ADOPTION OF BRING YOUR OWN DEVICE TO ENHANCE CUSTOMER SERVICE DELIVERY IN KENYA COMMERCIAL BANK

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A Management Research Project Submitted in Partial Fulfillment of the Requirements of the Degree of Master of Business Administration at the University of Nairobi.

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DECLARATION

This is to certify that this research project is my original work and has not been presented for a degree award in any other university or institution of higher learning. Information from other sources has been acknowledged.

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LIST OF ABBREVIATIONS

BYOD – Bring Your Own Device

CCK – Communications Commission of Kenya

CIO – Chief Information Officer

Cisco IBSG – Cisco Internet Business Solutions Group

DER – Digital Education Revolution

IBM – International Business Machines

ICT – Information Communication Technology

IT – Information Technology

KCB - Kenya Commercial Bank Limited

MFU – Micro Finance Unit

PwC – Pricewaterhousecoopers

PC – Personal Computers

TAT – Turnaround Time

DEDICATION

To the Almighty God

ACKNOWLEDGEMENT

Recognition to my lovely daughters; Mitchelle and Danielle who give me the inner push to work harder, All my brothers and sisters, my worthy friends who believed in my abilities and provided constant encouragement in the course of this MBA degree.

Special acknowledgement goes to my husband Chris Adede who has immensely encouraged and supported my educational pursuits.

And lastly, I would also wish to acknowledge my dedicated supervisor Mrs. Z. Kiruthu for her selfless assistance and guidance this project, thoroughly, critiqued and commented on the report and progress. Without your consideration, input and encouragement, this study would not have been completed.

To All, I say thank you.

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ABSTRACT

Recent years have seen an explosion in consumer mobile computing devices and this has been accompanied by falling prices that make these mobile devices within easy reach of the common man. As a result, organizations that traditionally allowed access to corporate systems through fixed company owned computers are seeing increased numbers of employees purchasing their own mobile devices and demanding to have them enabled to access corporate resources. This is what Bring your own device (BYOD) is.

This study sought to find out the extent to which BYOD has been adopted in Kenya Commercial Bank, the accompanying influence on quality of services delivered to the customers. This was a case study of Kenya Commercial Bank and the Microfinance Unit, Nairobi Region was used as the unit of analysis.

A structured questionnaire was used to collect data from respondents within the selected all branches in Nairobi region. These respondents who were microfinance officers based at the branches. The data was collected was analyzed using frequency, percentages, means, standard deviation

The results were presented using tables and charts. The study found out that 100% of micro bankers apply BYOD in their daily work activities. The bank allowed them to use only their smartphones. Of the respondents interviewed, 100% were of the opinion that BYOD in its current form contribute to improved customer service delivery and even thought the same will immensely increase if they were allowed to use own laptops ansd enabled remote access to only the bank credit systems as well.

CHAPTER ONE: INTRODUCTION

1.1 Background Information

The increased sophistication of phones and computing devices coupled with their falling prices has made mobile devices highly accessible and affordable to the common man. Unlike in the past, it is now very easy to obtain a smart-phone, tablet, laptop or net-book at an affordable price. As the prices of components used to build computing devices dropped so have the prices of the consumer devices dropped as well. Sales of laptops and smart-phones on the other hand have shot up rapidly within a very short period (Sharma 2012).

Bring Your Own Device (BYOD) is seen as a practice where millions of consumers, who are also employees purchasing advanced mobile devices such as smart phones and tablets for their personal use then loading them with available powerful and innovative applications to help them manage their lives better. These powerful devices have intuitive user interfaces and can access hundreds and thousands of applications not only for their personal use and entertainment but for business as well (Bradley et.al, 2012), (Delloitte, 2013). It can be discussed in two levels determined by the level of usage. Emerging BYOD is where it is typically implemented in companies, but with incomplete patchwork of capabilities and policies. The second one being comprehensive or mature BYOD refers to a more strategic approach featuring full IT support (Loucks *et al.*2013)

Two trends have been identified as main causes of the BYOD phenomenon. The first one is from a company perspective where companies want to reduce complexity and cost of managing mobility. The second trend is from the employee perspective. Employees want

to use the most popular devices that they use as consumers, instead of the device provided by their employer. According to (Hommel, 2013) some companies are even purchasing these devices on behalf of employees and allowing them to use them for both work related and personal tasks.

1.1.1 Bring Your Own Device

BYOD had its original steps in learning institutions when the Commonwealth Government instituted Digital Education Revolution (DER) in 2008, intended to achieve about a 1:1 computer to student ratio for years 9 to 12 in schools by 2012. The DER Program in NSW consisted of five distinct, parallel, major projects: provision of a wireless enabled laptop with educational and productivity software to every NSW public school secondary student from years 9 to 12; professional learning and curriculum support for school leaders and teachers ; revised policies and procedures; centrally managed wireless access points – one in every learning space and library in every public high and central school in NSW; and on-site technical support services in all targeted schools including over 400 full time school Technology Support Officers. The one to one ratio was achieved by the beginning of 2012 with a further roll-out of laptops to students in Year 2013. With the withdrawal of funding of the DER program by the Australian Government, schools and systems examined ways of continuing the one to one computer to student ratio. The solution being increased attention to Bring Your Own Device (Topsfield 2012).

A survey done by Citrix (2013) found that 92% of companies have some employees who are already using non-company issued devices for work related tasks. In these companies,

it was found that 8% of the employees are already using non-company issued devices for work-related tasks and this percentage is expected to increase to 35% by mid-2013. Only 44 percent of the companies surveyed had a BYOD policy in place. When it comes to the employee device of choice, 38 percent of employees brought in personal laptops, 28 percent of employees brought smart - phones to the organization, 7 percent of the employees brought to work tablets, and 6 percent brought in net - books to use for work - related tasks.

According to Prashant *et al* (2013) the employee owned devices now far exceed those of the standard issue desk top device that the organizations offer, making them much more desirable. They added that Consumer mobile devices have become so pervasive in daily life as a result of improvements in technology for example, small size, instant on, wireless Internet connectivity and so on, and therefore they have a level of comfort that does not exist with "corporate" devices. In fact, this probably reflects a cultural shift as much as a technological one. Companies are also demanding their employees to do more with less.

Today's employee (Mills, 2012), is an increasingly empowered and technology-savvy knowledge worker. Employees are turning to whatever helps them achieve that goal—and in many cases that is not the PC chained to an office desk. Many enterprises issue corporate-liable devices to a small subset of the company, such as sales. Although mobility requirements are increasing, most enterprises are not expanding their corporate-liable programs due to cost pressures. Instead, they are exploring the employee-liable model (BYOD) to deliver mobile services to a larger population.

These employees (Unisys, 2012) also wanted to use different products from what the organization was traditionally buying. They wanted to select and purchase the devices

they were most comfortable with. With the widespread adoption of myriad consumer mobile devices including all flavors of smart phones and tablets combined with a growing number of employees who are accustomed to using them, companies must figure out ways to accommodate them, many have argued that BYOD improves service delivery by increasing operational efficiency of an organization (Pieterson, 2009).

1.1.2 Customer Service Delivery

According to Nasser (2011) Excellent customer service delivery is the process by which an organization delivers its services or products in a way that allows the customer to access them in the most efficient, fair, cost effective, and humanly satisfying and pleasurable manner possible. KCB Micro Finance it's trickled down to, fast response to customer enquiries, acceptable loan turnaround time which is within 12 days for microfinance facilities (KCB Customer Service Charter 2012). Handling all customers in a professional manner and knowledge about bank products. Customers are the lifeblood of any .business, so treating them well should always be a priority. By regularly exceeding expectations, an organization can boost customer satisfaction and retention.

You need to provide a high standard of customer service if you are to retain customers and win new ones. Small firms are in a great position to compete with larger companies on customer service. They usually have the flexibility to go the extra mile to make customers and potential customers feel valued. (Atom Marketing, 2009). Customer service has never been so important, yet many firms seem to have lost sight of their customers' needs, argues customer service consultant (Derek, 2009).

Excellent customer service is the process by which your organization delivers its services or products in a way that allows the customer to access them in the most efficient, fair, cost effective, and humanly satisfying and pleasurable manner possible.

Customer service is about how your organization delivers its product or service. According to Tim (2012) customer service delivery has five deliverables and one being special attention, which includes eye contact. This attention ensures that the customer gets to ask her question without getting rushed. Customers usually appreciate it when companies take time to listen to them. Professionalism is another element that companies must deliver to customers. A customer service rep must maintain certain decorum and not get angry with the customer; Customer service reps must also be knowledgeable about their particular business. Customer service delivery also entails handling transactions or refunds in a timely manner. No one wants to stand in line for 10 or 15 minutes. Customers want their orders to be accurate. For example, a person who orders a couple hamburgers through the drive-through at a fast food restaurant wants the correct order. Sufficiently Handling customer Problems as they also want to have their questions and problems solved to their satisfaction. For example, a customer who calls an Internet service provider when his service is down wants the issue fixed as soon as possible. The customer expects a technician to be at his house the next day if customer service cannot handle the issue remotely (Sutter, 2012).

1.1.3 Bring Your Own Device and Customer Service Delivery

According to a study by (Ovum, 2012), BYOD an emerging trend in more ways than one, conducted in 17 countries across the world and on companies that had more than 50 permanent employees. The usage of BYOD was discussed in emerging markets; those

who are developing the BYOD scenario and mostly not supported by IT policy and Mature markets where BYOD is comprehensively applied in the backdrop of an elaborate IT policy. It was established that as BYOD takes hold globally, driven by the raw growth of personal smartphone computing, these differences in attitudes are interesting proxies for agile, light touch governance working practices seen in emerging economies, versus more inflexible working practices in mature economies which require a different type of management and governance. As established in (PwC, 2012), Kenya was classified as an emerging market.

In a study by Delloitte (2013), understanding your device landscape in United Kingdom, early schemes tended to offer BYOD on a complementary basis, with employee devices used alongside company technologies. However, as the market matured, more ambitious solutions began to emerge, the most potentially complex of which is the use of personal computers as a replacement to centrally provisioned and managed computers. So-called Bring Your Own Computer, which was rare, but Deloitte estimated that an increasing proportion of companies will allow employees to bring their own computers on an unfunded basis in 2014.

A study conducted in India (Singh, 2012) exploring the use of BYOD across many sectors found out that the organization who embraced BYOD policy found their employees happier productive and collaborative leading to improved operational efficiency. It also depicted the different threats that can be observed and also concludes whether application of this policy will be lucrative for the different type of organization. The sample for this study consisted of employees from different sectors like IT, Consultancy educational institutes etc. A purposive sampling technique was used to select the samples. Out of total

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1.1.4 BYOD in Kenya

BYOD in Kenya has been fronted by competition in the mobile telecommunication industry that has seen its market leader Safaricom partnering with different organizations to push up the demand for the devices and its 1.9 million subscribers on 3G networks e.g Laptop for ALL students where it worked with local universities and banks to avail cheap devices to students, it also partnered with mobile phone producers and electronic giants i.e Samsung and Intel and has already rolled out a plan to abandon feature phones in favor of affordable smartphones. This move has seen it sell smartphones at prices lower than the market average. These devices have found their way into the work place and as revealed by William (2013) and Etale (2013), BYOD Is practiced even if not sanctioned officially by management (PwC, 2012)

1.1.5 Kenya Commercial Bank, Kenya and Its Micro Finance Unit

KCB is East Africa's largest and oldest bank, a financial giant whose asset value is estimated to be more than $2.6bn. KCB started its operations in 1895 on the island of Zanzibar as the National Bank of India. A year later, the Bank opened a branch in Kenya, on Mombasa Island, later growing to become one of Kenya's and East Africa's largest commercial Banks. Upon independence in 1963, the government of Kenya acquired 60% shareholding in National and Grindlays Bank in an effort to bring Banking closer to the

majority of Kenyans. In 1970, the government acquired 100% of the shares to take full control of National and Grindlays Bank therefore renaming it Kenya Commercial Bank (KCB Annual Report 2003). The government has since reduced its shareholding to 23.6% during the 2004 rights issue exercise. This was further reduced to 23.1% following the rights issue exercise in 2008. With the most recent rights issue of 2010 the Government's shareholding is 17.75%.

KCB is a fully fledged commercial Bank offering savings and lending services to individual, entrepreneurs and companies of all sizes. It has the largest branch network in the East Africa and enjoys dominance as the Bank with largest balance sheet and capital base, respectively, in the region. In Kenya KCB has 210 branches with most of the branches located in rural administrative and business centers.

Micro Finance in KCB started in 2008, in a bid to increase the banks market share (KCB, Annual report, 2008). In KCB Limited, micro finance is the department that handles short term secured facilities from six to twenty four months with amounts ranging between Kes 5,000 to Kes I Million to groups or individuals operating registered or unregistered enterprises (KCB Product Manual, 2013). Customer service is one of the three focus areas for the bank (KCB Customer Service Charter, 2012). This is in recognition of the importance that the bank places on customer service, and the dynamic nature of the customers' expectations on the bank. In order for all units to exceed the expected service levels, it is important that all users have the same understanding of the customers' expectations, and that they apply the same standards in the course of their interaction with customers. (Oakland, 2003). Many previous studies have been conducted on BYOD

across many sectors. However case of Needham bank where the author documents remarkable improvement in of up to 120 times. (Capgemini, 2012)

Micro finance has been performing dismally and towards the last quarter of 2012, was almost disbanded by the bank's management citing low productivity leading to poor unit performance (KCB Audit report, 2012). Typical day of employees in Micro finance constitute, email correspondence, telephone conversation, physical customer visits, loans underwriting and credit application.(KCB Micro lending manual). Gartner et al, 2012 observed that rolling out BYOD

1.2 Statement of the Problem

Competition in the local banking industry has sky rocketed lately and this has been compounded with calls from the Government to reduce the interest rates which for a longtime has been the major drivers for revenues in the sector. The industry is now forced to seek other innovative ways to do business (Business Daily, April 2014). Customer service remains key competitive tool in any given industry (Nasser, 2007). BYOD offers a sustainable and cost-effective alternative of doing business in a manner that ensures employee involvement which may lead to increased organizational operational flexibility and efficiency (Bradley, 2013).

Micro Finance is a strategic department within the bank and was introduced to serve the Micro customers at the lower end of the tier (KCB Annual Report, 2009). In 2012, the department hit Kshs. 1billion in helping the entire bank to access cheap deposits from its customers. However its performance has continued to plateau irrespective of new products that are being introduced in the market (KCB Audit report, 2012). Kenya

Commercial Bank has been enjoying large customer base for several years due to customer loyalty but currently customers are knowledgeable and well informed in terms of services they expect from banking institutions (KCB, 2005). They can easily compare the level of services experiences provided by various players due to aggressive advertisements and social media (KCB, 2010).

A research by Cisco (Weldon, 2012) in the US on Bring Your Own Device (BYOD) showed that nearly half of all respondents preferred own devices over corporate ones and this BYOD-others are willing to back up their mindsets with cash, spending on average $965 purchasing devices for work, and an additional $734 annually on mobile voice and data plans. It would be good to establish if the same holds locally.

Customer service has never been so important and a key product on which to gain competitive advantage, yet many firms seem to have lost sight of their customers' needs, argues customer service consultant (Derek, 2009)**.** Customer service is also a sellable commodity, but most companies are not cashing in on it (Kate Nasser, 2011). This study intends to find out if the Micro finance customer service delivery can be improved if the unit employs BYOD as a strategy. No local study specific to the banking industry has been done. In a local study (Etale, 2013) Bring Your Own Device and corporate information technology security suggested a quantitative study to further establish relationship between BYOD and operational efficiency.

1.3 Research Objectives

i. To establish the extent of use of Bring Your Own Device in Kenya Commercial Bank

ii. To find out if BYOD usage can lead to improved Customer service delivery in the bank

1.4 Value of the Study

Banking industry in Kenya has been marred with stiff competition from among the banking institutions and other non-banking institutions also offering financial services e.g Telecommunications and Insurance firms (Daily Press Bulletin, May 9, 2014). Given the current challenges in the mainstream banking, micro finance offers a life line to the banking industry especially in terms garnering cheap deposits and this saw many leading banks joining the microfinance industry after the enactment and implementation of the Micro finance act in 2008 (CBK, 2008).

Cost of procuring IT equipment are still high in KCB considering the massive work force it keeps due to its fast growing nature and also the need to expand the existing branch network to match the competition in serving their customers increasingly demanding for convenience. The Bank is currently leasing lap top computers to some line managers in Head office. This study will be useful in determining whether to continue leasing or allow the employees to come with their devices but instead invest in available security system software.

Given the opportunities in this sector, the Micro finance department in KCB has continued to perform dismally irrespective of the many innovative products that have been developed and presented to the markets. (KCB, Audit Report).

This study intends to find out if BYOD can lead to improved operational efficiency in Micro Finance unit which can translate to sustained acceptable levels of exceptional

customer service delivery and overall better unit performance. The Micro finance customers value fast services and do not necessarily look for cheaper priced products. (Berenbach and Guzman, 1994).This information will offer much needed help for all banks and not only KCB in their pursuit for increased profitability in micro finance as they compete with seasoned micro finance companies in the industry.

CHAPTER TWO: LITERATURE REVIEW

The chapter reviews literature from significant past studies, both recent and historical, on the subject of influence of BYOD on customer service delivery. The literature has been reviewed along three themes i.e BYOD as a concept, Influence of BYOD on operational efficiency and finally, influence on operational flexibility.

2.1 Bring Your Own Device

This theme discusses Bring Your Own Device as a concept by critically looking at a conceptual paper and a research paper namely**;** Bring Your Own Device; The emerging trend in more ways than one (Ovum, 2012) and Bring Your Own Device; The Unstoppable Phenomenon (Unisys 2011) and others.

A longitudinal study conducted by (Unisys, 2011) found out that employees wanted to use different products than what the organization was buying. According to the chief information security officer at Unisys, It was a huge paradigm shift. They wanted to buy the devices they were most comfortable with, hence BYOD. The concept was regarded as unstoppable and was hitting businesses worldwide. Devices and services historically available only in the workplace and provided by IT departments are now widely available to and affordable by consumers (CIO, 2011).

The introduction of devices such as the Apple iPhone and iPad, Google Android smartphones and tablets, and lower cost laptops and recent explosion in technology "consumerization" of IT has increased consumers' appetite for the latest technology, and they crave that same technology at the workplace (Cio, 2011), (Slottow, 2012). With this widespread adoption of myriad consumer mobile devices including all flavors of

smartphones and tablets combined with a growing number of employees who are accustomed to using them, companies must figure out ways to accommodate them. This was also agreed by a research paper (Accenture, 2011) that expounded that It mandatory to address employee demands for accessing corporate data without forcing them to carry two different mobile devices, one for work and one for personal use It also means addressing their demands to avoid carrying two different mobile devices, one for work and another for personal use.

In recent years, there has been an explosion of technology that has led to the "consumerization of IT" (Cio, 2011). Devices and services historically available only in the workplace and provided by IT departments are now widely available to and affordable by consumers. The introduction of devices such as the Apple iPhone and iPad, Google Android smartphones and tablets, and lower cost laptops has increased consumers' appetite for the latest technology, and they crave that same technology at the workplace (Slottow, 2012). IT departments typically lag behind the technology curve due to the effort to test new technologies, cost of procurement, and the depreciation of assets which leads to staff members taking it upon themselves to bring in their own equipment. This has resulted in the Bring Your Own Device trend seen across most industries today (CIO, 2012).

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A study conducted in India (Singh, 2012) exploring the use of BYOD across many sectors found out that the organization who embraced BYOD policy found their employees happier productive and collaborative leading to improved operational efficiency. It also depicted the different threats that can be observed and also concludes whether application of this policy will be lucrative for the different type of organization. The sample for this study consisted of employees from different sectors like IT, Consultancy educational institutes etc. A purposive sampling technique was used to select the samples. Out of total 136 samples all the responses were received but since out of them only 88 respondents

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2.2 BYOD and the Extent of Use

According to Nisha (2012), practical solutions to a connected world, The Bring-Your-Own-Device (BYOD) to work phenomenon is already prevalent in many businesses. Although the percentage of employees using personal smartphones and tablets to access corporate applications may still be relatively small, studies estimate personal devices are in use at approximately 75 percent of all companies. Whether or not your company has deployed a Bring-Your-Own-Device platform and developed usage policies, chances are good that many employees use their personal devices to tap into your corporate applications every day. This can happen via your wireless network, remote access or e-mail systems. In some cases, the IT department is not aware of all the personal devices accessing corporate networks.

Most organization do not want to control what applications someone puts on their personal device, but they do want to control which applications can be used over the corporate network. In some instances, authentication of the device is a precursor to the user then initiating a Citrix session to ensure access to confidential data (Aruba, 2013).

A study conducted by (CISQO, 2012) agreed with Jamie (2012) and Michael (2013) and confirmed that BYOD is a global phenomenon with strong evidence of employees everywhere using own devices for work thus affecting the way they deliver services and employee efficiency but of key transformative benefit of BYOD is employee-driven innovation by allowing employees to decide how, when, and with which tools work is

done. A Longitudinal study that covered three years commissioned by IBM on the flexible work place and reported in 2012; found out that employees wanted to use a single device for both personal and business purposes. Browser-based cloud solutions like IBM® Lotus® iNotes® ultra-light mode provide flexibility; reduce device dependencies and addresses data at rest security concerns. He found out that with multiple smartphone and tablet options, the IT department needed to provide guidance to employees so they could make informed choices on what the best device(s) were for their particular needs. Employees were receptive of self-service support options including automated onboarding and diagnostics.

In a landmark survey (CISQO 2012) involving 4900 respondents ALL in IT decision making in US, Asia, Latin America, China and Europe. They were divided into two using the employee numbers that is large companies (1,000 or more employees) and midsize companies (500-999 employees) in eight countries across the regions. Globally, 89 percent of IT leaders from both enterprises and midsize companies support BYOD in some form. These figures are staggering. They show that companies around the world were embracing BYOD. This has profound implications for how companies provision devices and govern. It was found out that 95% of the organizations represented supported BYOD in some form, BYOD is a global phenomenon: strong evidence of employees everywhere using own devices for work; 89 percent of IT departments enable BYOD in some form, Top BYOD benefits to companies are increased productivity, employee satisfaction, lower costs; 69 percent of IT leaders were "positive" about BYOD, Employees wanted BYOD for choice of device, applications, and ability to combine personal and work lives, Transformative benefit of BYOD is employee-driven innovation

by allowing employees to decide how, when, and with which tools work is done, companies can unlock the next wave of value.

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In his study (Vanbourne, 2013) not all IT departments are committed to BYOD. Some are yet to provide basic user support and in most organizations the business and/or its users are being let down by an IT department not providing the support they need to increase competitiveness and productivity. By contrast, the mature organizations' IT departments do cooperate and are much better at empowering the business and its users.

Most IT heads surveyed admit to gaps in their capabilities in improved productivity, data and device security.

Cisco IBSG (2013) the survey results showed that BYOD's growth is neither a U.S.-only phenomenon nor limited to large companies. Globally, 89 percent of IT leaders from both enterprises and midsize companies support BYOD in some form. And 69 percent view BYOD "somewhat" or "extremely" positively. These figures are staggering. They show that companies around the world (not merely in the United States) are embracing BYOD. This has profound implications for how companies provision devices and govern network access.

But Cisco IBSG believes that the transformative value of BYOD rests in giving employees the freedom to innovate how they work. If allowed to use the devices, applications, and cloud services they prefer, and to choose the time and location for work, employees have the potential to drive the next wave of corporate efficiency and productivity. By fostering BYOD with proper management and a BYOD-ready governance model and network, companies can move from merely reacting to employee demand to harnessing a latent — and potent — source of value. Already, companies around the world are on the cusp of this breakthrough.

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2.3 Bring Your Own Device and Customer Service Delivery

The findings of a study by Fujitsu (2011), revealed a remarkable improvement of service delivery as a result of BYOD strategy. The company even expected higher levels of service delivery once the technology matured by around 2013 hence this formed a strong economic case for companies to make use of their employee's consumer devices.

A case study of Needham bank by Capgemini consulting, (2012) commissioned to explore BYOD usage in Banking in India, established that through remote and mobile access, Needham Bank managed to achieve significant increase in productivity due to streamlining of operations, eliminated the potential of data leakage and enabled employees to use their device of choice for work. For instance, Bank's accounting team could quickly access financial data remotely while the business development team could access core banking applications to get relevant account and relationship information right before going into client meetings. Since, implementation of this initiative, Bank recorded increase in number of remote and mobile users by 11 times while time spend

working remotely has grown by 120 times, driving overall organizational efficiency of Needham bank employees. It was revealed that the major benefit of BYOD was on increased customer service delivery through quick response to queries and real time processing of other transactions.

The Hewlett Packard (2013) in its study; Deliver The unparalleled business advantage with BYOD, where it reviewed its internal processes before and after implementation of BYOD as a strategy, in its findings, one of the top BYOD initiative requirements is to deliver a high-quality user experience, and ensure users have convenient and consistent access to enterprise applications and services from any device, at any time leading to improved quality of services to end-users.

In the study Agility through consistent delivery, (David, *2012)* established that a key benefits an organization is the improved level and quality of services provided to the customers.

2.4 Summary of Literature Review

BYOD has become a symbol of maturation in computing which has been embraced widely around the globe. Locally, the same vigor is lacking and has been embraced in very little and careful steps.

The literature review has clearly shown just how beneficial and productive BYOD can be; increasing the efficiency of operations by about 57% leading to high quality of services delivery. This would post remarkable improvement in organizational productivity. This implies that the local banking industry can leverage on BYOD to stay abreast of competition through excellent customer service delivery.

2.5 Theoretical Framework

Cognitive evaluation Theory

Cognitive evaluation theory (CET) is a sub self-determination theory which concerns only on two innate needs competence and autonomy (Deci & Ryan, 1985, 2004). According to Cognitive Evaluation Theory, BYOD includes two aspects –informational and controlling – which influence two needs separately (Deci & Ryan, 1985;Li, 2009).

The informational aspect refers to the information or issues provided by the contextual Variables which enhance individuals' perception of competence and result in some positive outcomes in the end.

By contrast, the controlling aspect refers that the contextual variables will restrict and change individuals' perception of locus of causality, then dissatisfying their need of autonomy and bringing some negative outcomes. In line with previous BYOD studies, this study proposed that BYOD also has both informational aspect and controlling aspect. When employees perceive the informational aspect of BYOD, they will feel supported and empowered. In the regards, Employees tend to work harder, be more satisfied, and be more committed (Bakker & emerouti, 2007; Hakanen et al., 2008; Llorens et al., 2006).

However, when the controlling aspect is perceived, employees will fell restricted and controlled. In this case, they may feel stressed or burnout (Bakker et al., 2004) Therefore, companies will gain positive returns from their employees when informational aspect is perceived while gain negative returns when controlling aspect is perceived. These returns will increase or decrease organizational performance

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This section described the research design, population of the study, sample, location of the study, research methods, rational of choosing research method, data collection methods, types and sources of data, data collection procedures.

3.2 Research Design

Case study was applied. It is found to be ideal as it allows an in depth examination of the problem. This would help exposing underlying principles as it would provide a systematic way of collecting data, analyzing information and reporting results (Saunders *et al.*, 2003). An effective research strategy depends on the research problem, time available for target completion, cost as well as skill (Bryman, 2007).

3.3 Population

The study focused on Kenya Commercial Bank Ltd., with micro finance unit considered as the unit of analysis and further narrowed down to Nairobi region. Nairobi region for this study covers the entire branch network in Nairobi County, Part of Kajiado County and all North Eastern branches. Micro finance officers based at various branches were considered as respondents. The study targeted all the 40 micro finance officers in Nairobi region and 28 completely filled questionnaires were received back through bank mail delivery system and email.

3.4 Data Collection

Primary data was used. Primary data was collected using questionnaires subjected to micro finance staff at the branches. Some of the questionnaires required a "Yes/No" response while others required to be ranked using ordinal or nominal scales.

3.5 Data Analysis

According to Mugenda and Mugenda (2003), data analysis involves reducing accumulative raw data to manageable size, developing summaries, looking for patterns

and applying statistical techniques. The data was first, summarized using descriptive statistics into percentages, frequency tables, mode, mean

Objective One: Percentages and frequency tables will be computed to determine the extent of Use of Bring Your Own Device in Kenya Commercial Bank

Objective Two: Will be established using mean, mode and std. deviation.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the analysis and findings of the study as set out in the research methodology. The research data was gathered exclusively through questionnaires. The questionnaires were designed in line with the objectives of the study. The data that was analyzed focused on the current situation and extent of use of BYOD in the Micro finance department and the influence on Customer service delivery.

4.2 Demographic Characteristics

The study targeted 40 respondents being Micro Finance Consultants in all the Kenya Commercial branch network in Nairobi Region. The questionnaire was pretested in four neighboring branches of Buruburu, Mashariki, Kariobangi, and Jogoo Road. The final copy was electronically sent to all the respondents via group email. A total of 28 completed questionnaires were returned resulting in a 70% response rate. These are shown in Table 4.1.

4.2.1 Response Rate

Table 4.1: Response Rate

Response rate	Frequency	Percentage (%)
Response	28	70
Non Response	12	30
Total	40	100

Source; Survey data

The response rate was satisfactory to make conclusions for the study. According to Mugenda and Mugenda (2003), a response rate of 50% is adequate for analysis and Reporting; a rate of 60% is good and a response rate of 70% and over is excellent. Based on the assertion, the response rate was considered to be excellent.

4.2.2 Respondent Information

The respondents chosen for the study all held positions that gave them intimate knowledge about the extent of application of Bring Your Own Device and its influence on customer service delivered by the bank to its customers. The chosen respondents were all members of the Micro Finance department which had been identified as a unit of analysis and were directly responsible for the service delivery to customers.

4.2.2.1 Gender spread

This study was done in Micro finance department Nairobi Region, having a total of 40 in number, the self-administered questionnaire was delivered to everyone and out of this, 28 filled – up questionnaires were received back. From the results, the gender spread is 46% for female and 54% for men.

Table 4.2: Gender spread

Gender	Frequency	Percentage
Male	15	54%
Female	13	46%
Total	28	100%

Source; Survey data

4.3 Extent of use of Bring Your Own Device

This study sort to establish the extent which Bring Your Own Device in Kenya Commercial Bank

4.3.1 Bring Your Own Device Awareness

From the analysis, 60% of the respondents indicated that they have heard of Bring Your Own Device, but from the same data 100% are heavily relying on their smartphone(s) to perform work – related tasks.

Table 4.3: level of Awareness of Bring your Own Device

Awareness	Frequency	Percentage
Aware	17	60
Not aware	11	40
Total	28	100

Source; Survey data.

4.3.2 Proficiency in the Computer technology

For effective BYOD practice, the employees must possess ability to operate computer technology. From the survey 82% are above average users, 11% Expert user with 7% average user.

Table 4.4: Proficiency in the use of Computer technology

	Frequency	Percentage (%)
Average user	2	7
Above average user	23	82
Expert user	3	11
Total	**28**	**100**

Source; Survey data

4.3.3 Device Ownership

The study indicated that 100% of the staff in the Micro finance unit own smart phone, 63.6% have laptops, and 19% own tablets with only staggering 9% having IPad. This is summarized in the table below**.**

Table 4.5: Device Ownership

	Frequency	**Percentage**
Smart phone	**28**	**100%**
IPad	1	9%
Lap top	17	63.6%
Tablet	2	19%

Source; Survey data

Data analysis shows that 100% of the respondents admitted using their smartphone to accomplish many of the key business tasks but were not aware of Bring Your Own Device as a concept. When asked why they used owned devices, the responses were as follows;

convenience and reliability was selected the 19 times as they were able to give three choices.

Table 4.6: Device Usage

	Frequency	Percentage
Smart phone	**28**	**100%**
I pad	0	0
Lap top	0	0
Tablet	2	19%

Source; Survey data

The results of the survey show that 100% of respondents use their smartphones and 19% use their tablets but no reported usage of I pad and Laptop

Table 4.7: Reason for using own device

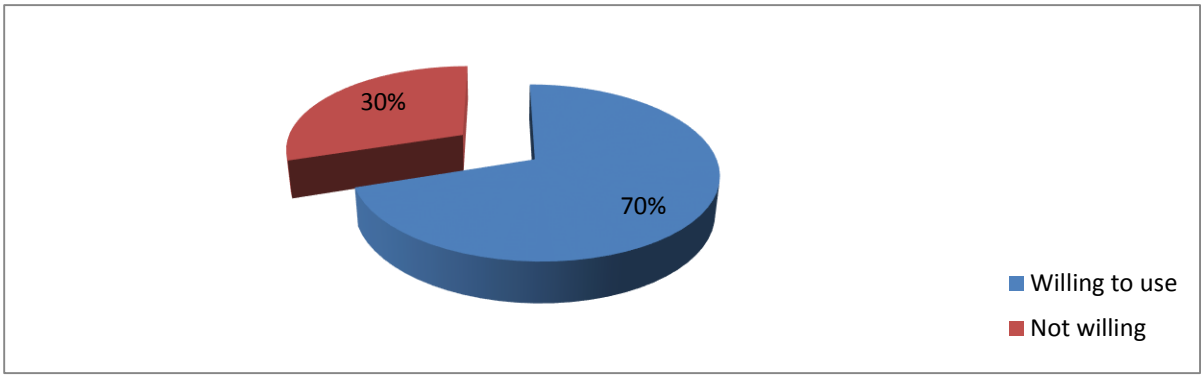
	Percentage
Convenience/Reliability	**100%**
Easy to Use	90%
Clearer photos	80%
Increased flexibility / Mobility	100%
Company device immovable or faulty	81%
Keep pace with tech changes	75%

As shown the in the table below convenience, reliability, flexibility and mobility rated at 100%, ease of use at 90%, 81% was due to faulty or immovable faulty, 80% said they use their phones due to better functionalities and 75% to keep with technological changes and social media.

4.3.4 Willingness to use own device

Even though 100% respondents used their smartphones for work related activities, there was reluctance to using other devices from some of them even if it was possible. It was however noted that Micro finance consultants owning other types of devices other than smartphones and willing to use, were unable to due to the existing IT policy with stringent rules blocking access to network ports for non-managerial staff.

Figure 4.1: Willingness To Use Other Owned Device Apart Smart Phones



Source; Survey Data

Table 4.8: Gender divide in willingness to use other personal devices

	Willingness		Total
	Yes	No	
Male	13	2	15
Female	7	6	13
Total	**20**	**8**	**28**

Source; Survey data

4.3.5 The Extent of Use of Smartphones

Table 4.9: The extent of use of smartphones

	Frequency	Percentage
Communicating with customers	28	100%
Capturing photos of customers business premises, residential and passport photos	25	90%
Organizing and planning daily work activities	22	80%
Receiving and sending work emails	20	70%

Source; Survey data

The result shows that 100% of the respondents used their own smartphones to perform work related tasks, 100% used it to communicate with the customers both internal and external, 80% to plan and organize their work activities, 90% used their smartphones to capture the snapshots of the customers' business premises, residential places and passports photos both for loan processing and account opening.

Table 4.10: The Use of smart phones to send/read work related emails

	Frequency	Percentage (%)
Daily	13	45
Weekly	8	28
Twice weekly	5	18
Never	3	9

The data above shows that 45% used their smartphones every day, 28 % weekly, 18% twice weekly with 9% having never used their smartphones to send or receive work related emails

Table 4.11: Use of smart phones to organize daily work activities

	Frequency	Percentage (%)
Daily	12	41
Weekly	8	28
Monthly	4	14
Never	4	14

The survey showed that 41% used their smartphones daily, 28% weekly, 14% monthly to organize their work activities and 14%have never used.

Table 4.12: Use of smart phones to scan documents

	Frequency	Percentage (%)
Twice to thrice weekly	6	21.4
Weekly	5	17.8
Never	17	60.8

Source; Survey data

Table 4.12 showed that about 61% had never used smartphones for scanning documents

In the first objective the study had set out to determine the extent of use of Bring Your Own Device and from the results, it was established that 100% of respondents interviewed used owned device in performing work-related activities.

4.4 Influence on quality of services delivered to the external customers.

Table 4.13: Influence on Customer Service Delivery

Response	Frequency	Percentage (%)
Strongly Agree	17	62
Agree	7	33
Neutral	4	5

Source; Survey data

The results showed that 62% strongly agreed that BYOD in its current form improved customer service delivery, 33% agreed with 5% being neutral.

4.4.1 Effect of using own devices

The most effect according to the findings was the reduction in Loan TAT at 90%, followed by productivity at 85%, high service quality at 85% and positive image of the bank staff at 70%.

Table 4.14: Giving Effects of using BYOD

Effect of using own Smartphones/Tablets	Percentage
Reduce my loan TAT	95%
Improve my productivity	85%
Improved image among clients	70%
Provide high quality service to customers	80%

Table 4.15: Likely impact of remote system access and Laptop onboarding on Customer service delivery

Effect on customer service	No extent	Small extent	Moderate extent	Large extent	Very large extent	Mean score	Mode	Std. Dev
	1	2	3	4	5			
		Frequency						
Reduction in Loan TAT	0	0	1	9	18	4.54	5	0.92
Create seamless workflow between various departments	0	0	6	11	11	4.17	5	0.78
Better quality of services delivered	0	0	2	7	19	4.46	5	0.56
Easier communication with external customers	0	0	0	9	19	4.67	5	.98
Enhance prompt Loan and Account documentation	0	0	3	9	16	4.46	5	1.09
Create seamless workflow between various departments	0	0	2	8	18	4.57	5	0.74
Faster resolution of customer enquiries	0	0	3	8	17	4.5	5	0.93
Flexible work hours	0	0	1	8	12	4.42	5	0.71
Improved work mobility	0	0	4	7	17	4.51	5	0.87
Improve KCB Image and Brand in the market	0	0	1	10	10	4.33	5	0.69
Mean						4.463	5	

Source; Survey data

4.5 Discussion

From the reviewed literature, BYOD is a great practice; with employees globally using their own devices for work, during the past few years, mobile devices have entered the corporate workplace in increasing numbers especially in the western countries. This has gained pace locally amidst challenges such as laptop onboarding even though most respondents were expecting remarkable improvements in productivity should this be implemented.

The use of smartphones to conduct business termed as consumerisation of IT, has gained momentum and with it employees expect to be flexible, able to multitask and improved communications (Vansbourne 2013) this was established to be the case locally with 100% of respondents using their smartphones at work the most prevalent reason was convenience, reliability and improved applications.

In a reviewed local study (Etale 2103), there was high usage of smartphones and I Pad with zero usage of Laptops and tablets, in this survey it was also established that there was no usage of laptops and I Pad whereas smartphone use was at 100% and tablets at 19% indicating that laptop onboarding still remains a BYOD challenge locally.

The study findings reveal that micro finance consultants currently use their smartphones and tablets improve the quality of services delivered to customers like, clearer photos to avoid reworks, to reduce delays when the company provided device is engaged elsewhere or out of use.

According to (Prashant 2010), BYOD contributed to efficiency and productivity of employees and hence the quality services delivered to the customers. The results of the

data analysis indicate that the respondents agreed that the current form of BYOD application had improved the quality of the services offered to micro finance customers. They were further asked how onboarding of Laptop and I pads as well as remote access to bank systems will influence their customer service delivery. The survey revealed very high levels of expectations similar to those in reported in India in survey of Needham Bank where increased levels of employee productivity and quality services were delivered (Capgemini consulting, 2011).

On further analysis , the respondents agreed that comprehensive levels of BYOD, i.e if they were to be allowed to use other devices like owned laptops would immensely contribute to their quality of services. The results above show that the respondents who had extensive knowledge on the subject were of the opinion that BYOD will lead to improved quality of services delivered to the customers. It is evident that factors enhancing service quality above all had computed mean of above 4.0 with the highest being easier communication with customers with mean of 4.67

CHAPTER FIVE: CONCLUSION AND RECOMMENDATION.

5.1 Introduction

In line with the objectives of the study, this chapter presents summary of the and recommendation arrived at after the data analysis

5.2 Summary of Findings

This study set to determine the extent of use of BYOD in KCB Ltd. Micro Finance department and also establish any influence on Customer service delivery.

From the data analysis, it was established that 100% of the respondents used their smartphones, 16% used their tablets to perform work related tasks. There were no reported cases of laptops and I Pads being used even though 67% and 9% reported ownership respectively and this was due to existing IT policy.

The most prevalent reason for smartphone and tablet usage was convenience and fast response to customer instructions and queries each at 100%. According to the respondents, the current level of usage of personally owned devices had overall effect on their productivity and improved quality of Customer service.

The study also revealed that respondents felt that their productivity would improve tremendously if they were also enabled to use their laptops and other devices currently out of use. 90 % reported that it would, increase their morale, reduce loan TAT and this would immensely improve the quality of services rendered to the micro finance customers.

5.3 Conclusion

Smartphones have become very important to growing number of people and employees have integrated these devices into their working lives. Workforce is largely above average computer technology users hence having the ability to use the devices to perform various work tasks.

The bank employees are using Bring Your Own Device but do not know the practice by its name. When asked why they use their smartphones there were various reasons and key among them was that the device was shared by other departments and had to stay in the branch and that the bank had not totally provided such device and also frequent downtimes from the bank owned devices. The employees used their device due to reliability and quality of services they received as compared to centrally owned company device. From the study, it revealed that BYOD is still being practiced at the beginning stages and restricted to smartphone use as the users are still unable to access Bank's network using other personally owned devices such as laptops, iPad e.t.c.

It was also revealed that some desk top machines provided by the bank have very loose connections with visible wires hanging precariously in the banking hall posing danger to both customers and employees

From the study it revealed that some employees have been assigned very old desk top machines with equally old versions of windows and are experiencing slow processing speed with which some cannot read some programs like adobe. This is frustrating because this same employee could be having a faster sophisticated machine at home which he/she

is better accustomed to. From the study, the probability that a given employee owns a laptop is 0.64.

If the bank opens up more machines for data transfer BYOD usage through smartphones can be made easier as 45% reported that they were not transferring data from there smartphones to the bank network easily and some cases had to transfer data from their phones via emailing, due to locked computer ports.

From the responses, it was revealed that Kenya Commercial Bank did not allow Micro bankers to use their laptops at work for their own reasons that were not part of this study, but the respondents who had laptops were of a different view and said they would work faster, with their owned machines than the provided desk top gadgets some too slow.

The employees in field oriented departments like Micro finance can be allowed remote access to the key programs like credit quest which are stable and less risky and this could immensely improve employee productivity through flexibility, mobility while at the same time taking quality of customer service to a new level as they are able to work from home at night or late in the evenings without interruption from customers, work on Sundays, check how application is progressing while on customer visit. This is likely to shorten loan turnaround time

5.4 Recommendations

From the study findings, the researcher is recommending further staff training on BYOD as a means to encourage adoption

The bank should review its policy in light of BYOD to enable easy transfer of data. It should source the available software to check on data security instead of locking out users from data sharing.

The micro finance officers are mobile employees spending quite a good amount of their productive time out of the banking hall and would greatly benefit from BYOD as a practice to improve their productivity and customer service delivery.

The bank is currently leasing laptop machines to support head office staff, these can be exchanged for Bring Your Own Device which is sustainable and cost effective.

5.5 Limitation of the Study

The study was limited to Kenya Commercial Bank limited, Micro Finance Department and caution is needed before replicating the results of the survey.

The quality of services delivered was not directly measured from the customers perspective rather viewed from improvement of Micro finance operations.

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APPENDICES

Appendix 1: Questionnaire

PART A : Extent of Use of Bring Your Own Device

Name; ……

Branch: ……

1. Sex Male ( )

   Female ( )

2. Have you heard of Bring Your Own Device?

   Yes ( ) No ( ) Don't Know ( )

3. Do you own these devices? *If NO, Kindly proceed to the 4th and 5th columns to give reason*

Device	***Yes***	***No***	**Can't Afford**	**Not interested**	**Other (*specify*)**
Smart Phone					
Tablet					
I Pad					
Laptop					
Other (*specify*)					

4. Are you willing to use your personally owned device for work-related activity *(if owned)?*

Device	Yes	**No**	**Give reason if no.**
Smart Phone			
Tablet			
I Pad			
Laptop			
Other (*specify*)			

4.1 If yes to 4 above, what are your reasons for using your smartphone/Tablet for work-related functions? (*Tick appropriately)You can choose more than one option*

a. Convenience

b. Enhances easy communication with my both internal and external customers

c. Makes it easy for me to work outside office and outside scheduled work hours

d. Allows fast response to customer queries and instructions

e. My device has better functionalities i.e clearer photos

f. Other specify

4.3 How are the above reasons contributing to your work?

a. To Improve my productivity

b. Reduce loan TAT

c. To improve the quality of services delivered to customers

d. Other *(specify)*

5. What is your comfort level of using computer technology (*please tick appropriately*)

Beginning user, uncomfortable , needing assistance	
Average user, comfortable need a little assistance	
Above average user, very comfortable, provide some assistance to others	
Expert user, mentor and coach others	

6. Have you ever used the devices mentioned above to perform any of the duties listed below?

Activity\Frequency	**Daily**	**Weekly**	**Monthly**	**Never**	
Sending or receiving work emails					
Receiving and calling Bank customers					
Organizing calendar activities					
Taking photos of clients homes and business premises					
Scanning client documents					
Other (*Specify*)					

PART B: BYOD and Extent of Use

7. Select the choice that mostly illustrate your opinion given the scale below by ticking the corresponding box

	Strongly Agree	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
I am willing to use the above personal devices for work related duties					
I am able to connect to the office network using the device in the office?					
I am able to remotely connect to the office network using your device when out of office?					

PART B: BYOD and Customer Service Delivery

8. If you were allowed remote access to the core micro baking systems i.e MCB and Credit Quest, how would this affect your work? *(Tick appropriately)*

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Enable me to work while at various locations					
Reduction in Loan TAT					
Create seamless workflow between various departments					
Better quality of services delivered					
Easier communication with external customers					
Enhance prompt Loan and Account documentation					
Create seamless workflow between various departments					

Faster resolution of customer enquiries					
Flexible work hours					
Improved work mobility					
Improve KCB Image and Brand in the market					

9. Are there currently challenges that you experience with your PC provided by KCB Ltd that you think will be eliminated if you were supported to use your own device?

(Give reason for your choice in 6, above)

Appendix II: Branches With Micro Finance In Nairobi Region

	NAME OF THE BRANCH	NO.OF STAFF
1	KCB BIASHARA ST	1
2	KCB BURU BURU	2

3	KCB GATEWAY	2
4	KCB GIKOMBA	1
5	KCB EASTLEIGH	1
6	KCB INDUSTRIAL AREA	1
7	KCB JOGOO ROAD	1
8	KCB KAJIADO	1
9	KCB KAREN	0
10	KCB KARIOBANGI	4
11	KCB KASARANI	1
12	KCB KAWANGWARE	1
13	KCB KIAMBU	0
14	KCB KIBERA	1
15	KCB KIKUYU	1
17	KCB KIMATHI	1
18	KCB KIPANDE HSE	1
19	KCB KISERIAN	2
20	KCB KITENGELA	1
21	KCB LIMURU	1
22	KCB LODWAR	0
23	KCB LOKICHOGGIO	1
24	KCB MARSABIT	0
25	KCB MASHARIKI	1
26	KCB MILIMANI	1
27	KCB MOI AVENUE	4
28	KCB MOYALE	1
29	KCB NAMANGA	1
30	KCB NGARA	1
31	KCB ONGATA RONGAI	1
32	KCB PRESTIGE PLAZA	1
33	KCB RIVER ROAD	1
34	KCB SARIT CENTRE	1
35	KCB TOM MBOYA ST	1
36	KCB UNIVERSITY WAY	1
	TOTAL	**40**

Appendix III: Value of Loans per Micro Finance Officer

REGION	BRANCH	STAFF NO.	VALUE OF LOANS
NAIROBI	KARIOBANGI	11848	15,890,000
NAIROBI	PRESTIGE PLAZA	11717	14,641,000
NAIROBI	INDUSTRIAL AREA	12628	12,115,000
NAIROBI	BIASHARA ST	12038	11,960,000

NAIROBI	KISERIAN	12717	10,515,000
NAIROBI	ONGATA RONGAI	11460	10,333,000
NAIROBI	LIMURU	12041	9,312,500
NAIROBI	GATEWAY	11186	9,276,000
NAIROBI	BURU BURU	10963	8,770,000
NAIROBI	KAWANGWARE	12165	8,585,000
NAIROBI	KIMATHI	12438	8,565,000
NAIROBI	KISERIAN	11846	8,335,500
NAIROBI	RIVER ROAD	12060	8,020,000
NAIROBI	SARIT CENTRE	12249	8,007,500
NAIROBI	JOGOO ROAD	11849	7,948,000
NAIROBI	KITENGELA	11197	7,435,000
NAIROBI	MOI AVENUE	12749	7,415,000
NAIROBI	MASHARIKI	11377	6,250,000
NAIROBI	KIPANDE HSE	12440	6,170,000
NAIROBI	KAWANGWARE	11847	5,573,000
NAIROBI	KIKUYU	11715	5,380,000
NAIROBI	NAMANGA	12317	5,295,000
NAIROBI	MOI AVENUE	12806	5,050,000
NAIROBI	GIKOMBA	11233	4,695,000
NAIROBI	MILIMANI	12167	4,650,000
NAIROBI	TOM MBOYA	12269	4,603,500
NAIROBI	JOGOO ROAD	10734	4,500,000
NAIROBI	EASTLEIGH	10707	4,465,000
NAIROBI	NAMANGA	12780	4,060,000
NAIROBI	NGARA	11713	3,057,500
NAIROBI	KIBERA	11374	3,000,000
NAIROBI	KASARANI	10374	2,730,000
NAIROBI	UNIVERSITY WAY	12952	2,500,000
NAIROBI	MOYALE	12406	2,110,000
NAIROBI	BURU BURU	13145	1,270,000
NAIROBI	GATEWAY	12975	900,000