# EFFECTS OF MOBILE TECHNOLOGY INNOVATIONS ON DEMAND FOR RENTAL SPACE IN SHOPPING MALLS: A CASE OF SARIT CENTRE MALL, NAIROBI, KENYA

**SUBMITTED BY:**

**KIMJACKSON NJERU (MBA/NRB/7841/13)**

**THIS DISSERTATION IS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTERS IN BUSINESS ADMINISTRATION DEGREE OF ST. PAUL'S UNIVERSITY**

**SUPERVISOR: DR. JOHN MUHOHO**

**AUGUST, 2016**

ST. PAUL'S UNIVERSITY

## DECLARATION

*This dissertation is a product of my own work and is not the result of anything done in collaboration. It has not been previously presented to any other institution. I agree that this dissertation may be available for reference and photocopying, at the discretion of the University.*

**NAME:** KIMJACKSON NJERU **STUDENTS NUMBER**: MBA/NRB/7841/13

**SIGNATURE:**_____ **DATE:** _____

I confirm that the work reported in this dissertation has been done by the student under my supervision.

**NAME OF SUPERVISOR :** DR. JOHN MUHOHO

**SIGNATURE:**_____ **DATE:** _____

ST. PAUL'S UNIVERSITY

## DEDICATION

I dedicate this work to my family, more specifically to my wife **Esther Wanjiku Kinyua** for the moral and spiritual support during the research and compilation work. My daughters **Shanice Kinyua** and **Natalya Kinyua** for their understanding when I could not participate in their school programs and co-curriculum activities.

ST. PAUL'S UNIVERSITY

## ACKNOWLEDGEMENT

Special acknowledgement goes to my supervisors, **Dr. John Muhoho** who despite busy schedules, always found time to discuss through my work and provide heedful input. **Mr. Evans Karanja**, from far distances was always online to review my work and give vital guidelines and support that has resulted into this submission. The MBA coordinator and entire management of St. Paul University for providing a holistic environment for learning.

To God be the glory

ST. PAUL'S UNIVERSITY

## TABLE OF CONTENT

**DECLARATION**.....i
**DEDICATION**.....ii
**ACKNOWLEDGEMENT**..... iii
**TABLE OF CONTENT**.....iv
**LIST OF FIGURES**.....vii
**LIST OF TABLES**.....vi
**ABSTRACT**.....1
**CHAPTER ONE**.....2
**INTRODUCTION**.....2
1.1 Background.....2
1.2 Problem Statement.....3
1.3 Research objectives.....4
1.4 Research Questions.....4
1.5 The scope of the Study.....4
1.6 Significance of the research.....5
**CHAPTER TWO**.....6
**LITERATURE REVIEW**.....6
2.1 Introduction.....6
2.2 Review of Theoretical Framework.....6
2.3 Empirical Review.....13
2.4 Conceptual Framework.....19
**CHAPTER THREE**.....21
**RESEARCH METHODOLOGY**.....21
3.1 Introduction.....21
3.2 Research design.....21
3.3 Location of study.....21
3.4 Study population.....22
3.5 Target population.....22
3.6 Sampling Size and Sampling frame.....22
3.7 Sampling design.....23
3.8 Data Collection and Research Instrument.....23
3.9 Data analysis.....24
**CHAPTER FOUR**.....26
**RESEARCH FINDINGS AND DISCUSSION**.....26
4.1 Introduction.....26
4.2 General Information.....26
4.3 Demand for Display / Exhibition Space.....34
4.4 Demand for Over the Counter Transactions.....38
4.5 Relationship between Mobile Technology Innovations and Demand for Rental Space.....41
4.6 Normal Q-Q plot.....43
4.7 Regression Analysis.....45
**CHAPTER FIVE**.....47

ST PAUL'S UNIVERSITY

**SUMMARY, CONCLUSIONS AND RECOMMEDATIONS** ..... 47
5.2 Summary of the findings ..... 47
5.3 Conclusion ..... 48
5.4 Recommendations ..... 49
5.5 Recommendation for Further Studies ..... 50
REFERENCES ..... i
ANNEXES ..... vii
ANNEX 1: LETTER OF REQUEST TO CONDUCT SURVEY ..... vii
ANNEX 2: SEMI-STRUCTURED QUESTIONNAIRE ..... viii
APPENDIX 1 ..... xiv
BUDGET ..... xiv
APPENDIX 2 ..... xv
ANNEX 4: LIST OF BUSINESSES AT SARIT CENTRE MALL ..... xvi

ST. PAUL'S UNIVERSITY

## LIST OF TABLES

Table 4.1: Transaction Conducted over the Mobile Phone.....31

Table 4.2: Effect of Reducing Cost of Mobile Technology on Demand for Display/Exhibition Space.....35

Table 4.3: Effect of Perceived Usefulness of Mobile Technology on Demand for Display/Exhibition Space.....36

Table 4.4: The Effect of Perceived Ease of Use of Mobile Technology on Demand for Display/Exhibition Space.....37

Table 4.5: Effect of Reducing Cost of Mobile Technology on Demand for Over the Counter Transactions.....39

Table 4.6: Effect of Perceived Usefulness of Mobile Technology on Demand for Over the Counter Transactions.....40

Table 4.7: Effect of Perceived Ease of Use of Mobile Technology on Demand for Over the Counter Transactions.....40

Table 4.8: Relationship between Mobile Technology Innovations and Demand for Rental Space.....42

Table 4.9: Regression Model.....45

Table 4.10: ANOVA.....45

Table 4.11: Coefficients.....46

ST PAUL'S UNIVERSITY

## LIST OF FIGURES

Figure 2. 1: disruptive innovation's performance versus time (sandstorm, 2010) .....7

Figure 2.2: Low-end and New market concepts (Christensen & Raynor, 2003).....7

Figure 2.3: Conceptual Framework .....**Error! Bookmark not defined.**

Table 4.1: Transaction Conducted over the Mobile Phone.....31

Table 4.2: Effect of Reducing Cost of Mobile Technology on Demand for Display/Exhibition Space .....35

Table 4.3: Effect of Perceived Usefulness of Mobile Technology on Demand for Display/Exhibition Space.....36

Table 4.4: The Effect of Perceived Ease of Use of Mobile Technology on Demand for Display/Exhibition Space.....37

Table 4.5: Effect of Reducing Cost of Mobile Technology on Demand for Over the Counter Transactions .....39

Table 4.6: Effect of Perceived Usefulness of Mobile Technology on Demand for Over the Counter Transactions .....40

Table 4.7: Effect of Perceived Ease of Use of Mobile Technology on Demand for Over the Counter Transactions .....40

Table 4.8: Relationship between Mobile Technology Innovations and Demand for Rental Space .....42

Table 4.9: Regression Model .....45

Table 4.10: ANOVA.....45

Table 4.11: Coefficients.....46

ST. PAUL'S UNIVERSITY

## ABSTRACT

Mobile technology innovations have given individuals and businesses a borderless outreach, the technology has sparked the growth of entirely new industries and revolutionized business processes as well as societal improvements. The objectives of the case study included: to investigate how reducing cost of mobile technology affect demand for rental space in shopping malls; to establish how perceived usefulness of mobile technology affect demand for rental space in shopping malls; and to analyse how perceived ease of use of mobile technology affect demand for rental space in shopping malls. This case study adopted descriptive research design focusing on business managers from 126 businesses at Sarit Centre Mall. A representative sample of 92 respondents was selected. A questionnaire was used to collect primary data for the study. The study used mean and standard deviation for the study. The analysis revealed that businesses operated at the malls were finance/banking, entertainment, health/medical, retail/wholesale, clothes and fashion, beauty and cosmetic, hotel and leisure and books and education. The study found out that the reducing cost of mobile technology virtual displays/ online malls had led to reduced demand for exhibition and display space, reducing cost of information sharing via mobile technology. The study also established that 24 hours access to business via mobile technology, accessibility of business on virtual malls from any location, secure payment processes. The study also revealed that the ease of use of mobile technology attributed to simple language and menus on mobile technology, flexible and easy to use mobile applications, and simple operating procedures on mobile technology and reduced paperwork/ paperless offices has led to reduced demand for display and exhibition space in malls and over the counter transactions. The study concludes that reducing cost of mobile technology virtual displays/ online malls, reducing cost of information sharing via mobile technology and minimal mobile technology setup and operational fees which includes payment services, advertising and order processing services had led to the reduction of demands of shopping spaces at the shopping Malls. The study concludes that mobile technology had led to 24 hours access to business via mobile technology, accessibility of business on virtual malls from any location, secure payment processes, mobile based advertisement and short messages promotions and effective communication to both customers and suppliers through mobile technology thus reduced demand for exhibition and display space in malls and over the counter transactions. The study further concludes that ease of use of mobile technology attributed to simple language and menus on mobile technology, flexible and easy to use mobile applications, and simple operating procedures on mobile technology and reduced paperwork/ paperless offices has led to reduced demand for display and exhibition space in malls and over the counter transactions. The study recommends that there is need to employ modern technological innovations such as internet based services for businesses to be highly competitive. The study recommends that mobile technology should be enhanced to enable 24 hours access to business via mobile technology, accessibility of business on virtual malls from any location and secure payment processes. The study recommends that there is need for the shopping malls businesses to take advantage of the availability of Service providers who have already realized the importance of these applications suitable for Enterprise growth and increased research and production of suitable applications. There is also a need to integrate suitable mobile technology innovation in business models for competitive advantage.


ST. PAUL'S UNIVERSITY

# CHAPTER ONE
# INTRODUCTION

## 1.0 Background of the Study

Development of mobile technology has advanced in different part of the world. The cost of operation for businesses continues to rise because of the increase in cost of rental space. As demand increases, the size, and the number of malls in Kenya continue to increase. To achieve provision of services without many limitations, some people are exploring innovative use of mobile technology for business transactions. Mobile technology has continued to offer competitive edge to businesses as they are able offer services at reduced operational cost. Of essence is the safety of business transactions which use of mobile technology has continued to improve such as electronic money transfer, online order processing and displays.

In the current market, mobile technology has created conveniences that have influenced interactions in business. The development of mobile broadband in 2009 is one of the mobile technology innovations that indicate how the change of mobile technology can affect the operations; many people can now access internet from their mobile phones. Ease of spreading information has resulted to great and advanced development and speed of communication. |Due to development of the mobile broadband, the cost of communication has reduced and the number of people who can afford mobile phone has continued to grow.

Recent mobile technological innovations, in which new models of phones and those with graphical interfaces also referred to as smart phones are in the market. This has made communication even easier. Initially, it was difficult to send graphical images and videos through the mobile phones, currently, it has become very possible, and this aspect has led to emergence of virtual displays that are coupled with coloured graphics and videos on merchandised goods and services. The use of mobile technology in marketing has played an important role in reaching many people. With this level of information people have been able to make purchase choices without visiting the stores/malls, make payment via the same and have goods and services delivered at their convenient locations. The situation implies that technology has made it easier for traders to present their products to the market and customers can make faster purchase decision. It would be expected that the demand for exhibition/display space as well as over the counter transactions in conventional business setup will reduce as mobile technology cut into the business to provide strategic options to businesses.

ST. PAUL'S UNIVERSITY

## 1.1 Problem Statement

Today, mobile technology is allowing for full completion of various business transactions from virtual displays & exhibitions, payment processing and customer feedbacks (Babb & Abdullat, 2012). According to Thain & Skey (2015), this has played an important integral role in the evolution of business. On the other side of the coin, the rapid increase in the number of malls in the urban areas points to the increasing demand for such conventional space. Driven by need for collection of business in close proximity, people need to feel the atmosphere away from their work places and homes, seeing and comparing items from a display in a departmental stores' shelves proves desirable, (Afuah, 2014).

Of greater significance is the merits derived from incorporation of mobile technology innovation to existing businesses as a function that would boost the operations. Ostensibly, the views hereof indicate that there is a thin line between pros and cons of rental spaces in malls versus the use of mobile technology platform. These dynamics makes it extremely ambiguous to conclude on the future of the businesses affected by mobile technology. Based on the concept of disruptive innovation theory (Dyer, Gregersen & Christensen, 2011), the mobile technology innovations would be expected to overtake and displace businesses operated on rental spaces in malls. However, the disruption of the mobile technology innovation is yet to be appreciated and its potential to displace businesses in malls remains unclear.

The two seem to be pacing along at the same momentum leading to a situation which requires a study to determine whether mobile technology innovations is disruptive and what its effects are on demand for rental spaces (Markides, 2006). This study sought to bridge this gap by weighing the level of disruptiveness caused by mobile technology innovations exploring the effects it has on rental spaces in shopping malls.

ST. PAUL'S UNIVERSITY

## 1.2 Research Objectives

### General objective

The general objective of the study was to determine whether mobile technology innovations is disruptive and what its effects on demand for rental spaces in malls

### Specific objective of the study

i. To investigate how reducing cost of mobile technology affect demand for rental space in shopping malls

ii. To establish how perceived usefulness of mobile technology affect demand for rental space in shopping malls

iii. To analyse how perceived ease of use of mobile technology affect demand for rental space in shopping malls

## 1.3 Research Questions

The aim of the research was the exploration of information that would help in answering the questions such as;

i. How does reducing cost of mobile technology affect demand for rental space in shopping malls?

ii. Does perceived usefulness of mobile technology effect demand for rental space in shopping malls?

iii. To what extend does perceived ease of use of mobile technology affect demand for rental space in shopping malls?

## 1.4 The scope of the Study

The research focused on gathering information about the effects of mobile technology innovations on demand for rental spaces in malls in Nairobi with Sarit Centre forming the study area. The research explored the views of business managers from 126 business at Sarit Centre Mall (The New Economy, 2014). These individuals interact directly with sale of

ST. PAUL'S UNIVERSITY

goods and services and can offer vital information that the research requires. They offered insights on the trend of trade and changes that have occurred as a result of mobile technology integration in their businesses. To enable the generalisation of this research to other parts of the world, the study depended on the literature review of other authors on disruptive innovation, mobile technology innovations and other relevant fields. The research focused on material that cover determinants of mobile technology innovations, demand for rental space and the effects they produce.

### 1.5 Significance of the research

The research explored the various effects of using mobile technology on businesses in relation to demand for rental spaces in malls. The information would help:

i. Business owners on better utilization of the available space to ensure they can make strategic gains from them while appreciating the advantages of mobile technology innovations.

ii. Developers who intend to invest in rental spaces on best way to optimize the spaces available. The understanding of effects of mobile technology innovations would inform the design of new shopping malls, trading centres, and commercial building.

iii. The information obtained would contribute to the body of knowledge on the effect of mobile technology innovation on the conventional business development in the world.

ST. PAUL'S UNIVERSITY

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Introduction

This chapter offers discussions from various literatures that are relevant to the topic at hand. The discussion focuses on the development of the disruptive innovation theory and office market dynamics theory, in addition, contribution of other authors in the world. The context of convention business model and it relation with disruptive innovation is discussed with a bias on mobile technology innovations and its effect on demand for rental space.

## 2.2 Review of Theoretical Framework

### 2.2.1 Disruptive Innovation Theory (Clayton M. Christensen, 1995)

According to Christensen, disruptive innovation is an innovation that creates a new market and value networks that disrupts en existing market and value networks, eventually displacing the established and market leaders. Additionally, disruptive innovation could be defined as the situation of innovating to address the unsustainable trends of innovation (Dyer, Gregersen & Christensen, 2011). Mobile technology has become one of the innovations in the current age that has influenced businesses in the world. It has affected every aspect of human life with reduction of cost to increasing the convenience of doing business (Christensen, Baumann, Ruggles & Sadtler, 2006).

To investigate the effects of disruptive innovation, it is imperative to lay down the concepts offered by the theory of disruptive innovation as was projected by Christensen's works. According to Sandstorm (2010), disruptive innovations constitute products or services and business model which present inferior performance packages when compared to what is valued by the mainstream customers. At its early development, the perspectives of disruptive innovation were said to serve niche segment. The innovations as well as the established offering then improve with disruptive innovation gradually taking over and satisfying the mainstream customers, finally replacing the incumbent by exceeding performance. According to Christensen *et al.* (2008), almost all products, eventually improve beyond the mainstream customer's needs. There follow a shift in the competitive factors, with focus on flexibility,

ST. PAUL'S UNIVERSITY

price reduction and convenience leading to dominance of the competitor who introduced the disruptive innovation (Sandstrom, 2010).

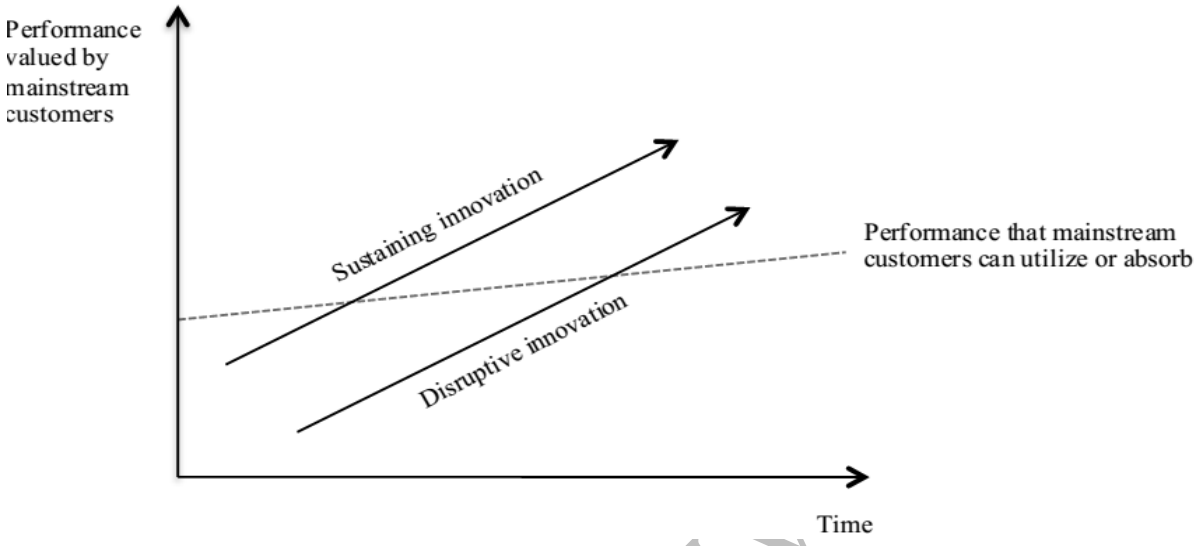



*Figure 2.1: disruptive innovation's performance versus time (sandstorm, 2010)*

According to Tellis (2006), companies that listen carefully to customers often miss the emergence of such innovations which later lead to their exit. Disruptive innovation is divided into low end and new market disruptions. Low end disruption targets the already over-served and low profit-customers at the low end of the original value network while new market disruptions creates a new value network or expand the market to new customers (Govindarajan and Kopalle, 2006).

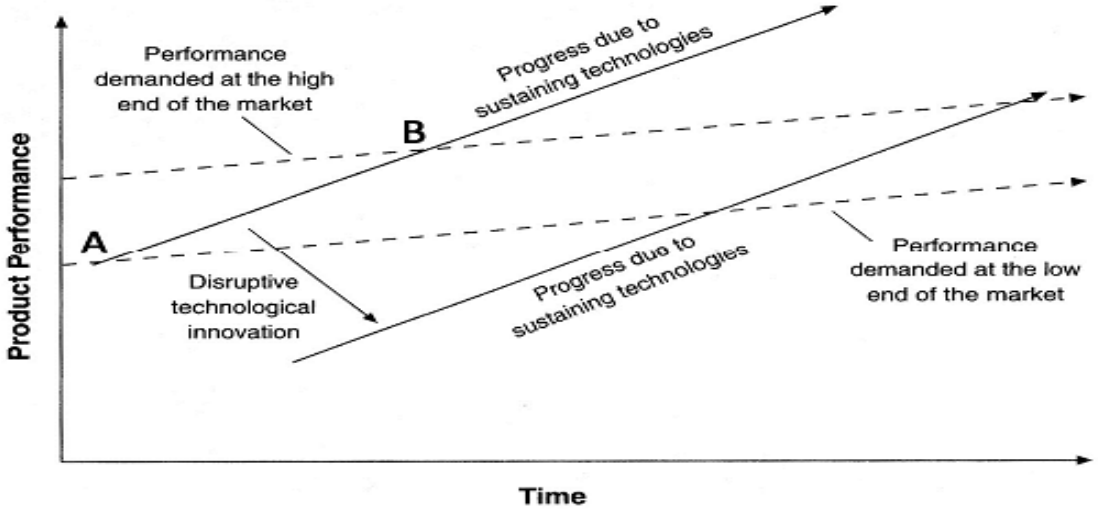



*Figure 2.2: Low-end and New market concepts (Christensen & Raynor, 2003)*

This categorization introduced by Christensen and Raynor in 2003 means that disruptive innovation does not only facilitate an entrant business to displace the incumbent industry players but can also enlarge the existing industry in the sense that new customers can be attracted by the innovation. Disruption also can significantly change the habits and behaviours of the customers.

Literature on disruptive innovation has over time tended to focus on business model concept as an important factor that supplements the theory. As such several scholars have attempted to incorporate disruptive services as well as business models. These represent innovations that are not technological but which possess the traits of disruptive technologies (Mothe & Thi, 2010). However this idea was nuanced by Markides (2008), who argued that business model innovation was a different phenomenon compared to what Christensen (1997) intended. Nevertheless, Christensen (2006), provided an additional argument that qualified business model into the disruptive innovation by stating that disruptive technologies are about business model problem rather than technology problem. This additional argument saw Christensen adopt the term innovation instead of technology used in his previous works (Christensen 2006)

**Critiques:**

Elsewhere, Tellis (2006) criticized the theory on the ground that it cannot be used to make ex-ante predictions. Tellis viewed that disruptive innovation as a theory is unable to predict whether a new product or a business model will be disruptive in the future. The view was based on the argument that disruptive innovation was developed through retrospective analysis of corporate historic case studies. This, ostensibly, appeared convincing because Christensen developed his argument and concepts of disruptive innovation from corporate occurrences of the past; and according to Charitou and Markides, (2003), Christensen's case study examples were used to support his arguments regarding disruptive innovation.

Accordingly, scholars like (Danneels, 2004) posit that it is possible that some organizations are just lucky in their technology choice and after success their technologies are studied retrospectively as disruptive innovations. In response to the criticisms of the theory's inability to make ex-ante predictions, Christensen (2006), argued successfully, providing examples of incumbent organizations that detected disruptive threat and took remedial measures to protect against the threat. Hydrogen fuel cell cars were predicted to be disruptive innovation threat in automotive industry (Sandstrom, 2010). With such an example, it is observable that

ST. PAUL'S UNIVERSITY

numerous scholars have used disruptive innovation theory to make ex-ante predictions and thus, the assertion that it cannot make prediction is wrong and overstated.

Several other scholars have contributed to disruptive innovation theory by addressing various dynamics and even developing ways in which the disruptiveness of an innovation can be measured (Govindarajan and Kopalle, 2006). Christensen (1997) explains disruption pattern by looking at customers segments insinuating that disruption happens in low-end and new market before invading the mainstream market. More, (Sandstrom, 2010) on the other hand draws from diffusion theories that suggest that innovation infiltrates a market in an S-shaped epidemic pattern. As such few innovations reach the mass market while others rarely develop into disruptive innovations. Elsewhere, disruptive innovation, according to Linton (2002) can be forecasted and several differentiating market strategies can lead to disruption when differentiated products overwhelm the market. It is therefore, observable that improvements and extensions have been made to inform the concept of disruptive innovation theory as it is known today.

At the basic level, most scholars consent that the business model concept concerns the approaches by which businesses create values for their customers. According to McGrath (2010), business model innovation has at its core the elements of customer value proposition for specific market segment achieved by configuring the value network which creates and deliver customer value. Thus, a new business model can be established by the systematic reinvention across customer value, specific customer segment and value network by changing radically the established value proposition, deconstructing the traditional value network and redefining the existing customer segment (Govindarajan and Kopalle, 2006). Based on these views, a business model is thus, a system of activities that are interdependent, and which go beyond business boundaries.

**Porter's theory of value chain:** The above view of the business model is the basis of Porters theory of value chain, the resource base view as well as transaction cost economics theories. The concept of value chain defines the actors as well as their activities with their links to the various business functions or divisions (Porter, 1985); the resource base value concept depicts a firms focal capabilities and also predict its position and role in the value chain (Markides, 2006);

ST. PAUL'S UNIVERSITY

### 2.2.2 Transaction cost economics theory, (Williamson, 1985)

Transaction cost economics theory examines the opportunism of the innovator – determines whether a business will integrate vertically and avoid being taken over or specialize in a number of competencies and join alliances to access other capabilities (Williamson, 1985). In addition to customer value, specific customer segment and value network, strategy is also an element that characterise business model. Accordingly, strategy is concerned with how a business sustain competitive advantage supplementing the role of business model of identifying components and their relationships that create and capture value (Teece, 2010). Lastly, the revenue model is also a business model component that deals with the ways to determine the firm's pricing strategy, cost structure as well as margin (Zott and Amit, 2010).

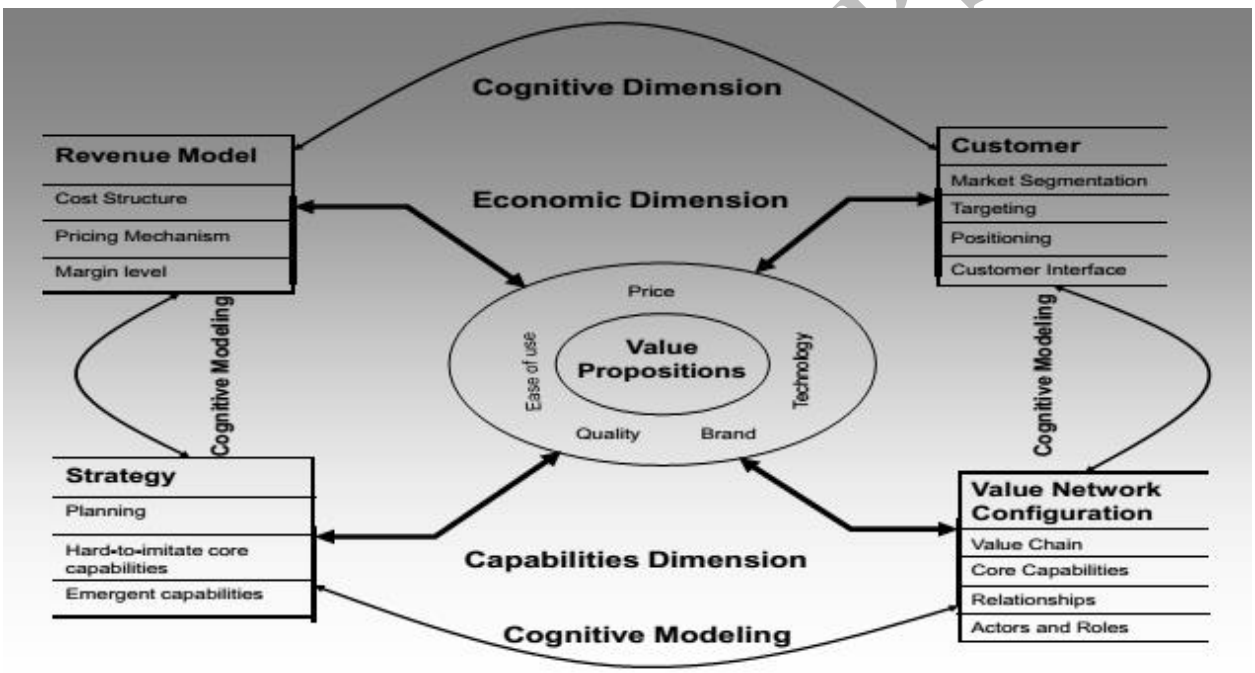



*Figure 2.3: Business model components (Habtay & Holmen, 2012)*

The above elements that characterise business model are connected and the relationships so created are the platforms upon which a business model evolution takes place (Teece, 2010). Therefore, disruptive innovations occurring along the business models are influenced by the impact of the five components of the business model. According to McGrath (2010), the customer value innovation as well as the business model cannot be anticipated and the disruptive innovation is path dependent. Therefore disruptive innovation originates remotely in incumbents cognition and once the market unfolds, the disruptive business penetrates through the market by way of adapting the internal and external forces, profitable market

segment retention, successful products, adapting routines, processes and values that discourage those who are against its current business model (Christensen, 2006). In other words, the new business model is perceived as the disruptive innovation which displaces the conventional business models. Christensen (2006) adds that when the entrant business grows via a dissimilar path (from the conventional), the entwined incentive, capabilities and incentive model in the niche market disrupts the mainstream market, revenue model is activated and the entrant, thus, gains advantage. McGrath (2010), however, observes that the incumbent can isolate potential disruptive business model innovation even in a niche market in situation where the conditions in the industry inhibit incentives or if the incumbents can leverage the prior capabilities.

Literature on disruptive innovation has over time tended to focus on business model concept as an important factor that supplements the theory. As such several scholars have attempted to incorporate disruptive services as well as business models. These represent innovations that are not technological but which possess the traits of disruptive technologies (Mothe & Thi, 2010). However this idea was nuanced by Markides (2008), who argued that business model innovation was a different phenomenon compared to what Christensen (1997) intended. Nevertheless, Christensen (2006), provided an additional argument that qualified business model into the disruptive innovation by stating that disruptive technologies are about business model problem rather than technology problem. This additional argument saw Christensen adopt the term innovation instead of technology used in his previous works (Christensen 2006)

Elsewhere, Tellis (2006) criticized the theory on the ground that it cannot be used to make ex-ante predictions. Tellis viewed that disruptive innovation as a theory is unable to predict whether a new product or a business model will be disruptive in the future. The view was based on the argument that disruptive innovation was developed through retrospective analysis of corporate historic case studies. This, ostensibly, appeared convincing because Christensen developed his argument and concepts of disruptive innovation from corporate occurrences of the past; and according to Markides, (2008), Christensen's case study examples were used to support his arguments regarding disruptive innovation.

Accordingly, scholars like (Danneels, 2004) posit that it is possible that some organizations are just lucky in their technology choice and after success their technologies are studied retrospectively as disruptive innovations. In response to the criticisms of the theory's inability

ST. PAUL'S UNIVERSITY

to make ex-ante predictions, Christensen (2006), argued successfully, providing examples of incumbent organizations that detected disruptive threat and took remedial measures to protect against the threat. Hydrogen fuel cell cars were predicted to be disruptive innovation threat in automotive industry (Sandstrom, 2010). With such an example, it is observable that numerous scholars have used disruptive innovation theory to make ex-ante predictions and thus, the assertion that it cannot make prediction is wrong and overstated.

### 2.2.3 Office Market Dynamics Theory (Clapp, 1993)

Clapp (1993) in his theory Office Market Dynamics indicates that the main forces in demand for rental space are supply and market conditions such as lease term, vacancy rate and rental rate. The theory demonstrates how the demand supply equilibrium is "Shocked" and ways that the market has continued to respond to either increased or lowered demand for rental space. Wheaton and Torto (1992) in and alternative theory indicated that demand for rental space is proportional to the bargaining power of the landlords and tenants. Eppli and Benjamin (1994) focused on the economic and demographic determinants of demand and supply for rental space, in their contribution added that changes in retail sales or over the counter transactions would create approximately proportional changes in demand for the retail space.

In many parts of the World, the rental spaces are diminishing as many business owners and traders continue to start business. The growing population in the Nairobi and the capitalistic economic system. The result of the competition has led to scramble for available spaces as many people want them. In addition, the political climate of Kenya has promoted the establishment of businesses in Nairobi and therefore, many people compete to secure spaces for their business. The end effect of the competition for space has been the increase in rent. For small businesses, it becomes difficult to enter the market since they have not established customers who can purchase products easily to facilitate high income generation (Novogratz, & Amazon.com 2009). Good rental spaces that are spacious and offer other benefits like ease of accessibility, availability of parking, and security charge high cost to rent. It implies that not many people can access these places. According to Dyer, Gregersen and Christensen (2011), innovation has the power to revolutionise any industry and produce increased benefits. The mobile technology is an innovation that has influenced the re-entry of small businesses in the market and therefore, they can compete favourably for customers with large operators. Disruptive innovations intercept the planned projection to achieve certain ends so

ST PAUL'S UNIVERSITY

that it facilitates faster achievement of goals (Babb & Abdullat, 2012). The mobile technology has played an important role in changing the projectile of business development operated on rental space within malls.

### 2.3 Empirical Review

Mobile technology innovations continue to influence the business in the world. Businesses are finding out ways through which they can reach as many customers as possible. One of the ways through which most of the companies have achieved development is the introduction of mobile applications. Many of the mobile apps have become important sources of disruption to the traditional methods of businesses. Businesses have to adapt to the new environment if they have to make profit. According to Van and Lewer (2015), implementation of technological innovation is similar to what Joseph Schumpeter called creative destruction. In the process, organizations spend much money to win a competitive advantage. The process of innovation involves deliberate undertaking which business managers have to assess before implementation. The process could imply a process of breaking off from the unhelpful traditions of doing business that can lead to failure to progress (McCraw, 2009).

Implementation of mobile technology has taken root in the world. Many businesses are implementing technology to remain relevant in the market (Ślęzak, 2009). One of the places in the world where the mobile technology has hit the ground is Saudi Arabia. In the Saudi Arabia, the implementation of mobile banking is coming as a disruption to high demand to serve the ever growing customers. Implementation of the mobile banking in Saudi Arabia does not only benefit the client but also the banks as they would save on the rent required for larger premises (Babb & Abdullat, 2012). Many countries have continually implemented the use of mobile technology in their business. The development of mobile technology has not only affected corporate organizations but also some government organizations. In Korea, the government offers some of its services through the mobile. Citizens do not have to visit government offices for some services but can get them through their phones. Some civil documents are available from the ministry of Government Administration and Home Affairs. Another area in which mobile technology is underutilization in the business in Korea is the use of the technology in stock market (Yoo, Lee, & Rowley, 2008). Many other places have used various forms of biometric technology to enhance the quality of service in the world. In

ST. PAUL'S UNIVERSITY

every time implementation of technology has taken place, efficiency and effectiveness have been the goals (Ashbourn, 2014).

Literature on disruptive innovation has over time tended to focus on business model concept as an important factor that supplements the theory. As such several scholars have attempted to incorporate disruptive services as well as business models. These represent innovations that are not technological but which possess the traits of disruptive (Mothe & Thi, 2010). However this idea was nuanced by Zott and Amit (2010), who argued that business model innovation was a different phenomenon compared to what Christensen (1997) intended. Nevertheless, Dyer, Gregersen & Christensen (2011) provided an additional argument that qualified business model into the disruptive innovation by stating that disruptive technologies are about business model problem rather than technology problem. This additional argument saw Christensen adopt the term innovation instead of technology used in his previous works.

Elsewhere, Tellis (2006) criticized the theory on the ground that it cannot be used to make ex-ante predictions. He viewed that disruptive innovation as a theory is unable to predict whether a new product or a business model will be disruptive in the future. The view was based on the argument that disruptive innovation was developed through retrospective analysis of corporate historic case studies. This, ostensibly, appeared convincing because Christensen developed his argument and concepts of disruptive innovation from corporate occurrences of the past; and according to (Zott and Amit, 2010), Christensen's case study examples were used to support his arguments regarding disruptive innovation.

Accordingly, Markides (2013) in his academy of business perspectives, posit that it is possible that some organizations are just lucky in their technology choice and after success their technologies are studied retrospectively as disruptive innovations. In response to the criticisms of the theory's inability to make ex-ante predictions, Christensen (2006), argued successfully, providing examples of incumbent organizations that detected disruptive threat and took remedial measures to protect against the threat. Hydrogen fuel cell cars were predicted to be disruptive innovation threat in automotive industry (Sandstrom, 2010). With such an example, it is observable that numerous scholars have used disruptive innovation theory to make ex-ante predictions and thus, the assertion that it cannot make prediction is wrong and overstated.

ST PAUL'S UNIVERSITY

### 2.3.1 Mobile technology in Africa

Africa ranks the lowest in relation to technological development. Although many organizations have attempted the use of technology in business, few have achieved much progress. However, there is significant level of implementation of mobile technology is some parts of Africa (Hanna & Knight, 2012). Businesses are competing with each other because of the implementation of technology. In South Africa, for example, an exploration of the use of mobile technology in business indicated that many people were ignorant of the ways to use them. Many Small and Medium-sized Enterprises (SMEs) indicated that they used mobile technology for basic functions of the company (CBK, 2008).

Many countries in Africa have not been able to implement much of mobile technology in their businesses (Afuah, 2014). However, some aspects of the same are evident. The many businesses have used the basic technology like SMS and internet to perform common duties. Others are important are setting platform for development with consideration of the various needs of customers (Hanna & Knight, 2012). Africa suffers from limited necessary tools for implementation of the technological innovation. Other challenges could be the problems of lack of knowledge in the technology since many countries have low literacy levels. In Africa, Kenya is one of the most advanced countries in which mobile technology in banking is in wide usage. The technology has disrupted the high need for money transfer.

### 2.3.2 Mobile technological innovations;

In Kenya, many people are well advanced in knowledge and are using some new technologies in many ways. Both young generation and old people understand the use of mobile applications (CBK, 2008).

The principle of networking and internet access has facilitated the rise of online shopping in Kenya. Although initially many people did not trust them, they are gaining popularity among the people. The growth in number of online shopping malls is an indication of the technological acceptance. As suggested by E.M. Rogers in the diffusion of innovation theory, many people are gaining confidence in online shopping and are using them for operation (López-Nicolás, Molina-Castillo, & Bouwman, 2008). In the earlier stages of implementation, people could have feared the online shopping because of their perception and behaviour. However, as time goes and they interact with the innovation, they accept it and are easily moving into using it (Mallat, Rossi, Tuunainen, & Öörni, 2009).

ST PAUL'S UNIVERSITY

Banks in Kenya are competing for similar customers. Many of them have lost potential customers because of their potential inconveniences associated with them. To gain customers in the market, some banks have had to implement the creative destruction in the process of service delivery. In the process, many banks have introduced mobile banking and internet banking to ensure that customers find them convenient service providers. The process has helped many banks to win many customers. As a way of enhancing convenience, some banks facilitate opening of accounts over the phone. The accounts linked to mobile phone numbers make access to money easy any time of the day. Although many people are yet to adopt the innovations, it is continues to gain popularity among the people.

Automated Teller Machine (ATM) is one of the oldest and widely used retail electronic banking services in Kenya (Nyangosi *et al.* 2009), however, according to an annual report by Central Bank of Kenya, its adoption and usage has been surpassed by mobile banking in the last few years (CBK 2008). Many customers have preferred to link their mobile phone numbers with their bank accounts. The innovation in the mobile technology has led to increase in the number of customers who buy products without having to spend long processes of payment (Gewald & Leliveld, 2012). Through the technology, many customers can access money in their bank accounts and use it to make payment through the mobile platforms. Some other customers prefer using mobile phones to deposit money to their bank accounts. The innovation in implementation of mobile banking in Kenya has defied the argument that adoption of mobile finance in developing countries is slow. The automated payments have made it convenient for both customers and business owners who do not suffer the problems of giving balances (Goggin & Hjorth, 2014).

In Kenya, like other parts of the world, mobile technology has changed the ways of doing business. The traditional business methods, although still in use, are losing the grounds in the competition for the customers. Many people are using mobile phones that have access to the internet while through mobile service providers; some customers can get information and make payments for products they purchase (Thain & Skey, 2015). The technology has not only made it easy to access information about products and services but has also made it easy to process payment. Mobile money in Kenya is the most innovative idea in the whole world. Mobile service providers offer platform for customers to transfer money, and pay for products and services (Mataen, 2012).

ST. PAUL'S UNIVERSITY

Some of the common innovative ideas have "Mpesa", "Mpesa paybill," "lipa na Mpesa" services from Safaricom, Orange money for Orange network customers, and Airtel money (Matthews & Brueggemann, 2015). Through the services, customers can make payment of goods and services without necessarily having to withdraw from the banks. Customers do not have to carry cash to make purchase products from some businesses and that has made easy for customers who may be worried about carrying money to various places in the insecure environment (Ratha, 2011). The systems have helped many organizations to win many customers more than others of their kinds that never use them (Gobry, 2015). The escalation of robbery among the people in the society has influenced many people to avoid the business in which they can carry large amounts of money (International Conference on Information Management and Evaluation & Grant, 2011). In many businesses, the "Lipa na Mpesa" service has widely used in supermarkets and other trading centres. On the other hand, the "mpesa paybill" services have been used to pay for electricity power, servicing loans through banks and making deposits in some organization (Mutegi, 2014).

According to Central Bank of Kenya, low income earners having access to mobile phones. Mobile networks is also available in remote areas at a low cost. The poor often have greater familiarity and trust in mobile phone companies than with normal financial institutions (CBK 2008). Internet access on mobile phones has revolutionised the shopping experience in Kenya. Many people used to travel to exhibition centres to look view the available products and services and therefore, they spent a lot of their time. The introduction of online shopping which the mobile technology has enhanced has reduced the movements of customers and has made it more convenient to make purchase choices. With online shopping, traders do no longer need large spaces for customers to walk looking for the available products. It means that need for large and expensive rental spaces could reduce since few business operators will need the spaces (Souter & Kelly, 2014).

Online shopping has influenced the choice of spaces by business operators considering the fact that most of the online shopping malls rent less competitive spaces like in high rise buildings. The spaces in high rise building are not only non-competitive but are cheaper compared to those in shopping malls. The development comes to help reduce the problem of the high cost of starting business and it has helped many organizations business operators to start their business. In Kenya, customers have access to a number of online shopping malls that have increased the convenience of shopping experience (Mataen, 2012). The example of the shopping malls in Kenya include Cheki.co.ke, kilimall.co.ke, kaymu.co.ke, jumia.co.ke,

ST. PAUL'S UNIVERSITY

rupu.co.ke, olxkenya.co.ke, bidorbuy.co.ke, mamamikes.co.ke, mimi.co.ke and electrohu.co.ke (Maina, 2015). The shopping sites have become very important to most Kenyans who have had to make request for goods and are delivered. The process has not only saved the customer of the need to travel to places but also has helped to reduce the cost of renting space for business owners (Bhasker, 2009).

Some form of business operations are at the risk of losing positions in the advent of rise of mobile technology. Management teams that have embraced mobile technology have been able to capture the diverging customers (Morley & Parker, 2015). Banks have experienced the effect of mobile innovation as they have endured a stiff competition from mobile money transfer (Mark, 2015). Banks offer services up to certain times in a day and certain days in a week. Mobile money technologies have enabled 24 hour access to money in different places. Traditional banking that required large spaces and workforce guarantees a little profit as compared the mobile money transfer. The reliability of mobile money transfer has also made it easy for customers in the course of doing business (Thain & Skey, 2015).

Mobile money technology has substituted some services that were traditionally restricted to the market. Access to loans was only possible if people could visit banks and sign certain documents. In the current situation, customers can apply and get loans through mobile interface. In the same way, banks are facing serious competition from mobile operators in payment of monthly bills (Matthews & Brueggemann, 2015). Many people pay their water, electricity, and insurance premiums through the mobile money transfer. For malls that had made large spaces for banks, they find it difficult to get customers to rent (Thain & Skey, 2015).

Other businesses that have suffered because of the introduction of mobile technology have been the ticket companies. With the introduction of online purchase of travel and entertainment, many of the spaces that could have gone to these companies are not utilised (Ledgerwood, Earne, Nelson & World Bank, 2013). Many customers can no longer take their time to queue to purchase tickets from the ticket selling services available in shopping malls. The implication of the innovation in mobile technology is the reduction of the demand for rental spaces in the country. Building large malls that cost too much for small business operators therefore is under the threat of reduced demand for the spaces it has (Thain & Skey, 2015).

ST. PAUL'S UNIVERSITY

Mobile technological innovations have affected the development of display and exhibition centres by simplifying the accessibility of information about commodities. Display and exhibition require people to walk to the physical places but the introduction of the mobile technology has led people to avoid the mostly congested areas but access information through their mobile gadgets (Babb & Abdullat, 2012).

## 2.4 Conceptual Framework

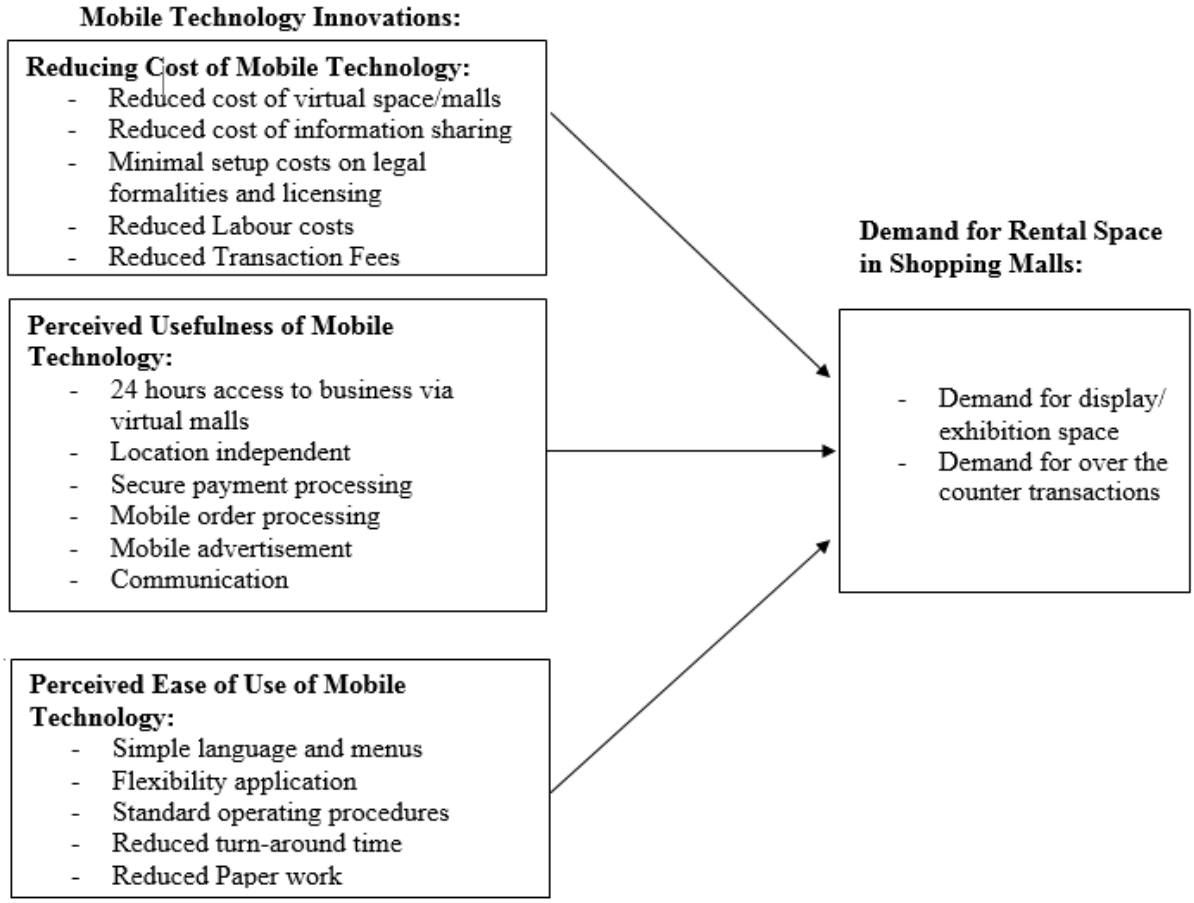



*Figure 2.4.1: Conceptual Framework (Researcher, 2016)*

### 2.4.1 Reducing Cost of Mobile Technology

Reduced cost of mobile technology has increased the level of adoption of mobile technology (CBK, 2008) by business, suppliers and customers. According to Thain & Skey (2015), it is anticipated that changing attitude towards the costs of such setup, aligned to business goals

and objectives of the business will play a key role in getting many businesses to incline towards an integrated mobile technology setup for competitive advantage. This customer mind-set shift is likely to affect the demand for rental spaces Clapp (1993) as many business owners seek more leverage from mobile application. This is anticipated to have an impact on demand for display and exhibition space in malls, as a result of adoption of more affordable platform, the need for over the counter transaction is expected to reduce.

### 2.4.2 Perceived Usefulness of Mobile

Confidence levels and bigger acceptance on the use of mobile applications has been growing remarkably, well noted is the convenience that both business owners and customers have gained from mobile integration. Mobile phone is not only perceived as convenient but also its great accessibility, reduced transaction turnaround time, secure processes and global coverage (Christensen, Baumann, Ruggles & Sadtler, 2006). This inclination towards mobile based transactions by businesses and customers points to an anticipated affect on over the counter retail sales that has direct impact on retail rental space. This is likely to impact the need for over the counter transactions and display space.

### 2.4.3 Perceived Ease of Use of Mobile Technology

Mobile phones platforms have been passed as free from any physical and mental efforts in its application. This can be looked through its simplicity in design – both literate and illiterate in communities can easily operate a mobile phone. The flexibility in terms of phone functionality has made it consistent with existing user expectations. This aspect has seen mobile phone application penetrate every corners of Kenya (CKB, 2008). This has become a strategic option reducing the number of over the counter or retail based transactions (Gewald & Leliveld, 2012) as business owners adopt mobile platforms to reach for a larger market. Having most of customers, suppliers and business on mobile platforms is expected to lower the demand for physical presence of businesses in rented space as well as reduced need for over the counter transactions.

ST. PAUL'S UNIVERSITY

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

This chapter focuses on the methodology of the research used in data collection as well as justification of the research methodology that were used in this study. To be precise, it describes the methods of data collection, measurement and analysis approach. The approaches that was used to derive the sample size, research design, target population, and a description of the research instruments that were used. In addition, sampling as well as means of collecting data and statistics that was applied in the data analysis. According to Mugenda & Mugenda (2003), research methodology includes the research designs approach, methods of data collection and data analysis techniques that are used in carrying out the research. The discussions hereof are based on the objectives of the study and are all means by which the research questions were answered.

## 3.2 Research design

This study adopted descriptive research design. The main purpose of a descriptive research design is description of the state of affairs as it exist and reporting of the finding. According to Kerlinger (1995), this research design is not only limited to a fact finding mission, but can also result in formulation of valuable knowledge principals as well as solution to significant problems. Descriptive research survey is a method that collects data by way of interviews and questionnaire administration to a selected sample. The research design was mixed method that integrates both the qualitative and quantitative designs, this alienate the case scenario of mobile technology innovation and its effect on demand for rental space from a particular to a generalized perspective.

## 3.3 Location of study

The study was conducted in Sarit Centre, a shopping mall located in Westland's neighbourhood in Nairobi County. The Sarit Centre is one of the largest shopping malls in East Africa, and was the first enclosed shopping mall in the country when it opened in 1983 (Sarit Centre, 2016). It houses over 500,000 square feet of space occupied by a diversity of businesses. The Sarit Expo Centre is a popular venue for international exhibitions as well as private functions and banquets.

ST. PAUL'S UNIVERSITY

Over 25,000 daily (The New Economy, 2014) visitors come to the Centre every day. Sarit Centre is an interactive shopping mall that offers access to a range of supermarkets, stores, entertainment, service outlets, books and stationery, banks, flowers and gifts, electronic and accessories, fashion and apparel, footwear and luggage, jewellery and accessories, cosmetic and beauty, home appliances, professionals as well as health facilities. The presence of several businesses, mostly medium and micro business, presence of high customer traffic makes the location suitable to undertake this study.

### 3.4 Study population

The several shopping malls are the core of this study. To inform the study, the data were collected regarding business operations within the shopping malls.

### 3.5 Target population

Mugenda and Mugenda (2003) defines target population as being made up of the entire group of people or items a research is going to be carried out on before a sample size is selected. Business managers/owners in the 126 businesses (see Appendix 3 for a table showing businesses at Sarit Centre Mall) were targeted by this study. They were in a better position to reflect on the changes that have been taking place over time and how the mobile technology innovations had impacted the demand for rental space.

### 3.6 Sampling Size and Sampling frame

Sampling frame defines a list of the members of the population from which the study intends to select a sample from. In this research, the sampling frame consisted of the 126 businesses available at Sarit Centre Mall (Sarit Centre, 2016). A sample of managers in the businesses was selected randomly. The views from business managers provided an objective view of the situation at hand. As such, the sampling frame is composed of the business within Sarit Centre as will be represented by the business managers.

The sample size was obtained using Cochran's sample size formula, as explained in equation below. The formula work with an estimated population of 126 business managers and with a precision of +/-10%. Using the Cochran's sample size formula as shown;

ST PAUL'S UNIVERSITY

*Cochran's sample size formula;* $n_{0=}\frac{z^2\,pq}{e^2}$

Where **z** is the desired confidence level the area under the curve, **p** is the estimated proportion of the attribute in the population, **q** is the 1-p and **e** is the desired level of precision. In the research, the desired confidence level was 95%, the estimated proportion of the attitude was 0.5. The desired level of precision in the research was 10%.

Z=1.96

$$= \frac{(1.96)^2 * (0.5 \times 0.5)}{(0.1)^2} = 92$$

Therefore, for a population of 126, the required sample size is 92. The sample size was 92 respondents.

### 3.7 Sampling design

The research adopted a systematic random sampling from a list of businesses on Sarit Centre Shopping Mall website (Sarit Centre, 2016).

### 3.8 Data Collection and Research Instrument

The research used semi-structure questionnaire that were administered to the managers of the businesses at Sarit Centre mall. The questionnaire were structured in 3 main sections namely A: where the demographics of the business were assessed; B: based on a five Likert scale and open spaces for justification of the choices taken by the respondent. Data were gathered based on personal administered questionnaire. A packet of 92 survey instruments, were sent to businesses that have purposively been selected from the list of businesses. The respondents for this study were targeted to be the managers/owners of the businesses because they have had a chance to interact with mobile technology and its application in their working position.

ST. PAUL'S UNIVERSITY

### 3.8.1 Validity and reliability

Holloway and Wheeler (2002) indicated pilot studies as pre-test processes that are not usually used in qualitative studies, but are used by novice researchers who often conduct interviews to get used to the type of data collection for their research. Newing (2011) on the other hand indicated that the importance of field piloting cannot be overemphasized; you would find that there are questions that people fail to understand or interpret in different ways, places in the questionnaire where they are not sure where to go next, and questions that turn out simply not to elicit useful information. Polit and Beck (2010) defined a pilot study as a trial run, done in preparation for a major study.

The study ensured validity and reliability through a pilot study, business manager from 126 businesses were involved. The questionnaire were administered and distributed to randomly selected business managers, their responses were input into the Statistical Package for Social Sciences (SPSS) version 20 of 2012, Cronbach's alpha was used to assess reliability of the questionnaire. Cronbach's alpha is a reliability coefficient that indicates how well the items in a questionnaire positively correlated to each other. The closer Cronbach's alpha is to 1 determines the degree of internal consistency (Sekaran, 2003).

### 3.8.2 Ethical Cconsiderations

The research activity targeted to collect data about the relationship between mobile technology application and the demand for rentals spaces in Nairobi shopping malls. The researcher informed the participants the reason for collecting data from them. The research stacked to the mandate of the research to ensure that it is be open about any issue raised by the participants to ensure there was no coercion to participate. In collection and analysis of the data as well as reporting, the research ensured anonymity of the participants so that they may feel alright to participate. The research ensures anonymity, that the tool for data collection omitted the question about respondents' name of the participants or the name of the business. Before the respondents filled the questionnaire, they were first issued with a copy of informed consent which was the assurance for the ethical conduct of the researcher in the process of administration of the study. The research also avoided collection of personal data that describe the participants in ways that other people can identify them. The data of this research was for academic use and not any commercial work.

ST. PAUL'S UNIVERSITY

### 3.9 Data analysis

The analysis of the data was done in such a way that it was possible to generalise the result. The collected data was processed and analysed to facilitate answering of the research questions. Qualitative and quantitative data analysis methods were used. Qualitative method was adopted in handling data collected from in-depth interviews while quantitative method was used to handle data from the structured and open ended questions of the questionnaires

To qualify the mobile technology innovation as having effect on demand for rental space, the study tracked changes that have happened on business environment as a result of adoption of mobile technology. To answer the research questions, multiple regressions was used to determine the relationship between the dependent variables and the independent variables. As a result Regression analysis was used to link the three categories of independent variables with the demand for rental space.

$$y = \beta_i \sum_{i=0}^{3} X_i + \varepsilon$$

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \varepsilon$$

y= Demand for rental spaces,

$\beta_i$ =Coefficient of regression i=0, 1, 2, 3

$X_i$ = Mobile Technology Innovations Variable Indicators

$X_1$= Reducing Cost of Mobile Technology;

$X_2$= Perceived Usefulness of Mobile Technology;

$X_3$= Perceived Ease of Use of Mobile Technology

#### 3.9.1 Normality Test

To ensure reliability of the results, Q-Q plot was carried out on the collected data sets: The Q-Q plot is a graphical tool used to help assess if a set of data possibly came from some theoretical distribution such as a normal or exponential. For example, if we run a statistical analysis that assumes that dependent variable is normally distributed, we can use a Normal Q-Q plot to check that assumption. It's just a visual check, not an air-tight proof, so it is somewhat subjective. It allows to see at-a-glance if assumption is credible and if not, how the assumption is violated and what data points contribute to the violation.

ST. PAUL'S UNIVERSITY

# CHAPTER FOUR

## RESEARCH FINDINGS AND DISCUSSION

### 4.1 Introduction

The chapter presents analysis and interpretation of the study as set out in the research methodology. The study outcomes were presented to examine the effects of mobile technology innovations on demand for rental space in shopping malls. The data was collected by use of questionnaires as the research instrument. The questionnaires were in line with the objectives of the study. The findings from the study are presented using different descriptive statistics, which included frequencies, percentages, means and standard deviations. The data are presented using graphs and frequency tables.

### 4.1.1 Response Rate

A total of 92 questionnaires were distributed out of which 67 questionnaires were return giving a response rate of 73%. This response was considerable and representative of the population. This response was good enough and representative of the population and conforms to Mugenda and Mugenda (2003) stipulation that a response rate of 70% and above is an excellent representation of the population. These findings are well illustrated in the Figure 4.1.

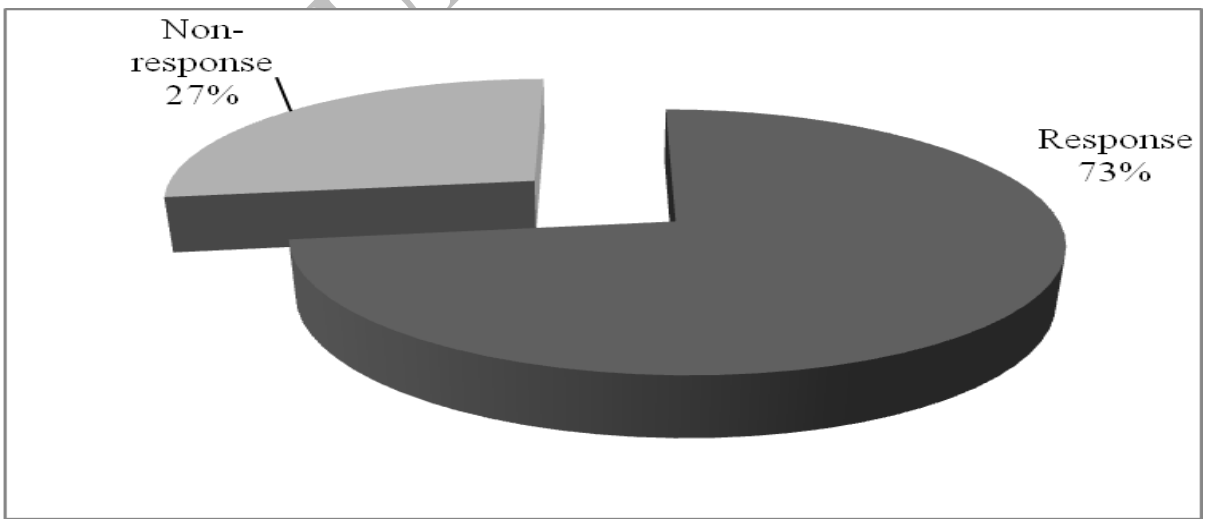



*Figure 4.1: Response Rate (Researcher, 2016)*

### 4.2 General Information

UL'S UNIVERSITY

This section shows the respondent's general information as regards to their type of business, position in the company, period of time in the business, mobile phone, access and use of mobile applications, period of time using mobile applications for business operations, transactions based on mobile platform and threat by businesses operated in online malls.

### 4.2.1 Type of Business

The respondents were asked to indicate the type of business they operate at the mall. The findings are shown in Figure 4.2

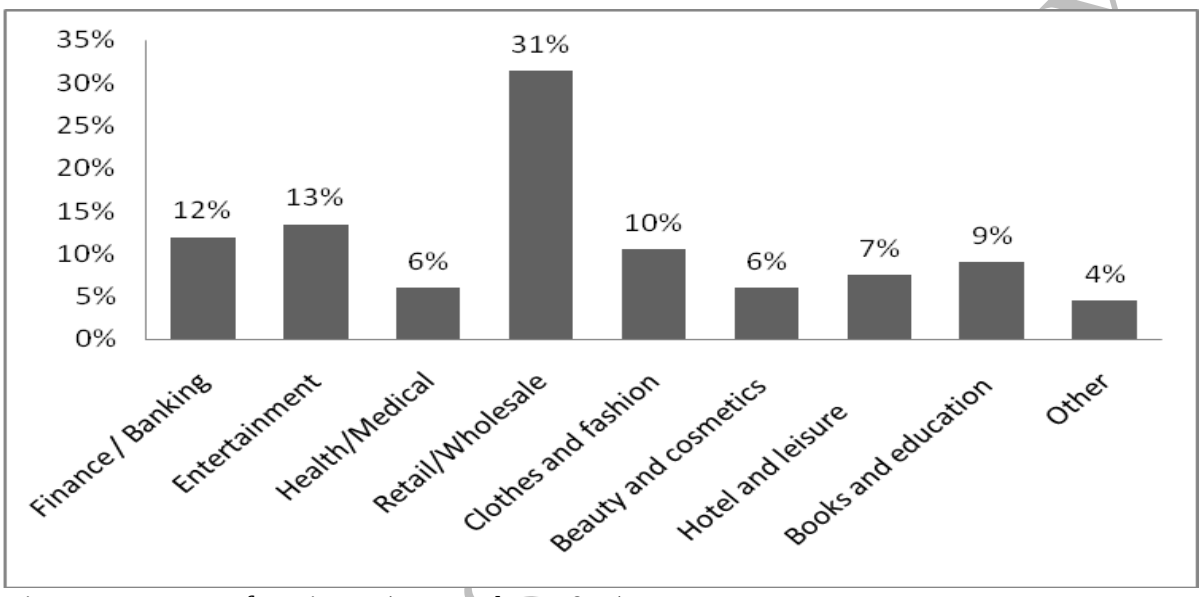



*Figure 4.2: Type of Business (Researcher, 2016)*

As shown in table 4.1, 12% of the businesses were finance and banking, 13% were entertainment, 6% were health/medical, 31% were retail/wholesale, 10% were clothes and fashion, 6% were beauty and cosmetic, 7% were hotel and leisure, 9% were books and education and 4% were other business. This shows that the mall had a variety of businesses thus they provide relevant and reliable information on the mobile technology innovations they used.

### 4.2.2 Position in the Company

The respondents were asked to indicate their positions in their companies and the findings are shown in Figure 4.3.

ST. PAUL'S

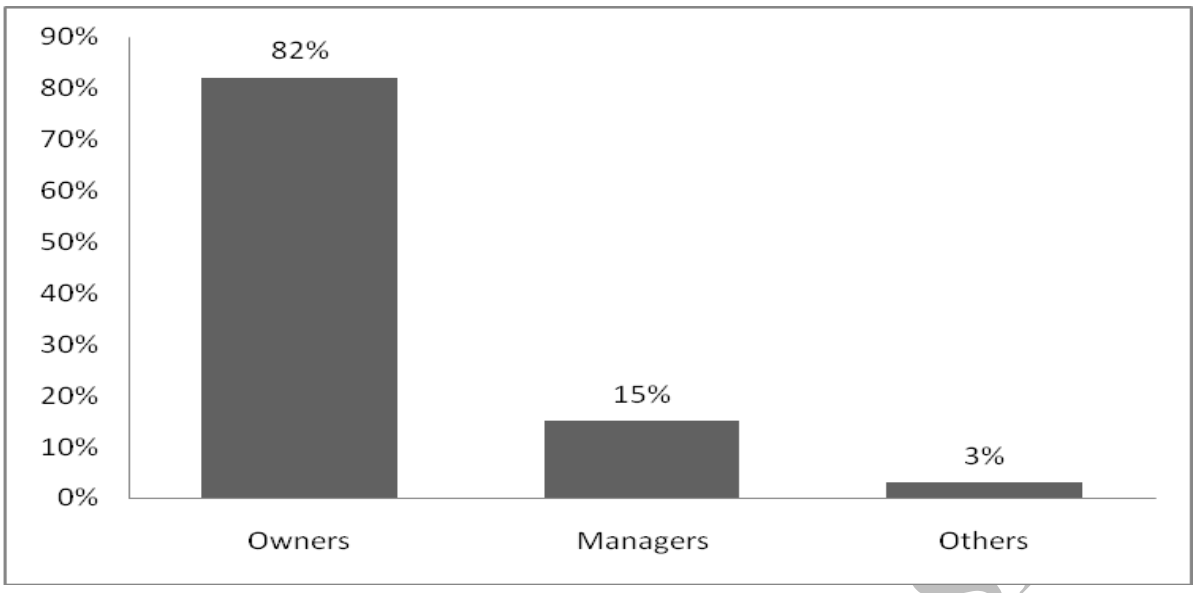



*Figure 4.3: Position in the Company (Researcher, 2016)*

From the findings in Figure 4.2, majority 82% of the respondents were the owners of the companies, 15% were managers and 3% were others who included business analyst and demand forecast. This shows that owners and managers were conversant with the mobile technology innovations they use in their day to day activities thus provided reliable information for the study. The business owners are also likely to give a true account on how the business has transformed due to luck or integration of mobile technology innovations in their operations.

### 4.2.3 Period of Time in the Business

The respondents were required to indicate the period of time they have been in their business. The findings are shown in Figure 4.4.

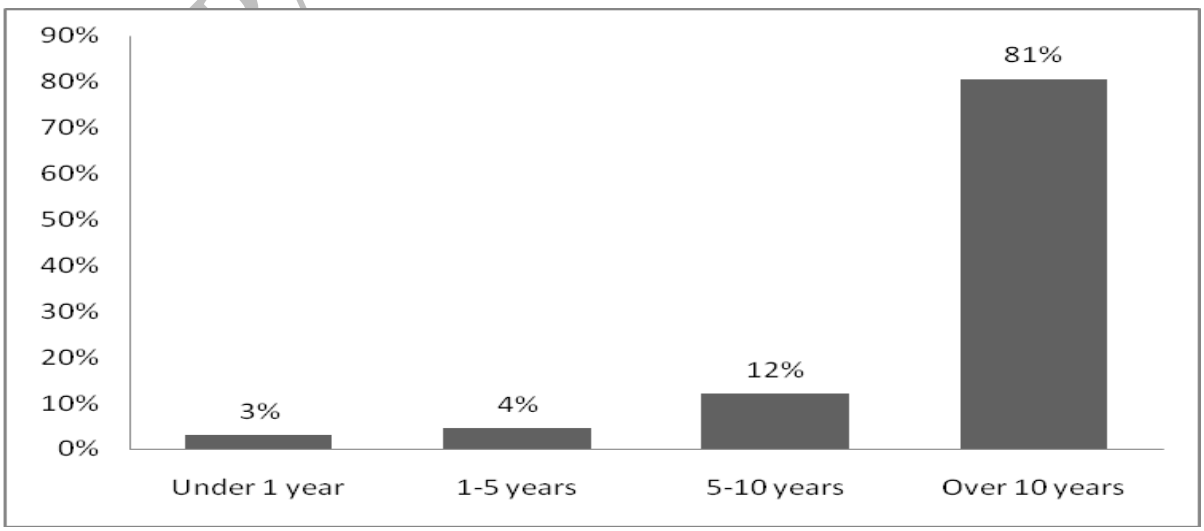



*Figure 4.4: Period of Time in the Business (Researcher, 2016)*

From the findings in Figure 4.3, 3% of the respondents indicated that they have been in business for a period of less than one year, 5% for a period between 1-5 years, 12% for a period of 5-10 years and 80% for over 10 years. This shows that the businesses had been in operation for a longer period thus have clear understanding on the effects of mobile technology innovations on demand for rental space in shopping malls.

### 4.2.4 Mobile Phone

The respondents were asked to indicate whether they own or their businesses owned a mobile phone. The findings are shown in Figure 4.5.

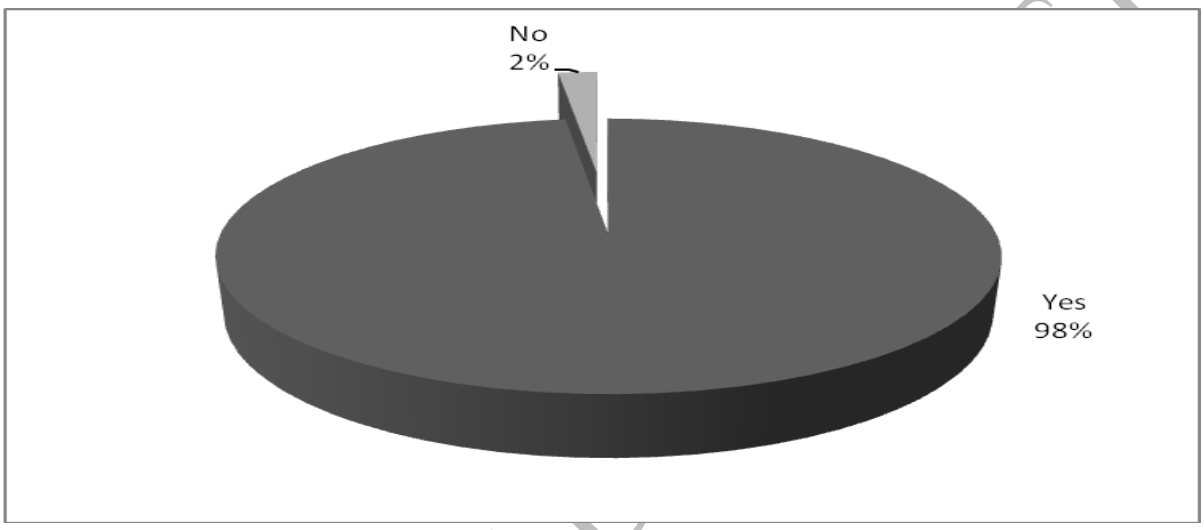



*Figure 4.5: Mobile Phone (Researcher, 2016)*

From the findings, 98% of the respondents indicated that they had mobile phones and 2% indicated otherwise. This shows that the businesses had acquired mobile phones in order to cope with the mobile technology innovations thus the information they provided were reliable for the study.

### 4.2.5 Access and Use of Mobile Applications

The respondents were asked to indicate the extent to which they or their business access and use mobile applications. The findings are shown in Figure 4.6.

ST. PAUL'S UNIVERSITY

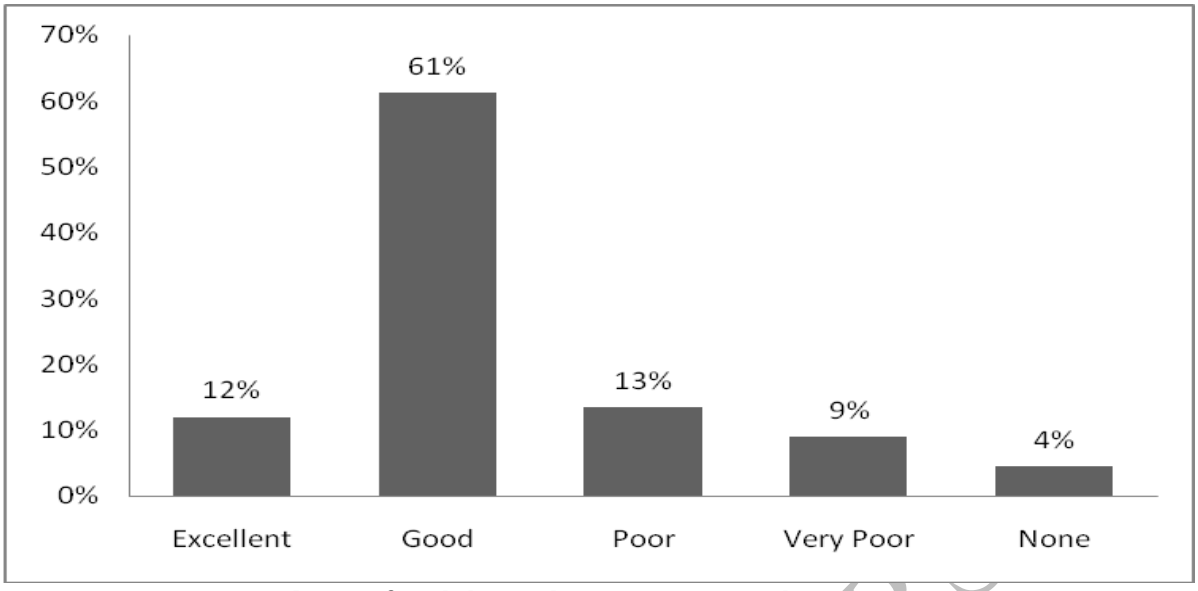



*Figure 4.6: Access and Use of Mobile Applications (Researcher, 2016)*

As indicated in Figure 4.6, 12% of the respondents indicated that they were excellent in access and use of mobile application, 62% were good, 13% were poor, 9% were very poor and 4% indicated none. This shows that the respondents/ business were able to access and use the mobile applications thus provided relevant information for the study.

### 4.2.6 Period of Using Mobile Application for Business Operations

The study sought to determine the period of time respondents have been using mobile application for business operations. The findings are shown on Figure 4.7.

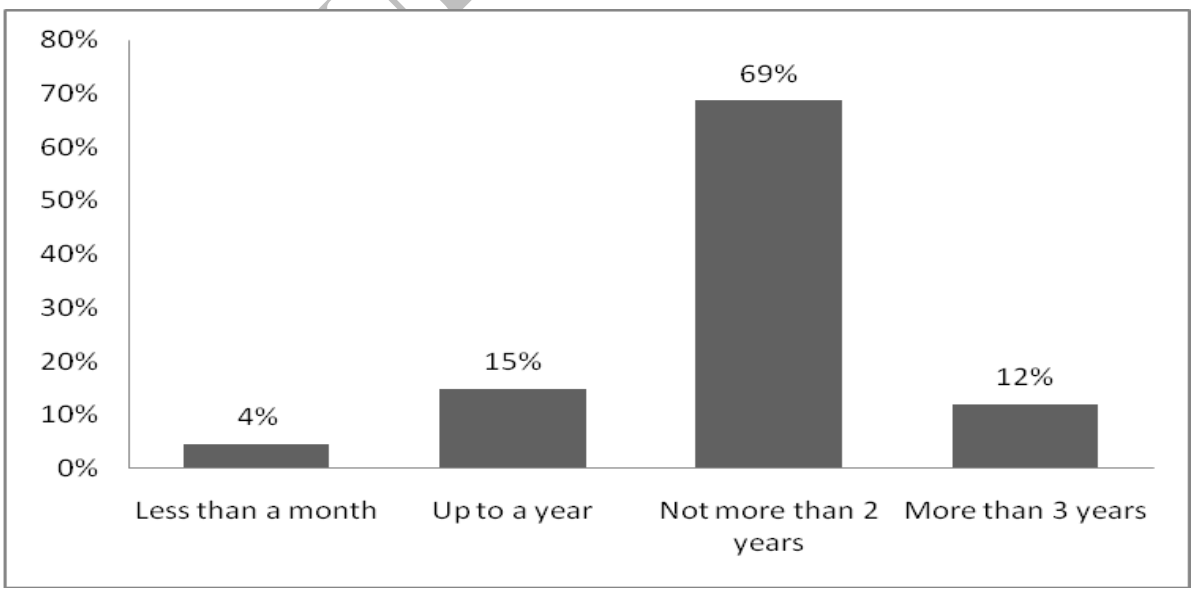



*Figure 4.7: Period of Using Mobile Application for Business Operations (Researcher, 2016)*

The results on Figure 4.7 showed that 4% of the respondents had been using mobile application for business for less than a month, 15% for up to a year, 69% for not more than 2 years and 12% for more than 3 years. This shows that the use of mobile applications in business is a new technology innovation getting entry in the businesses thus information collected are relevant for the study.

### 4.2.7 Transactions Based on Mobile Platform

The study sought to determine whether the business models allows for transactions based on mobile platform. The findings are shown in Figure 4.8.

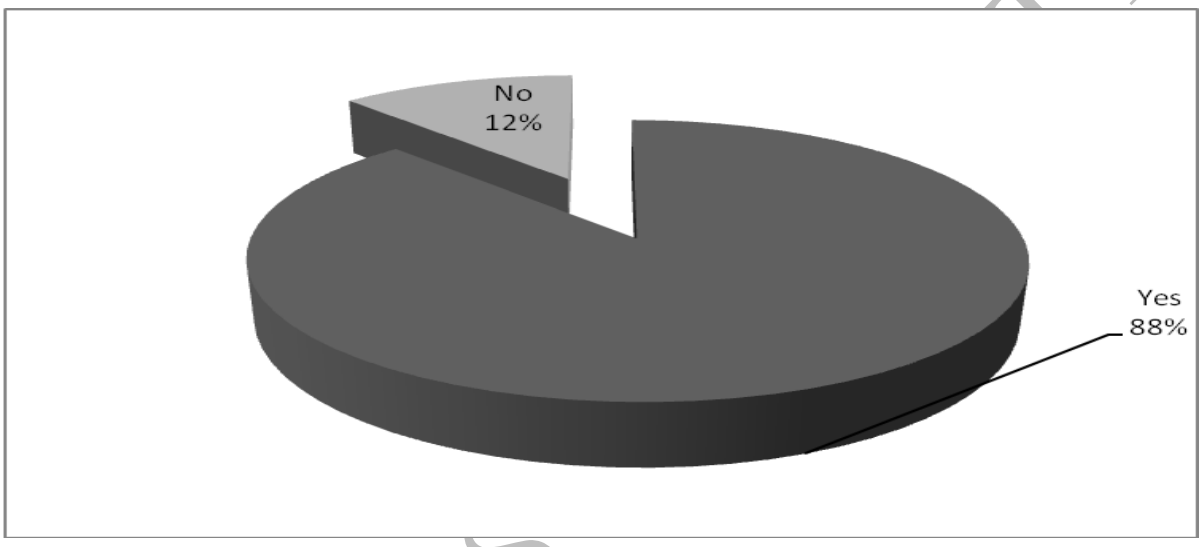



*Figure 4.8: Transactions Based on Mobile Platform (Researcher, 2016)*

From the findings 88% of the respondents indicated that their business models allows for transactions based on mobile platform while 12% indicated no.

The study further sought to determine what kind of transactions businesses conduct over the mobile phone. The findings are shown in Table 4.1.

| | **Frequency** | **Percent** |
|---|---|---|
| Payment | 61 | 92 |
| Advertising | 56 | 83 |
| Order Processing | 11 | 17 |
| Customer Education | 15 | 23 |
| Promotions | 37 | 56 |
| Customer updates | 42 | 62 |

*Table 4.1: Transaction Conducted over the Mobile Phone (Researcher, 2016)*

PAUL'S

As shown in Table 4.3, 92% of the respondents indicated that they conduct payment transactions over mobile phone, 83% conduct advertising, 17% conduct order processing, 23% conduct customer education, 56% conduct promotions and 62% conduct customer updates. This shows that the businesses were conducting most of the transactions over the mobile phones thus reliable information was obtained from the respondents.

### 4.2.8 Mobile Phones and Counter Transactions

The study sought to determine whether the customers in their businesses who undertake transaction prefer mobile phones or over the counter. The findings are shown in Figure 4.9.

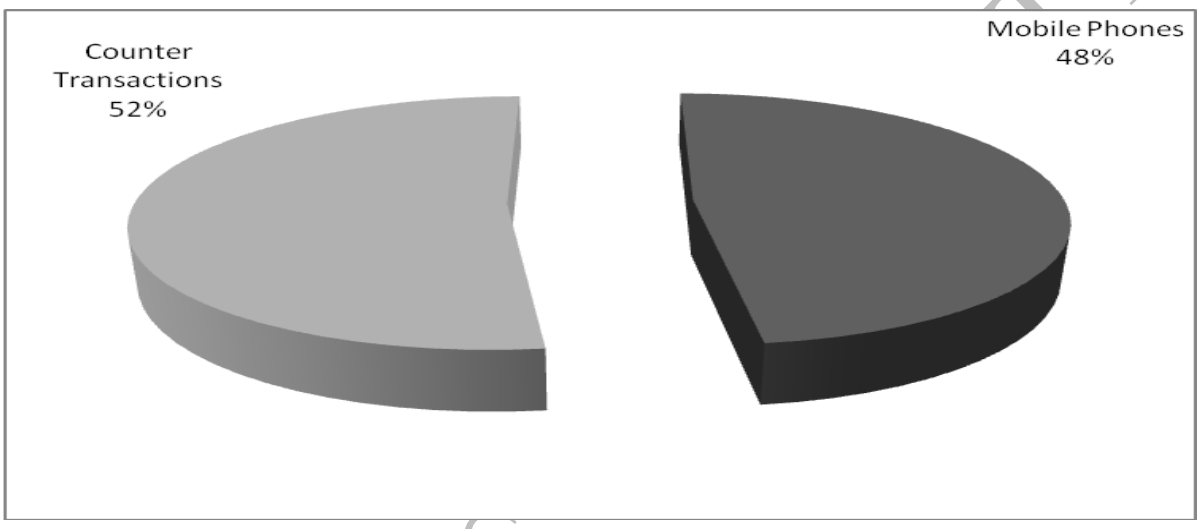



*Figure 4.9: Mobile Phones and Counter Transactions (Researcher, 2016)*

From the findings, 52% of the respondents indicated that their customers prefer counter transaction and 48% prefer mobile phone transactions.

The respondents were further asked whether it was possible to fulfil all direct transaction carried out over the counter using the mobile phone application. The findings are shown in Figure 4.10.

ST. PAUL'S UNIVERSITY

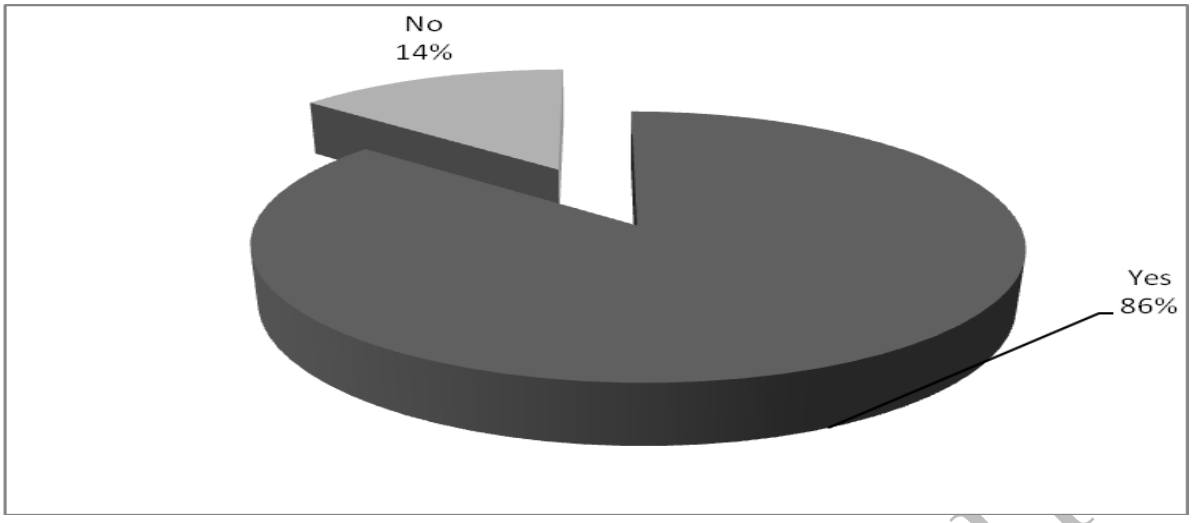



*Figure 4.10: Direct Transaction Carried Out Over the Counter Using the Mobile Phone Application (Researcher, 2016)*

### 4.2.9 Threats by Businesses Operating in Online Malls

The respondents were asked to indicate whether they have lost business opportunity or threatened by businesses operated in online malls. The findings are shown in Figure 4.11.

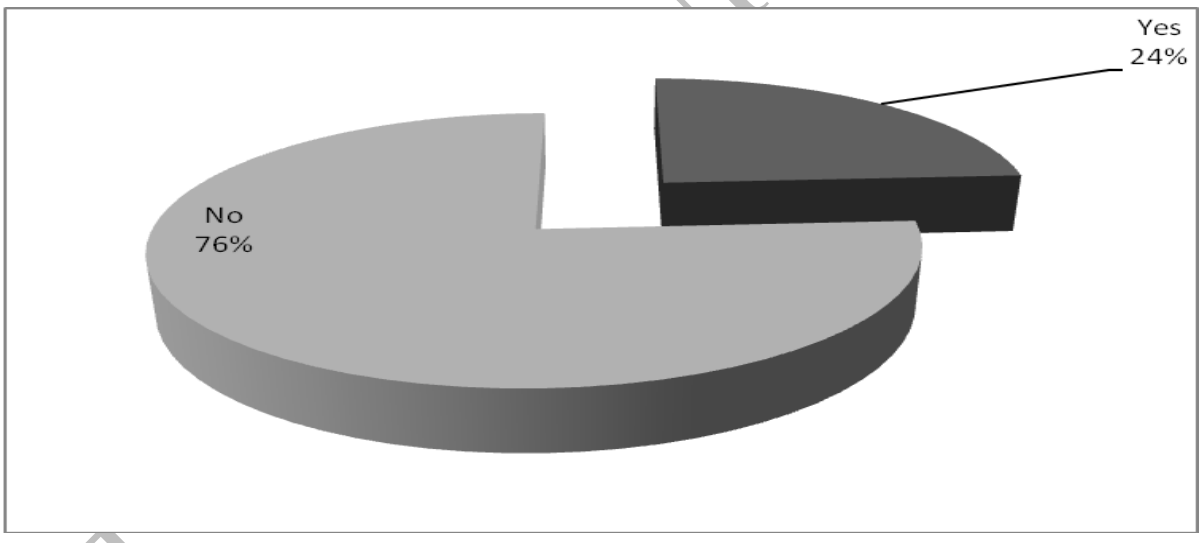



*Figure 4.11: Threats by Businesses Operating in Online Malls (Researcher, 2016)*

From the findings 76% of the respondents indicated that there were no threats from online malls and 24% were experiencing threats from online malls.

The study also sought to determine whether the business operates any other branch or franchise at different locations. The findings are shown in Figure 4.12

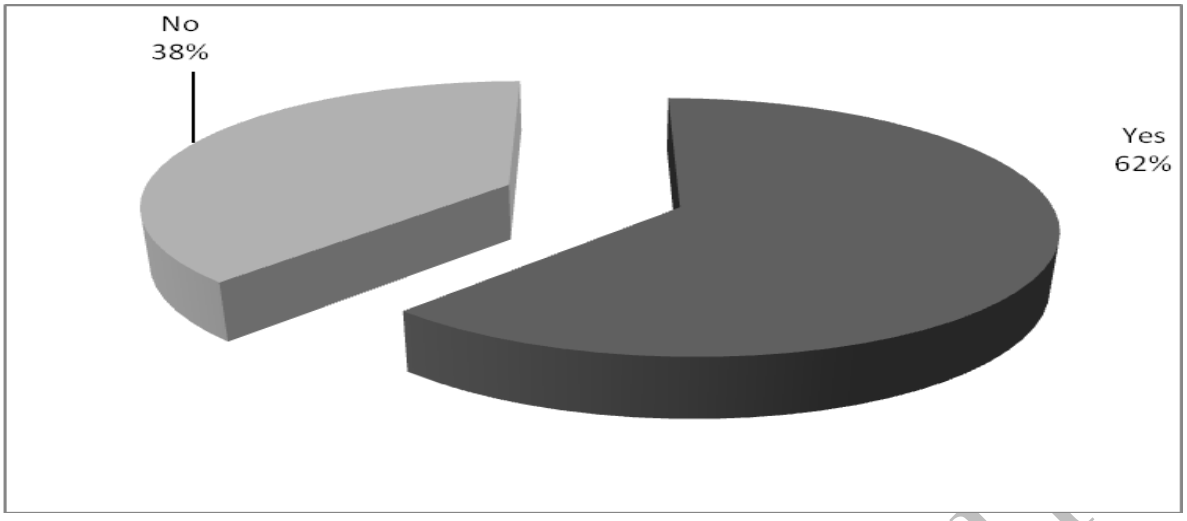



*Figure 4.12: Branches or Franchises at Different Locations (Researcher, 2016)*

The study found out that 68% of the businesses operate branches or franchises at different locations while 38% were only operating at the mall.

The respondents were also asked to indicate whether their branches or franchises at different locations were facing similar threats. The findings are shown in Figure 4.13.

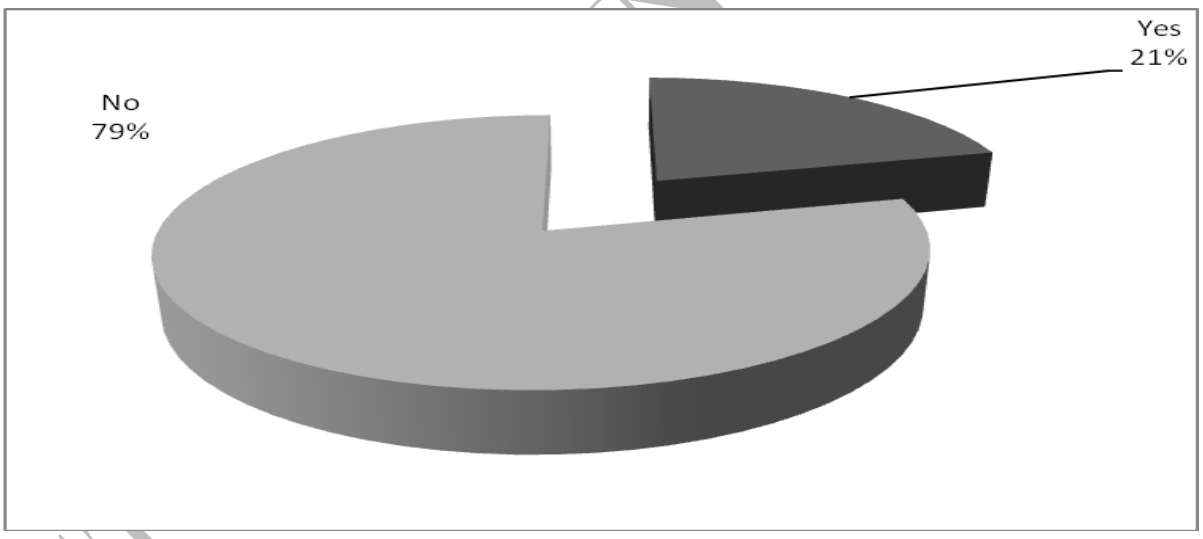



*Figure 4.13: Threat of Branches or Franchises at Different Locations (Researcher, 2016)*

The study found out that 21% of the branches or franchises at different locations were facing similar threats while 79% had no similar threats.

### 4.3 Demand for Display / Exhibition Space

Several statements on mobile technology on demand for display/exhibition space were identified and the respondents were required to indicate the extent to which they affects their

businesses. A Likert scale of 1-5 was used where 1= strongly disagree, 2 = disagree, 3= Uncertain, 4 = Agree and 5= strongly agree. From the responses mean and standard deviation was calculated for ease of interpretations. The findings are shown in the subsequent section.

### 4.3.1 The Effect of Reducing Cost of Mobile Technology on Demand for Display/Exhibition Space

Several statements on the effect of reducing cost of mobile technology on demand for display/exhibition space were identified and the respondents were required to indicate the extent to which it applies to their businesses. The findings are shown in Table 4.2.

| Statements | Mean | Std Dev |
|---|---|---|
| Reducing cost of mobile technology virtual displays/ online malls has led to reduced demand for exhibition and display space | 2.3186 | 0.94682 |
| Reducing cost of information sharing via mobile technology e.g. images and videos has led to reduced demand for display and exhibition space in malls | 3.2941 | 0.5493 |
| Minimal mobile technology setup and operational fees such as handset acquisition, connectivity, license and legal fees has led to reduced demand for display and exhibition space | 2.9631 | 0.8594 |

*Table 4.2: Effect of Reducing Cost of Mobile Technology on Demand for Display/Exhibition Space (Researcher, 2016)*

As shown in Table 4.2, reducing cost of mobile technology virtual displays/ online malls has led to reduced demand for exhibition and display space, this had a mean of 2.3186 and a standard deviation of 0.94682. This finding concurs with the finding of Clapp (1993) that customer mind-set shift is likely to affect the demand for rental spaces as many business owners seek more leverage from mobile application. Reducing cost of information sharing via mobile technology e.g. images and videos has led to reduced demand for display and exhibition space in malls had a mean of 3.2941 and a standard deviation of 0.5493 and minimal mobile technology setup and operational fees such as handset acquisition, connectivity, license and legal fees has led to reduced demand for display and exhibition space had a mean of 2.9631 and a standard deviation of 0.8594. It can be concluded that reducing cost of mobile technology has not significantly affected the demand for display/exhibition space as the respondents disagreed with the above statements as it can be seen from the low means ranging from 2.3186 to 3.2941. This finding concurs with that of

ST. PAUL'S UNIVERSITY

Thain & Skey (2015) that changing attitude towards the costs of such setup, aligned to business goals and objectives of the business will play a key role in getting many businesses to incline towards an integrated mobile technology setup for competitive advantage.

### 4.3.2 Effect of Perceived Usefulness of Mobile Technology on Demand for Display/Exhibition Space

Several statements on the effect of perceived usefulness of mobile technology on demand for display/exhibition space were identified and the respondents were required to indicate the extent to which it applies to their businesses. The findings are shown in Table 4.3.

| Statements | Mean | Std Dev |
|---|---|---|
| 24 hours access to business via mobile technology has led to reduced demand for exhibition and display space | 3.4186 | 1.0964 |
| Accessibility of business on virtual malls from any location has led to reduced demand for display and exhibition space | 3.6183 | 0.8943 |
| Secure payment processes e.g. via MPESA, Airtel Money and others has led to reduced demand for display and exhibition space | 2.8439 | 1.0568 |
| Mobile technology based order processing/fulfilment has led to reduced demand for display and exhibition space | 3.3546 | 0.8467 |
| Mobile based advertisement and short messages promotions has led to reduced demand for display and exhibition space in malls | 3.7915 | 0.7938 |
| Effective communication to both customers and suppliers through mobile technology has led to reduced demand for exhibition and display space in malls | 3.5167 | 0.8817 |

*Table 4.3: Effect of Perceived Usefulness of Mobile Technology on Demand for Display/Exhibition Space (Researcher, 2016)*

From the findings in Table 4.3, 24 hours access to business via mobile technology has led to reduced demand for exhibition and display space had a mean of 3.4186 with a standard deviation of 1.0964, accessibility of business on virtual malls from any location has led to reduced demand for display and exhibition space had a mean of 3.6183 with a standard deviation of 0.8943, secure payment processes e.g. via MPESA, Airtel Money and others has led to reduced demand for display and exhibition space had a mean of 2.8439 with a standard deviation of 1.0568, mobile technology based order processing/fulfilment has led to reduced demand for display and exhibition space had a mean of 3.3546 with a standard deviation of

ST. PAUL'S UNIVERSITY

0.8467, mobile based advertisement and short messages promotions has led to reduced demand for display and exhibition space in malls had a mean of 3.7915 with a standard deviation of 0.7938 and effective communication to both customers and suppliers through mobile technology has led to reduced demand for exhibition and display space in malls had a mean of 3.5167 with a standard deviation of 0.8817.

It can be concluded that perceived usefulness of mobile technology generally had moderate effects on demand for display/exhibition space as the respondents agreed with the above statements, this can be seen from the low means ranging from 2.8439 to 3.7915. this finding is consistent with Christensen, Baumann, Ruggles & Sadtler, (2006) that mobile phone is not only perceived as convenient but also its great accessibility, reduced transaction turnaround time, secure processes and global coverage

### 4.3.3 The Effect of Perceived Ease of Use of Mobile Technology on Demand for Display/Exhibition Space

Several statements on the effect of perceived ease of use of mobile technology on demand for display/exhibition space were identified and the respondents were required to indicate the extent to which it applies to their businesses. The findings are shown in Table 4.4.

| Statements | Mean | Std Dev |
|---|---|---|
| Ease of use of mobile technology attributed to simple language and menus on mobile technology has led to reduced demand for exhibition and display space in malls | 3.1863 | 0.7916 |
| Flexible and easy to use mobile applications has lowered the demand for display and exhibition space in malls | 3.4861 | 0.9758 |
| Simple operating procedures on mobile technology has affected the demand for display and exhibition space in malls | 3.3975 | 0.8671 |
| Reduced paperwork/ paperless offices has led to reduced demand for display and exhibition space in malls | 3.4816 | 0.7618 |

*Table 4.4: The Effect of Perceived Ease of Use of Mobile Technology on Demand for Display/Exhibition Space (Researcher, 2016)*

As shown in Table 4.4, ease of use of mobile technology attributed to simple language and menus on mobile technology has led to reduced demand for exhibition and display space in

ST. PAUL'S UNIVERSITY

malls had a mean of 3.1863 with a standard deviation of 0.7916, flexible and easy to use mobile applications has lowered the demand for display and exhibition space in malls had a mean of 3.4861 with a standard deviation of 0.9758, simple operating procedures on mobile technology has affected the demand for display and exhibition space in malls had a mean of 3.3975 with a standard deviation of 0.8671 and reduced paperwork/ paperless offices has led to reduced demand for display and exhibition space in malls had a mean of 3.4816 with a standard deviation of 0.7618. This finding is in line with that of CKB (2008) that the flexibility in terms of phone functionality has made it consistent with existing user expectations. This aspect has seen mobile phone application penetrate every corners of Kenya.

### 4.4 Demand for Over the Counter Transactions

Several statements on mobile technology on demand for over the counter transactions were identified and the respondents were required to indicate the extent to which if affects their businesses. A Likert scale of 1-5 was used where 1= strongly disagree, 2 = disagree, 3= Uncertain, 4 = Agree and 5= strongly agree. From the responses mean and standard deviation was calculated for ease of interpretations. The findings are shown in the subsequent section.

#### 4.4.1 The Effect of Reducing Cost of Mobile Technology on Demand for Over the Counter Transactions

Several statements on the effect of reducing cost of mobile technology on demand for over the counter transactions were identified and the respondents were required to indicate the extent to which it applies to their businesses. The findings are shown in Table 4.5.

| Statements | Mean | Std Dev |
|---|---|---|
| Reducing cost of mobile technology virtual space/malls for displays via mobile technology has led to reduced demand for over the counter transactions | 4.1586 | 0.7184 |
| Reducing cost of information sharing via mobile technology e.g. and videos has led to reduced demand for over the counter transactions | 3.3648 | 0.8164 |
| Minimal mobile technology setup and operational fees such as handset acquisition, connectivity, license and legal fees has led to reduced demand for over the counter transactions | 3.5184 | 0.8473 |

ST. PAUL'S UNIVERSITY

*Table 4.5: Effect of Reducing Cost of Mobile Technology on Demand for Over the Counter Transactions (Researcher, 2016)*

From the finding in Table 4.5, reducing cost of mobile technology virtual space/malls for displays via mobile technology has led to reduced demand for over the counter transactions had a mean of 4.1586 with a standard deviation of 0.7184, reducing cost of information sharing via mobile technology e.g.  and videos has led to reduced demand for over the counter transactions had a mean of 3.3648 with a standard deviation of 0.8164 and minimal mobile technology setup and operational fees such as handset acquisition, connectivity, license and legal fees has led to reduced demand for over the counter transactions had a mean of 3.5184 with a standard deviation of 0.8473. This finding concurs with Clapp (1993) that customer mind-set shift is likely to affect the demand for rental spaces as many business owners seek more leverage from mobile application

### 4.4.2 Effect of Perceived Usefulness of Mobile Technology on Demand for Over the Counter Transactions

Several statements on the effect of perceived usefulness of mobile technology on demand for over the counter transactions were identified and the respondents were required to indicate the extent to which it applies to their businesses. The findings are shown in Table 4.6.

| Statements | Mean | Std Dev |
|---|---|---|
| 24 hours access to business via mobile technology has led to reduced demand for over the counter transactions | 3.7816 | 0.8469 |
| Accessibility of business on virtual malls from any location has led to reduced demand for over the counter transactions | 3.6187 | 0.8116 |
| Secure payment processes e.g. via MPESA, Airtel Money and others has led to reduced demand for over the counter transactions | 3.4693 | 0.9184 |
| Mobile technology based order processing/fulfilment has led to reduced demand for over the counter transactions | 3.8915 | 1.0816 |
| Mobile based advertisement and short messages promotions has led to reduced demand for over the counter transactions | 3.9172 | 1.1286 |
| Effective communication to both customers and suppliers through mobile technology has led to reduced demand for over the counter transactions | 3.7583 | 0.8417 |

ST. PAUL'S UNIVERSITY

*Table 4.6: Effect of Perceived Usefulness of Mobile Technology on Demand for Over the Counter Transactions (Researcher, 2016)*

As indicated in Table 4.6, 24 hours access to business via mobile technology has led to reduced demand for over the counter transactions had a mean of 3.7816 with a standard deviation of 0.8469, accessibility of business on virtual malls from any location has led to reduced demand for over the counter transactions had a mean of 3.6187 with a standard deviation of 0.8116, secure payment processes e.g. via MPESA, Airtel Money and others has led to reduced demand for over the counter transactions had a mean of 3.4693 with a standard deviation of 0.9184, mobile technology based order processing/fulfilment has led to reduced demand for over the counter transactions had a mean of 3.8915 with a standard deviation of 1.0816, mobile based advertisement and short messages promotions has led to reduced demand for over the counter transactions had a mean of 3.9172 with a standard deviation of 1.1286 and effective communication to both customers and suppliers through mobile technology has led to reduced demand for over the counter transactions had a mean of 3.7583 with a standard deviation of 0.8417.

It can be concluded that the mean ranges from 3.4693 to 3.9172 showing that the respondents were in agreement with the statements which is consistent with the finding of Babb & Abdullat (2012) that display and exhibition require people to walk to the physical places but the introduction of the mobile technology has led people to avoid the mostly congested areas but access information through their mobile gadgets.

### 4.4.3 The Effect of Perceived Ease of Use of Mobile Technology on Demand for Over the Counter Transactions

Several statements on the effect of perceived ease of use of mobile technology on demand for over counter transactions were identified and the respondents were required to indicate the extent to which it applies to their businesses. The findings are shown in Table 4.7.

ST PAUL'S UNIVERSITY

| Statements | Mean | Std Dev |
|---|---|---|
| Ease of use of mobile technology attributed to simple language and menus on mobile technology has led to reduced demand for over the counter transactions | 3.5168 | 1.0219 |
| Flexible and easy to use mobile applications has lowered the demand for display and exhibition space in malls | 3.7486 | 0.8138 |
| Simple operating procedures on mobile technology has affected the demand for over the counter transactions | 3.7718 | 0.9186 |
| Reduced paperwork/paperless offices has led to reduced demand for display and exhibition space in malls | 3.4861 | 0.7319 |

*Table 4.7: Effect of Perceived Ease of Use of Mobile Technology on Demand for Over the Counter Transactions (Researcher, 2016)*

From the findings in Table 4.7, ease of use of mobile technology attributed to simple language and menus on mobile technology has led to reduced demand for over the counter transactions had a mean of 3.5168 with a standard deviation of 1.0219, Flexible and easy to use mobile applications has lowered the demand for display and exhibition space in malls had a mean of 3.7486 with a standard deviation of 0.8138, simple operating procedures on mobile technology has affected the demand for over the counter transactions had a mean of 3.7718 with a standard deviation of 0.9186 and reduced paperwork/paperless offices has led to reduced demand for display and exhibition space in malls had a mean of 3.4861 with a standard deviation of 0.7319. This finding is in agreement with that of Gewald & Leliveld, (2012) that this it has become a strategic option reducing the number of over the counter or retail based transactions as business owners adopt mobile platforms to reach for a larger market.

### 4.5 Relationship between Mobile Technology Innovations and Demand for Rental Space

Several statements on the relationship between mobile technology innovations and demand for rental space were identified and the respondents were required to indicate the level of satisfaction with the mobile technology innovation indicators. A scale of 1-5 where 1= Fully Dissatisfied, 2 = Dissatisfied, 3= Indifferent, 4 = Satisfied and 5= Fully Satisfied was used. From the responses mean and standard deviation were calculated the findings are shown in Table 4.8.

ST. PAUL'S UNIVERSITY

| Statements | Mean | Std Dev |
|---|---|---|
| Mobile payment processing | 3.8643 | 0.8161 |
| Mobile order processing | 4.2351 | 0.9135 |
| Mobile advertisement/ promotion | 3.9738 | 0.8817 |
| Business profitability | 3.1086 | 1.0461 |
| Increased market share | 3.4184 | 1.2013 |
| Customer growth | 3.6174 | 0.9168 |

*Table 4.8: Relationship between Mobile Technology Innovations and Demand for Rental Space (Researcher, 2016)*

As shown in Table 4.8, mobile payment processing had a mean of 3.8643 and a standard deviation of 0.8161, mobile order processing had a mean of 4.2351 and a standard deviation of 0.9135, mobile advertisement/ promotion had a mean of 3.9738 and a standard deviation of 0.8817, business profitability had a mean of 3.1086 and a standard deviation of 1.0461, Increased market share had a mean of 3.4184 and a standard deviation of 1.2013 and customer growth had a mean of 3.6174 and a standard deviation of 0.9168. This finding is in agreement with Dyer, Gregersen and Christensen (2011) that innovation has the power to revolutionise any industry and produce increased benefits.

### 4.5.1 Use of Mobile Phone for Transacting

The respondents were required to indicate whether they feel the need to add or decrease the size of their rental space now or in future as a result of use of mobile phone for transacting. The findings are shown in Figure 4.9.

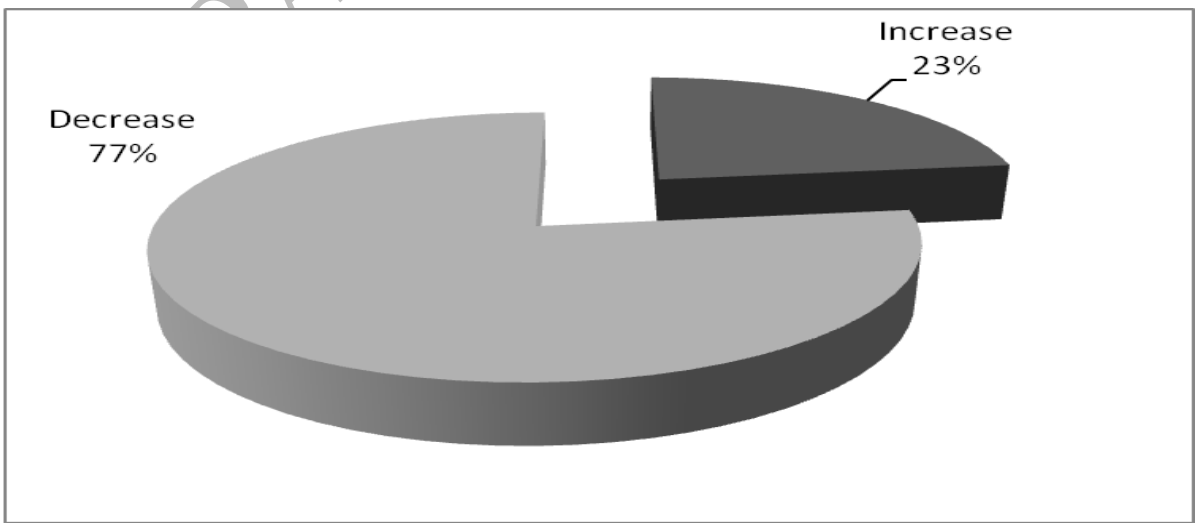



*Figure 4.14: Use of Mobile Phone for Transacting (Researcher, 2016)*



PAUL'S UNIVERSITY

As shown in Figure 4.9, 77% of the respondents feel the need to decrease the size of their rental space while 23% feel they should add. Following increased use of mobile phone for transacting, Virtual operations have been enabled therefore the current outlet is mainly used for storage and display. Otherwise a good proportion of businesses have been grown through use of mobile phone for transacting.

### 4.6 Normal Q-Q plot

The study sought to assess if the set of data possibly came from some theoretical normal distribution for the variables reducing cost, perceive usefulness and perceived ease. The findings are shown in Figure 4.13.

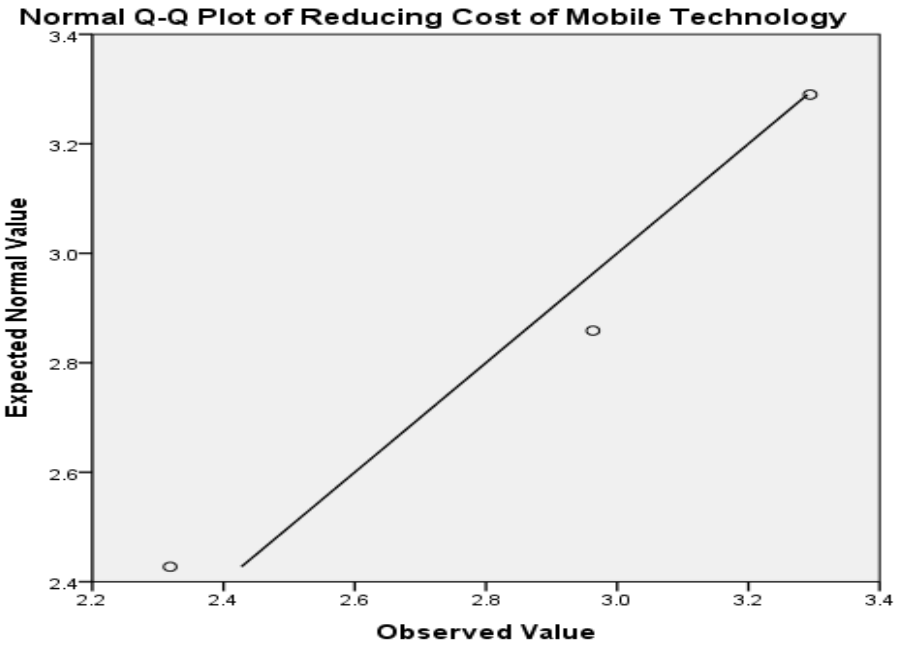



*Figure 4.15: Q-Q Plot for Reducing Cost of Mobile Technology (Researcher, 2016)*

From the findings on Figure 4.13 shows that the plots lies in a straight line. Because the circles are consistently below the line, then above it, then below it, the skewing is to the right.

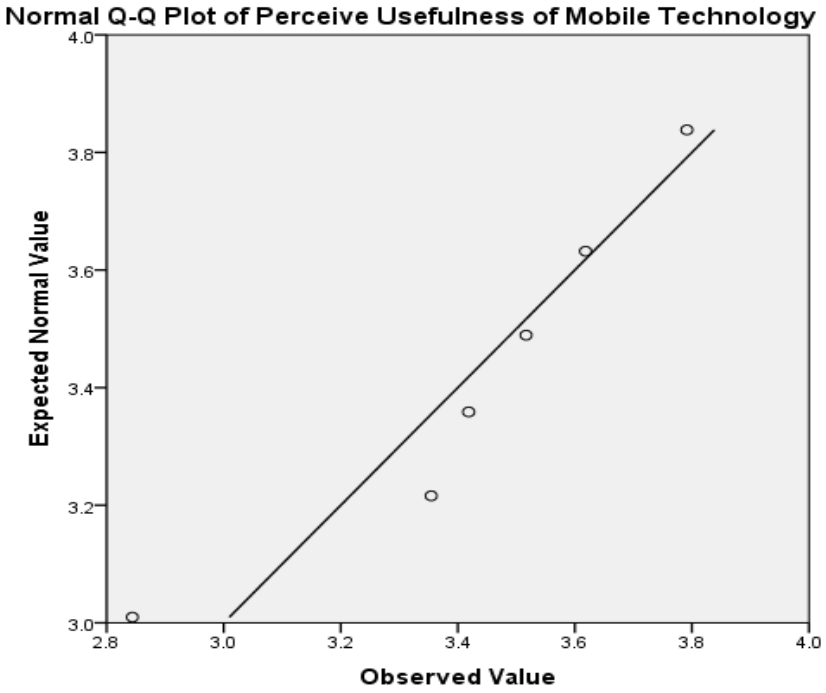



*Figure 4.16: Q-Q Plot of Perceive Usefulness of Mobile Technology (Researcher, 2016)*

As shown on Figure 4.14 there's a definite curve to this plot, with circles staying consistently below the line, then consistently above it. These data are skewed, and because the pattern is below the line--then above--then below, the skewing is to the left.

Figure 4.17: Q-Q Plot of Perceived Ease of Use of Mobile Technology

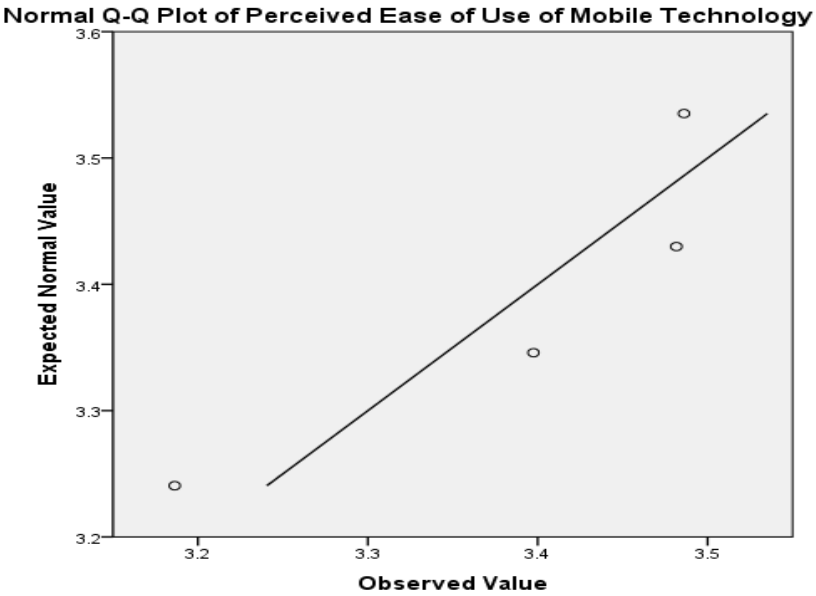



*Figure 4.18: Q-Q Plot of Perceived Ease of Use of Mobile Technology (Researcher, 2016)*

As shown on Figure 4.15 the circles cross the line two times indicates that the hump is not the right shape for these data to be normal. The fact that the pattern is below the line-above-below-above" indicates that the hump is in fact too wide for normality.

These stages of conducting normality explored include visualizing shape, detection of centrality and verifying normality of distribution of research data. All the graphs passed the normal tests. Therefore, the study concludes that to a large extent, data was fairly normal.

### 4.7 Regression Analysis

Regression analysis was conducted to determine how reducing cost of mobile technology, perceive usefulness of mobile technology and perceived ease of use of mobile technology relates to the demand for rental spaces. The statistical package for social sciences (SPSS) was used to code, enter and compute the measurements of the multiple regressions for the study.

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | 0.327 | 0.107 | 0.102 | 0.501 |

*Table 4.9: Regression Model (Researcher, 2016)*

Table 4.9 shows a model summary of regression analysis between three independent variables reducing cost of mobile technology, perceive usefulness of mobile technology and perceived ease of use of mobile technology and dependent variable the demand for rental spaces. The value of R was 0.327; the value of R square was 0.107 and the value of adjusted R square was 0.102. From the findings, 10.7% of changes in the demand for rental spaces were attributed to the three independent variables in the study. Positivity and significance of all values of R shows that model summary is significant and therefore gives a logical support to the study model.

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | 11.3 | 3 | 3.767 | 2.516 | .0367[b] |
| Residual | 94.35 | 63 | 1.497 | | |
| **Total** | **105.65** | **66** | | | |

*Table 4.10: ANOVA (Researcher, 2016)*

ANOVA statistics of the processed data at 5% level of significance shows that the value of calculated F is 2.516 and the value of F critical at 5% level of significance was 1.96 Since F



ST. PAUL'S UNIVERSITY

calculated is greater than the F critical (2.516>1.96), this shows that the overall model was significant.

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 3.169 | 4.519 | | .701 | .046 |
| Reducing Cost | .580 | .474 | .872 | 1.225 | .045 |
| Perceive Usefulness | .103 | .771 | .081 | .133 | .006 |
| Perceived Ease of Use | .802 | 1.802 | .360 | .445 | .000 |

*Table 4.11: Coefficients (Researcher, 2016)*

From the regression findings, the substitution of the equation:

Y=3.169+0.580+0.103+0.802

Where Y is the demand for rental spaces, $X_1$ is reducing cost of mobile technology, $X_2$ is perceive usefulness of mobile technology and $X_3$ is the perceived ease of use mobile technology.

From the findings of the regression analysis if all factors (reducing cost of mobile technology, perceive usefulness of mobile technology and perceived ease of use of mobile technology) were held constant, demand for rental spaces of the companies would be at 3.169.

The data findings analysed also shows that taking all other independent variables at zero, a unit increase in reducing cost would lead to an increase in the demand for rental spaces by 0.580. An increase in the perceive usefulness would lead to an increase in the demand for rental spaces by 0.103. An increase in the perceived ease of use would lead to an increase in the demand for rental spaces by 0.802.

At 5% level of significance and 95% level of confidence, reducing cost had a 0.045 level of significance, perceive usefulness had a 0.006 level of significance, and perceived ease of use showed a 0.000 level of significant hence the most significant factor is perceived ease of use.

ST. PAUL'S UNIVERSITY

# CHAPTER FIVE

# SUMMARY, CONCLUSIONS AND RECOMMEDATIONS

## 5.1 Introduction

This chapter presents the summary of the key data findings and draws conclusions from the findings based on the objectives. The Chapter also presents the recommendations made from the findings. The purpose of this study was to examine the effects of mobile technology innovations on demand for rental space in shopping malls. The objectives of the case study included; to investigate how reducing cost of mobile technology affect demand for rental space in shopping malls; to establish how perceived usefulness of mobile technology affect demand for rental space in shopping malls; and to analyse how perceived ease of use of mobile technology affect demand for rental space in shopping malls. This case study adopted descriptive research design focusing on business managers from 126 businesses at Sarit Centre Mall. A representative sample of 92 respondents was selected. A questionnaire was used to collect primary data for the study. The study used mean and standard deviation for the study.

## 5.2 Summary of the findings

The study reveal that businesses operated at the malls were finance and banking, entertainment, health/medical, retail/wholesale, clothes and fashion, beauty and cosmetic, hotel and leisure and books and education. The businesses had been in operation for a longer period thus had clear understanding on the effects of mobile technology innovations and use of mobile applications in business was a new technology innovation getting entry in the businesses.

The study found out that the reducing cost of mobile technology virtual displays/ online malls had led to reduced demand for exhibition and display space, reducing cost of information sharing via mobile technology e.g. images and videos has led to reduced demand for display and exhibition space in malls and minimal mobile technology setup and operational fees such as handset acquisition, connectivity, license and legal fees has led to reduced demand for display and exhibition space and over the counter transactions.

The study also established that 24 hours access to business via mobile technology, accessibility of business on virtual malls from any location, secure payment processes e.g. via

ST. PAUL'S UNIVERSITY

MPESA, Airtel Money and, mobile technology based order processing/fulfilment, mobile based advertisement and short messages promotions and effective communication to both customers and suppliers through mobile technology has led to reduced demand for exhibition and display space in malls and over the counter transactions.

The study also revealed that the ease of use of mobile technology attributed to simple language and menus on mobile technology, flexible and easy to use mobile applications, and simple operating procedures on mobile technology and reduced paperwork/ paperless offices has led to reduced demand for display and exhibition space in malls and over the counter transactions. The study further reveal that following increased use of mobile phone for transacting, virtual operations have been enabled therefore the current outlets are mainly used for storage and display. Otherwise a good proportion of businesses have been grown through use of mobile phone for transacting.

The study further found out that there was a significant relationship between reducing cost of mobile technology; perceive usefulness of mobile technology and perceived ease of use of mobile technology and the demand for rental spaces of the companies.

## 5.3 Conclusion

### 5.3.1 Effect of Reducing Cost of Mobile Technology on Demand for Rental Space in Shopping Malls

The study concludes that reducing cost of mobile technology virtual displays/ online malls, reducing cost of information sharing via mobile technology and minimal mobile technology setup and operational fees which includes payment services, advertising and order processing services had lead to the reduction of demands of shopping spaces at the shopping Malls. Business with not fully formed technological knowledge learn rapidly and enjoy strong productivity gains while businesses with fully formed technological knowledge have to search more carefully for learning opportunities, work harder to exploit them and enjoy returns.

### 5.3.2 Perceived Usefulness of Mobile Technology on Demand for Rental Space in Shopping Malls

The study concludes that mobile technology had led to 24 hours access to business via mobile technology, accessibility of business on virtual malls from any location, secure payment



ST. PAUL'S UNIVERSITY

processes, mobile based advertisement and short messages promotions and effective communication to both customers and suppliers through mobile technology thus reduced demand for exhibition and display space in malls and over the counter transactions.

### 5.3.2 Perceived Ease of Use of Mobile Technology on Demand for Rental Space in Shopping Malls

The study further concludes that ease of use of mobile technology attributed to simple language and menus on mobile technology, flexible and easy to use mobile applications, and simple operating procedures on mobile technology and reduced paperwork/ paperless offices has led to reduced demand for display and exhibition space in malls and over the counter transactions. Technological innovation may be linked to performance and growth through improvements in efficiency, productivity, quality, competitive positioning and market share, among others. The study also found that mobile technological innovation is positively related with performance.

## 5.4 Recommendations

### 5.4.1 Effect of Reducing Cost of Mobile Technology on Demand for Rental Space in Shopping Malls

The study recommends that there is need to employ modern technological innovations such as internet based services for businesses to be highly competitive. This increasing array of mobile applications can help to turn the mobile phone from a mere communication device into a vital tool for any business because of its ubiquitous nature, making the cost of doing business go down hence increasing efficiency and effectiveness.

### 5.4.2 Perceived Usefulness of Mobile Technology on Demand for Rental Space in Shopping Malls

The study recommends that mobile technology should be enhanced to enable 24 hours access to business via mobile technology, accessibility of business on virtual malls from any location and secure payment processes. Mobile based advertisement and short messages promotions and effective communication to both customers and suppliers through mobile technology thus reduced demand for exhibition and display space in malls and over the counter transactions. The study recommends that the businesses should adopt of mobile technology applications which will lead to an increase in the revenue earned from sales and

ST. PAUL'S UNIVERSITY

through effective advertising and marketing strategies. Lesser costs will be incurred in paying employees as a small number of staff will be required.

### 5.4.3 Perceived Ease of Use of Mobile Technology on Demand for Rental Space in Shopping Malls

The study recommends that there is need for the shopping malls businesses to take advantage of the availability of Service providers who have already realized the importance of these applications suitable for Enterprise growth and increased research and production of suitable applications. This way, the shopping malls businesses will be able to offer unique services that are not being offered by their competitors. However, the shopping malls businesses should ensure that they acquire full market information in case where there is imitation from their competitors.

## 5.5 Recommendation for Further Studies

The study has explored the effects of mobile technology innovations on demand for rental space in shopping malls with Sarit Centre as study location. The shopping malls in Kenya however are comprised of various other businesses which differ in their way of management and have different settings all together. This warrants the need for another study which would ensure generalization of the study findings for all the shopping malls and hence pave way for new policies. The study therefore recommends another study be done with an aim to investigate the effects of mobile technological innovations on the shopping malls in Kenya.

The study also recommends that another study be done to investigate the factors influencing mobile technological innovations in the business enterprises in Kenya. This would necessitate in determining the extent to which the business enterprises have adopted technological innovations and thus enhancing performance. Finally, 47.3% of changes in the demand for rental spaces were attributed to the three independent variables in the study. There is a need to conduct another study to find out other mobile technology innovations that affect demand for rental space in shopping malls

ST. PAUL'S UNIVERSITY

## REFERENCES


Afuah, A. (2014). *Business Model Innovation: Concepts, Analysis, and Cases*. New York, NY : Routledge.

Arunga J, Kahora B (2007). Cell phone Revolution in Kenya. International Policy Network.

Ashbourn, J. (2014). *Biometrics in the New World: The Cloud, Mobile Technology and Pervasive Identity*. Cham: Imprint: Springer.

Babb, J. S., & Abdullat, A. (2012). The Need for Mobile Application Development in IS Curricula: An Innovation and Disruptive Technologies Perspective. *Information Systems Education Journal*, 10(1), 61.

Bhasker, B. (2009). *Electronic Commerce: Framework, Technologies and Applications*. New Delhi: Tata McGraw-Hill Education.

Borghans, L., Gijselaers, W. H., Milter, R.G., & Stinson, J. E. (2006). *Educational Innovation in Economics and Business: V*. New York: Kluwer Academic Publishers.

Caroline Mothe, Thuc Uyen Nguyen Thi, (2010). *"The link between non-technological innovations and technological innovation", European Journal of Innovation Management*, Vol. 13 Iss: 3, pp.313 - 332

Chatain, P.-L. (2011). *Protecting Mobile Money against Financial Crime: Global Policy Challenges and Solutions*. Washington, D.C: World Bank.

.Christensen, C.M. (2006) The Ongoing Process of Building a Theory of Disruption, *Journal of Product Innovation Management*, 23(1), 39-55.

Christensen, C.M. (1997) *The Innovator's Dilemma*, Harvard Business School Press, Cambridge, Massachusetts.

Christensen, C.M., Baumann, H., Ruggles, R. & Sadtler, T. M., (2006). *Disruptive Innovation for Social Change.* Havard Business Review. Retrieved on 3rd October, 2015. <https://hbr.org/2006/12/disruptive-innovation-for-social-change>

Christensen, C. M., Raynor & M. E. (2003). *The Innovator's Solution: Creating and Sustaining Successful Growth.* Cambridge MA: Harvard University Press


ST. PAUL'S UNIVERSITY

Christensen, Clayton M., Horn, M.B., Johnson & C.W. (2008) *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns*. McGraw-Hill

Clapp, J.M. 1993. Dynamics of Office Markets: Empirical Findings and Research Issues, AREUEA Monographs, The Urban Institute Press.

Clapp, J.M., C. Giaccotto & D. Tirtiroglu. 1991. Housing Price Indices Based on All Transactions Compared to Repeat Subsamples, AREUEA Journal

19(3):270-285.

Communications Commission of Kenya, (2008/09). Communications Statistics Report Second Quarter. <http: //www.cck.go.ke.>Accessed on 28th April, 2009.

Danneels, E. (2004) Disruptive Technology Reconsidered: A Critique and Research Agenda, *Journal of Product and Innovation Management*, 21, pp. 246–258

Dyer, J., Gregersen, H. B., & Christensen, C. M. (2011). *The Innovator's DNA: Mastering the Five Skills of Disruptive Innovators*.

Gewald, J.-B., & Leliveld, A. (2012). *Transforming Innovations in Africa: Explorative Studies on Appropriation in African Societies*. Leiden: Brill.

Girard, S. L., O'Keefe, M., & Price, M. (2012). *A Crash Course in Starting a Business*. S.l.: Expert Business Advice.

Gobry, P. (2015, June 2). African Markets are Primed for Explosive Growth in Mobile Tech. *Quartz*. Retrieved October 5, 2015, from <http://qz.com/416683/african-markets-are-primed-for-explosive-growth-in-mobile-tech/>

Goggin, G., & Hjorth, L. (2014). *The Routledge Companion to Mobile Media*. New York: Routledge

Goldstuck, A. (2005). *The Hitchhiker's Guide to Going Wireless: A South African Handbook Of Cellphone And Mobile Technology*. Cape Town: Double Storey.

Govindarajan, V., Kopalle & P.K. (2006). The Usefulness of Measuring Disruptiveness of Innovations Ex Post in Making Ex Ante Predictions, Journal of Product Innovation Management, Vol 23, pp. 12-18

ST. PAUL'S UNIVERSITY

Habtay S & Holmen, (2012). From Disruptive Technology to Disruptive Business Model Innovation: In Need for an Integrated Conceptual Framework. Retrieved from http://www.aomevents.com/media/files/ISS%202012/ISS%20Parallel%20Sessions%20/Habtay.pdf

Hanna, N., & Knight, P. T. (2012). *National Strategies to Harness Information Technology: Seeking Transformation in Singapore, Finland, the Philippines, and South Africa*. London: Springer

Holloway, I & Wheeler, S, (2002). *Qualitative Research in Nursing.* (2nd edition). Oxford: Blackwell Publishing

International Conference on Information Management and Evaluation, & Grant, K. (2011). *Proceedings of the 2nd International Conference on Information Management and Evaluation: Ryerson University, Toronto Canada, 27-28 April 2011*. Reading: Academic Pub.

King, B. (2010). *Bank 2.0: How Customer Behaviour and Technology will Change the Future of Financial Services*. Singapore: Marshall Cavendish Business.

Ledgerwood, J., Earne, J., Nelson, C., & World Bank. (2013). *The New Microfinance Handbook: A Financial Market System Perspective*. Washington, DC: World Bank.

Linton, J.D. (2002). Forecasting the market diffusion of disruptive and discontinuous innovation, *Engineering Management, IEEE Transactions on*, volume 49(4), pp. 365-374

Maina, W. (2015, March 31). *Top 10 Online Shopping Stores in Kenya*. Kenya Buzz. Retrieved October 5, 2015, from <http://www.kenyabuzz.com/lifestyle/kenyan-online-shopping-stores>

Mark, O. (2015, August 27). *Safaricom Hits Banks with New M-Pesa Transfer Fees*. Business Daily. Retrieved October 5, 2015, from <http://www.businessdailyafrica.com/Corporate-News/Safaricom-hits-banks-with-new-M-Pesa-transfer-fees-/-/539550/2847482/-/12yjgshz/-/index.html> Mataen, D. (2012). *Africa--The Ultimate Frontier Market: A guide to the Business and Investment Opportunities in Emerging Africa*. Hampshire, U.K: Harriman House.

ST. PAUL'S UNIVERSITY

Mark Eppli & John Benjamin (1994) *The Evolution of Shopping Center Research:* A Review and Analysis. Journal of Real Estate Research: 1994, Vol. 9, No. 1, pp. 5-32.

Markides C. (2008). *Game Changing Strategies: How to create market space in established industries by breaking the rules*, San Francisco: Jossey - Bass.

Markides C. (2013). Business Model Innovation: What can the Ambidexterity Literature Teach us? Academy of Management Perspectives, 27 (4): 313 - 323

Matthews, C. H., & Brueggemann, R. (2015). *Innovation and Entrepreneurship: A Competency Framework*. New York: Routledge, Taylor & Francis Group.

McCraw, T. K. (2009). *Prophet of Innovation: Joseph Schumpeter and Creative Destruction*. Cambridge, Mass: Belknap Press of Harvard University Press.

Morley, D., & Parker, C. S. (2015). *Understanding Computers: Today and Tomorrow*. Stamford, CT : Delmar.

Mugenda, O. M., & Mugenda, A. G. (2003). *Research methods. Quantitative and qualitative approaches.* Nairobi. Acts Press.

Mutegi, L. (2014). *Safaricom's Lipa na M-Pesa Takes Lead in Cashless Transactions.* CIO East Africa. Retrieved October 5, 2015, from <http://www.cio.co.ke/news/top-stories/safaricom's-lipa-na-m-pesa-takes-lead-in-cashless-transactions>

Novogratz, J., & Amazon.com (Firm). (2009). *The Blue Sweater: Bridging the Gap between Rich and Poor in an Interconnected World*. New York: Rodale.

Nwankwo, S., & In Ibeh, K. (2015). *The Routledge Companion to Business in Africa*. New York : Routledge.

Porter, M.E., (1985). *Competitive advantage: creating and sustaining superior performance.* The Free Press, New York.

Polit D.F. & Beck C.T. (2010) Essentials of Nursing Research: Appraising Evidence for Nursing Practice, 7th edn. Wolters Kluwer Health / Lippincott Williams & Wilkins, Philadelphia.

ST. PAUL'S UNIVERSITY

Ratha, D. (2011). *Leveraging Migration for Africa: Remittances, Skills, and Investments*. Washington, DC: World Bank.

Sauramo, H. (2014). *The proliferation of a new-market disruptive innovation: case personal 3D printer.* Aalto: Aalto University

Sandström C, G (2010). A revised perspective on Disruptive Innovation – Exploring Value, Networks and Business models. Sweden: Chalmers University of Technology

Sekaran, U. (2000). *Research Methods for Business*, 3rd ed., Wiley Publications, New York, NY.

Ślęzak, D. (2009). *Advances in Software Engineering: International Conference On Advanced Software Engineering and its Applications, ASEA 2009, Held As Part of the Future Generation Information Technology Conference, FGIT 2009, Jeju Island, Korea, December 10-12, 2009 : Proceedings*. Berlin: Springer.

Souter, D. & Kelly, T., (2014). *The Role of Information and Communication Technologies in Postconflict Reconstruction*. Washington, DC : International Bank for Reconstruction and Development, The World Bank.

Teece, D., (2010). Business models, business strategy and innovation. Long Range Planning, 43, 172-194.

Tellis, G.J. (2006). Disruptive technology or visionary leadership? *Journal of Product Innovation Management*, 23, 34–38

Thain, G., & Skey, A. (2015). *E-Retail Zero Friction in a Digital Universe*. Sarasota, FL: First Edition Design Publishing, Inc.

The New Economy, (2014). 'City within a city' Sarit Centre changes African retail forever. Retrieved from http://www.theneweconomy.com/business/city-within-a-city-sarit-centre-changes-african-retail-forever

Van, . B. H., & Lewer, J. J. (2015). *International Trade and Economic Growth*. Armonk, N.Y: M.E. Sharpe.

ST. PAUL'S UNIVERSITY

Williamson, O. E., (1985). The Economic institutions of capitalism: Firms, markets, relational contracting. The Free Press, New York.

Yoo, Y., Lee, J.-N., & Rowley, C. (2008). *Trends in Mobile Technology and Business in the Asia-Pacific Region*. Oxford: Chandos.

Zott, C. & Amit. R., (2010). Business model design: An activity system perspective. Long Range Planning, 43, 216-226.

Zikmund, W.G.. (2000). *Exploring Marketing Research,* 7 th (eds), Dryden Press, Fort Worth.

ST. PAUL'S UNIVERSITY

## ANNEXES

### ANNEX 1: LETTER OF REQUEST TO CONDUCT SURVEY

Dear respondent,

**RE: EFFECTS OF MOBILE TECHNOLOGY INNOVATIONS ON DEMAND FOR RENTAL SPACE IN SHOPPING MALLS**

I am a student at St. Pauls University undertaking a Degree in **Master of Business administration.** I am carrying out a research on the effects of mobile technology a case of mobile technology on rental spaces. The data collected will be used for academic purposes only and will not be disclosed to a third party.

I hereby humbly request you to assist in the exercise by filling in the questionnaire provided appropriately.

Thank you very much for your cooperation.

Kimjackson Njeru

ST. PAUL'S UNIVERSITY

## ANNEX 2: SEMI-STRUCTURED QUESTIONNAIRE

**Business Manager,**

Good Morning/Afternoon/Evening: My name is **Kimjackson Njeru,**

A student of Master of Business Administration at St. Paul's University. I am currently conducting an academic study on the effects of destructive innovation on rental space in shopping mall. The information you provide to us will be kept strictly anonymous and confidential and used solely for the purpose of the study.

### SECTION A: GENERAL SECTION OF THE STUDY

1. What is the type of your business?

   Finance/banking [ ] Retail/wholesale [ ] Hotel and leisure [ ]
   Entertainment [ ] Clothes and fashion [ ] Books and education [ ]
   Health/medical [ ] Beauty and cosmetics [ ] other……

2. What is your position in the company?

   Owner [ ] Manager [ ] Other……

3. How long have you been in this business?

   Under 1 year [ ] 1-5 years [ ] 5-10 years [ ] Over 10 years [ ]

4. Do you/your business own a mobile phone?

   Yes [ ] No [ ]

5. How do you rate yourself/business in terms of access and use of mobile applications?

   Excellent [ ] Good [ ] Poor [ ] Very Poor [ ] None [ ]

6. For how long have you been using mobile applications for business operations?

   Less than a Month [ ] Up to 1 Year [ ] Not more than 2 yrs [ ]
   More than 3 years [ ]

7. A) Apart from the usual communications, does your business model allow for transactions based on mobile platform? Yes [ ] No [ ]

   B) If yes, what transactions do you conducted over the mobile phone?

   Payment [ ] Advertising [ ] Order Processing [ ]

   Others.....

8. If your business undertake transaction based on mobile phones, do customers prefer to use the mobile phones or over the counter transactions? Yes [ ] No [ ]
9. Do you think it is possible to fulfil all direct transaction carried out over the counter using the mobile phone application? Yes [ ] No [ ]

ST. PAUL'S UNIVERSITY

10. a) Have you lost a business opportunity or been threatened by businesses operated in online malls such as OLX, JUMIA, KILLMALL, AMAZON etc.?

    Yes [ ] No [ ]

    b) Does your business operate any other branch or franchise at a different location?

    Yes [ ] No [ ]

    c) If yes, would you say that they are facing similar threats?

    Yes [ ] No [ ]

**SECTION B: DEMAND FOR DISPLAY / EXHIBITION SPACE**

11. Please evaluate the following statements on the effect of reducing cost of mobile technology on demand for display/exhibition space by ticking or a crossing in each row.

| ***Statements*** | **Strongly disagree** | **Disagree** | **Uncertain** | **Agree** | **Strongly agree** |
|---|---|---|---|---|---|
| Reducing cost of mobile technology virtual displays/ online malls has led to reduced demand for exhibition and display space | | | | | |
| Reducing cost of information sharing via mobile technology e.g. images and videos has led to reduced demand for display and exhibition space in malls | | | | | |
| Minimal mobile technology setup and operational fees such as handset acquisition, connectivity, license and legal fees has led to reduced demand for display and exhibition space | | | | | |

12. Please evaluate the following statements on the effect of perceived usefulness of mobile technology on demand for display/exhibition space by ticking or a crossing in each row.

| ***Statements*** | **Strongly disagree** | **Disagree** | **Uncertain** | **Agree** | **Strongly agree** |
|---|---|---|---|---|---|
| 24 hours access to business via mobile technology has led to reduced demand for exhibition and display space | | | | | |
| Accessibility of business on virtual malls from any location has led to reduced demand for display and exhibition space | | | | | |
| Secure payment processes e.g. via MPESA, Airtel Money and others has led to reduced demand for | | | | | |

ST. PAUL'S UNIVERSITY

| | | | | | |
|---|---|---|---|---|---|
| display and exhibition space | | | | | |
| Mobile technology based order processing/fulfilment has led to reduced demand for display and exhibition space | | | | | |
| Mobile technology based order processing/fulfilment has led to reduced demand for display and exhibition space in malls | | | | | |
| Mobile based advertisement and short messages promotions has led to reduced demand for display and exhibition space in malls | | | | | |
| Effective communication to both customers and suppliers through mobile technology has led to reduced demand for exhibition and display space in malls | | | | | |

13. Please evaluate the following statements on the effect of perceived ease of use of mobile technology on demand for display/exhibition space by ticking or a crossing in each row.

| ***Statements*** | **Strongly disagree** | **Disagree** | **Uncertain** | **Agree** | **Strongly agree** |
|---|---|---|---|---|---|
| Ease of use of mobile technology attributed to simple language and menus on mobile technology has led to reduced demand for exhibition and display space in malls | | | | | |
| Flexible and easy to use mobile applications has lowered the demand for display and exhibition space in malls | | | | | |
| Simple operating procedures on mobile technology has affected the demand for display and exhibition space in malls | | | | | |
| Reduced paperwork/ paperless offices has led to reduced demand for display and exhibition space in malls | | | | | |

ST PAUL'S UNIVERSITY

**SECTION C: DEMAND FOR OVER THE COUNTER TRANSACTIONS**

14. Please evaluate the following statements on reducing cost of mobile technology on demand for over the counter transactions by ticking or a crossing in each row.

| ***Statements*** | **Strongly disagree** | **Disagree** | **Uncertain** | **Agree** | **Strongly agree** |
|---|---|---|---|---|---|
| Reducing cost of mobile technology virtual space/malls for displays via mobile technology has led to reduced demand for over the counter transactions | | | | | |
| Reducing cost of information sharing via mobile technology e.g. and videos has led to reduced demand for over the counter transactions | | | | | |
| Minimal mobile technology setup and operational fees such as handset acquisition, connectivity, license and legal fees has led to reduced demand for over the counter transactions | | | | | |

15. Please evaluate the following statements on perceived usefulness of mobile technology on demand for over the counter transactions by ticking or a crossing in each row.

| ***Statements*** | **Strongly disagree** | **Disagree** | **Uncertain** | **Agree** | **Strongly agree** |
|---|---|---|---|---|---|
| 24 hours access to business via mobile technology has led to reduced demand for over the counter transactions | | | | | |
| Accessibility of business on virtual malls from any location has led to reduced demand for over the counter transactions | | | | | |
| Secure payment processes e.g. via MPESA, Airtel Money and others has led to reduced demand for over the counter transactions | | | | | |
| Mobile technology based order processing/fulfilment has led to reduced demand for over the counter transactions | | | | | |
| Mobile technology based order processing/fulfilment has led to reduced demand for over the counter transactions | | | | | |
| Mobile based advertisement and short messages promotions has led to | | | | | |

ST. PAUL'S UNIVERSITY

| | | | | | |
|---|---|---|---|---|---|
| reduced demand for over the counter transactions | | | | | |
| Effective communication to both customers and suppliers through mobile technology has led to reduced demand for over the counter transactions | | | | | |

16. Please evaluate the following statements on perceived ease of use of mobile technology on demand for over the counter transactions by ticking or a crossing in each row.

| ***Statements*** | **Strongly disagree** | | **Disagree** | **Uncertain** | **Agree** | **Strongly agree** |
|---|---|---|---|---|---|---|
| Ease of use of mobile technology attributed to simple language and menus on mobile technology has led to reduced demand for over the counter transactions | | | | | | |
| Flexible and easy to use mobile applications has lowered the demand for display and exhibition space in malls | | | | | | |
| Simple operating procedures on mobile technology has affected the demand for over the counter transactions | | | | | | |
| Reduced paperwork/paperless offices has led to reduced demand for display and exhibition space in malls | | | | | | |

**SECTION D: RELATIONSHIP BETWEEN MOBILE TECHNOLOGY INNOVATIONS AND DEMAND FOR RENTAL SPACE**

17. What is your level of satisfaction with the mobile technology innovation indicators?

| ***Statements*** | Fully Satisfied | Satisfied | Indifferent | Dissatisfied | Fully Dissatisfied |
|---|---|---|---|---|---|
| Mobile payment processing | | | | | |
| Mobile order processing | | | | | |
| Mobile advertisement/ promotion | | | | | |
| Business profitability | | | | | |
| Increased market share | | | | | |
| Customer growth | | | | | |

18. How do you compare the number of those who use mobile phones and conventional way of buying in year 2010 and year 2016 (present)

ST. PAUL'S UNIVERSITY

| No. of those who use; | 2010 | 2016 |
|---|---|---|
| Mobile phones | | |
| Conventional ways | | |

19. As a result of the use of mobile phone for transacting, do you feel the need to add or decrease the size of your rental space now or in future? Yes [ ] No [ ]

Explain …….....

……

ST. PAUL'S UNIVERSITY

## APPENDIX 1

**BUDGET**

| | Items | Subtotal | Total |
|---|---|---|---|
| | **Writing of the proposal**<br>typing, photocopy, printing and binding | Kshs. 4,500.00 | Kshs. 4,500.00 |
| | **Writing of the dissertation**<br>typing, photocopy, printing and binding | Kshs. 5,000.00 | Kshs. 5,000.00 |
| | **Research Instruments**<br>(printing and photocopying questionnaires)<br>Purchase of folders | Kshs. 2,000.00<br>Kshs. 500.00 (10 pieces) | Kshs. 7,000.00 |
| | **Collection of Data**<br>Research assistants (2) | Kshs. 4,000.00 | Kshs. 8, 000.00 |
| . | **Data Analysis**<br>Data analysis and report | Kshs. 18,000.00 | Ksh. 18,000.00 |
| . | **Printing and binding**<br>Printing, photocopying and binding the final drafts | Kshs. 4,000.00 | Kshs. 4,000.00 |
| | **Grand Total** | | **Kshs. 47,500.00** |

ST. PAUL'S UNIVERSITY

## APPENDIX 2

## TIME PLAN AND SCHEDULE

| | ITEM | Time Scheduled |
|---|---|---|
| . | Proposal Writing | 6 weeks |
| . | Proposal Defense | 1 day |
| . | Dissertation Writing | 12 weeks |
| . | Dissertation Defense | 1 day |
| . | Dissertation Correction | 4 weeks |
| | Total time taken | 22 weeks |

ST. PAUL'S UNIVERSITY

**ANNEX 4: LIST OF BUSINESSES AT SARIT CENTRE MALL**

**(www.saritcentre.com)**

| | |
|---|---|
| | 4 |
| | |
| | 4U2 |
| | |
| | A |
| | |
| | AA of Kenya |
| | AAR Sarit Centre Out-Patient Centre |
| | Accessorize with Style |
| | Adelphi Leather |
| | Adidas |
| | Africolour Labs |
| | Afrilog Traders |
| | Airtel |
| | American Fried Chicken |
| | Amity Software |
| | Angelo |
| | Anicare |
| | Arena Health Club |
| | |
| | B |
| | |
| | Baby shop |
| | Banana Box |
| | Bank of Baroda |
| | Barclays Premier Life |
| | Bata Kenya |
| | Beauty Quest |
| | Bhullar & Co Advocates |
| | Bose |
| | |
| | C |
| | |
| | Cake City |
| | Chicago Pizza |
| | Chinese Corner |
| | Citadel Cellular Communications |
| | Citadel Cellular Communications (Office) |
| | Clean point Drycleaners |
| | Copy X'press Ltd |
| | Craig's |
| | Cycle Land |
| | |
| | D |
| | |
| | Dash Interiors |

ST PAUL'S UNIVERSITY

| | |
|---|---|
| | DHL Express |
| | Dixons Electronics |
| | Dr Abda Khan |
| | Dr B H Pandit & Dr N M Chohan |
| | Dr Mira Joshi |
| | Dr R B Barad |
| | |
| | E |
| | |
| | Elite Digital Solutions |
| | |
| | F |
| | |
| | Fedex |
| | Fox Cineplex |
| | |
| | H |
| | |
| | Haria Uniforms |
| | Healthy U |
| | Healthy U (Office) |
| | Hedgehog Creative |
| | Hidden Agenda |
| | Hotpoint Appliances |
| | |
| | I |
| | |
| | I&M Bank |
| | Indian Cuisine |
| | Italian Menswear |
| | |
| | J |
| | |
| | Jaff's Optical House |
| | Jewelart |
| | Juice It Up |
| | |
| | K |
| | |
| | Kashmir Arts |
| | KCB Card Centre |
| | KCB Mortgage Centre |
| | Kenya Airways |
| | Kenya Commercial Bank |
| | Kenya Power |
| | Keswick |
| | Kibic Watches |
| | Kool Phones |

ST. PAUL'S UNIVERSITY

| | |
|---|---|
| | |
| | L |
| | |
| | Laser Eye Centre |
| | Lavi's International |
| | Levi's |
| | Life Fitness |
| | Lipstixs |
| | |
| | M |
| | |
| | Mamma Mia |
| | Manix Clothing |
| | Manix Kidzz |
| | Men's Secrets |
| | Microcity Kenya |
| | Mocca |
| | Monty's |
| | Mr Price Home |
| | Multi Timber & Hardware |
| | |
| | N |
| | |
| | Nairobi Java House |
| | News Cafe |
| | Noor Lampshades |
| | |
| | O |
| | |
| | Oneway |
| | Orange |
| | |
| | P |
| | |
| | PFP Financial Consultants |
| | Planet Barbeque |
| | Planet Yogurt |
| | Postal Corporation of Kenya |
| | Premji Dungar & Sons |
| | |
| | R |
| | |
| | Richfields |
| | Rupa's Gift Centre |
| | |
| | S |
| | |
| | Safaricom |
| | Safaricom Customer Care |

ST. PAUL'S UNIVERSITY

| | |
|---|---|
| | Salon Narcisse |
| | Samsung |
| | Sand Storm |
| | Sapphire Collections |
| | Sarit Value Card Desk |
| | Sarit Vet Clinic |
| | Secrets |
| | Shah Chemists |
| | Sole Mates |
| | Strategic Consultants |
| | Studio Infinity Architects |
| | Swahili Plate |
| | SWS Aculaser Weight Loss Institute |
| | |
| | T |
| | |
| | Tastes of Lebanon |
| | Technical Engineering Services |
| | Texchem |
| | Text Book Centre |
| | Text Book Centre (Education) |
| | The Sarit Centre Management Office |
| | The Sarit Expo Centre |
| | The Woman Shop |
| | ToyWorld |
| | Trisons Insurance Brokers |
| | Truworths |
| | Tulip |
| | Twiga Car Hire & Tours |
| | |
| | U |
| | |
| | Uchumi Supermarket |
| | Unik Glass & Framers |
| | Union Forex Bureau |
| | United Credit |
| | Urbane |
| | |
| | V |
| | |
| | Vanela House of Coffees |
| | |
| | W |
| | |
| | Wella Centre |
| | Westlands Florists |
| | Woolworths |
| | WWICS Africa |

ST. PAUL'S UNIVERSITY

## DECLARATION

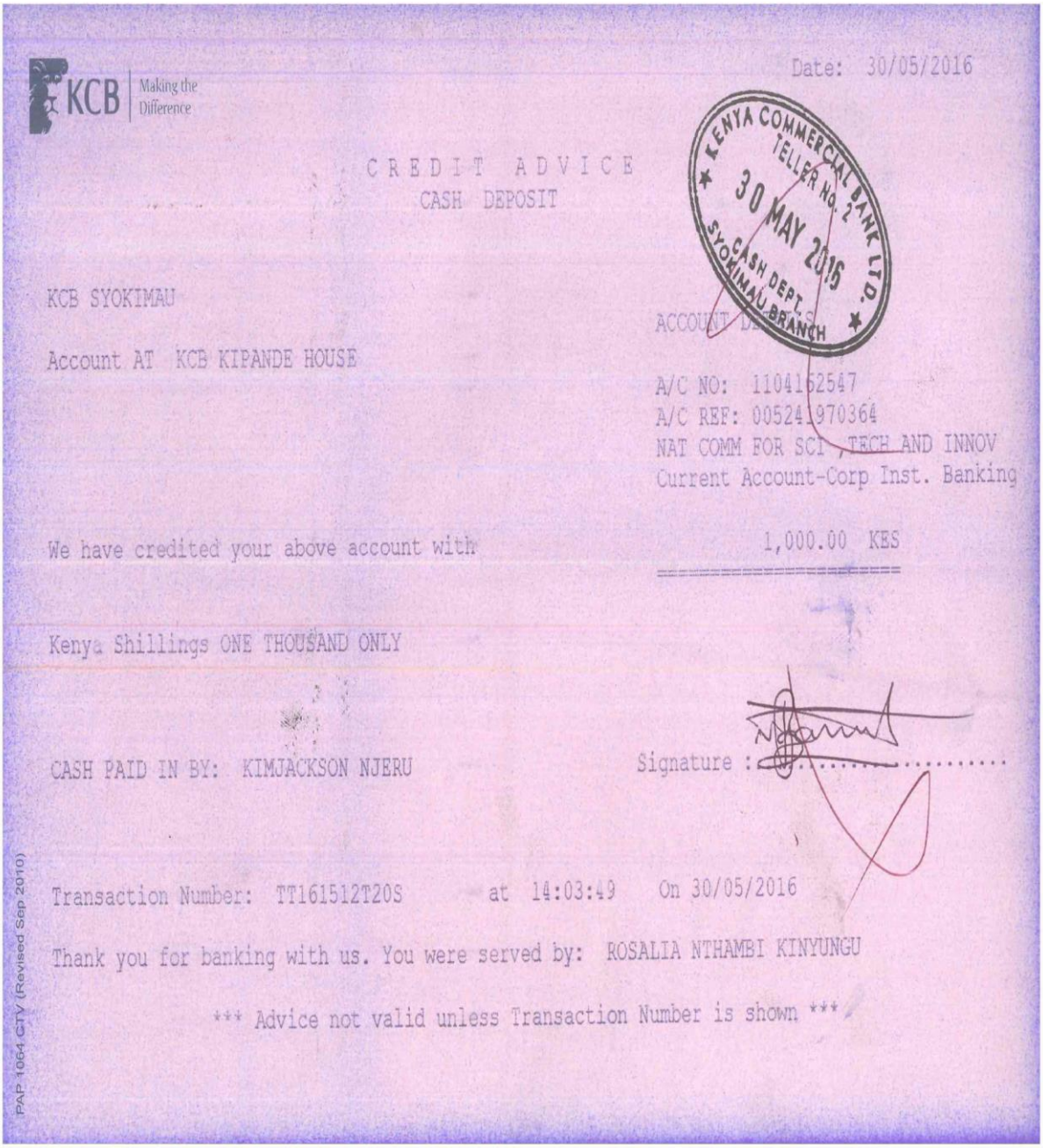
This research proposal is my original work and has not been submitted for any degree in any University

Signature _____ Date: 04/05/2016

This proposal has been submitted for examination with my approval as the St. Paul's University supervisor, Dr. John Muhoho,

Signature: _____ Date: 04/05/2016





KCB Making the Difference

Date: 30/05/2016

KENYA COMMERCIAL BANK LTD. TELLER NO. 2 30 MAY 2016 CASH DEPT. SYOKIMAU BRANCH

CREDIT ADVICE
CASH DEPOSIT

KCB SYOKIMAU

ACCOUNT DETAILS

Account AT KCB KIPANDE HOUSE

A/C NO: 1104162547
A/C REF: 00524.970364
NAT COMM FOR SCI , TECH AND INNOV
Current Account-Corp Inst. Banking

We have credited your above account with 1,000.00 KES

Kenya Shillings ONE THOUSAND ONLY

CASH PAID IN BY: KIMJACKSON NJERU

Signature : .....

Transaction Number: TT161512T20S at 14:03:49 On 30/05/2016

Thank you for banking with us. You were served by: ROSALIA NTHAMBI KINYUNGU

*** Advice not valid unless Transaction Number is shown ***

PAP 1064 CTV (Revised Sep 2010)

ST.