or reject technologically facilitated service delivery as dependent on and conditioned by their individual capacity and willingness. Capacity implies a perceived ability to use (Davis et al., 1989). Adopters of technology-based services will tend to be convinced by ease of use and convenience.

Research by Meuter et al., (2000) has shown that a number of benefits of SST encounters can be related to aspects of personal control (ease of use, convenience) over an impersonal service innovation with increased consequent likelihood of adoption. Murray and Schlachter (1990) point out the need for marketing activities specifically intended to reduce perceived risk or provide customers with the ability to modify their adoption of the innovation, which both encourage participation.

According to the research by Snellman and Vihtkari (2003) conducted in the Finnish banking sector, there were approximately the same number of complaints about unsatisfactory service in traditional banking and technology-based banking. In interpersonal service encounters, unfriendly or impolite service or time factors were the most frequent causes of dissatisfaction.

In technology-based encounters dissatisfaction was most commonly related to failures in technology, service design or in the service process. Most technology-based complaints tend to be with Internet services, about which customers are more likely than not to be more unfamiliar. It could be argued that technology related complaints should diminish over time with increased familiarity and technology has the advantage of being more consistent than the behaviour of individual staff.

2.8 Use of technology and customer relationships in banking

A key question that the present study is attempting to address relates to the extent to which use of technology in banking enhances the service offering and to customer preference of different service delivery channels. Earlier a number of studies have provided some insights into these issues. Jamal and Naser (2002) found that the core and relational dimensions of service quality were causal antecedents of customer satisfaction, in line with other earlier findings, but also highlighted that expert banking customers tend to have higher expectations than their novice

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counterparts. This expertise may relate to both financial and technology issues and banks need to be mindful of these customer differences when designing their service offerings.

Lang and Colgate (2003) shed further light on the relationship issue by showing that customers who would prefer to use more or less technology to interact with their bank perceive their relationship to be weaker than those who are satisfied with the way they currently interact with their bank. This heightens the imperative for technology applications as tools for relationship development and maintenance. This point is echoed by Lloyd-Walker and Cheung (1998) stating that technology planning and purchasing with a strong customer focus might contribute to improved performance.

This theme of linking functional and relational service quality has been echoed by other authors, whose research relates to the linking of technology developments with the customer needs and preferences. Nielsen (2002) has researched the use of Internet technology in banking and found that only basic technology applications tended to have customer linking properties. Sophisticated applications are usually only indirectly related to performance. Whilst banks may reap efficiency benefits through pushing customers online, additional benefits are not reaped from other applications.

There is clearly a need for a greater orientation towards customer relationship management and empowerment of customers if benefits other than efficiency gains are to be achieved. Ricard et al., (2001) also make the point that, even if the customer's interest in a relationship approach does not seem to be affected disproportionately by the use of self-service banking technologies, financial institutions should take into consideration the importance of the relationship with the customer and strive to develop more productive, personalised and effective interactions with the customers.

2.9 Factors that lead to customer preference of electronic banking channels

Service quality is a competitive issue for both traditional and technology-based services and the customer must ultimately be satisfied or will not reuse the service. In this context it is important to consider service quality determinants for both service typologies.

Czepiel et al., (1985), Gronroos (1984) and Lehtinen and Lehtinen (1982) considered technical or output quality as one dimension and functional or process quality as the second. Edwardsson et al. (1989) expanded further these two dimensions of service quality into four factors which affect customers' perceptions: Technical quality (skills of personnel and design of service system), integrative quality (how the different parts of the system fit together), functional quality (how the service is delivered); and outcome quality (does the service achieve what it promised).

Although some of these aspects may be hidden in technology-based services, they are nonetheless relevant and enable measurement of technology-based services (Cox and Dale, 2001). Zeithaml (2002) argues that the four dimensions of key importance in e-service quality are the following: Efficiency refers to the ability to access the service with minimal effort, fulfillment incorporates the accuracy of service promises and delivery on time, reliability is associated with the technical functioning of the site, and privacy includes the assurance that data are not shared and credit card information is secure.

She regards this as the core e-SQ scale because these are the main dimensions sought by customers shopping on the Internet. When, however, online customers run into problems, three other dimensions become important – responsiveness, compensation and contact (Zeithaml, 2002). Martilia and James (1977) argue that reliable and accurate banking services, customer service, personalized service, and accurate records are the factors that are considered in the choice of a given electronic banking channel. However, these factors have varying degree of importance.

2.10 Customer expectations

Parasuraman et al. (1985) designed a conceptual model of service quality that decades later still serves as the foundation for understanding customer expectations and service performance. The researchers conducted in-depth interviews with executives in four nationally recognized service firms and conducted focus group interviews with consumers of those services providers. The researchers discovered that there are a number of "gaps" or failure points between customer expectations and service provider performance.

The pivotal gap that all others hinge upon is the gap between executives' assumptions about their customers' expectations and actual customers' expectations. Parasuraman et al. (1985) found that executives' assumptions about their customers' expectation were frequently wrong. Executives often make their own assumptions, but the only way to understand customer expectations is to ask them directly! Thus, this study intends to establish whether banks consistently ask customers, in any direct way, about their expectations. Identifying and understanding customer expectations is one of the most basic, yet perhaps most often overlooked concept.

2.11 Customer evaluations

The Parasuraman et al., (1985) research, which is supported by two decades of further research, outlined another fundamental principle of service quality. The researchers found that consumers evaluate the process as well as the outcome of the service received. In other words, the waiting time, the smile, and the attitude of the employees are as important as the approval of the loan. Through the focus group interviews and later empirical investigation (Parasuramam et al., 1985; 1988), the researchers found consumers used ten determinants in their evaluation of the service quality process. Beginning with the most important determinant of service quality, the list includes: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding and tangibles.

A decade later, Berry et al. (1994) summarized their collective research with ten lessons learned: Listening to customers precedes action; reliability is essential, customers want basic service, poor service quality is a system design problem, not an employee problem, good service recovery can overcome poor service delivery, service excellence includes both outcome and process, customers expect fairness, service takes teamwork Employee feedback is vital to service improvement and leaders should serve employees.

2.12 Customer retention

Finally, many companies focus on strategies that overemphasize new sales, seriously neglecting the vital strategies related to customer loyalty and retention. If service providers knew how much it actually costs to lose a customer, they would make greater effort to retain them. Unfortunately, as Reichheld and Sasser (1990) point out, today's accounting systems do not

capture the value of the loyal customer. Their study analyzed more than 100 companies in two dozen industries and found that the longer a company keeps a loyal customer the more the customer purchases each year. Also, year by year, loyal customers purchase more expensive items and are willing to pay more for existing products. As purchases rise, operating costs decline. Loyal customers also provide very persuasive, free advertising.

2.13 Service quality using importance-performance measurement

When customers evaluate the quality of the service they receive from a banking institution they use different criteria which are likely to differ in their importance, usually some being more important than others. While several criteria are important only a few are most important. These determinant attributes are the ones that will define service quality from the consumer's perspective (Loudon and Della Bitta, 1988). However, many established models of service quality have tended to focus on expectations and marginalise the issue of importance. Thus, for example, of the most widely used model to measure perceived service quality was developed by Parasuraman et al. (1985; 1988).

This conceptual model indicated that customers' perception of service quality was influenced by a series of (expectations-performance) gaps that hinder the delivery of high service quality. This disconfirmation-based model has been the object of some major criticisms, including ambiguity in the definition of expectations and its applicability to a variety of industries (Teas, 1993, 1994; Cronin and Taylor, 1992, 1994). Another weakness of this model is that for it to function correctly, expectations must remain constant. However, Carman (1990) maintains that expectations change with familiarity with the service. Finally, the framework does not explicitly consider the relative importance of different attributes of service (although it may be that expectations serve as some kind of proxy for importance – at least in terms of decisions regarding the management of service quality). Because of its impact on consumer decision making, the explicit consideration of importance in service quality may provide additional useful insights.

Martilia and James (1977) developed a simple importance/performance technique whose most attractive feature is that the mean importance and performance results can be graphically illustrated on a two dimensional grid. The four quadrants in the grid can provide in-depth

information on each of the attributes tested. According to Ortinau et al. (1989), each of the quadrants can be described as follows:

i. Concentrate here: This is where customers feel that a specific attribute is very important but its performance is not satisfactory.

ii. Keep up the good work: This is where customers feel that a specific attribute is very important and they are satisfied with its performance.

iii. Low priority: This is where customers are not satisfied with the performance of a specific attribute but they do not perceive it as being important.

iv. Possible overkill: This is where customers are satisfied with the performance of a specific attribute but the customers do not perceive it as being important.

Research using the importance measurement has successfully been conducted in a number of industries (Martilla and James, 1997; Joseph and Joseph, 1997). Using the I/P grid for measuring the service levels of banking institutions provides administrators with a useful tool for determining the areas that are viewed as most important by consumers. The key feature of this method appears to be its effectiveness in measuring the performance of service providers in providing quality service in the areas perceived to be the most critical to service customers.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research design

The research was carried through across-sectional survey design which asked respondents on e-banking services. The design of the questionnaire was based on a multiple-item measurement scale (e-banking services). It looked into the relationship between technology and service quality in the Kenyan banking industry. This study is suitable when dealing with many members in a population where it is not possible to study all of them and hence calling for sampling in order to come up with a generalizations and inferences about the whole population. Similar studies that have successfully used this research design are; Norizan (2005), Gakuo (2003) and Mwangi (2002).

3.2 Population

The population of study was drawn from banks within Nairobi, Kenya. This mainly constituted of customers of banks within the Central Business District (CBD), Nairobi. The respondents of the study were customers of banks using e-banking services (internet banking, mobile banking and ATM). The target locations were headquarters and branches of various banks.

3.3 Sample

The sample in this study consisted of respondents who were users of the e-banking services (internet banking, mobile banking and ATM). A data for the study came from self-administered questionnaires which were distributed to 120 personal and corporate customers in Nairobi city and therefore comprised of city dwellers because of time and resource limitation (Ontunya 2006). Similar approach was adopted by Norizan (2005).The sample constituted of 77% of personal customers while 23% of the customers was derived from corporate customers. This enabled the researcher to get the mixed perceptions of the two groups in the usage of various electronic channels.

3.4 Data collection

The study used primary data, which was captured through semi-structured questionnaires. The questionnaire consisted of both closed and open-ended questions and had three sections. Section one dealt with general information on the participants. Section two sought information on the relationship between technology and service quality in the banking sector. Section three sought

information on the factors that lead to customer preference of different service delivery channels. The questions were presented in the form of statements on a 1-5 likert scale for respondents to score statements that describe the consumer's perceptions of electronic banking performance and the most important attributes of electronic banking service. The researcher captured the customers during peak hours i.e. lunch and evening hours. At this time, more financial transactions took place and therefore, there were high chances of capturing many customers. The researcher mainly used a mall intercept method to capture the respondents (out of every five customers in the queue, one was selected).

3.4 Data analysis

To establish the relationship between technology and service quality in the Kenyan banking industry, frequency and percentage proportions of the statement describing the relationship were used. From the same scores, means were calculated to determine the perceived relationship i.e. the strength of relationship. Correlation analysis was also used to establish the relationship between the technology and service quality in the banking industry.

To determine the factors that lead to customer preference of different service delivery channels, the score of customer preference was cross tabulated to establish the degree of influence. From these scores, means and percentage proportions were used to rank the factors that influence the preference of different service delivery channels.

Generally, there is no agreement on which format is most appropriate for measuring service quality. However, for this particular study, using I/P grid more readily provided easy access for practitioners to the findings and suggestions for improvement. The factors to be tested included: reliable and accurate banking services, customer service, personalized service, and accurate records.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter covers data analysis and findings of the research. The data is summarized and presented in the form of proportions, means, and tables. Data was collected from customers who use electronic banking in the fourth-three banks in Nairobi, Kenya. Consequently, the collected data was analyzed and interpreted in line with the aims of the study which include: to establish the relationship between technology and service quality in banking industry and to determine the factors that lead to customer preference of different electronic banking channels. Of the 120 questionnaires distributed for this research, 75 useable questionnaires were returned giving a response rate of 62.5 per cent, which was considered satisfactory for subsequent analysis. This analysis focused on relevant dimensions of service using the items involved. These were then examined in a more detail for purposes of comparison between themselves and across respondents. A model with four factors listed below may be adequate to represent the data for this particular sample of Kenya baking customers, reliable and accurate banking services, customer service, personalized service and accurate records.

4.2 Customers Profile

4.2.1 Distribution of response by age

The respondents were asked to indicate their age. From the study, it was shown that middle aged customers place more importance on the adoption of technology in service delivery in the banking industry. Therefore, for the banks that rely on technology to increase their market share, they should strategically target the customers aged between 26-45 years of age. This is shown in table 4.2 below.

Table 4.1: Distribution of response by age

Age	Frequency	Percent
less than 25 yrs	12	16.0
26-35 yrs	34	45.3
36-45 yrs	16	21.3
46-55 yrs	10	13.3
56-65 yrs	3	4.0
Total	75	100.0

Source: Research Data

4.2.2 Responses according to gender

The study sought to find the gender of the respondents. This ensured the comparison of responses between males and females. The study established that slightly more males than females place more importance on the adoption of technology in service delivery in banks i.e. of the 75 respondents interviewed, 61.3 percent were males and 38.7 percent were females. This shows that males have adopted electronic systems more quickly than their female counterparts.

4.2.3 Level of Education

The study sought to establish the level of education of the respondents. Out of the 75 respondents interviewed, it was established that 8 percent of the respondents were below high school, 18.7 percent had attained high school level of education, 53.3 percent had attained college/bachelors level of education, 18.7 percent had attained masters and above and 1.3 percent were categorized as others. This indicates that the preference of technology in the banking industry has a strong relationship with the level of education of the customers. This is shown in table 4.2 below.

Table 4.2: Level of education

Level of education	Frequency	Percent
Below high school	6	8.0
High school	14	18.7
College/bachelors	40	53.3
Masters and above	14	18.7
Others	1	1.3
Total	75	100.0

Source: Research Data

4.2.4 Type of customers

The researcher sought to establish the type of customers who use technology in the delivery of services in the banking industry. It was established that of the 75 customers interviewed, 77.3 percent were retail and 22.7 percent were corporate customers. This shows that the retail customers are more inclined towards technology than the corporate customers. This is as shown in table 4.3 below.

Table 4.3: Type of customers

Type of customer	Percentage
Retail	77.3
Corporate	22.7
Total	100

Source: Research Data

4.3 Latest electronic banking service used by the customers.

The respondents were asked the latest electronic banking service they have used. It was revealed that more customers have adopted ATM banking than mobile and internet banking. This implies that the banking customers are more familiar with the ATM technology as compared to both internet and mobile banking. This is shown in the table 4.4 below

Table 4.4: Latest electronic banking service used by customers

Type of technology used by cus	Response(Percentage)	
	Yes	No
ATM banking	90.7	9.3
Mobile banking	28.0	72.0
Internet banking	32.0	68.0

Source: Research Data

4.4 Correlation Matrix

The respondents were asked about the performance of electronic banking channels with respect to the service quality dimensions. It was shown that most of the service quality dimensions with an exception of including all the banking needs in the option menu, convenience, acknowledgement by name and voice online are positively related with ATMs. However, most of the service quality dimensions are negatively related with both mobile and internet banking. This is as shown in table 4.5 below.

Table 4.5: Correlation matrix

Service quality dimension \\ Electronic banking channel	ATM	Mobile	Internet
Ease use	0.037	0.035	-0.0133
Operates 24 hrs a day	0.036	-0.0153	-0.179
All banking needs in menu option	-0.189	-0.022	-0.105
Process my transactions efficiently (not wait)	0.168	0.023	-0.062
Performs transactions immediately	0.283	-0.058	-0.032
Performs all transactions accurately	0.123	-0.105	-0.046
Give you a written guarantee that transac taken place	0.048	-0.093	0.009
Provide accurate records	0.126	-0.176	-0.112
Be personalized, e.g. great you by name	0.047	-0.164	-0.207
Have its ATMS conveniently located	-0.154	-0.129	-0.98
Provide secure services	0.061	-0.600	0.40
Special service to disabled	0.111	0.100	0.155
Acknowledge me by name on the screen transaction	-0.109	-0.181	-0.145
Have a user –friendly system in place to r transactions easier	0.098	0.012	0.262
Connect you immediately to the service	0.094	0.113	-0.239
Provide voice/on line directions for new user	-0.037	-0.241	-0.228
Provide a customer friendly environment wh in the queue to be served such as music	0.128	-0.140	-0.016
Provide a customer friendly environment wh in the queue to be served such as adverti other services the bank provides	0.128	-0.127	-0.042

Source: Research Data

4.5 Preferred method of cash withdrawal and cash deposit.

4.5.1 Cash withdrawal

Of the 75 percent customers interviewed, 77.3 percent of the respondents' preferred ATM method of cash withdrawal and 22.7 percent preferred using teller method.

4.5.2 Cash deposit

Of the 75 customers interviewed, 26.7 percent preferred using ATM method of cash deposit while 73.3 percent customers preferred using teller approach in depositing their cash.

4.6 Sample response across items

The respondents were asked rate the importance and performance of various factors considered in the electronic banking services. The negative scores imply that given the importance of these items, their mean performance scores are problematic. Table 4.6 below shows that, the respondents are not generally satisfied with their respective banks. This implies that there is an expectation gap i.e. there is a difference between what the customer expects and the actual services being delivered. This has a negative impact particularly on banks that rely on electronic systems to increase their customer base.

It could be argued that the performance of electronic banking services falls within the area considered equivalent to the respondents "Zone of tolerance". This suggests that even though the respondents perceive that the electronic banking services as not living up to expectations for what constitutes a "quality" service, they are at least not dissatisfied with their bank's performance as long as certain conditions are met. Conversely, expectations may have been low of banking provision generally. Other possible reasons include (perceived) difficulties in changing service provider and the experience of the customer i.e the less experienced the customer is, the lower the expectation of the service. The less "new" e-banking becomes, the more experienced the customer will be.

The customers indicate that they are satisfied in the following areas "operates 24 hours a days", "have all banking needs included", "Be capable of performing all transactions accurately", "being personalized e.g. great me by using my name", "provide secure services", "acknowledged me by name", "Provide services in a number of different languages" and "provide voice online directions for new users".

As indicated in table (4.6), "be able to satisfy my complaints within 24 hours," "be able to set up accounts so that I can perform transaction immediately", "Process my transactions efficiently (so I don't need to wait)", "provide a customer friendly environment whilst waiting in the queue

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to be served such as advertising about other services the bank provides" and "Provide customer feedback" are amongst others regarded as important yet the needs are not being met. This implies that customer's satisfaction levels can only be raised if the customer is fully confident that their transactions i.e going to be dealt with as efficiently, diligently, friendly (advertising), provision of feedback and able to satisfy customer's complaints as they would be in a face-to-face service encounter. The lack of physical presence or personnel does not lower banking customer's expectation levels with regards to service quality, in fact it may raise expectations levels of delivery, quality, trust and the need to build, maintain and consistently enhance relationships.

Table 4.6: Sample response across items

Attribute	Importance rating rating	Performance rating	Performance -importance
Internet banking: An ideal electronic bank should:			
Ease use	4.21	4.11	-0.10
Operates 24 hours a day	4.15	4.38	0.23
All your banking needs in the menu options	3.99	4.11	0.12
Process my transactions efficiently (not wait)	4.47	4.08	-0.39
Performs transactions immediately	4.41	3.92	-0.49
Performs all transactions accurately	4.15	4.23	0.08
Give you a written guarantee that transactions place	3.98	3.85	-.13
Provide accurate records	4.33	4.24	-0.09
Be personalized, e.g. great you by name	3.66	3.96	0.30
Be able to satisfy your complaints	4.25	3.68	-0.57
Provide customer feedback services	4.06	3.81	-0.25
ATM: An ideal electronic banking service should be:			
Have its ATMS conveniently located	4.50	4.09	-0.41
Provide secure services	4.37	4.43	0.06
Acknowledge me by name on the screen transaction	3.41	3.27	-0.14
Have a user –friendly system in place to n transactions easier	4.22	4.11	-0.11
Provide services in different languages	3.97	4.02	0.05
Telephone banking: An ideal electronic banking Should:			
Connect you immediately to the service	3.97	3.77	-0.20
Provide voice/on line directions for new users	3.55	3.68	0.13
Provide a customer friendly environment whils the queue to be served such as music	3.43	3.37	-0.06

Provide a customer friendly environment whilst the queue to be served such as advertising services the bank provides	3.45	3.07	-0.38

Source: Research Data

The rank ordering of the different service dimensions will ensure clarity of the customer's perception of the respondents. The rank order according to table (4.7) shows that 66.2 percent of the respondents indicated that, secure services as the most important dimension followed by convenient location of ATMs, efficiency (not need to wait), ability to set up accounts so that I can perform transactions immediately, accuracy of records, user friendly, complaint satisfaction, accurate transactions, operation in 24 hours and recognition. This is shown in table 4.7 below.

Table 4.7: Ranking of service dimensions in terms of their importance

Service dimension	Percentage
1. Secure services	66.2
2. Convenience	63.5
3. Efficiency (time)	61.6
4. Performance of transactions	54.8
5. Accurate records	54.8
6. User-friendly system	51.4
7. Be able to satisfy complaints	47.2
8. Accurate transactions	43.8
9. Efficiency (overall)	41.7
10. Recognition	41.1

Source: Research Data

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the findings and makes conclusions based on the two specific objectives of this study i.e. the relationship between technology and service quality in banking industry and to determine the factors that lead to customer preference of different electronic banking channels. It also includes the study recommendations for improvement, limitations of the study and further research.

5.2 Summary and conclusions

The analysis from the importance- performance indicates that there is a perceptual problem when the sample indicates poor performance of electronic banking facilities compared with an ideal banking service. The introduction and growth of technology has been considered whilst acknowledging that providing a quality service is viewed as a key strategic factor in establishing competitive advantage. Due to this, research was carried out to establish relationship between technology and service quality in banking industry.

It was established that there is a direct relationship between technology and service quality in the banking industry. This was made possible through the use correlation analysis, percentages and means. The use of technology in banking enhances the service offering to the customer. However, the level of service expectations varies depending on the level of experience with electronic banking and level of education of the customer. For instance, expert banking customers tend to have higher expectations than their novice counterparts. This expertise may relate to both financial and technology issues and banks need to be mindful of these customer differences when designing their service offerings.

The key factors for satisfaction/ dissatisfaction in the Kenya banking industry in relation to technology were established. This was made possible through the use of Importance/performance grid. The e-banking customers seem to be quite satisfied in the following areas: Security, efficiency, accurate records, convenience and accurate transactions.

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The importance- performance grid in table 6 shows that convenience, immediate performance of transactions and efficiency (no need to wait) lies in the "concentrate" quadrant. The respondents indicated that security and operation of the electronic banking lies in the "keep up the good work" quadrant. Be personalized, provision of special services to the disabled, provision of a customer friendly environment in terms of music and advertising while on the process of getting the services and provision of services in a number of different languages lies in the "low priority" quadrant. Having all the banking needs included in the option menu and accurate performance of the transactions lies in the "possible overkill" quadrant.

5.3 Recommendations

The banking institutions should use the Importance/Performance grid as a strategic tool for the development of strategies as it gives a clear pictorial presentation of the factors that are critical for resource allocation. From the Importance/Performance grid, it is important that the financial institutions wanting customers to use and be satisfied with banking technology must implement personalized aspect to the service i.e getting to understand what the customer needs and act as per the demands.

The banks should pay special attention to convenience by providing the customers with electronic banking service at points which can easily be accessible. For instance, some ATMs should be installed in supermarkets, learning institutions and medical centers.

The banks' management should also improve their ATM systems so as to minimize waiting time in the queue. This will improve the efficiency in the service delivery hence boosts customer confidence.

Banks should also provide customers with a toll free number. This could handle customers with complaints and general feedback about the electronic banking services. This would not only provide a service to a customer that is free, but also provide the bank with valuable information for future development on electronic service.

The bank's management should revise their resource allocation in light of Importance/Performance findings. Having banking needs included in the option menu, and accurate performance of the transactions lies in the "possible overkill" quadrant, which means that management thinks it is more important than customers do.

The banks should provide statements for every transaction that has been conducted electronically. This will enable customers to verify accuracy of all transactions including transaction confirmation. According to Lovelock (1991), customer feedback is an established concept of strategic planning. Therefore, it is recommended that performance of banking institutions should be monitored on a regular basis.

5.4 Limitations of the Study

The banking industry is a very sensitive environment in the service sector. Due to the insecurity risks involved in the banks, customers are always suspicious of any inquisitive personality especially on technological issues which are believed to have posed a lot of theft cases in the banks.

The customers of the banking institutions especially in the city are very busy and as such dedicating their time to fill the questionnaires was problematic. This is because the only appropriate time seemed to be during lunch time, evening and end months when most customers carry out their transactions.

5.4 Suggestions for further Research

The researcher conducted a survey in the banking industry in Kenya and recommends that a study should be carried out to determine the parameters of the customer's "zone of zero tolerance". This will enable managers to understand at what point customers cease to be satisfied with core service they are receiving. The researcher also recommends that a study should be carried out to establish the challenges encountered by the customers in the process of using electronic banking in the service delivery.

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APPENDENCIES

APPENDIX I: LETTER OF INTRODUCTION

Thomas Ogoro Ombati
P.O Box 22636-00100
Nairobi

Dear Respondent,

I am a student at the University of Nairobi undertaking an MBA course. In partial fulfillment of the course requirement, I am conducting a survey on the relationship between technology and service quality in the Kenyan banking sector. With this regard, I request you to spare a few minutes to fill in the questionnaires as diligently as possible. The information in this questionnaire will be strictly confidential and will not be used for any other purpose than for this research. Your assistance in facilitating the same will be highly appreciated.

Thank you.

Thomas Ogoro Ombati

APPENDIX II: RESEARCH QUESTIONARE

SECTON 1: GENERAL INFORMATION OF PARTCIPANTS

1. What is your occupation? _____

2. What is your age? (tick as appropriate)

   Less than 25 years ☐

   26-35 years ☐

   36-45 years ☐

   46-55 years ☐

   56-65 years ☐

   66 years and over ☐

3. What is your gender? (tick as appropriate)

   Male ☐   Female ☐

4. Indicate your level of education (tick as appropriate)

   Below High school ☐

   High school ☐

   College/Bachelor's degree ☐

   Degree and above ☐

   Others (specify) _____

5. Name of your bank _____

6. What type of customer are you? (tick as appropriate)

   Personal customer ☐

   Corporate customer ☐

7. Type of accounts that you are using

   Savings account ☐

   Fixed account ☐

   Current account ☐

   Others, please specify_____

8. What is your level of income? (tick as appropriate)

   Ksh 10,000 and below ☐

   Ksh 11,000-20,000 ☐

   Ksh 21,000-30,000 ☐

Ksh 31000-40,000 ☐

Ksh 40,000 and above ☐

9. Which latest electronic banking services have you used? (tick as appropriate)

ATM ☐ Mobile banking ☐

Telephone banking ☐ Internet banking ☐

Others. Please specify _____

SECTION 2: CUSTOMER'S RANKING OF THE MOST IMPORTANT ATTRIBUTES OF AN ELECTRONIC BANKING SERVICE

Using a scale of 1-5, please rank the attributes below on the degree of influence in your choice of the electronic banking channel. (Where 1-not important and 5- very important)

Attribute	1	2	3	4	5
Internet banking: An ideal electronic banking service should:					
Be easy to use					
Operates 24 hours a day, seven days a week					
Have all my banking needs included in the menu options					
Process my transactions efficiently (so I don't need to wait)					
Be able to set up accounts so that I can perform transactions immediately					
Be capable of performing all transactions accurately					
Give you a written guarantee that transactions have taken place					
Provide accurate records that all transactions have taken place					
Be personalized, e.g. great me by using my name					
Be able to satisfy my complaints within 24 hours					
Provide customer feedback services					
ATM: An ideal electronic banking service should be:					
Have its ATMS conveniently located					
Provide secure services, e.g well lit ATMS for night time banking or in a safe envi					
Acknowledge me by name on the screen during the transaction					
Have a user –friendly system in place to make ATM transactions easier					
Provide services in a number of different languages					
Telephone banking: An ideal electronic banking should :					
Connect me immediately to the service, with no waiting time					
Provide voice/on line directions for new users					
Provide a customer friendly environment whilst waiting in the queue to be serv music					
Provide a customer friendly environment whilst waiting in the queue to be serv advertising about other services the bank provides					

SECTION 3: CUSTOMERS PERCEPTIONS ON ELECTRONIC BANKING PERFORMANCE

1) How often do you visit the bank? (tick as appropriate)

Daily ☐

Twice a week ☐

Weekly ☐

Monthly ☐

2) What is your preferred method of cash withdrawal? (tick as appropriate)

ATM ☐

Teller ☐

☐

Internet banking

Telephone banking ☐

3) What is your preferred method of cash deposits? (tick as appropriate)

ATM ☐

Teller ☐

Internet banking ☐

Telephone banking facility ☐

8) Using a scale of 1-5, please rank the attributes below on their level of performance. (Where 1-very poor and 5-excellent).

Attribute	1	2	3	4	5
Internet: An ideal electronic banking service should:					
Be easy to use					
Operates 24 hours a day, seven days a week					
Have all my banking needs included in the menu options					
Process my transactions efficiently (so I don't need to wait)					
Be able to set up accounts so that I can perform transactions immediately					
Be capable of performing all transactions accurately					
Give you a written guarantee that transactions have taken place					
Provide accurate records that all transactions have taken place					
Be personalized,e.g great me by using my name					
Be able to satisfy my complaints within 24 hours					
Provide customer feedback services					

ATM: An ideal electronic banking service should be:					
Have its ATMS conveniently located					
Provide secure services, e.g. well lit ATMS for night time banking or in a safe environment					
Provide special services for disabled (ATM)					
Acknowledge me by name on the screen during the transaction					
Have a user –friendly system in place to make ATM transactions easier					
Telephone banking : An ideal electronic banking should :					
Connect me immediately to the service, with no waiting time					
Provide voice/on line directions for new users					
Provide a customer friendly environment whilst waiting in the queue to be served such as music					
Provide a customer friendly environment whilst waiting in the queue to be served adver such as other services the bank provides					

Thank you very much for your time and cooperation

APPENDIX III: LIST OF ABBREVIATIONS

     i.   ATM=Automated Teller Machine

    ii.   EFT=Electronic Funds Transfer

   iii.   I/P= Importance/Performance

   iv.   IT= Information Technology

    v.   M-commerce=Mobile commerce

   vi.   PC= Personal Computer

  vii.   PIN= Personal Identification Number

 viii.   SSTs= Self Service Technologies

   ix.   WAP=Wireless Application Protocol

APPENDIX IV

LIST OF COMMERCIAL BANKS OPERATING IN NAIROBI

1. African Banking Corporation Ltd
2. African mercantile Banking
3. Akiba Bank
4. Bank of Africa
5. Bank of Baroda
6. Bank of India
7. Bank of India Finance (K) Ltd
8. Barclays Bank of Kenya Ltd
9. Biashara Bank of Kenya
10. CFC Bank Ltd
11. Chase Bank (K) Ltd
12. Citibank
13. City Finance bank Ltd
14. Commercial Bank of Africa Ltd
15. Consolidated bank of Kenya Ltd
16. Co-operative Bank of Kenya Ltd
17. Credit Bank Ltd
18. Daima Bank Ltd
19. Diamond Trust Bank Kenya Ltd
20. East Africa Development Bank Ltd
21. East Africa Building Society Bank Ltd
22. Equity Bank
23. Equatorial Commercial Bank Ltd
24. Family Finance Bank Ltd
25. Fidelity Commercial Bank Ltd
26. First American Bank of Kenya Ltd
27. First National City Bank Ltd
28. Guardian Bank Ltd
29. Industrial Development bank Ltd

30. Investment & Mortgage Bank Ltd

31. Kenya Commercial Bank Ltd

32. K-Rep Bank Ltd

33. Meridian Biao Bank (K)

34. NIC Bank Kenya Ltd

35. National Bank of Kenya

36. Post Bank Ltd

37. Prime Bank Ltd

38. Prudential Bank Ltd

39. PTA Bank Ltd

40. Southern Credit Banking Corporation Ltd

41. Stanbic Bank Kenya Ltd

42. Standard Chartered Bank (K) Ltd

43. Transnational Bank Ltd