DIVERSIFICATION STRATEGIES APPLIED BY ELECTRONIC MOBILE PHONE TELECOMMUNICATION COMPANIES TO INCREASE SUBSCRIBER BASE GROWTH: AIRTEL-KENYA

BY

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE AWARD OF MASTER OF BUSINESS ADMINISTRATION DEGREE REQUIREMENTS, SCHOOL OF BUSINESS, DEPARTMENT OF BUSINESS ADMINISTRATION, KENYATTA UNIVERSITY

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Diversification strategies applied by

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DECLARATION

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

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SUPERVISORS’ APPROVAL

We confirm hereby that this Project Work has been carried out by the candidate under our supervision and has been submitted for review with our approval as the Kenyatta University supervisors.

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CHAIR’S APPROVAL

This Project work has been submitted for consideration with my approval as the Chair of Business Administration Department, School of Business-Kenyatta University.

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DEDICATION

This work was a very exhilarating academic voyage I have travelled and it brought back superior tidings to the edification society to enjoy its fruits. Due to this high opinion I hereby dedicate my preeminent of work to my sister Mercy, Parents: Mrs. Sarah. R. Shiundu, Dr. John. A. Shiundu (PhD-Spatial Geometry: Topology, Projection and Euclidean Geometry) and Brothers: Edwin and Kevin et al.
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ABSTRACT

Although Diversification Strategies Applied by Electronic Mobile Phone Telecommunication Companies to increase Subscriber Base Growth have greatly revolutionised the way e-communication, banking and monetary transactions have existed and are being conducted globally, there has been no empirical evidence to date of a research on the Diversification Strategies Applied by the e-Mobile Phone Telecommunication Companies to Increase Subscriber Base Growth as a specific area of academic concern. In this respect the research endeavored to analyze why is there slow growth of subscriber base in the Sector? Which Diversification Strategies are they applying to increase their subscriber base growth? Do they have Sustainable diversification Strategies to increase their subscriber base? To combatively answer these queries this research delved in identifying application of diversification strategies in e-Mobile Phone Telecommunication Companies to Increase Subscriber Base Growth. Purpose of the study was to analyse Diversification Strategies Applied by the e-Mobile Phone Telecommunication Companies to Increase Subscriber Base Growth. A survey design was be used. Stratified random sampling selected a sample from a target population consisting of 250 employees and 400 subscribers making a total of 900 participants. In our case a size of 40 employees was used. The researcher purposively considered 150 subscribers within any week. The target included 190 participants in total. The study was carried out in Nairobi CBD. Gall (1993) acknowledged that the ideal setting of any study should be easily accessible to the researcher and should be that which permits instant rapport with the informants. Nairobi City was thus chosen due its easy accessibility to the researcher and relative high ICT awareness levels and e-mobile technology advancements in the region of concern. Questionnaires were used to collect data on samples. Descriptive statistics plus measures of central tendency, variability and correlations analyzed discrete data. Results were reported by the following objectives: To establish how Call Rate Tariffing is applied to increase subscriber base growth; To find out how Mobile Phone Electronic Money Transfer is applied to increase subscriber base growth.; To determine how Mobile Number Portability is applied to increase subscriber base growth. To find out how Internet Data Bundling is applied to increase subscriber base growth. To investigate how Partnerships are applied to increase subscriber base growth.
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ABBREVIATIONS AND ACRONYMS

AMCIS  Americas Conference on Information Systems.
ACIS  Australasian Conference on Information Systems.
BECC  Bled Electronic Commerce Conference
ePSO  Electronic Payment Systems Observatory.
ECIS  European Conference on Information Systems.
E-MPTC  Electronic Mobile Phone Telecommunication Company.
GPS  Global Positioning System.
HICSS  Hawaii International Conference on System Sciences.
ICEC  International Conference on Electronic Commerce.
ICEB  International Conference on Electronic Business.
ICE-C  International Conference on E-Commerce.
IC  International Conference on WWW/Internet.
ICMB  International Conference on Mobile Business (previously m Business)
IT  Information Technology.
MR  Mobility Roundtable.
MMPS  Mobile to Mobile Payment System.
PACIS  Pacific Asia Conference on Information Systems.
OPERATIONAL DEFINITIONS OF TERMS

Acceptability: The extent to which consumers and others in the value chain are willing to consume, distribute or sell a product or service.

Affordability: The degree to which a firm’s goods or services are affordable to most consumers.

Availability: The extent to which customers are able to readily acquire and use a product or service.

Awareness: The degree to which customers are aware of a product or service.

Contingency factor: Dependent Variable in the e-mobile phone telecommunication company of which are liable to happen as an adjunct of other elements (strategies).

Competitive factors: Independent Variables that set the e-mobile phone telecommunication companies scene of which must be there for the e-mobile telecommunication companies growth to be effective.

Digital Video Broadcasting Handheld (DVB-H): A technical specification for bringing broadcast services to handheld receivers.

Enhanced Data Rates for GSM Evolution: A digital mobile phone technology that allows for an increase in data transmission rate and improved data transmission reliability.

General Packet Radio Service (GPRS): A mobile data service available to users of GSM and AMPS mobile phones. GPRS data transfer is typically charged per megabyte of transferred data, while data communication via traditional circuit switching is billed per minute of connection time, independent of whether the user has actually transferred data or has been in an idle state. GPRS can be used for services such as WAP access, SMS, MMS and for Internet communication services such as e-mail and World Wide Web access.

High-Speed Downlink Packet Access A third generation mobile telephone communications protocol in the High Speed Packet Access family, which allows networks based on the Universal Mobile Telecommunications System to have higher data transfer speeds and capacity. Current HSDPA deployments support down-link speeds of 1.8, 3.6, 7.2 and 14.4 Mbit/s.
High Speed Uplink Packet Access: 3G mobile telephony protocol in the HSPA family with up-link speeds of up to 5.76 Mbit/s.

Merchants: Vendors of e-Mobile Phone Telecom Companies accessories and services operating in small shops.

Mobile Phone: Portable communication device used to link subscribers in electronic communication and money transfer transactions by use of wireless e-networks.

Mobile Phone Electronic Money Transfer: wireless exchange of money and commerce via use of mobile phone applications.

Mobile Broadband Services: Is the name used to describe the 3G services which are made possible by HSDPA and HSUPA, the latest technologies on the Wideband CDMA evolutionary path.

Market penetration: Ability of a company to use strategy to enter a market of choice.

Players: The respective operators or e-Mobile Phone Telecom Companies in the market.

Subscribers: The users of the e-Mobile Phone Telecom Companies services.

Strategy: Plan for action by the senior management to a foreseeable future prospect to help the company survive, penetrate, expand in a given market.

Service provider: The Company offering electronic mobile phone telecommunication service.

Strategic fit: Ability of a plan of action to meet and match perfectly an intended goal, objective or target in the market as envisaged by the management of a particular organization.

Third Generation (3G): Third generation of mobile phone standards and technology, after 2G. It is based on the International Telecommunication Union (ITU) family of standards under the International Mobile Telecommunications programme, "IMT-2000".

Walled Garden Approach: Operators direct consumers to content selected and categorized by the operator and are billed through the operator billing system.

Wireless Application Protocol (WAP): An open international standard for applications that use wireless communication. Its principal application is to enable access to the Internet from a mobile phone or personal digital assistant.

Worldwide Interoperability for Microwave Access: Is a telecommunications technology providing wireless data over long distances in a variety of ways, from point to point links to full mobile cellular type access.
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CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

The purpose of the study will be to determine Diversification Strategies Applied by Electronic Mobile Phone Telecommunication Companies to Increase Subscriber Base Growth. As compared to years ago modern e-mobile phones have transformed telephony profoundly.

They are equipped with functionalities which surpass telephony needs, and which inspire the development of value-added Strategic mobile services to the curious customer, that is the use of mobile phones as access devices, and mobile e-commerce in general. The number of e-mobile phones in use far exceeds any other technical devices that could be used to market, sell, produce, or deliver products and services to consumers. (Mallat, T. 2002).

These developments opened lucrative opportunities to merchants, vendors and service providers. Purchased products and services initially took ages to be transacted but now they can be paid for as conveniently as people have to communicate with clarity and efficiently. Initially, fixed-line telephony billing systems were modified to charge e-mobile phone telephony (Mallat, T. 2002).

Later, Strategic e-mobile phone telephony billing systems were introduced, and used also to charge various e-mobile services when such services emerged. Yet, e-mobile phone communication and payments based on billing systems had several limitations. These include comparatively high payment transaction communication billing fees, merchant and service provider complaints about unfair revenue sharing, and the necessity to provision services to billing systems (M. Pierce, 1999 et al). All these have necessitated establishment of strategic e-mobile phone caucuses in companies to establish subscriber and market growth and dominance.

In some areas, such as the European Union, credited payment services to third parties required a (limited) credit institution license. The lack of suitable payment instruments has for a long time had been regarded as a factor that hampered the development of e-mobile commerce (M. Pierce, 1999 et al). Currently, Strategic e-Mobile Commerce involves outflow for goods, services, and bills with a Mobile Authenticated Device (MAD) such as an e-mobile phone, smart-phone, or personal digital assistant (PDA) by use of wireless (wi-fi) and other communication technologies. E-Mobile devices can be used in a variety of ways and scenarios, such as payment for digital content such as ring tones, logos, news, music, or games, tickets, parking fees and transport fares, or to access Electronic Payment Services (EPS) to pay bills and invoices (M. Pierce, 1999 et al). Payments for physical goods are also possible, both at vending and ticketing machines, and at manned Point-of-Sale (PoS) terminals. E-Mobile phones technologies have also been used in
Diversified end-end communication, internet data streaming surfing and many other uses as deemed technologically appropriate (Mill, Bruno-Britz. 2005).

There have been a lot of diversification call rate tariffs among different players in the e-Mobile Phone Telecommunication industries. Commonly over time the call rates started on a high but consequently as competition built up there have been many attempts by companies to increase their growth by varying the call rates in a niche strategy (Mill, Bruno-Britz. 2005). This has also been an area of research. Globally as per now the accepted lowest call rate limit is around sh. 4.00 per minute billing system (Wambari 2009) Some countries Kenya included have gone below that and this sets a good stage for competitive call rate billing among the players in this industry.

Partnerships have been a major innovation in the growth of the e-Mobile Phone Telecommunication Companies. Basically these strategic partnerships have yielded ground for instance in Kenya’s subscriber base growth. Such examples locally at the moment include; Safaricom and Equity bank (M-Kesho brand) and Airtel and Pesa Point.

Perhaps initially there was little need for number portability but as the trend goes it has become a major area of debate and research. Globally Asian countries have looked at this model and also in Africa the idea has been accepted. Local examples include Kenyan e-Mobile Phone Sector that adopted this mechanism (Mill, Bruno-Britz. 2005).

In the advent of this technology the best invention so far has been the Mobile Phone Electronic Money Transfer. It has been a plethora of strategic fights among major players (Malembanye, P. 2007). For instance globally, e-mobile phone electronic money transfer is carried out with a mobile electronic money transfer instrument such as a Mobile Wireless Creditised Transaction (MWCT) or a Mobile Wireless Wallet Transaction (MWWT). In addition to strategic e-mobile phone communication instruments, most electronic, wireless and many physical communication payment instruments have been mobilized (Malembanye, P. 2007). Looking at mobile phone electronic money transfer, as all other payments, has been falling broadly into two categories: e-mobile phone electronic money transfer for daily purchases, and bills (credited payments). To conduct all these e-mobile phone telecom companies need a good strategic cocktail.

For purchases, mostly growth models have been employed by the companies. For instance mobile phone electronic money transfers complement or compete with cash, cheques, credit cards, and debit cards hence over time there has been the need for an elaborate strategic diversification strategy from the traditional communication services to monetary exchange with the aim of increasing subscriber growth (Malembanye, P. 2007).
For example purchasing shopping from a supermarket, motor vehicles, air tickets and so on via your device, For bills, strategic partnerships with mobile electronic money transfer typically provide access to wireless account-based payment instruments such as money transfers, Internet banking payments, direct debit assignments, or electronic invoice acceptance (Malembanye 2007).

In Kenya for instance this instrument has been used quite strategically by dinosaur companies to re-brand and also meet their client’s needs. Kenya Power launched mobile pay bill system to allow customers bill promptly, Pay-TV companies such as Smart TV, DSTV have gone mobile billing to facilitate monthly subscription of their services via the mobile phone (Mill, Bruno-Britz. 2005).

It is worth noting that these strategic synergies only bring back returns courtesy of how diversified they are tailored to function. The growing generation of mobile users has been yearning for a one stop shop for his or her service satisfaction (Mill, Bruno-Britz. 2005). To handle this clientele well companies have been engaging in serious research to understand the new customer and his preferences and mobile phone strategic applications have been diversified to help in this.

In the early 2000s, tele-communication mobile services became a hot topic and remained so even after the burst of the Internet hype. Hundreds of e-mobile communication services and electronic money transfer services, including access to high quality, fast Ethernet and electronic payments and Internet Data banking, were introduced all over the world (Duncombe 2009). Strikingly many of these efforts failed but in Kenya some of these services soldiered on, for instance, Safaricom’s M-Pesa made a break through in the mobile phone electronic money transfer segment. Most of its success has been attributed to strategic diversification in its operationalisation but mostly data handling and monetary transfer (Duncombe 2009).

Globally for example, most, if not all, of the dozens of strategic communication and mobile electronic money transfer services available in EU countries and listed in the ePSO database in 2002 [G.Carat, 2002] have been discontinued due to a majority of failed e-strategies which are globo-common but some are unique to Kenya, hence we shall look at them in this research.

As a whole, Africa was the fastest mobile growth region in the world during 2006 at 39 percent annual growth rate according to Wireless Intelligence (2006). They predict that Africa will maintain this leading position also for 2007, although at a lower growth rate of 28 percent. Networks in Sub-Saharan Africa are still in their initial growth, and large investments in new capacity continue to be made by some one hundred operators (Duncombe 2009).
This of course includes data bandwidth that is fiber optics which some African countries have set up, for example Kenya, Nigeria, South Africa and so on. Foreign owners and financiers are behind most operators, which are run on purely commercial principles (Engvall, A. and O. Hesselmark. 2007) Cash from revenues is in many cases financing investments in new capacity, an unusual situation in Africa considering that the operators are just a few years old. The financial weight of the mobile telecom business is amazing, considering that it did not even exist 10 years ago (Engvall, A. and O. Hesselmark. 2007. p 14)

1.2 Statement of the Problem

Although Diversification Strategies Applied by Electronic Mobile Phone Telecommunication Companies to increase Subscriber Base Growth have greatly revolutionised the way e-communication, banking and monetary transactions have existed and are being conducted globally, there has been no empirical evidence to date of a research on the Diversification Strategies Applied by the e-Mobile Phone Telecommunication Companies to Increase Subscriber Base Growth as a specific area of academic concern (Engvall, A. and O. Hesselmark. 2007)

In this respect the research will endeavor to analyze why there is slow growth of subscriber base in the Sector. In this case the idea of a privately localized set up is key to unlock the potential of the Kenyan IT sector especially with the inception of the Konza City (Kenya Vision 2030) program to foster high economical gain in terms information awareness and generally to look into matters of telecom market adventures (Laurence and Lorsch. 2004). Kenya stands to be the most innovative growth country if it sets its targets towards achievement of a sound mobile telecommunication sector due to its cosmopolitancy and highly educated citizenry to facilitate this course (Laurence and Lorsch. 2004)

Diversification Strategies are applied to increase subscriber base growth stands out as a key area to foster economic growth and thus Nairobi becoming a hub for East Africa and by extension the rest of Africa squarely rests on this developments (Malembanye, P. 2007) The companies having Sustainable diversification Strategies to increase their subscriber base is a critical matter not only to the Companies but also to the government as a driver towards vision 2030 thus this research envisages to look at some of these scopes to highlight, update and download critical insight on the viability of these markets and the players by extension ( Malembanye, P. 2007)

To combatively answer these queries any e-Mobile Phone Telecom Company Business Management needs to get acquainted with diversification strategies which will indeed be future subscriber growth strategic strengths. Hence this research will delve in identifying application of these diversification strategies in e-Mobile Phone Telecommunication Companies to Increase Subscriber Base Growth by seeking to answer the following queries:
How is call rate tariffing applied to increase the subscriber base growth? How is Mobile Phone Electronic Money Transfer applied to increase the subscriber base growth? How is Mobile Number Portability applied to increase the subscriber base growth? How is internet data bundling applied to increase subscriber base growth? How are partnerships applied to increase subscriber base growth?

1.3 Purpose of Study
The actual purpose of the study will be to analyze Diversification Strategies Applied by Electronic Mobile Phone Companies to Increase Subscriber Base Growth.

1.4 Objectives of the study
The objectives will include the following:

i. To establish how Call Rate Tariffing is applied to increase subscriber base growth by Electronic Mobile Phone Telecommunication Companies.

ii. To find out how Mobile Phone Electronic Money Transfer is applied to increase subscriber base growth by Electronic Mobile Phone Telecommunication Companies.

iii. To determine how Mobile Number Portability is applied to increase subscriber base growth by Electronic Mobile Phone Telecommunication Companies.

iv. To find out how Internet Data Bundling is applied to increase subscriber base growth by Electronic Mobile Phone Telecommunication Companies.

v. To investigate how Partnerships are applied to increase subscriber base growth by Electronic Mobile Phone Telecommunication Companies.

1.5 Research Questions
The study will be guided by the following queries:

i. How is call rate tariffing applied to increase the subscriber base growth by Electronic Mobile Phone Telecommunication Companies?

ii. How is Mobile Phone Electronic Money Transfer applied to increase the subscriber base growth by Electronic Mobile Phone Telecommunication Companies?

iii. How is Mobile Number Portability applied to increase the subscriber base growth by Electronic Mobile Phone Telecommunication Companies?

iv. How is internet data bundling applied to increase subscriber base growth by Electronic Mobile Phone Telecommunication Companies?

v. How are partnerships applied to increase subscriber base growth by Electronic Mobile Phone Telecommunication Companies?

1.6 Significance of Study
The study will benefit stakeholders such as mobile phone subscribers, e-mobile phone telecom companies, government, scholars, and commerce institutions of higher learning in the following ways:
Findings of the study will help e-mobile phone subscribers to understand and improvise new e-mobile phone e-banking and money transfer strategic applications to make communication and financial transactions; Mobile phone companies will learn more e-strategic management approaches to increase their subscriber base, enhance their growth of subscribers, mobile phone e-business communication and broadband and 3G-5G technology applications for future generations thus remain relevant in future; small scale privately and public companies (upcoming and established) can adopt this strategic research in their subscriber growth and market penetrative strategy adoption to enhance relevance, total quality and adaptability in establishing a market niche’ (Jayawardhena, C. et al. 2000).

The government stands to gain by understanding and learning new e-developments in creating investor magnet hub for e-mobile phone ICT investors vis a vis creating sustainable strategic communication e-infrastructure and e-money transfer policies, creating awareness to the legislature to pass technological up to date e-mobile systems (EMS) policies (Jayawardhena, C. et al. 2000). Facilitate strategic e-mobile phone monetary and fiber optics rapport and how they can complement each other in the development of a futuristic communication technological remote environment in Kenya and her business partners.

Scholars interested in strategic e-commerce and e-strategy options can adopt more academic material to enhance, update, synchronize and actualize steady e-mobile strategic communication system models for African and global settings that can shape a new Africanized communication system free of bureaucratic crisis. (Jayawardhena, C. et al. 2000). Institutions of higher learning can get teaching material on a new discipline such as Strategic Information Systems (SIS), Strategic e-commerce and Strategic e-mobile phone money transfer technicalities to build capacity for technicians in the field of e-commerce, e-mobile phone monetary studies and related disciplines vis a vis set up sustainable ICT disciplines such as Strategic Information Systems (SIS).

1.7 Scope of Study
The study will be carried in Nairobi City CBD, the capital of Kenya and the largest of the three cities that is Mombasa to the coast and Kisumu to the far west lakeside. Gall (1993) acknowledged that the ideal setting of any study should be easily accessible to the researcher and should be that which permits instant rapport with the informants. Nairobi city was thus chosen due its easy accessibility to the researcher and relative high ICT awareness levels and e-mobile technology advancements in the region of concern (KPMG, 2000).

The target population will consist of 250 employees and 400 subscribers making a total of 900 participants (Dynamic Pro, 2009). The researcher will use a size of 25 employees to represent employees. The researcher will also purposively consider 400 subscribers within any week. Our target will include 40 subscribers.
1.8 Limitations of the Study
The limitations will include uncooperative remote and industrial environment respondents; poor attitudes towards the study topic, ignorance on the semantics of the topic, limited time, limited finances, and confidentiality of the company respondents.

The study will be carried out in Nairobi, the capital city of Kenya with an urban-modern setting, targeting Airtel Kenya a privately owned mobile phone company with the second largest percentage by subscriber base and having e-mobile phone money transfer system (Airtel Money).

1.9 Assumptions of the Study
The researcher will assume that the respondents will cooperate fully and give reliable information based on their knowledge in confidence concerning interest areas of the research; All the company’s capacity concerned will be treated equally without bias and the information sources will be competent on the subject and of endowed knowledge of their area of jurisdiction; Systems in place for the company conform to both global and Kenya’s (CCK) e-transfer standards.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction
The purpose of this study is to analyze Diversification Strategies Applied by e-Mobile Phone Telecommunication Companies to Increase Subscriber Base Growth. In this chapter we shall cover review of literature related to the study. The framework used for the review of literature applies two guiding theories. They are the five forces model developed by Porter, and the generic contingency theory, which emerged from the work of Lawrence and Lorch (2004) et al. To begin, the first mobile telecommunications operator launched its activities in Finland in 1992. By the end of that year there were already 13 mobile networks operators acting in 7 countries (Wambari 2009)

Global Telecommunication Companies Developments
In 1992 mobile cellular networks operated in 89 countries in the world and mobile communication users accounted for 4% of fixed line telephone subscribers in the world. In 1998 this share reached 38% with more than 300 million subscribers around the world in total and mobile cellular networks existed in around 167 countries (Around 90% of countries) in the world (World Telecommunication Development Report 1999) The largest share of the mobile communications market at that time was in the Western Europe (KPMG, 2000). Consequently the major e-Mobile Phone Telecom Companies in summary include the following; Vodacom (Pty) Ltd was established in 1993 and is one hundred percent owned by the Vodacom Group (Pty) Ltd, which is owned by Telkom SA, fifty percent, and Vodafone PLC, fifty percent (Jayawardhena, C. et al. 2000).

Vodacom (Pty) Limited and MTN
It launched services in 1994 and is presently the largest mobile cellular network operator in South Africa. MTN was also established in 1993, and is one hundred percent owned by the holding company, MTN Group, which is listed on the Johannesburg Stock Exchange. The Group is owned by Newshelf 664, holding nineteen percent; NEC, holding nine percent; and “other shareholders,” retaining seventy two percent (Falconer & Neilson, 2007: 85).

Cell-C, which was established in 2001, is a wholly owned subsidiary of 3C Telecommunications. It is sixty percent owned by Saudi’s Oger Telecom South Africa; twenty-five percent is held by CellSaf _ a broad based consortium of black empowerment groups and fifteen percent by Lanun Securities, the offshore investment arm of Saudi engineering group, Rashid. It launched services in 2001(Falconer & Neilson, 2007: 88). It initially provided services via a 15-year commercially negotiated roaming agreement with Vodacom, as it rolled out a network of base-stations with the intention of relying solely on its own access network in metropolitan areas by the end of 2004 (The Yankee Group Report, 2003: 124). These
are some of the major e-Mobile Phone Telecom Companies influencing the African mobile telecomm market (Falconer & Neilson, 2007: 85).

**Mobile Telephony Adoption Global Scene**

Mobile telephony adoption is on the rise and the related technological innovations have dramatically enhanced the capabilities of the mobile phones (Salzaman et al 2001). About two billion people worldwide are using a mobile phone. As the number of mobile phone increases there has been a pervasive impact on people's lives (ITU 2006). Mobile phones adoption and use has a positive and significant impact on economic growth, and this impact may be twice as large in developing countries as in developed countries (ITU 2005, Salzaman et al 2001). In Africa particularly it has been said “people in Africa use mobile phones very differently”.

Most strikingly is the accessibility of mobile as the overall impact of mobile extends well beyond what might be suggested by the number of subscriptions alone."(ITU, 2005) the most recent International Telecommunication Union data (ITU, 2008) for mobile cellular subscribers for 2007 also indicating growth rates (2002-2007) and the percentage of the population covered by mobile phone networks. Figures for South Africa and Kenya are included for comparative purposes.

**Table 2.1 Mobile Cellular Subscribers Base Growth for Uganda, Kenya and South Africa (2005-2007)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Uganda</th>
<th>Kenya</th>
<th>South Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile subscribers per 100 inhabitants 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>4.56</td>
<td>13.56</td>
<td>71.6</td>
</tr>
<tr>
<td>2007</td>
<td>13.58</td>
<td>30.48</td>
<td>87.08</td>
</tr>
<tr>
<td>CAGR (percent %) 2002-2007</td>
<td>60.5</td>
<td>57.3</td>
<td>92</td>
</tr>
<tr>
<td>Population coverage (percent)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>70</td>
<td>86</td>
<td>96</td>
</tr>
<tr>
<td>2007</td>
<td>80</td>
<td>92*</td>
<td>99.8</td>
</tr>
</tbody>
</table>

Source: ITU (2008)  
*figure is for 2006

In Kenya there has been a sporadic mobile phone subscription by the rural and urban populations. The number of mobile subscribers in Kenya has risen to 8 million subscribers from 6.5 million subscribers in June 2006, from the country’s two operators (Safaricom and Airtel) against 293,400 fixed lines (ITU 2007). This increased accessibility to mobile phones have introduced changes in most sectors of the economy and particularly the urban informal sector consequently Jua Kali Business (SMEs) changing their business and operation environment, thereby creating an impact on Kenya’s fastest growing sector and employer (Wambari, 2009)
So this sounds like good music into the business hub but it is not. There is still a group of subscribers who are not linked and need to join the club (Falconer & Neilson, 2007: 85). So this leads to the question of do these companies apply the diversification theories as deemed or they are enjoying the natural communication death since they are few and the subscribers seem more?

2.2 Theoretical Literature
The framework is used to classify past research, to analyze research findings of classified studies, and to propose meaningful research questions for future research for each factor in consideration in this research. The study we will be guided by mostly Porter’s Competitive Theory (Falconer & Neilson, 2007: 85). The prime actors in the e-Mobile Phone Telecommunication Companies market in Kenya include Airtel, Orange, YU and Safaricom. The research will focus on Airtel-Kenya, capacity and their customers. Various parties assuming these roles in the market include Airtel-Kenya mobile subscribers, merchants, financial institutions and telecom operators. Additional parties, typically vendors of handsets, software, networks and other technologies may also be involved.

E-mobile Telecommunication Advancements
The power and the interests of these parties impact on how technologies and other resources are orchestrated into e-mobile phone telecommunication services, and how offering, absence and mis-use of the diversification strategies have affected the growth of e-mobile phone telecommunication companies’ subscriber base.

Yet, to succeed, e-mobile phone telecommunication companies services may have to offer added value, attract and be available for other relevant diverse strategic communication environments as well (Ker Bohle. 2001). Porter’s competitive factors strategy model, or the five forces model, describes both the key role of an e-mobile telecommunication company, and diversification strategies from which we can deduce the connection and come up with sustainable diversification strategies niche’ tailored specifically to increase subscriber base growth (Ker Bohle. 2001). The model applies insights from industrial organization theory to analyze the diversified strategic competitive environment in our case subscriber base growth on the level of business units vis a vis players, and relates the average profitability of the participants in an industry to competitive forces and strategic fit.

Organisational Performance and Strategy and Porter’s Competitive Forces
The basic proposition is that organizational performance mainly depends on the industry structure and by extension according to Pearce et al (2005) and Johnson (2002), the strengths of Porter’s model are that it provides one simple approach to analyze industry structure, identify and determine the attractiveness of an industry, reveal insights on profitability, inform important strategic decisions about whether to leave or enter industries or sectors, and develop strategic options to improve relative
performance in the industry in its growth in our case subscriber base or at times
influence relative position of the industry in market penetration and subscriber base
growth (Ker Bohle. 2001).

As one of the most influential management tools for strategic industry analysis
(E. Breedveld 2006 et al), the model has been applied by numerous practitioners and
academics (Geogopolous 2005). This to suggest that the model will be well suited to
guide the classification of literature on the diversification strategies applied by e-
mobile phone telecommunication companies to increase subscriber base growth. For
all these strategies to work there is need to have a review of how the technological
trends of the mobile phone have been changing so that these companies can execute
the strategies adequately. This is summarised in the table 2.2 e-Mobile technology

In addition to the competitive forces within the e-mobile phone telecommunication
companies markets, other factors are believed to impact and challenge these markets
in penetration as well as increase in subscriber base growth, these include
diversification strategies and how they are applied (Wambari 2009)

Contingency Theory in Telecommunications
If we regard diversification strategies applied by e-Mobile Phone Telecommunication
Companies to Increase Subscriber Base Growth as the unit of analysis (organization),
the other strategies become contingency factors which influence the growth,
penetration and performance of the unit but are beyond the influence and control of
that unit, as defined in the contingency theory (Wambari 2009). Contingency theory
therefore will be well suited to classify diversification strategies applied by e-mobile
phone telecommunication companies to Increase Subscriber Growth research and to
capture the diversification strategies which are characteristic to the e-mobile phone
telecommunication companies’ services markets (Wambari 2009).

2.2.1 Call Rate Tariffing Applied by Electronic Mobile Phone
Telecommunication Companies to Increase Growth of Subscriber Base.
The roots of contingency theory are typically seen in open systems theory and in
Contingency theory emphasizes the importance of strategic concentric influences,
especially technology and billing also known as Call Rating or Tariffing, on the
management of organizations and on service efficiency and cost reduction capability
and addition of new commodities that are similar to existing ones. This is best suited
when the company is growing. The strategy takes into recognition that the company’s
service pricing commodities introduced should be in synchrony with the company’s
know how, expertise and technology (Jayawardhena, C. et al. 2000).
Creation of Convergent Charging Systems and Flexibility

These e-Mobile Companies have reduced tariffs by cutting interconnection fees, the charges operators pay for using another operator's network to complete calls. This process has already started but is yet to be completed. However, this could result in greater growth of mobile subscribers, specifically prepaid subscribers, and hence a further decline in ARPU, as competitive and regulatory pressure builds (Wambari 2009).

The challenge for operators is to harness the revenue potential of the prepaid users as well as the post-paid ones. Any move towards saturation needs to be offset by the rapid development of payment-agnostic, next-generation offerings, coupled with a focus on optimizing the value of existing customers (Jayawardhena, C. et al. 2000). To achieve this, “stovepipe” legacy environments must give way to convergent charging systems that can accommodate both pre-paid and post-paid accounts, and offer the flexibility to combine a variety of charging methods (Newcombe, 2004).

While challenging market climates have naturally focused operators' attention on achieving cost reductions and efficiencies, more operators are now looking to capitalize on growth opportunities (Newcombe, 2004). In broad terms, mobile operators are looking to drive growth via a two-pronged strategy. First they need to define, package and market services that are cleverly differentiated from those of competitors. Secondly, they are looking to increase average margin per user (AMPU) across the entire subscriber base, and optimize revenues over the long term (Newcombe, 2004).

This will require the ability to segment the customer base, identify the highest margin users, and apply sophisticated targeting of services. Many operators find themselves trying to compete in emerging markets for content, commerce and communication services using the same operational and business support systems (Laurence and Lorsch. 2004). The fit between strategy and support technology, however, is no longer sufficient. Realigning a mobile business around a growth led, customer-centric strategy requires the support of a fully convergent operational and business support system (Newcombe, 2004).

Integrated Approach to Strategic Telecommunication fit

According to Newcombe (2004) a fully integrated approach to pre-paid and post-paid accounts tariffing, which provides a single view of a customer's accounts, is essential to enable segmentation of the customer base and support next-generation applications and services. The billing system needs to afford all users access to the full range of 2.5G and 3G services and promote credit management across services. Increasing ARPU among pre-paid customers relies upon those subscribers having access to the same services, tariffs, marketing offers, incentives, customer care and roaming facilities that are available to post-paid subscribers (Newcombe, 2004:56).
This also helps to simplify and to reduce the cost of marketing, operational costs, to manage credit and risk (Laurence and Lorsch. 2004). Customers accessing on-line services require instant pricing information. When a customer downloads a video clip, for instance, they need to be pre-advised of the total price they will pay, and the amount authorized against their account balance in real time (Newcombe, 2004:56). Subsequently, if the content fails to download correctly, the customer's account needs to be topped up again in real time. Such functionality also enables operators to better manage their risk of revenue exposure. Operators need to closely monitor activities and the services they offer, not least in relation to high value, low-margin services, which are potentially risky (Newcombe, 2004:56).

Discounting Price Strategies
Operators will also need the ability to apply discounts across products and services in order to provide incentives to subscribers and reward particular usage patterns. The freedom to package services and apply discounts across different customer groups represents a chance to add value and help to push up ARPU (Newcombe, 2004: 57). Services such as billing are proving critical to the success of mobile data services, but may require substantial investment to implement (Laurence and Lorsch. 2004)..

China’s Monternet service did not begin to take off until the operator had completed the painstaking task of upgrading each region’s operations to accommodate the system’s new billing requirements, and one of the reasons i-mode has not done as well in Europe is its inability to bill prepaid users, a significant proportion of the European subscriber base (Schenker, 2003).

This suggests that there is no single best way to manage or organize. The identification of contingency strategies is one typical research theme. In addition other typical contingency strategic factors include cultural, social and economic factors. These are cocooned in both remote and industrial environments of a firm during strategy planning (Laurence and Lorsch. 2004). Hence ICT will enact tariff manipulations and e-commerce will determine the advancement of a particular system in an organisation by being part of the concentric diversification as they form part of the diverse billing commodities launched but in the same line of the company’s operations (Duncombe 2009)

2.2.2 Mobile Phone Electronic Money Transfer Applied by e-Mobile Phone Telecommunication Companies to Increase Subscriber Base Growth.
In this context it is natural to include policies, regulation, jurisdiction and standardization factors because mobile phone electronic money transfer and financial services and telecommunication are among the most regulated industries in a multitude of commerce participants, and the use of standards is characteristic to telecommunication. These two features of contingency theory make it useful for our purposes (Lorch, 2004)
Mobile Payment Growth

Mobile payments are a small but growing subset of the broader world of electronic payments. While consumers may initiate and authorize e-payments through a number of other electronic channels such as the internet and card based devices like ATMs, mobile payments are made using a mobile device such as a cell phone or PDA. Mobile banking is a subset of e-banking in which customers access a range of banking products like savings accounts and credit instruments, via electronic channels (Laurence and Lorsch. 2004).

Initially M-banking required the customer to hold a deposit account to and from which payments or transfers may be made but currently all these can be dealt with in the mobile inter-phases as MIS takes root in the mobile telephony. M-banking reduces the transactions costs of payments because there is an electronically accessible store of value (Wambari 2009) a fact that has enabled the advancement of the Mobile Phone Electronic Transfer preference to the traditional hardware monetary exchange.

Creation of Account Based Stores

In most regulatory regimes, creating account-based stores of value is regarded as banking-related business. The question of who may hold the deposit balance turns out to be a crucial issue affecting the development of mobile banking. Technology and the regulation, in turn, affect the effectiveness of m-banking (Ker Bohle. 2001). The issue relevant to many financial systems particularly in developing societies, soundness, might have concerned many. In other words, it was though that, M-banking could jeopardize financial stability and prevent economic and financial growth. However, despite the natural conservatism of the banking industry and keen optimism especially in the developing countries like Kenya, M-banking innovation has proceeded to become a rapidly-growing tool across developing countries. (Porteous, D. 2006)

M-Banking and M-Money Concepts

A major benefit of M-banking is drawing in the “unbanked” who generally can’t afford the cost of formal banking services and infrastructure. At this juncture it is however important to underscore that M-banking catapulted growth of M-money transfer but a fundamental question is which one gave birth to the other? There is the potential to bank people outside the realm of traditional financial services but still these people need a channel so comfortable and safe to efficiently warrant confidence and transfer hence the mobile phone came up as a pervasive device that has fewer barriers to entry than most technologies and has penetrated some of the poorest economies due to the overwhelming demand for any form of telecommunications. The evolution of the system necessarily started out as a simple transaction to purchase airtime, strictly to make calls (Wambari, 2009)

Innovations in the Sub Sahara Customer and implications to strategy

Very soon, people in rural areas in just about every sub-Saharan African country were purchasing prepaid airtime from local vendors in cities and selling it on to merchants
in rural locales, who in turn either rented the use of mobile phones to rural dwellers or sold the airtime on to them at a profit (Malebanye, 2007). On a continent where informal trading or black market is everyone’s business, this was somewhat typical. So due to the nature of these societies then the micro commerce model worked without experiment. But the technological innovation did not stop there. The rate of airtime exchanging hands based on a relatively few large top-ups seemed an anomaly. Plus new sub informal regimes of using these technologies emerged up as people in their creative sense saw the need to diversify their methods of communication, monetary transfer and so on (Ker Bohle. 2001).

In this period consumers began to use airtime as a sort of virtual currency and airtime had become another means of exchange for goods and services, a ‘wallet in your phone’ (or second currency) based on the stored value of prepaid vouchers. Soon mortar-and-stone banks, traditionally accustomed to the rarefied trade of the high-end formal market, woke up to the massive opportunity this presented to deploy mobile-banking applications which extend the formal financial service system to the poor — the unbanked — without customers having to incur the onerous administrative fees of ATM machines and point of service cash transactions (Ray, M. 2007)

With nine successful private banks in these regions for example Ethiopia and the large state bank, Access, all thriving due to economic growth (Economist Intelligence Unit Country Report 2007) It is due to this that M-banking will no doubt increase due to competition (Porteous, D. 2006)

East African Telecommunication strategy and Customer Application Variance
In East Africa, Uganda’s most recent national household survey (UNHS, 2006) estimated a total population of 27.2 million people, residing in 5.2 million households with females representing 51% of the total population. The population is spread over five regions – Kampala, Eastern, Northern, Western and Central. The economically active population is estimated to be 10.9 million persons with an annual growth rate of 3.6 percent (Mill, Bruno-Britz. 2005). In terms of status of employment 70 percent were self employed in agriculture and 14 percent in non-agricultural sectors. Only 4.6 percent described themselves as permanent employees (11.6 percent as temporary).

A small percentage described themselves as unemployed (a category that is not well defined in Uganda) but 12.1 percent described themselves as underemployed (i.e., they worked fewer hours than they were able due to shortage of work). Using the UNHS accepted methodology, 31.1 percent of all Ugandans were classified as living in poverty (a decline from 39 percent in 2003). The data shows strong growth trends in per household and per capita expenditure – particularly in rural areas. Overall the picture of economic growth and development is positive in Uganda, but the data also indicates the considerable hardships faced by the average household and particularly those who live below the poverty line (UNHS, 2006)
Broadening and deepening access to, and participation in, financial services have been identified as a key requirement for poverty reduction (Beck et al 2004). In this case this picture paints a fertile ground for good M-monetary transfer cross pollination for mobile phone companies interested in financial transactions (Mill, Bruno-Britz 2005). Thus gauging the potential of mobile phones to address both access and participation requires a broader understanding of the financial services landscape (Duncombe 2009)

**Competitive Advantages of Banking and Mobile Finance Business Models**

One view is that mobile technology is just another, although highly innovative, access channel; an alternative is that mobile telecommunications networks are becoming the front office for financial services leaving the existing banks as providers of back office functions (Mill, Bruno-Britz. 2005). But there is also another view which seeks to define the competitive advantages of the banking and mobile finance business models and then explore the ways in which these could give rise to new market structures within which the existing portfolio of financial services (savings, credits and transactions) can be unbundled (Schenker, 2003)

**Mobile Transfer Initiatives- MPESA, WIZZIT and GLOBE.**

There are a number of mobile transaction initiatives in the developed and developing world. Most are bank-led and largely provide an information and transaction channel which complements existing bank access channels such as branches, telephone banking and online services (Malembanye, 2007). There are, however, significant examples of innovative mobile transaction schemes that hint at a radical transformation of the financial market landscape in that the business model addresses those without existing bank accounts in this case it is just a matter of time before we go paperless. Examples which are often cited include Wizzit in South Africa, Globe in the Philippines and M-PESA in Kenya (Duncombe 2009)

In addition there are mobile financial transaction models which make innovative use of existing widely-diffused financial service platforms, such as Visa, in order to deliver transaction services to under-serve market segments (Malembanye, 2007). Interestingly, the most innovative of these mobile banking models, and those with the greatest potential to bring significant benefits to consumers, are those addressing the needs of developing markets, which hitherto have been the most complex in which to increase access to finance (Duncombe, 2009). A good example is in Kenya with its competitive mobile banking and transfer sector which is among the fastest growing in the world.

In both types of approach – mobile transactions are looked at as a brand new access channel and as an innovative alternative banking system to the rapidly-growing mobile communications infrastructure and its associated support services (for example, air time agents) provide the possibility of outreach vastly beyond traditional
banking networks and at significantly lower costs (Malembanye, 2007) with also the ability to create more small jobs in IT and sales.

According to Wambari (2009) each monetary transfer regime attempts to provide a system that allows a customer to put cash in and take it out, and also make money transfers to other individuals and entities. Each system, however, is 'optimized' for particular purposes and thus there are significant practical differences between the systems and the user experience hence there is much emphasis to be paid upon the individuality marketability and operationalisation of this sector. At their core, each of the schemes described offers four basic services (Malembanye, 2007).

Applications of the Transactional Strategies

How these services are offered and charged to the consumer varies and this can be further attributed to the diversification and niche building of a particular serviced to suit a particular clientele (Malembanye, 2007). The four core services are: Information – for example account balance retrieval, transactional history of deposits and withdrawals; Transactions – for example, transfer of funds between accounts; Cash-in and cash-out services – the deposit and withdrawal of cash; Payments – a variety of mobile payment applications, such as air-time top-ups, electricity meter top-ups and in some markets broader services such as m-payments at vending machines (Wambari, 2009).

The differences between the schemes can also be described in terms of the broader system characteristics which may be less transparent to consumers (Malembanye, 2007). The systems vary in terms of: their technical platform; who manages the money float and settlement mechanisms; who manages the interaction with a customer and how; and whose brand is used to market the product (Duncombe, 2009). These broader characteristics fall into the following categories: open or closed systems, interoperability, identity of the deposit holder, tariff structures for consumers, regulatory compliance and mechanisms for deposit making, transfers and cash withdrawal (Wambari, 2009).

Systems Theory and Technology Functions

Owing to the Systems theory, there are systems and subsystems for instance: Open or closed system – the extent to which a specific mobile scheme allows transactions and/or payments to any account in any other network will foster how efficient the transaction will be. The ability to effectively and efficiently interconnect with the existing bank clearing systems and money transfer networks (such as Visa), and the terms and conditions of this interconnection regime, is a critical aspect of the design and operation of a mobile banking scheme and transaction (Malembanye, 2007).

In effect this interconnection regime defines the nature and extent of the network externalities, and their distribution. Interoperability – the technological design of the
system and its functionality (Duncombe, 2009). The key issue is whether or not the mobile scheme is essentially a proprietary system embedded in the network, equipment and operations of an existing mobile operator or instead stands free of any particular network. Is the service tied to one mobile network operator or is it network-independent?

Identity of the deposit holder – are deposits made by customers held in individual deposits at a licensed deposit taking institutions (a traditional bank) or are they instead held as nominated elements of a pooled account (which itself might or might not be directly held at a licensed deposit taking institution)? Mechanisms for deposit making, transfers and cash withdrawal – the effectiveness of these operations is vital in turning a mobile payment system into a transformational mobile system all inclusive. Without a safe and convenient way to deposit and withdraw cash, any mobile system is bound to fail in mostly cash-based societies (Wambari, 2009). Apparently in Africa it has succeeded without all these factors. So why do African systems bypass all these hurdles and makes it through flawlessly?

This makes ensuring the system security trustworthiness of collection agents pivotal in establishing the integrity of the mobile banking and transfer product. The integrity and the efficacy of agents in managing the deposit taking process, transfers and cash distribution is critical to managing some of the range of risks inherent in a mobile banking product, including reputational risk. In this case the companies ought to invest immensely on technocrats or specialty training and mentorship activities from time to time to enhance competitiveness. For a company to adopt this strategy successfully diversification of the applications is most worth noting (Wambari, 2009).

Policy Framework and Regulations
Looking at the legislature and law issues, regulatory compliance – there is a variety of ways to comply with both know your customer (KYC) and anti-money laundering (AML) regulations (Wambari, 2009). For example AML tools might be applied only when transactions exceed specific limits in terms of both frequency and amount (Wambari, 2009) but also these amounts must pass security test in terms of their movement which is different from country to country.

The migration from mobile customer to mobile bank customer offers significant potential to reduce the costly information asymmetries between customer and bank, as mobile operators of payments schemes hold useful information about customers' usage patterns their mobile behaviors, purchasing characteristics which are very essential when a company is benchmarking in market orientation (Wambari, 2009).

Kenyan Case- M-Pesa
In Kenya, Safaricom and Vodafone launched M-PESA, a mobile-based payment service targeting the un-banked, pre-pay mobile subscribers in Kenya on a pilot basis in October 2005 (Wambari, 2009). M-PESA started as a public/private sector
initiative. Vodafone was successful in winning funds from the Financial Deepening Challenge Fund competition established by the UK Government’s Department for International Development to encourage private sector companies to engage in innovative projects to deepen the provision of financial services in emerging economies. The full commercial launch was initiated in March 2007 (Wambari, 2009).

The service comprises a simple registration process to set-up a customer’s new M-PESA account into which they can upload (deposit) and download (withdraw) cash at a large number of Safaricom re-seller airtime distribution agents. Making a deposit is a similar process to topping up their airtime pre-pay balance: the account identifier is the mobile phone number and the customer goes to the very same place that they would go to buy airtime (Malembanye, 2007). Up to now the M-PESA concept has diversified a great deal and opened up new products and markets as fast as it started (Wambari, 2009).

The M-PESA account is entirely separate to the pre-pay airtime credit (Wambari, 2009). Once registered, the customer can send funds to any other phone number, on selected networks. The receiver gets a confirmation text message that can be taken to a re-seller agent and ‘cashed in’, enabling person-to-person money transfer instantly over large distances much faster and more securely.

A customer can also use their M-PESA account balance to buy goods and services (including airtime credit for any other Safaricom pre-payphone) (Wambari, 2009). In this case the diversification model here is well suited for versatile clientele in the market who are willing to manipulate and migrate from the traditional monetary exchange of paperless money via mobile phones. Since these companies have learnt this it is up to them to come up with autonomous strategic applications to suit these quick adaptive customers.

Review of M-Pesa
Here is a brief literature history review of M-Pesa, M-Pesa was launched early 2007 by Safaricom and established itself quickly as an accepted M-banking operator by reaching 300 000 customers within three months. There were 1.6 million subscribers already in February 2008, attained within only 12 months of operation (Safaricom Press Release, March 2008). The M-Pesa offer is unique in the sense that no bank account is needed; the customer gets an M-Pesa account instead (Newcombe, 2003).

Vodafone, part owner of Safaricom, was the initial driver of the project that started at the concept level in 2003 (Hughes and Lonie, 2007). The rationale and underlying need assessment was based on the assumption that it is the “velocity of money” that drives development. That is, how to transfer money from A to B as swift and efficient as possible (Newcombe, 2003). The challenge at hand was to alter and adapt
Vodafone's technology to a totally new and different application; M-banking. This was easier said than done and Vodafone had to work closely on location with Safaricom in Kenya (Newcombe, 2003).

**Vodafone Strategic E-Money Concepts**
The conceptualization and pilot phase took years and started when Vodafone support expertise landed in Nairobi early 2005 (ibid.). The development work addressed six basic issues: First, Safaricom’s capabilities are pivotal for implementation and sustainability, second, the target audience is the unbanked and the assumption was (our interpretation) that there was no need for traditional bank accounts, third, the transactions will be carried out with virtual or e-money which necessitates a financial framework to meet the requirements by the central bank (Hughes and Lonie, 2007). In short, e-money floating around in Safaricom’s system must have corresponding value of real currency deposited at a bank (Newcombe, 2003).

Fourth, the technology must work across all types of handsets, even the simplest ones. It was decided that SMS using a platform built on the STK platform (SIM toolkit) for setting up user menus. Fifth, the “offer” must meet a real market need that could relatively easy translate into a demand. Although there is a perceived need for moving money in Kenya, it was not clear if the market was ready for mobile solutions (Newcombe, 2003). Discussions with local MFIs convinced Safaricom/Vodafone that the time was ripe. Sixth, the process of cash in/cash out were seen as the final stumbling block for convincing customers (Hughes and Lonie, 2007). It was decided to use Safaricom’s existing dealers that had to apply to become M-Pesa dealers as well. During the pilot phase in 2006 a number of additional challenges surfaced.

**Agent Model and Consumer Parity**
The agents were quite reluctant to cash out solely based on an SMS, not trusting the system fully. Users’ understanding and skills to handle their mobile phones varied a lot; some could not find the SMS inbox. The learning was typically by doing, testing and showing in small groups. As literacy is an issue, the diffusion of the technology is driven by being ‘shown’ (Vodafone, 2008).

Tariff structures for consumers – are customers charged account fees or fees per transaction? The user experience of the various mobile systems depends on how well specific products correspond to customer needs in different countries. Contingency theory is described as a midrange theory which falls between two extreme views (Gardner 2009 et al).

According to one extreme view, it is possible to find universally true theories, whereas the other one claims that each strategic unit of analysis is unique and has to be analyzed based on situational factors. Contingency theory postulates that strategic environmental factors are important but also that the impacts of environmental factors are systematic, rather than entirely situational (Mallat, T. 2002).
2.2.3 Mobile Number Porting as Applied by e-Mobile Phone Telecommunication Companies to Increase Subscriber Base Growth.

The contingency approach will be useful for the classification of this strategy in e-mobile phone telecommunication companies to increase subscriber base growth, since, for example, mobile phone services and companies differ between markets, such as Japan, various European countries, or the USA, but they do so in systematic ways, for instance due to differences in e-mobile technology infrastructure, policy regulation, laws and habits (Gardner 2009 et al).

Environment – Strategy – Performance Link

These affect the e-market penetration in respective countries due to a heterogeneous customer culture. The other useful feature of contingency theory is the “environment – strategy – performance” link (Thompson 2002). In this case the strategy equips the company with the ability to form a relationship with another company in a long-term contractual relationship, franchising and alliances to develop linkages whilst remaining separate entities and also looking at diversification of both the market and product (Mallat, T. 2002). In this case mobile number portability is relatively new area of diversification tool set up which will encourage mostly service provision competition among companies and at the same time create new diversification windows.

The theory claims that the strategic environment, such as the amount and type of policy regulation, impacts the structure of the organization that is the industrial environment, by, for example, influencing which entities have incentives to become e-mobile phone telecommunication service providers and the extent and type of training disciplines.

This, in turn, impacts performance, such as adoption interests of merchants and consumers (Gardner 2009 et al). Another example will be that enhanced sharing technology (ICT) training of staff between well fledged companies makes it possible to provide enhanced services at lower costs, which in turn increase returns (Mallat, T. 2002). It is envisaged that mobile number portability will provide the magic formula to unlock the utilisation of services and sharing among the different companies but first the question is who will take all the monopoly to serve the other players? We can wait and see. This diversification strategy has limited information as it is still a developing area and thus a very fertile area for intellectual cross pollination for research.

2.2.4 Internet Data Bundles Applied by e-Mobile Phone Telecommunication Companies to Increase Subscriber Base Growth.

In addition to the theoretical basis described in earlier texts, the framework has also been influenced by research models proposed in earlier studies (Mallat 2002 et al). Jayawardhena and Foley (2000) proposed that changes in technological, Socio-cultural, commercial and policy/legal factors, together with the competitive forces of
financial services market vis a vis strategic e-mobile facilities drive financial services development. Javalgi and Ramsey (2001) suggested that information communication technology and telecommunication, social/cultural and commercial factors impact the diffusion of global e-Commerce. The advent of the Internet has revolutionized the way the financial services industry conducts business, empowering organizations with new business models and new ways to offer 24 hour accessibility to their customers (Mill, Bruno-Britz. 2005).

Data Warehousing and Data Mining Concepts
Companies have used technological innovations, such as data warehousing and data mining, in an attempt to gain greater insight into the prediction of consumer purchase behavior, but with only limited success. This may be because the theories on which an understanding of consumer behavior is based may themselves be inadequate. Alternatively, the basic assumption that consumer behavior is constant and so can be predicted may be unsound. According to Barcham (2004), consumers are less predictable than it was thought; a range of paradigms or models may be necessary to understand the variety of behaviors engaged in by individuals in different contexts.

Mitch Clark, executive vice president of marketing operations for UPC Broadband, believes that successful bundles target lifestyles and give customers choice. At the same time, operators must communicate the benefits and value of the offering in simple terms. Clark suggested that simplicity includes the ability for customers to self-provision services and for customer service representatives to monitor systems that indicate the types of services customers have and might want (Pyle, 2006).

Finally, (Pyle, 2006) concludes that ultimately bundle services will not be enough for an operator to remain competitive. The key to future competitive will be the ability to continually add value to the bundle at competitive prices, and communicate that value to the customer (Mill, Bruno-Britz 2005).

Bundling Concept Analysis
Bernstein Research gives the following examples to articulate the concept of bundled services. Assume a consumer was shopping around for a new service plan. He/she is currently signed up to receive 1,000 minutes for $39.99 and is potentially interested in data services. He/she might sign up for a $34.99 plan that includes 2,500 minutes of voice service. However, if the consumer were offered 200 e-mails plus 2,500 minutes of voice service for $39.99, then he/she is likely to accept the deal. While the consumer is likely to send fewer than 200 messages, he/she would feel glad to be getting a great $.025-per message rate. As this example illustrates, bundling of services will prevent a decrease in ARPU (Keiss and Bloomquist 2007).

Convergence of the Internet with Mobile phone Communications
Worldwide, the communications industry is witnessing a galvanizing convergence of mobile communications and the Internet, with broadband services and the formation
of the Mobile Internet (Pyle, 2006). People all over the globe are beginning to use mobile communications as part of their everyday lives. It has already become a way of life for communicating with others; for accessing the Internet and intranets; for leisure, economic entrepreneurial/business activities and education. (Malembanye 2007)

As 2006 drew to a close, the total number of mobile subscribers worldwide was rapidly approaching 2.5 billion (Keiss and Bloomquist 2007). This vast number has been achieved in a breathtakingly short period and over the next five or six years it is expected that another two billion more will be added to this total.

As this staggering growth continues, in mature markets voice services have become commoditized; prices are low, margins are tight and competition is fierce. The last two or three years have consequently seen network operators turning to non-voice mobile services in an attempt to differentiate themselves from competitors and to generate revenue growth in order to help combat declining voice ARPU (Portio Research Limited, 2006: 4).

South Africa is no exception; the three Mobile Cellular Operators, Cell-C, MTN and Vodacom, are also facing a number of challenges as a result of the decline in the average revenue per user from voice traffic. In this case owing to the Ansoff matrix (Porter, 1987) they need to diversify since the current position will dictate them having a new product in a new market (Keiss and Bloomquist 2007).

The competition for subscribers also places more pressure on them to differentiate their services and to introduce innovative broadband data services to maintain their competitive advantage (Malembanye 2007) In a context in which the market for mobile cellular phones is becoming saturated and price competition is intensifying, operators are turning to the emerging market of mobile data services, non-voice mobile services including instant messaging, Short message service (SMS), email and the mobile Internet & commerce as a way to differentiate their services from their competitors and to revive declining ARPU (Pyle, 2006).

However, despite its business potential, entrants into the mobile broadband data services market have been confounded by a host of unexpected challenges, such as insufficient demand, competition from similar products and, most importantly, non-existent or weak business models (Kallio et al. 2006:1).

Mobile Data Applications
Mobile data applications and services are seen as the opportunity for operators to fight declining ARPU and increase overall revenues both from customers for new network service offerings, and from content providers for new marketing opportunities. As a result, operators are increasingly leveraging new 3G networks to offer broadband data
services, such as MMS, Internet access, music downloads, music and video streaming, video calling and mobile commerce, in order to diversify revenues (Malembanye 2007). Unfortunately, many subscribers are unaware of these services because today's technology and processes for enabling "premium content" sales are woefully outdated. Mobile operators still rely on broad-based marketing techniques, such as national advertising and bill inserts, to notify subscribers of new services (Malembanye 2007).

To achieve significant growth, operators must rethink their sales strategy (Biciau, 2006: 37). Kramer and Paul go further by stating that mobile cellular phones are already being used in a variety of ways to deliver financial services. These services generally fall into three categories: mobile-purchasing (m-commerce), electronic money (e-money), and electronic banking (e-banking).

The cellular phones are increasingly utilized as platforms for transacting business with financial institutions, and for accessing bank accounts, e.g. checking savings or loans (Malembanye 2007). Indications from the mobile Internet market point to a considerable advantage for wireless operators being able to leverage their monopoly on end-user access, and charging to gain the lion share of the revenue (Jonason and Eliasson, 2001).

**Content versus Wireless Application Platform**

Whilst Content and Wireless Application Service Providers are clearly important contributors in the mobile communication value chain, they create value for the customer, and diversification for a mobile operator faced with declining average revenue per user (Malembanye 2007). According to KPMG, delivering Mobile Internet services will be a radical departure from anything traditional operators have done before, but not all will make the transition successfully. The scope of change required is considerable, as both existing revenue and cost models become redundant. According to KPMG, to succeed, telecommunication operators must:

Re-focus their corporate vision towards the new world of data-centric services like Safaricom is doing; Ensure that customer management and service provision become key differentiators; Formulate new business models to incorporate a wider range of third party relationships, this is mostly seen in Kenya in YU and the way it protracts its product differentiation strategy; Implement technology investments in shorter time scales; Develop application development cycles that generate more innovative and flexible solutions, here the company needs financial muscle to execute (Pyle, 2006). Having a good low mass marketing strategy can still operate well in this scenario for example Airtel-Kenya; and Adapt operational resources and infrastructure to achieve necessary cost efficiencies (Pyle, 2006).

Success will mean getting to market quickly, armed with the right applications and the right services. For operators to succeed in the new data arena, they will need not only
to adopt new business models but will also need to generate multiple sources of revenue through commercial transactions with third party content providers. Even more importantly, they will need to forge new relationships with customers and vendors alike. Each faces fundamental challenges if they are to continue generating shareholder value. (Malembanye 2007)

Online Financial Transactions
The ability to offer financial transactions online via internet has also created new players in the financial services industry, such as online banks, online brokers and wealth managers who offer personalized services, although such players still account for a tiny percentage of the industry (Pyle, 2006). In this strategy the company can adopt a forward integration where it supplies its own commodities or backward integration where it supplies some or all of the items used in producing its preset commodities. Alternatively it can adopt a backward integration which gives the company more control over availability and quality or the raw material and mark up costs that go into the present commodities (Pyle, 2006).

2.2.5 Partnerships Applied by e-Mobile Phone Telecommunication Companies to Increase Subscriber Base Growth.
Certainly the company can also strategically pool together interests of the two organisations and accomplish it via partnerships (Pyle, 2006). Most of the e-mobile phone telecom companies have partnered with banking institutions and created mobile banking (M-banking). Dahlberg and Mallat (2002) combined these two models to describe strategic factors which characterize e-mobile telecommunication companies and impact the diffusion of these services. It should be stressed that the framework can be used as a meta-model to classify the existing literature, and as a research model to examine the different diversification strategies that are applied by e-mobile phone telecommunication companies’ facilities of a particular telecommunication firm (Pyle, 2006).

Telecom Operators and Customer Relationships
However, telecommunications operators will need to do this with partners. They must develop new ways to address their relationships with customers, vendors, applications developers, content providers and service providers (Pyle, 2006). This includes entering risk sharing arrangements with equipment vendors and application developers who control latest hype in technology functionality for example Android applications, and opportunity sharing arrangements with information and content providers.

As a result, the distribution of value in the value chain will rapidly shift. Presently, 70% of the value has remained with the operator; in future, 75% of the value will belong to content providers, content creators and service providers (Pyle, 2006). Few, if any, operators can make the transition from providing voice services to providing
the new mobile data services without a partner which will share risk, maximize opportunity, and minimize time to revenue (Wambari, 2009)

According to Mallat (2002) the framework will be useful for these purposes because: It will be based on guiding theories, will be conceptually sound, and draws from previous research modalities; It will help bring clarity to the multiple e-mobile topics and to the vague, conflicting terminology present in professional and academic paraphernalia of diversification strategies applied by e-mobile phone companies literature; and will show clearly what diversification strategies are applied by the e-mobile phone telecommunication companies in their markets and services development, another issue in need of clarity (Wambari, 2009).

**Technology Wars and Statistics**

According to Wambari (2009) over the last few years, the mobile and wireless market has been one of the fastest growing markets in the world and it is still growing at a rapid pace. According to the GSM Association and Ovum, the number of mobile subscribers exceeded 2 billion in September 2005, and now exceeds 2.5 billion (of which more than 2 billion are GSM). According to a study by financial consultancy Celent, 35% of online banking households will be using mobile banking by 2010, up from less than 1% today. Upwards of 70% of bank center call volume is projected to come from mobile phones. Mobile banking will eventually allow users to make payments at the physical point of sale. "Mobile contact less payments" will make up 10% of the contact less market by 2010. Currently more than 10 % (Wambari, 2009).

Many believe that mobile users have just started to fully utilize the data capabilities in their mobile phones. In Asian countries like India, China, Bangladesh, Indonesia and Philippines, where mobile infrastructure is comparatively better than the fixed-line infrastructure, and in European countries, where mobile phone penetration is very high (at least 80% of consumers use a mobile phone), mobile banking is likely to appeal even more (Wambari, 2009)

**Financial Institutions and Value Addition**

This opens up huge markets for financial institutions interested in offering value added services. With mobile technology, banks can offer a wide range of services to their customers such as doing funds transfer while traveling, receiving online updates of stock price or even performing stock trading while being stuck in traffic. According to the German mobile operator Mobilcom, (2008), mobile banking will be the "killer application" for the next generation of mobile technology (Wambari, 2009).

Mobile devices, especially smart phones, are the most promising way to reach the masses and to create “stickiness” among current customers, due to their ability to provide services anytime, anywhere, high rate of penetration and potential to grow. According to Gartner (2009) shipment of smart phones is growing fast, and should top 20 million units (of over 800 million sold) in 2006 alone. In the last 4 years, banks
across the globe have invested billions of dollars to build sophisticated internet banking capabilities (Wambari, 2009).

Mobile Banking Challenges
As the trend is shifting to mobile banking, there is a challenge for CIOs and CTOs of these banks to decide on how to leverage their investment in internet banking and offer mobile banking, in the shortest possible time. The proliferation of the 3G (third generation of wireless) and widespread implementation expected for 2007–2011 will generate the development of more sophisticated services such as multimedia and links to m-commerce services. (Wambari, 2009)

A wide spectrum of Mobile/branchless banking models is evolving for example in Kenya, Kenya Commercial Bank- Mtaani, Equity Bank-Ndio Hii and so on. However, no matter what business model, if mobile banking is being used to attract low-income populations in often rural locations, the business model will depend on banking agents, i.e. retail or postal outlets that process financial transactions on behalf telecoms or banks (Wambari, 2009).

The banking agent is an important part of the mobile banking business model since customer care, service quality, and cash management will depend on them. Many telecoms will work through their local airtime resellers. However, banks in Colombia, Brazil, Peru, and other markets use pharmacies, bakeries, etc (Wambari, 2009).

These models differ primarily on the question that who will establish the relationship (account opening, deposit taking, lending etc.) to the end customer, the Bank or the Non-Bank/Telecommunication Company (Telco). Another difference lies in the nature of agency agreement between bank and the Non-Bank. Models of branchless banking can be classified into three broad categories - Bank Focused, Bank-Led and Nonbank-Led (Malembanye, P. 2007).

Bank Focused Model
According to Wambari (2009), the bank-focused model emerges when a traditional bank uses non-traditional low-cost delivery channels to provide banking services to its existing customers. Examples range from use of automatic teller machines (ATMs) to internet banking or mobile phone banking to provide certain limited banking services to banks' customers. This model is additive in nature and may be seen as a modest extension of conventional branch-based banking (Malembanye, P. 2007).

The bank-led model offers a distinct alternative to conventional branch-based banking in that customer conducts financial transactions at a whole range of retail agents (or through mobile phone) instead of at bank branches or through bank employees (Wambari, 2009). This model promises the potential to substantially increase the financial services outreach by using a different delivery channel (retailers/ mobile
phones), a different trade partner (Telco / chain store) having experience and target market distinct from traditional banks, and may be significantly cheaper than the bank-based alternatives (Malembanye, P. 2007).

The bank-led model may be implemented by either using correspondent arrangements or by creating a joint venture (JV) between Bank and Telco/non-bank. In this model customer account relationship rests with the bank. Then the non-bank-led model is where a bank does not come into the picture (except possibly as a safe-keeper of surplus funds) and the non-bank (e.g. Telco) performs all the functions. (Wambari, 2009)

**ICT Evolution in Sub Saharan Africa**

Although it still has far to go, the ICT evolution across Sub-Saharan Africa has moved significantly forward for the past decade, much faster than in any other region covered by IT. The rapid expansion of mobile phone networks as well as GSM market uptake following liberalization and deregulation is the most frequently used example when trying to describe this evolution (Wambari, 2009). There were, according to ITU, 271 million mobile subscribers in Africa in 2007, compared to 15 million in 2000. This is a very good statistic for mobile phone companies (Wambari, 2009).

**Internet Subscribers**

Internet subscribers (i.e. excluding Internet café usage) in Africa were according to ITU about 9.7 million; up from 1.2 million in year 2000. The figures above include the more penetrated Northern African markets. In Southern Africa, South Africa dominates with high penetration of 40 million mobile subscribers (Source: www.vodacom.co.za and www.mtn.co.za), mostly pre-paid.

Behind these impressive growth figures hides both urban and rural market expansion. Although it is very common for people in urban areas in Sub-Saharan Africa to have a mobile phone, the situation is less certain for people in rural areas (Wambari, 2009). If rural people reside in an area with GSM coverage and can afford a phone, he or she may have one (Wambari, 2009). Or, maybe more likely, he or she has access to someone else’s phone, and hence has a shared phone arrangement, with or without an individual SIM card (Wambari, 2009).

It is on these mobile networks M-banking services can travel seemingly effortless across distance, and which constitutes the bridge that many donors now put their hope to. M-banking services are believed to have a real development impact, as it can bring financial services to previously unbanked people. We will look briefly at how these services are needed, demanded, supplied and used in other sections of the report. (Wambari, 2009) There are however still many rural areas that have never seen the sight of any terrestrial based mobile services, not to mention absence of any type of fixed connectivity or electricity grids (Wambari, 2009).
These areas are still today outside of service coverage, not only by telecom operators and other utilities, but also by banks and financial service (Wambari, 2009) s. For people in these areas the only technical available connectivity solutions are satellite-based ones, which of course are not within the financial means of most people. Needless to say, people in such areas are also out of any Internet- or M-banking service range (Wambari, 2009)

2.3 Summary
To determine the current state and future directions of Diversification Strategies Applied by Mobile Phone Telecommunication Companies research the researcher will conduct an extensive literature review. The first phase of the review will determine the review scope and relevant source material. Since e-mobile diversification strategies are an interdisciplinary topic similar to mobile business and e-commerce, relevant articles will be published in a wide variety of journals Mallat (2002). Furthermore, strategic e-mobile phone telecommunication research is still an emerging research area and most of the contemporary research is published in conference proceedings (Mill, Bruno-Britz. 2005).

Academic Journals
Therefore, he will include both academic journal papers from various disciplines and also conference proceedings in our research (S.Webster 2002). Despite a potentially lower quality of the conference proceedings, they are indeed informative for charting the current research topics in this rapidly progressing area of research, and for identifying gaps to be covered by future research (S.Webster 2002). It is expected that the best conference papers will evolve to journal articles and thus serve as leading indicators for the focus of future journal publications pertaining the emerging issue of strategic e-mobile commerce (Mill, Bruno-Britz. 2005).

Book chapters will be excluded from the search as they are not peer reviewed. We shall start with the literature search with a wide systematic scan of online academic journal and conference databases (Mill, Bruno-Britz. 2005). The following databases will be searched: ProQuest Direct, EBSCO Business Source Premier, Science Direct, IEEE Xplore, ACM Digital Library, AIS e-Library, M-lit online bibliographical database dedicated to mobile business literature, Google Scholar for academic conference papers (Mill, Bruno-Britz. 2005).

From the papers identified the researcher will go backwards by reviewing other work of the authors as well as citations in the papers (S.Webster 2002). Search will be based on the descriptors “Diversification strategies applied by e-mobile phone telecommunication companies”, “m-transfers market penetration”, and “wireless payments” that will be found in the title or abstract of the paper. The researcher will exclude papers where diversification strategies applied by e-mobile phone telecommunication companies was just a minor section of a research on mobile commerce or e-payments.
Conference Papers

To ensure the quality of the conference papers the researcher will focus the search on a few established conferences in the fields of information systems (IS), electronic commerce and mobile business that are listed in Appendix G. The IEEE proceedings will be searched through the IEEE Xplore. Some of the papers published in the IEEE proceedings are highly technical, addressing mostly electrical engineering and computer science topics, and will thus be excluded from the review (Mill, Bruno-Britz. 2005).

The selected conferences will utilize a selective peer review process, with the exception of the Mobility Roundtable Conference (MRC), which will be included due to its high relevance and since very recent and ongoing research will be present there (Mill, Bruno-Britz. 2005). The search shall result in papers, which will have been published between 2000 and August 2010. In the second phase of the review the researcher will classify the papers into the four categories according to our framework. The classification shall proceed as follows:

Two groups of researches will be independently reviewed from the title, abstract and discussion/conclusions sections of the paper and determine its main topic, for example, Call Rates and Tariffing. The researcher will then classify the paper to the corresponding Strategy within the framework. The two classifications will be subsequently compared and, in case of differing results, a third research will repeat the classification (Mill, Bruno-Britz. 2005). The most common Strategic factor will be selected. Some publications shall focus on several strategies, but not on any one detail, which will call for a new classification of ‘multiple categories’ papers (Mallat, 2002).

Two of the papers will focus in detail on two strategic factors and relationships between them, so they will be included in both categories (A. Zurijewska 2005 et al). Next, the researcher will analyze methodologies used. The researcher will first classify each research paraphernalia as ‘empirical’ and ‘conceptual’ and then divide the ‘empirical’ further to ‘qualitative’, ‘quantitative’ and ‘design research’.

Most technical papers propose conceptual constructs but some mainly describe strategic e-mobile technologies, therefore the researcher shall divide conceptual studies into proposed constructions and descriptions (A. Zurijewska 2005 et al). The reader should note that all studies regarding the diversification strategic e-mobile technology factor that will be classified as ‘empirical’ will evaluate the proposed construction (A. Zurijewska 2005 et al).
2.4 Conceptual Framework

The resulting conceptual framework is presented in Fig. 1.1. The framework is multi-faceted since it includes both strategic factors and contingency factors. The left multi-facet of the framework above in-cooperates diversification strategies (independent variables) which describes the five diversification strategies applied by e-mobile phone telecommunication companies to increase subscriber base growth: Call Rate Tariffing, Mobile Phone Electronic Money Transfer, Mobile Number Porting, Internet Data Bundling and Partnerships. It is worth noting that most diversification strategies lead to niche’ acquisitions in the long run, hence the more a company diversifies strategically the longer is its shelf life (A. Zurijewska 2005 et al).

The right mono-facet of the framework above includes the main contingency factor (Dependent Variable) that is Electronic Mobile Phone Telecommunication Companies Increase of Subscriber Base Growth. It is dependent on a variety of Strategic factors such as industrial and remote variables of an organisation or market in our case the Diversification Strategies (independent variables).

Fig 1.1. E-Mobile Phone Telecommunication Company and Strategy Interplay

(INDEPENDENT VARIABLES) (DEPENDENT VARIABLE)

CALL RATE TARIFFING

MOBILE PHONE ELECTRONIC MONEY TRANSFER

MOBILE NUMBER PORTING

INTERNET DATA BUNDLES

PARTNERSHIPS

ELECTRONIC MOBILE PHONE TELECOMMUNICATION COMPANIES TO INCREASE SUBSCRIBER BASE GROWTH

Source: Researcher
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction
The purpose of this study was to analyse Diversification Strategies Applied by e-Mobile Phone Telecommunication Companies to Increase Subscriber Base Growth. This chapter presents the procedures that were used to conduct the research study. The chapter focuses on research design, target population, sample and sampling procedures, research instruments, data collection and analysis.

3.2 Research Design
The study employed a survey design to assess the strategic e-environment diversifications on specifically subscriber growth and market penetration of e-mobile phone telecommunication companies. The study focussed on Nairobi (CBD), capital city of Kenya due to its cosmopolitanity and relative advances in both e-commerce and concentration of e-mobile phone telecommunication companies.

Orodho (2002) states that survey design is used in preliminary and exploratory studies to allow researchers to gather information, summarize, present and interpret for the purpose of clarification. Kothari (1985) states that, survey concerns describing, recording, analysing and reporting conditions that exist or have existed. The survey design was thus relevant to this study as the researcher only reported the Kenyan Diversification Strategies Applied by e-mobile phone Companies to Increase Subscriber Base Growth.

3.3 Location of the Study
The study was carried out in Nairobi City (CBD), the capital of Kenya and the largest of the three cities that is Mombasa to the coast and Kisumu to the far west lakeside. It borders Central province to the east, Rift valley province to the North West and Eastern province to the south. Gall (1993) acknowledged that the ideal setting of any study should be easily accessible to the researcher and should be that which permits instant rapport with the informants. Nairobi city was thus chosen due its easy accessibility to the researcher and relative high ICT awareness levels and e-mobile technology advancements in the region of concern (Wambiri, A. 2009).

3.4 Target Population
According to Borg and Gall (1989), the target population is identified as the members of a real hypothetic set of people, events or objects the researcher wishes to generalise the results of the research. The target population was envisaged to consist of 250 employees and 400 subscribers of Airtel-Kenya making a total of 900 participants.

3.5 Sample and Sampling Procedure
Orodho (2005) defines a sample as a small portion of a target population. He further states that sampling is a means of selecting a given number of subjects from a defined population as representative of that population. Orodho et al (2002) define sampling
as the procedure a researcher use to gather people, places or things to study. Any statements made about the sample should also be true of the population. It is however agreed that the larger the sample the smaller the sampling error (Wambari, A. 2009).

The population of interest included employees and subscribers. Since the research could not cover all employees and subscribers of the e-mobile telecommunication firm, a sample from Nairobi (CBD) was selected to take part in the study. According to Airtel-Kenya resources (2009) there were 250 employees as at July 2009 in Nairobi (CBD). The researcher used a size of 25 employees to represent (100%) employees.

The researcher purposively considered 400 subscribers within any week. The target included 40 subscribers to represent (100%) subscribers of Airtel-Kenya within Nairobi city, which is within the safe margin of recommended minimum sample size of 10% (Gay, 1992). The population structure is summarised in Table 3.1.

<table>
<thead>
<tr>
<th>Table 3.1 Category Population and Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population Category</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>Employee</td>
</tr>
<tr>
<td>Subscriber</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Source: Researcher

In order to determine the statistical sample size of the two population clusters the sample estimation formula by Kathuri et al (1993) was adapted. The formula is presented below:

\[ n = \left( \frac{X^2 NP (1 - P)}{D^2 (N-1) + X^2 P (1-P)} \right) \]

Whereas:

- \( n \) = required sample size.
- \( N \) = the given population size of (employees, merchants, subscribers) in our case.
- \( P \) = population proportion assumed to be 0.50
- \( D^2 \) = the degree of accuracy whose value is 0.05
- \( X^2 \) = table value of chi-square for one degree of freedom, which is 3.841

Substituting these values in the equation, estimated size \( n \) was:

\[ n = \frac{3.841^2 (25 \text{ employees}, 40 \text{ subscribers}) \cdot 0.50 (1 - 0.50)}{(0.05)^2 (25 \text{ employees}, 40 \text{ subscribers} - 1) + 3.841^2 \times 0.5 (1-0.5)} \]

\[ n (\text{employees}) = 24.6 \text{ approx 25.} \quad n (\text{subscribers}) = 38.96 \text{ approx 40.} \]
Thus, statistically, the minimum capacities of employees that can be selected from 250 employees are 25 and from 400 subscribers are 40 subscribers who were randomly selected by the researcher.

3.6 Research Instruments
The study utilised questionnaires as data collection tools with two data sets: Each set of questionnaire for Airtel-Kenya Subscribers and Employees. The questionnaire was used for data collection because as envisaged by Kiess and Bloomquist (1985) it's observed that it offers considerable advantages in the administration: it presents an even stimulus potentially to large numbers of people simultaneously and provides the investigation with easy accumulation of data. Gay (1992) maintains that questionnaires give respondents freedom to express their views or opinion and also to make suggestions. Details about each of these tools are presented next.

3.6.1 Questionnaires for Airtel-Kenya Employees.
This questionnaire solicited background data on the company’s diversification Strategies vis a vis the environment and strategies applied in their subscriber base growth and operations. One part looked into application of the diversification strategies to the company in subscriber base growth and operations to be answered by the employees. The questionnaire will had Likert-type item compilation that measured employees’ level of agreement or disagreement with the statements related to Airtel-Kenya diversification strategies.

3.6.2 Questionnaires for Airtel-Kenya Subscribers
The questionnaire had one section. This section got information on the diversification strategies used and the subscribers take on the strength of these diversification strategies. The questionnaire had Likert-type item compilation that measured subscribers’ level of agreement or disagreement with the statements related to respective diversification strategies.

3.7 Validity and Reliability of Instruments
Reliability according to Gay (1992) is the degree to which a test consistently measures what it is supposed to measure. Therefore, reliability measures the degree to which a research instrument yields consistent results after repeated trials. Validity, on the other hand, is the degree to which an instrument accurately what it purports to measure (Gay, 1992). Reliability and validity of the research instruments used were enhanced by applying the following procedures.

(i) Validity:
Validity is the degree to which a test measures what it purports to be measuring (Gay, 1992). This is how well a test measures what it is intended to measure. Validity can also be said to be the degree to which results are obtained from data analysis actually representing the phenomenon under investigation (Orodho, 2004). The researcher tested both face and content validity of the questionnaire. Face validity refers to the likelihood that a query will be misunderstood or misinterpreted (Prahalad, C.K. 2002).
According to Wilkinson (1991), pre-testing a survey is a good way to increase the likelihood of face validity. The pilot study was thus used to identify those items that could be misunderstood, and such items were modified accordingly, thus increasing face validity. Content validity refers to whether an instrument provides coverage of a topic. Thus the researcher purposefully sought expert opinions, literature searches and pre-testing of open-ended questions to help establish content validity (Wilkinson, 1991).

The researcher prepared the instruments in close consultation with his supervisors, and ensured that the items in the questionnaire cover all the areas under investigation. Best et al (1993), point out that content validity of the research instruments is ensured via expert judgement. The researcher’s supervisor, as an expert, helped assess the validity of instrument.

(ii) Reliability:
The pilot study helped the researcher to identify any ambiguous or unclear items and revise them accordingly thus improving the reliability of the instruments. Reliability of the instruments enabled the researcher estimate error and made corrections appropriately. This is because the larger the reliability the smaller the error and conversely, the larger the error, the smaller the reliability (Mugenda and Mugenda, 1999). To establish internal consistency for reliability of instruments the following techniques were used:

3.7.1 Piloting
Three set of groups outside the sample were randomly selected by the researcher comprising of subscribers and the company employees for piloting the study. The purpose of piloting the research instruments was to find out their reliability and validity. During the piloting, subjects were encouraged to make comments and suggestions concerning the instructions and the clarity of the questions in addressing the problem.

Mugenda and Mugenda (1999) noted that piloting is important because it helps in revealing deficiencies in a questionnaire, for instance, ambiguous questions are revealed in the sense that respondents interpret them differently. Unclear instructions and sufficient space to fill in responses were revealed during piloting and amended accordingly. However the piloting sample was excluded from the study.
3.7.2 Split Half Technique

Split-Half technique for reliability will be employed, using Spearman Brown Prophecy technique. The following shows a sample for Split Half Technique Procedure.

Procedure for Split Half will be as follows:

(i) \[ r = 1 - \frac{6 \sum (D^2)}{N (N^2 - 1)} \]

Where:
- \( r \) = Correlation coefficient
- \( N \) = Sample
- \( \sum \) = Summation of scores
- \( D \) = Deviation

(ii) \[ SH = \frac{2r}{1 + r} \] (where items are doubled)

(iii) A reliability of 0.5 or greater will be accepted.

The formula will be used as shown in the example below:

\[
1 - \frac{6(2)}{5(25-1)} = 0.9
\]

\[
SH = \frac{2(0.9)}{1+0.9} = 0.9474
\]

Source: Shiundu (2004)

3.8 Data Collection Procedure

The researcher inquired for a permit from the Airtel-Kenya authorities to carry out the study in their premises and get formal consent from the subscribers to investigate their responses. The researcher explained the importance of the study and the necessity of the respondents to give genuine and honest contributions to the study. Respondents were assured that any information they give would be treated with confidentiality and used only in the study.

Data was collected when these participants were working to get a realistic picture of their answers (Prahalad, C.K. 2002). The researcher got familiar with the locations of
the company plus the merchants kiosks and shops with help from the respondents (Prahalad, C.K. 2002). Questionnaires were administered at a given time for respondents in the company and merchant shops respectively. In the case of subscribers they were given 5 minutes to fill in the questionnaires.

3.9 Data Analysis
Descriptive statistics such as frequencies, percentages, measures of central tendency, variance and graphs were used to analyse the data obtained. Data collected from the field was coded and digested into the computer for analysis using the Statistical Package for Social Sciences (SPSS). On qualitative data, thematic analysis was done derived from the open ended items (Prahalad, C.K. 2002). The main themes and patterns in the responses were identified and analysed to determine the adequacy, usefulness and consistency of the information (Wambari, A. 2009).

Qualitative data was analysed using descriptive statistical tools such as modeller frequencies and percentages (Mugenda et al 1999). Statistical analysis was conducted using descriptive statistics including measures of central tendency, measures of variability and correlation manipulations (Wambari, A. 2009). The results of data analysis were presented in frequency tables, polygonal charts, 3D bar graphs and modulated pie charts.

3.9.1 Qualitative Analysis
According to Nachmias, (2006) qualitative analysis involves obtaining detailed information on phenomena that is being studied and thus establishes patterns and trends from the information gathered in the field. Data analysis further captures giving meaning to facts of mass information collected by data organisation and theme creation plus categorisation in the field. Open ended questions in questionnaires were organised into strategic theme questions pertinent in the study. In data organisation, the researcher diligently evaluated the usefulness of the information given by respondents.

3.9.2 Quantitative Analysis
Data collected was scored, coded and summarised by use of inferential statistical methodologies and descriptive techniques. Descriptive statistics aspects used included: Mean, Mode, Standard Deviations and Parabolic mediations.
<table>
<thead>
<tr>
<th>Research Question</th>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>How is Call Rate Tariffing Applied to increase subscriber base growth?</td>
<td>Call Rate Tariffing</td>
<td>Electronic Mobile Phone Telecom Companies Increased Subscriber Base Growth.</td>
<td>Pearson (r) [ r = \frac{\sum dx \cdot dy}{\sqrt{\sum dx^2 \cdot \sum dy^2}} ]</td>
</tr>
<tr>
<td>How is Mobile Phone Electronic Money Transfer applied to increase the subscriber base growth?</td>
<td>Mobile Phone Electronic Money Transfer</td>
<td>Electronic Mobile Phone Telecom Companies Increased Subscriber Base Growth.</td>
<td>Pearson (r) [ r = \frac{\sum dx \cdot dy}{\sqrt{\sum dx^2 \cdot \sum dy^2}} ]</td>
</tr>
<tr>
<td>How is Mobile Number Portability applied to increase the subscriber base growth?</td>
<td>Mobile Number Porting</td>
<td>Electronic Mobile Phone Telecom Companies Increased Subscriber Base Growth.</td>
<td>Pearson (r) [ r = \frac{\sum dx \cdot dy}{\sqrt{\sum dx^2 \cdot \sum dy^2}} ]</td>
</tr>
<tr>
<td>How is internet data bundling applied to increase subscriber base growth?</td>
<td>Internet Data Bundles</td>
<td>Electronic Mobile Phone Telecom Companies Increased Subscriber Base Growth.</td>
<td>Pearson (r) [ r = \frac{\sum dx \cdot dy}{\sqrt{\sum dx^2 \cdot \sum dy^2}} ]</td>
</tr>
<tr>
<td>How are partnerships applied to increase subscriber base growth?</td>
<td>Partnerships</td>
<td>Electronic Mobile Phone Telecom Companies Increased Subscriber Base Growth.</td>
<td>Pearson (r) [ r = \frac{\sum dx \cdot dy}{\sqrt{\sum dx^2 \cdot \sum dy^2}} ]</td>
</tr>
</tbody>
</table>

Source: Researcher 2012
CHAPTER FOUR
DATA ANALYSIS, INTERPRETATION AND PRESENTATION

4.1 Introduction
Data Analysis is the mathematical synthesis of numerical data to attain various statistical measures. Procedures included data presentation in graphs, charts and diagrams, descriptive statistics and inferential statistics. These helped the researcher to establish various realistic characteristics and relationships between variables. Furthermore during drawing of valid conclusions and recommendations based on data these procedures guided the researcher thematically. Statistical Package for Social Science (SPSS) and Analytical Excel tool pack (AETP) were used. To acquire proper, efficient and accurate application of data quantitative analysis, data was coded using different data labels in the various categories of analysis.

4.2 Respondents’ Bio Data Analysis
4.2.1 Respondents Age and Jurisdiction
A total of one hundred and ninety (190) respondents were considered valid from both subscribers (Subs) and employees (Empl) hence used for the analysis as shown in Table 4.2.1. Majority were aged between 21-25 years for subscribers with a frequency of 75 which was 50% whereas for employees majority were aged between 26 to 30 years with a frequency of 16 which was 40%. The least frequency for subscribers was aged 41-45 years with a frequency of 8 which was 5.33% and for the employees the least were aged between 21 to 25 years and 41 to 45 years respectively. Both recorded a percentage of 10% for both cases.

Table 4.2.1 Frequency Distribution Age Data

<table>
<thead>
<tr>
<th>Age/Years</th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>21-25</td>
<td>75</td>
<td>4</td>
<td>50</td>
<td>10</td>
</tr>
<tr>
<td>26-30</td>
<td>30</td>
<td>16</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>31-35</td>
<td>25</td>
<td>10</td>
<td>16.67</td>
<td>25</td>
</tr>
<tr>
<td>36-40</td>
<td>12</td>
<td>6</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>41-45</td>
<td>8</td>
<td>4</td>
<td>5.33</td>
<td>10</td>
</tr>
<tr>
<td>TOTAL</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

4.2.2 Respondents Responsibility Preference Strategies
Targeted respondents in the study comprised of Subscribers and Employees of the service provider under study. They were analysed vis-a-vis the five diversification strategies. Fig. 4.2.1 represents the proportions of these categories of respondents as per mentioned responsibilities.
Fig. 4.2.1 Respondents Responsibility Preference Strategies

<table>
<thead>
<tr>
<th>RESPONSIBILITY</th>
<th>PERCENTAGE</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBSCRIBERS</td>
<td>41.67%</td>
<td>Mostly preferred the 5 strategies</td>
</tr>
<tr>
<td>VENDORS</td>
<td>37.5%</td>
<td>Preferred the first 4 strategies</td>
</tr>
<tr>
<td>TECHNICIANS</td>
<td>12.5%</td>
<td>Preferred the bottom 3 strategies</td>
</tr>
<tr>
<td>MANAGEMENT</td>
<td>8.33%</td>
<td>Preferred the last strategy</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

4.2.3 Knowledge of Diversification Strategies by Respondents Categories
The gender strategy knowledge gap vis-a-vis respondents’ parity was also analysed and data distributed into two groups for males and females. The data was represented in a bar graph as shown in Fig. 4.2.2
4.2.4 Nature of Respondents

The researcher analysed data on respondents’ dynamics and how they technologically favour the strategies vis-a-vis their normal day to day operations such as communication, transfers, job aspects and generally technological interface capabilities. The data was analysed and preserved methodically in the following Table 4.2.3 illustrated below.

Table 4.2.2 Respondents Dynamics and Characteristics

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>CRT</td>
<td>31</td>
<td>06</td>
<td>20.67</td>
<td>15</td>
</tr>
<tr>
<td>MPEMT</td>
<td>89</td>
<td>15</td>
<td>59.33</td>
<td>37.5</td>
</tr>
<tr>
<td>MNP</td>
<td>07</td>
<td>03</td>
<td>4.67</td>
<td>7.5</td>
</tr>
<tr>
<td>IDB</td>
<td>18</td>
<td>10</td>
<td>12</td>
<td>25</td>
</tr>
<tr>
<td>PARTN</td>
<td>05</td>
<td>06</td>
<td>3.33</td>
<td>15</td>
</tr>
<tr>
<td>TOTAL</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

Majority of Subscribers often preferred using Mobile Phone Electronic Money Transfer (MPEMT) to the other Diversification strategies used with a percentage of 59.33%. The least preferred was the Partnership strategy which scored 3.33%. This implies that most of the subscribers pay attention mostly to MPEMT among the available strategies used in this study.
4.3 Descriptive Statistics
These are statistical measures synthesised via data based on the frequency distribution data available after field capture. They give a detailed representation of values of data with established descriptions for characteristics of the overall distribution in terms of measures of central tendencies, dispersion and data skewness among other notable data manipulation applications. These measures were computed as deemed appropriate in areas of concern for data captured.

4.3.1 Call Rate Tariffing
Data captured on application of Call Rate Tariffing on increase in subscriber base growth yielded Table 4.3.1 of descriptive Statistics. The commitment indicators employed and coded for analysis were as follows:

EFINANCE for electronic finance management of the service
TECHABTY for technology ability to select preferred options
AIRRES for airtime resource expenses on preferred tariffs
DEVEBTY for device ability to switch and use available preferred tariffs

The likert scale options were coded using the following value labels:
IG=Influence Greatly
IS=Influence Slightly
IM=Influence Moderately
NI=No Influence

The following tables illustrate the frequency distributions as well as the descriptive statistics of how the respondents rated the Call Rate Tariffing Strategy in increasing their preference to the network and also the financial benefits to them whereas also look at the company's adoption preference on this strategy.

Table 4.3.1 Electronic Finance Management of Service

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>42</td>
<td>28</td>
<td>28</td>
<td>70</td>
</tr>
<tr>
<td>IS</td>
<td>70</td>
<td>04</td>
<td>46.67</td>
<td>10</td>
</tr>
<tr>
<td>IM</td>
<td>26</td>
<td>03</td>
<td>17.33</td>
<td>7.5</td>
</tr>
<tr>
<td>NI</td>
<td>12</td>
<td>05</td>
<td>8</td>
<td>12.5</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

From the table 4.3.1 above, Call Rate Tariffing was rated by respondents as follows, 46.67% influencing slightly, 28% influencing greatly, 17.33% influencing moderately
and 8% no influence. This implies that Electronic Management of the strategy has an average effect on its applicability to increase subscriber base growth thus the respondents don’t consider it a major indicator towards attracting customers to this strategy application.

Table 4.3.2 Technology Ability to select Preferred Tariff Options

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>72</td>
<td>16</td>
<td>48</td>
<td>40</td>
</tr>
<tr>
<td>IS</td>
<td>40</td>
<td>18</td>
<td>26.67</td>
<td>45</td>
</tr>
<tr>
<td>IM</td>
<td>38</td>
<td>04</td>
<td>25.33</td>
<td>10</td>
</tr>
<tr>
<td>NI</td>
<td>0</td>
<td>02</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

The table 4.3.2 displays data where according to the respondents the Technology ability to Select Preferred Tariff options rated the strategy as follows: 48% influence greatly, 26.67% influence slightly and 25.33% influence moderately. This implied that majority of the respondents rated that despite the strategy indicator being important there is a great bearing on the technological ability of the device and the subscriber to operate the service.

Table 4.3.3 Airtime Expenses on Preferred Tariffs

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>90</td>
<td>25</td>
<td>60</td>
<td>62.5</td>
</tr>
<tr>
<td>IS</td>
<td>30</td>
<td>10</td>
<td>20</td>
<td>25</td>
</tr>
<tr>
<td>IM</td>
<td>10</td>
<td>01</td>
<td>6.67</td>
<td>2.5</td>
</tr>
<tr>
<td>NI</td>
<td>20</td>
<td>04</td>
<td>13.33</td>
<td>10</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

Table 4.3.3 above indicates Call Rate Tariffing strategy that majority of respondents rated the ‘airtime expenses on preferred tariff’ indicator as following: 60% influence greatly, 20% influence slightly, 13.33% no influence and 6.67% influence moderately. These results demonstrate that the respondents in the study rate the strategy highly where major impact on their preference lies on its ability to appear to
be affordable on face and service operationalisation. They appear to be sensitive on the cost factor of changing the tariffs.

**Table 4.3.4 Device Ability to Switch and use available Preferred Tariffs**

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>17</td>
<td>0</td>
<td>11.33</td>
<td>0</td>
</tr>
<tr>
<td>IS</td>
<td>33</td>
<td>16</td>
<td>22</td>
<td>40</td>
</tr>
<tr>
<td>IM</td>
<td>30</td>
<td>15</td>
<td>20</td>
<td>37.5</td>
</tr>
<tr>
<td>NI</td>
<td>70</td>
<td>09</td>
<td>46.67</td>
<td>22.5</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

In the above table 4.3.4 it indicates that under the indicator ‘device ability to switch and use available preferred tariffs’ the respondents rated the strategy as follows: 46.67% no influence, 22% influence slightly, 20% influence moderately and 11.33% influence greatly. In this case they don’t find any issue with operationalisation of their devices thus its impact is very minimal to increase subscriber base growth.

**4.3.2 Mobile Phone Electronic Money Transfer**

**Figure 4.3.1 MPEMT Usage**

From the above figure 4.3.1 it was observed that majority of the subscribers and employees preferred using the Mobile Phone Money Transfer for air time purchase.
(ATPURCH) to the other strategies at 94% (Subs) and 91% (Empl) respectively. It was also established from the same that on ATPURCH alone the subscribers were majority in its use as compared to the employees in the study. Consequently the least preferred strategy by both respondents was the Fee Pay use of the MPEMT. Here, only the employees seem to favour its use at 80% (Empl) and subscribers 69.8% (Subs).

Structures need to be put in place to develop the systems to be compliant and efficient to warrant trust from both ends of the service supply chain. Fee Pay can be a good strategic option since many countries favour the education pillar in their development strategic visions. This can boost customer loyalty, retain customers and thus increase subscriber base growth.

Data collected on MPEMT use yielded table 4.3.8 of descriptive statistics. MPEMT use indicators used were coded and analysed as follows:

ATPURCH for airtime purchase
BBLPAY for bill payment
FEEPAY for fee payment
SALPAY for salary payment

The following likert type scale options (measurement of the above indicators) were coded using the following value labels:
IG=Influence Greatly
IS=Influence Slightly
IM=Influence Moderately
NI=No Influence

The following tables show the frequency distributions and descriptive statistics of how the respondents rated MPEMT use preference.

**Table 4.3.4 Airtime Purchase**

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid%</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>79</td>
<td>12</td>
<td>52.67</td>
<td>30</td>
</tr>
<tr>
<td>IS</td>
<td>60</td>
<td>11</td>
<td>40</td>
<td>27.5</td>
</tr>
<tr>
<td>IM</td>
<td>10</td>
<td>08</td>
<td>6.67</td>
<td>20</td>
</tr>
<tr>
<td>NI</td>
<td>1</td>
<td>09</td>
<td>0.67</td>
<td>22.5</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012
Table 4.3.4 above indicates that on Mobile Phone Electronic Money Transfer the indicator ‘airtime purchase’ was rated as follows: 52.67% influence greatly, 40% influence slightly, 6.67% influence mostly and 0.67% no influence. This implies that the respondents in the study rate this strategy highly and on the indicator ‘airtime purchase’ demonstrates that they are attracted to this application indicator thus it follows that this strategy has great potential to increase subscriber base growth.

Table 4.3.5 Bill Payment

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid%</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>68</td>
<td>18</td>
<td>45.33</td>
<td>45</td>
</tr>
<tr>
<td>IS</td>
<td>52</td>
<td>10</td>
<td>34.67</td>
<td>25</td>
</tr>
<tr>
<td>IM</td>
<td>25</td>
<td>08</td>
<td>16.67</td>
<td>20</td>
</tr>
<tr>
<td>NI</td>
<td>05</td>
<td>04</td>
<td>3.3</td>
<td>10</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

From the table 4.3.5 the respondents rated this strategy under the ‘bill payment’ as follows: 45.33% influence greatly, 34.67% influence slightly, 16.67% influence moderately and 3.3% no influence. This suggests that the respondents in the study are greatly attracted to settle bill payments as a necessary application hence this strategy application increases subscriber base growth as bill payments is a compulsory transaction among the respondents.

Table 4.3.6 Fee Payment

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid%</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>58</td>
<td>22</td>
<td>38.67</td>
<td>55</td>
</tr>
<tr>
<td>IS</td>
<td>47</td>
<td>15</td>
<td>31.33</td>
<td>37.5</td>
</tr>
<tr>
<td>IM</td>
<td>25</td>
<td>02</td>
<td>16.67</td>
<td>5</td>
</tr>
<tr>
<td>NI</td>
<td>20</td>
<td>01</td>
<td>13.33</td>
<td>2.5</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

In the data presented in table 4.3.6 under indicator ‘fee payment’ for Mobile Phone Electronic Money Transfer, the respondents rated the strategy as follows: 38% influence greatly. 31.33% influence slightly, 16.67% influence moderately and 13.33% no influence. These entries demonstrate that the respondents in the study
don’t have a high perception on using the strategy for the above use as shown by this indicator scoring low on preference ability to attract subscribers.

Table 4.3.7 Salary Payment

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>06</td>
<td>28</td>
<td>04</td>
<td>70</td>
</tr>
<tr>
<td>IS</td>
<td>69</td>
<td>04</td>
<td>46</td>
<td>10</td>
</tr>
<tr>
<td>IM</td>
<td>50</td>
<td>06</td>
<td>33.33</td>
<td>15</td>
</tr>
<tr>
<td>NI</td>
<td>25</td>
<td>02</td>
<td>16.67</td>
<td>05</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

On ‘salary payment’ indicator shown in table 4.3.7 the respondents rated the strategy as follows: 46% influence slightly, 33.33% influence moderately, 16.67% no influence. This implied that the respondents in the study especially those employed did not favour this indicator as a strategic option since they had some reservation which was demonstrated by them not being confident in their rating.

Table 4.3.8 Mobile Phone Electronic Money Transfer

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>102</td>
<td>26</td>
<td>68</td>
<td>65</td>
</tr>
<tr>
<td>IS</td>
<td>38</td>
<td>12</td>
<td>25.33</td>
<td>30</td>
</tr>
<tr>
<td>IM</td>
<td>04</td>
<td>02</td>
<td>2.67</td>
<td>05</td>
</tr>
<tr>
<td>NI</td>
<td>06</td>
<td>0</td>
<td>04</td>
<td>0</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

Generally MPEMT rating among the respondents was very high among the other strategies in the study. The respondents rated it as follows: 68% influence greatly, 25.33% influence slightly, 4% no influence and 2% influence moderately. This implies that respondents are greatly attracted to this strategy hence can be used to increase the subscriber base. However there were reservations in its diversifications. The respondents prefer a secure platform especially in dealing with salary pay and fee pay diversifications as established in the previous data tables in this study.
Table 4.3.9 Descriptive Statistics on Mobile Phone Electronic Money Transfer-Subscribers rating top three indicators

<table>
<thead>
<tr>
<th></th>
<th>ATPURCH</th>
<th>BLLPAY</th>
<th>FEEPAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Mean</td>
<td>3.1</td>
<td>3.3</td>
<td>2.8</td>
</tr>
<tr>
<td>Mode</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>1.556</td>
<td>1.27</td>
<td>1.48</td>
</tr>
<tr>
<td>Skewness</td>
<td>(0.001)</td>
<td>(1.88)</td>
<td>0.372</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

The table 4.3.9 summarises the descriptive statistics on Mobile Phone Electronic Money Transfer-Subscribers. The numerical data is rounded off to the nearest whole number to give a realistic picture. The mean values of the indicators are approximately equal to 3. This indicates that MPEMT strategy is moderately rated in positive confidence by the respondents in the study. Dispersion is average as indicated by the standard deviation. The coefficient of skewness valuation for the first two indicators is negative. This implies that distributions of these indicators are leftist.

This is a good signal in that it demonstrates that the strategy has a significant tendency to be rated with great influence. However the ‘fee pay’ indicator is positively skewed. This indicates that there is a tendency towards being rated ‘no influence’.

4.3.3 Mobile Number Porting

Data obtained on mobile number porting as a strategy applied by mobile phone telecom companies to increase subscriber base gave table 4.3.13 of the descriptive statistics. Mobile Number Porting indicators were coded as follows:

ACCINFO for access of information
NETCHNG for network changing
TECHBKP for technology for data backup

Likert scale options (measures of the above indicators) were coded using the following labels:
IG=Influence Greatly
IS=Influence Slightly
IM=Influence Moderately
NI=No Influence

The following tables show the frequency distributions as the descriptive statistics of respondents.
Table 4.3.9 Access of Information

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>97</td>
<td>34</td>
<td>64.67</td>
<td>85</td>
</tr>
<tr>
<td>IS</td>
<td>40</td>
<td>02</td>
<td>26.67</td>
<td>05</td>
</tr>
<tr>
<td>IM</td>
<td>10</td>
<td>01</td>
<td>6.67</td>
<td>2.5</td>
</tr>
<tr>
<td>NI</td>
<td>03</td>
<td>03</td>
<td>02</td>
<td>7.5</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

The table 4.3.9 above represents respondents rating of the indicator ‘access of information’ for the Mobile Number Portability strategy. The respondents rated as follows: 64.67% influence greatly, 26.67% influence slightly, 6.67% influence moderately and 2% no influence. This implies that the respondents in the study prefer more information system access for this type of strategy to work. Thus with a clear and open access to information system then this strategy can increase subscriber base growth.

Table 4.3.10 Network Changing

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>46</td>
<td>18</td>
<td>30.67</td>
<td>45</td>
</tr>
<tr>
<td>IS</td>
<td>50</td>
<td>10</td>
<td>33.33</td>
<td>25</td>
</tr>
<tr>
<td>IM</td>
<td>38</td>
<td>11</td>
<td>25.33</td>
<td>27.5</td>
</tr>
<tr>
<td>NI</td>
<td>16</td>
<td>01</td>
<td>10.67</td>
<td>2.5</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

Table 4.3.10 above demonstrates rate approval of indicator ‘network changing’. The respondents rated it as follows: 33.33% influence slightly, 30.67% influence greatly, 25.33% influence moderately and 10.67% no influence. This implies that the respondents in this study had a low opinion on this indicator either because of a number of reasons that is possibly they did not have information on it or they did not want to change their networks.

This indicator established that the respondents did not think that changing their networks was an important issue to warrant success of this strategy. Also it was established that majority were ready to migrate to other 'networks without any
problems but had reservations on the overall strategy as a factor to increase subscriber base growth.

Table 4.3.11 Technology for Data Backup

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>96</td>
<td>27</td>
<td>64</td>
<td>67.5</td>
</tr>
<tr>
<td>IS</td>
<td>40</td>
<td>10</td>
<td>26.67</td>
<td>25</td>
</tr>
<tr>
<td>IM</td>
<td>14</td>
<td>2</td>
<td>9.33</td>
<td>5</td>
</tr>
<tr>
<td>NI</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2.5</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

In table 4.3.11 the respondents rated the indicator ‘technology for data backup’ as follows: 64% influence greatly, 26.67% influence slightly, and 9.33% influence moderately. This implies that the respondents in this study pay high attention to technology in application of this strategy. For this indicator there is a concern among the respondents on data loss. In this case they seem to raise the red flag on data safety concern of which if taken care of can entice the subscribers to join the service thus increase subscriber base growth.

Table 4.3.12 Descriptive Statistics on Mobile Number Porting-Subscribers

<table>
<thead>
<tr>
<th></th>
<th>ACCINFO</th>
<th>NETCHNG</th>
<th>TECHBKP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Mean</td>
<td>2.74</td>
<td>2.12</td>
<td>2.24</td>
</tr>
<tr>
<td>Mode</td>
<td>1.2</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>1.442</td>
<td>1.2</td>
<td>1.280</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.238</td>
<td>0.99</td>
<td>0.911</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

Table 4.3.12 shows descriptive statistics on Mobile Number Porting rounded off to the nearest whole number. Mean values in this case are lowest for network changing as compared to ‘account information’ and ‘technology backup’ with 2.74 and 2.24 respectively.
4.3.4 Internet Data Bundles

Table 4.3.16 represents the descriptive statistics on the indicators of Internet Data Bundles. The indicators were coded as follows:

- DATSPD for data speed of the network
- TECHAPPS for technology application ware
- CLLSPD for cell phone speed on data applications

The likert scale options (measures of the above indicators) were coded, using the following value labels:

IG=Influence Greatly
IS=Influence Slightly
IM=Influence Moderately
NI=No Influence

The following tables show the frequency distributions as the descriptive statistics of respondents.

Table 4.3.13 Data Speed of the Network

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>79</td>
<td>29</td>
<td>52.67</td>
<td>72.5</td>
</tr>
<tr>
<td>IS</td>
<td>49</td>
<td>07</td>
<td>32.67</td>
<td>17.5</td>
</tr>
<tr>
<td>IM</td>
<td>12</td>
<td>04</td>
<td>08</td>
<td>10</td>
</tr>
<tr>
<td>NI</td>
<td>10</td>
<td>0</td>
<td>6.67</td>
<td>0</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

From the table 4.3.13 the respondents rated this strategy on the indicator ‘data speed of the network’. The respondents in the study rated it as follows: 52.67% influence greatly, 32.67% influence slightly, 8% influence moderately and 6.67% no influence. In this case majority of the respondents favour this indicator and thus this strategy is vital to the increase of subscriber base growth especially in Data Internet Bundling strategy.
Table 4.3.14 Technology Application ware

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>54</td>
<td>27</td>
<td>36</td>
<td>67.5</td>
</tr>
<tr>
<td>IS</td>
<td>50</td>
<td>09</td>
<td>33.33</td>
<td>22.5</td>
</tr>
<tr>
<td>IM</td>
<td>38</td>
<td>01</td>
<td>25.33</td>
<td>2.5</td>
</tr>
<tr>
<td>NI</td>
<td>08</td>
<td>03</td>
<td>5.33</td>
<td>7.5</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

Table 4.3.14 demonstrates respondents rating on the strategy under the indicator ‘technology application ware’. The respondents rated as follows; 36% influence greatly, 33.33% influence slightly, 25.33% influence moderately and 5.33% no influence. This implies that this strategy application to increase subscriber base is not satisfactory as few rated it highly under this indicator. This provides a new lucrative strategic option to increase subscriber base growth.

Table 4.3.15 Cell Phone Speed on Data Applications

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>76</td>
<td>30</td>
<td>50.67</td>
<td>75</td>
</tr>
<tr>
<td>IS</td>
<td>38</td>
<td>04</td>
<td>25.33</td>
<td>10</td>
</tr>
<tr>
<td>IM</td>
<td>19</td>
<td>05</td>
<td>12.67</td>
<td>12.5</td>
</tr>
<tr>
<td>NI</td>
<td>17</td>
<td>01</td>
<td>11.33</td>
<td>2.5</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

Table 4.3.15 represents data rating among respondents in the study under the indicator ‘cell phone speed on data analysis’ The respondents rated it as follows: 50.67% influence greatly, 25.33% influence slightly, 12.67% influence moderately and 11.33% no influence. In this case majority of the respondents indicate a high confidence level on this indicator affecting their preference to this strategy hence a better indicator for a further diversification the strategy to increase subscriber base growth.
Table 4.3.16 Descriptive Statistics on Internet Bundles

<table>
<thead>
<tr>
<th></th>
<th>DATSPD</th>
<th>TECHAPPS</th>
<th>CLLSPD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Mean</td>
<td>2.32</td>
<td>2.12</td>
<td>2.74</td>
</tr>
<tr>
<td>Mode</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>1.22</td>
<td>1.2</td>
<td>1.44</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.91</td>
<td>0.99</td>
<td>0.24</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

The table 4.3.16 represents descriptive statistics on Internet Data Bundles. The data is summarized and rounded off to the nearest whole number in cases deemed appropriate in the study figures. Mean values of the three indicators; (DATSPD), (TECHAPPS) and (CLLSPD) are approximately 2. This implies that the respondents don’t take the above indicators as significantly affecting subscriber base growth. The coefficient of skewness values are all significant positive values indicating positively skewed distributions. These indicate that the respondents significantly tend to influence greatly with the indicators as defined.

4.3.5 Partnerships

Table 4.3.19 represents descriptive statistics on the indicators of Partnerships. The indicators were coded as follows:
SYNADV for synergy advantages of partnerships
STRAECON for strategic economies of scale vis-a-vis profit potential

Likert type scale options (measurements of the above indicators) were coded using the following labels:
IG=Influence Greatly
IS=Influence Slightly
IM=Influence Moderately
NI=No Influence

The following tables show the frequency distributions as the descriptive statistics of respondents.
Table 4.3.17 Synergy Advantages of Partnerships

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>81</td>
<td>04</td>
<td>54</td>
<td>10</td>
</tr>
<tr>
<td>IS</td>
<td>47</td>
<td>01</td>
<td>31.33</td>
<td>2.5</td>
</tr>
<tr>
<td>IM</td>
<td>12</td>
<td>06</td>
<td>08</td>
<td>15</td>
</tr>
<tr>
<td>NI</td>
<td>10</td>
<td>29</td>
<td>6.67</td>
<td>72.5</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

The table 4.3.17 represents data rated on the indicator ‘synergy advantages of partnerships’ during the study. The respondents rated as follows: 54% influence greatly, 31.33% influence slightly, 8% influence moderately and 6.67% no influence. This indicated that the respondents hold in high esteem synergetic advantages of partnerships.

Table 4.3.18 Strategic Economies of scale vis-a-vis Profit potential

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage %</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subs</td>
<td>Empl</td>
<td>Subs</td>
<td>Empl</td>
</tr>
<tr>
<td>IG</td>
<td>77</td>
<td>02</td>
<td>51.33</td>
<td>05</td>
</tr>
<tr>
<td>IS</td>
<td>13</td>
<td>03</td>
<td>8.67</td>
<td>7.5</td>
</tr>
<tr>
<td>IM</td>
<td>42</td>
<td>10</td>
<td>28</td>
<td>25</td>
</tr>
<tr>
<td>NI</td>
<td>18</td>
<td>25</td>
<td>12</td>
<td>62.5</td>
</tr>
<tr>
<td>TOTALS</td>
<td>150</td>
<td>40</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

Table 4.3.18 represents the respondents rating on application of the Partnerships strategy based on the strength of the indicator ‘strategic economies of scale vis-a-vis profit potential’ The respondents rated it as follows: 51.33% influence greatly, 28% influence moderately, 12% no influence and 8.67% influence slightly. This implies that the respondents in the study are comfortable and welcome the indicator positively thus the strategy can also enhance increased subscriber base growth if properly constituted.
Table 4.3.19 Descriptive statistics on Partnership

<table>
<thead>
<tr>
<th></th>
<th>SYNADV</th>
<th>STRAECON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Mean</td>
<td>2.68</td>
<td>2.38</td>
</tr>
<tr>
<td>Mode</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>1.17</td>
<td>1.07</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.204</td>
<td>0.403</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

The descriptive statistics on partnership indicators for subscribers are summarised in table 4.3.19. Figures have been rounded off to the nearest whole number. The indicative means are equal to 3. This shows that on this strategy on the indicators is average. Standard deviation scores demonstrate moderate dispersion in data studied. All frequencies are positively skewed. This indicates that though moderate Partnership strategy it's leaning towards below par.

4.4 Inferential Statistics

Strategies in any business operation are most crucial in the success of any growth oriented enterprise. Diversification strategies based on technology in this case can enhance the business platform of a telecom company and in this instance to enhance subscriber base growth more than the other marketing strategies which reflects the health of an enterprise. It further opens up that there is a close relationship between Diversification Strategies based on technology and subscriber base growth in telecom companies.

A single factor analysis of variance (ANOVA) was carried out on data collected, to check whether truly there existed a relationship between Diversification Strategies and subscriber base growth. Table 4.4.20 presents the rating of Subscriber Base Growth by different categories of Diversification Strategies.

Table 4.4.20 Diversification Strategies and Subscriber Base Growth

<table>
<thead>
<tr>
<th></th>
<th>NI</th>
<th>IM &amp; IS</th>
<th>IG</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRT</td>
<td>5</td>
<td>9</td>
<td>22</td>
<td>35</td>
</tr>
<tr>
<td>IDB</td>
<td>26</td>
<td>18</td>
<td>5</td>
<td>48</td>
</tr>
<tr>
<td>MPEMT</td>
<td>13</td>
<td>26</td>
<td>26</td>
<td>65</td>
</tr>
<tr>
<td>TOTAL</td>
<td>44</td>
<td>53</td>
<td>53</td>
<td>150</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012
Data on the other two strategies did not significantly have electronic technology impetus to the respondents and was thus dropped during this analysis. The ANOVA was conducted on the data from table 4.4.20 at 5% significance level to test hypotheses;

Null Hypothesis, $H_0 : \alpha = \alpha$ There is a significant relationship between Diversification Strategies basing on technology and subscriber base growth.

Alternative Hypothesis, $H_1 : \alpha \neq \alpha$ There is no significant relationship. Table 4.4.21 demonstrates extracts of the results of ANOVA.

Table 4.4.21 Single Factor ANOVA Results

<table>
<thead>
<tr>
<th>Variation Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>$F_c$</th>
<th>$P$-value</th>
<th>$F$</th>
<th>$C$</th>
</tr>
</thead>
<tbody>
<tr>
<td>In group</td>
<td>0.8888</td>
<td>2</td>
<td>0.4444</td>
<td>0.07692</td>
<td>0.92685</td>
<td>5.1433</td>
<td></td>
</tr>
<tr>
<td>Within</td>
<td>34.6666</td>
<td>6</td>
<td>5.7777</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>35.5554</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Field Data, 2012

From the output, $F$ computed value is 0.07692 while the critical $F$ is 5.1433. Since $F_c < FC$ then $H_0$ cannot be rejected at 5% significant level. Therefore it is concluded that there is a significant relationship between Diversification Strategies and Subscriber base growth in electronic mobile phone telecom companies. Thus diversification strategies leaning towards technology applied increases subscriber base growth.

In this case the $P$-value indicates the power of the test which is 0.92685 which gives a 98.63% confidence level. As observed previously, most of the indicators of the diversifications strategies rated low. Based on the findings of the above ANOVA test majority of the respondents especially the employees were comfortable in identifying the strategies positively thus rated them highly. Since majority were subscribers and preferred marketing oriented strategies which were not enhanced mostly, thus they rated the available ones lowly.

Increased diversification strategies coupled up with a good marketing cocktail sufficed more since the subscribers whom the research analysed mostly were positively identifying with these more than the technological diversification strategies provided for in this research. The correlation matrix in table 4.4.22.
The Pearson correlation coefficient values between Diversification Strategies and Subscriber Base Growth are positive and close to unit. This implies strong relationship between each of these variables and subscriber base growth. There is a weak relationship between Internet Data Bundles and Subscriber Base Growth. The correlation values measuring the relationship between each pair of the independent variables are close to zero, indicating a weak positive linear relationship between the independent variables considered. This eliminates autocorrelation and multicollinearity that is the independent variables are significant statistically correct as variables of the changes observed in Subscriber Base Growth (Dependent Variable).

The correlation coefficient value 0.9295 is close to 1. This implies that there is a very strong direct linear relationship between the variables. If for instance MPERM was raised from ‘no influence’ to ‘influence greatly’ demonstrates a sustained increased subscriber base growth preference in this strategy implemented by the electronic

<table>
<thead>
<tr>
<th></th>
<th>Subscriber Base Growth</th>
<th>Call Rate Tariffing</th>
<th>Mobile Phone Electric Money Transfer</th>
<th>Mobile Number Porting</th>
<th>Internet Data Bundles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SubSubscriberer Base Growth</strong></td>
<td>Pearson Correlation 1</td>
<td>0.910</td>
<td>0.824(**)</td>
<td>0.95</td>
<td>0.111</td>
</tr>
<tr>
<td><strong>Call Rate Tariffing</strong></td>
<td>Pearson Correlation 0.910</td>
<td>1</td>
<td>-0.055</td>
<td>0.137</td>
<td>0.075</td>
</tr>
<tr>
<td><strong>Mobile Phone Electronic Money Transfer</strong></td>
<td>Pearson Correlation 0.824(**)</td>
<td>-0.055</td>
<td>1</td>
<td>-0.055</td>
<td>-0.193(*)</td>
</tr>
<tr>
<td><strong>Mobile Number Porting</strong></td>
<td>Pearson Correlation 0.95</td>
<td>0.137</td>
<td>0.055</td>
<td>1</td>
<td>0.270(**)</td>
</tr>
<tr>
<td><strong>Internet Data Bundles</strong></td>
<td>Pearson Correlation 0.111</td>
<td>0.075</td>
<td>-0.193(*)</td>
<td>0.270(**)</td>
<td>1</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed)
*Correlation is significant at the 0.05 level (2-tailed)
Source: Field Data, 2012
mobile phone telecom company. This further showed that majority of the respondents increased their preference for the strategies towards ‘influence greatly’

Generally, application of the diversification strategies such as Internet Data Bundling and Mobile Number Porting should be synergistically applied together since they can complement each other sustainably as envisaged in the data analysed. Confidingly the interplay between technologically operationalised diversification strategies in increasing subscriber base growth evidently will have a role positively especially when they are cocktailed with a good marketing strategic mix. Supposedly the Ansoff matrix would be a major ingredient in the diversification strategies recipe if companies are to increase the subscriber base in a higher margin of subscriber base.

Apart from discussed diversification strategies, there are other strategies that contribute to the increase in subscriber base growth. According to the respondents they forwarded the following diversification strategies: Data Streaming, Diversified Mobile Number Sequestration, Interlinked Device Portability and Technological Data Interchange Intelligence. These diversification strategies the researcher had delved into them and produced some interesting paraphernalia in other notable research work.
CHAPTER FIVE
SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
This chapter covers the summary of the study, conclusions that are drawn from the study and recommendations based on the study findings as well as suggestions for further studies in future.

5.2 Summary
The study endeavoured to find out Diversification Strategies Applied by Electronic Mobile Phone Telecommunication Companies Case of Airtel Kenya. Theses study was guided by five research questions, whose theme concentrated on Call Rate Tariffing, Mobile Phone Electronic Money Transfer, Internet Data Bundling, Mobile Number Portability and Partnerships as applied by Electronic Mobile Phone Telecommunication Companies.

The study employed descriptive research design. The study sample was selected from a plethora of 250 respondents divided into two groups (Subscribers and Employees) Actual respondents comprised of 150 Subscribers and 40 Employees whom their data was found to be accurate in semantic objectivity.

Questionnaires were utilised for data collection. Data was analysed using both qualitative and quantitative techniques and procedures. Quantitative data analysis digested data by using descriptive and inferential statistics. Data was coded and analysed into percentages, frequencies and cumulative analysis of percentages. Qualitative data on the other hand was organised and synthesised by themes and narrative and interpreted reporting techniques used appropriately to edify data facts obtained in the research.

Data analysis was captured in Chapter Four. It came up with valid reliable findings. The following is a summary as per the research questions.

5.2.1 Call Rate Tariffing and Subscriber Base Growth
The following labels used here to analyze the data were captured into four subcategories. Data considered was scored yielded the following. The highest label score according to the respondents was ‘resource for airtime expenses’ where, 60% of the respondents rated it to have a great influence and 13.33% rated it to have no influence. The study established that the respondents were affected with specifically how application of this strategy augured on their airtime expenses on this label for study. Lowest label score was ‘device ability to switch tariffs’ with a score of 11.33% as having great influence and 46.67% having no influence. Thus the subscribers were not threatened by their device technological capabilities.
5.2.2 Mobile Phone Electronic Money Transfer and Subscriber Base Growth
Generally majority of the respondents in the study highly rated this strategy with a 68% rating it to have great influence and only 4% thought it not to have a great influence on subscriber base growth. Using the labels as an indicator for the strength of this diversification strategy, the study established that the respondents rated ‘airtime purchase’ highest application for this strategy. According to the study, this label scored 52.67% as having a great influence and 0.67% as having no influence. This suggests that although majority of the respondents favor this strategy a greater number of them favor ‘airtime purchase’.

5.2.3 Mobile Number Portability and Subscriber Base Growth
According to the data findings, the study found out that though most respondents were positive for this strategy the major impediment was on limited marketing strategy interface between the service and the customer. Thus the study established that there was a negative link between this strategy implementation and subscriber base growth.

In the label factor for ANOVA analysis ‘access to information’ and ‘technology for data backup’ scored 64.67% and 64% great influence respectively. This implies that the respondents in the study demonstrated less information on the same plus they also had reserves on their important data backup should they cross to a better service. Respondents suggested that unlimited data backup would greatly increase confidence in the strategy.

5.2.4 Internet Data Bundling and Subscriber Base Growth
The study established that majority of respondents were influenced greatly by ‘data speed of the network’ which scored 52.67% and ‘cell phone speed on data application’ that scored 50.67%. In this study it was found out that the respondents were quit conversant with this strategy.

Majority in the study scored great influence on the strategy technology applications on the service hence although it is a preferred strategy but the respondents suggested that the service speed of the data access and use should be harnessed to make it more attractive to increase subscriber base growth.

On the other hand the respondents also thought highly of their cell phone speed capabilities to synthesize data. Albeit the strength of the score on strategy there is need to ensure a technology rapport between the data service upgrade vis-à-vis device capabilities. Certainly in correct execution of this strategy the company can link with a device manufacturer and develop strategic technology product speed tailored for the devices.

5.2.5 Partnership and Subscriber Base Growth
As a means of subscriber base growth increase using this strategy, the respondents factor labels used courtesy of the ANOVA gave back a sustainable plethora with a
degree of great influence of 54% for the ‘synergy advantages’ associated with this strategy. This demonstrated that the respondents in the study favor this strategy but with a lining towards an all inclusive synergetic partnership mostly on technology and marketing companies.

These strategic partnerships between good reputation companies according to the respondents offered a good platform for the trust and confidence of the services offered. In this case a good correlation of strategic fit was a positive motivator to increase subscriber base growth. As discovered in the study most of the respondents favored a strategic partnership with high economies of scale factor. This was demonstrated by the ANOVA analysis where respondents rate it at 51.33% of great influence.

5.3 Conclusion
Generally Diversifications strategies are projectile tools of company survival mostly effective for sustainability after a good successive understanding of the micro and macro environment and futuristic calculations of business survival. In our study majority of the telecommunication companies’ competitions for subscribers form a good scene for market testing of strategic fit. To win these diversification strategies should be tailored with the customers in mind as envisaged by the study.

Based on respondents score, Mobile Phone Electronic Money Transfer is the best sought for strategy. If manipulated well and given a horizontal strategic platform then it can increase the subscriber base growth by up to 64% without additional marketing strategies.

From the analysis it is quite evident that a sustainable strategic mix especially for the Internet Data Bundling strategy with Mobile Phone Electronic Money Transfer would yield more subscriber base growth. The mix would a higher P-value than 0.9 which can translate to an above 90% confidence level which indicates the strength of the relationship.

There is a significant strength in the Mobile Phone Electronic Money Transfer as 68% of respondents confirmed that in the study. However Partnerships were lowly ranked. This raises concerns especially on trust and confidence of new entities for service production. Also in positive light it provides a non biased competitive market since the respondents don’t seem to favor an oligopolistic business environment.

A successful company will need to rely on a strong study of internal strengths, pay attention to minimize its weaknesses, enhance new opportunities via diversifications strategic fit and also take in threats as possible diversification avenues to pull in new products thus create a diverse product line for subscribers. This will have the effect of keeping the customers locked in the ‘one stop shop’ of the service provider.
From this study it is evident that Call Rate Tariffing as a strategy scored with using the ANOVA indicators giving 60% great influence for respondents concerns on 'resource for airtime expenses' in this case with a minimum of only 13.33% have reservations among the other indicators then the more diversified the strategy the higher the effectiveness of the outcome.

Subscriber base growth can be achieved via a well calculated mix of the strategies but concentrated mostly towards reduction of subscriber connection rates and airtime while providing an attractive plethora package for different user types and needs.

5.4 Recommendations and Suggestions for further Studies

5.4.1 Recommendations
The electronic mobile phone telecommunication companies competition space can be expanded immensely and take its place as an economic indicator. Correct execution of these strategies with a perfect mix can confirm a higher rate of subscriber growth.

Proper and adequate marketing vis-à-vis technology strategies will enhance both qualities in service plus ensure the customer is taken into consideration the setting up and implementation of the strategies. From this study there are a myriad of specific detailed diversification strategies a sustainable private enterprise can take on board to guarantee fast growth and stability in the competitive telecom market.

Strategic fundamentals need to take place and concentrate on mostly a customer centered strategy such as Mobile Phone Electronic Mobile Transfer. Usability diversification should be improved for instances expand this application to primary monetary affiliates such as School Fee Pay (SFP), Kiosk monetary pay for small earners, School Pocket Money Pay (SPMP) and Salary Pay.

5.4.2 Suggestions for Further Research
Majority of the strategies are advancements of Porter's theories. In the researcher's view a sustainable strategic mix would be a recipe of Porter and Ansoff matrix to set up flexibility in reaction speed in a company as the macro environment changes fast in the e-world. Currently the world is going digital thus creating a protracted strategic field.

Companies have no option but to pay attention to the needs of the customer bench mark them to their strategies while have a correct calculated cost cutting plan. For further research areas touching on Strategic Information Systems applications, Sustainability of Mobile Number Portability and electronic Strategic Dynamism in e-Companies form fertile grounds for a good researcher to delve into. Good Luck.
BIBLIOGRAPHY


Ding, M. S. Et al (2003). *Changing Technological and Business Landscapes for mPayment: Is Local Mobile Payment emerging as the Winner?* Paper
presented at the 8th International Workshop on Mobile Multimedia. Communications: Munich, Germany


APPENDICES

Appendix A

Letter of Introduction

Kenyatta University,
Department of Business Administration,
P.O. Box 43844-00100,
Nairobi-Kenya.

Dear Sir/Madam,

RE: REQUEST TO FILL A QUESTIONNAIRE OF YOUR FIRM IN RESEARCH

I am a post graduate student at Kenyatta University currently undertaking a Masters of Business Administration research on “Diversification Strategies Applied by Electronic Mobile Phone Companies to Increase Subscriber Base Growth”. Your firm has been identified to participate in this study due to its market share stature in e-mobile phone telecommunication stature in Kenya and by extension Africa. Your assistance will enable this study to come up with accurate findings. The responses given will be treated with utmost confidentiality and for academic purposes only. Thank you in advance.

Yours faithfully,

Edgar Raphael Shiundu.
Appendix B

Questionnaire for Airtel-Employees

This research is meant for academic purpose. Kindly you are requested to provide answers to these questions as honestly and precisely as possible. Responses to these questions will be treated as confidential. Do not write your name or position in the firm anywhere on this questionnaire. Please tick where appropriate or fill in the required information on the spaces provided.

Diversification Strategies Applied by Electronic Mobile Phone Telecommunication Companies to Increase Subscriber Base Growth.

1. Given below are Diversification Strategies Applied by e-Mobile Phone Telecommunication Companies to Increase Subscriber Base Growth. You are to indicate the extent to which each diversification strategy influences increase in subscriber base growth of your firm, using the scale below:

| IG: Influence greatly | IM: Influences Moderately |
| IS: Influence Slightly | NI: No Influence |

the growth of subscriber base of Airtel-Kenya?

IG □ IM □
IS □ NI □

Explain.

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(b) How does addition of significantly different products such as Mobile Phone Electronic Money Transfer (Airtel Money) from your product line impact on the growth of subscriber base of Airtel-Kenya?

IG □ IM □
IS □ NI □

Explain.

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(c) How do franchising and alliance linkages with Mobile Number Porting impact on the increase of subscriber base growth of Airtel-Kenya within the industry and Kenya by extension?
(d) How has introduction of Internet Data Bundling impacted on the subscriber base growth of Airtel-Kenya?

Explain.

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(e) How do strategic diversified Partnerships affect the subscriber base growth of Airtel-Kenya?

Explain.

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2. Indicate other strategies applicable to subscriber base growth more likely to be of use to Airtel-Kenya?

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Thank You for Your Co-operation
Appendix C

Questionnaire for Airtel-Kenya mobile subscribers.

This research is meant for academic purpose. Kindly you are requested to provide answers to these questions as honestly and precisely as possible. Responses to these questions will be treated as confidential. Do not write your name or position in the firm anywhere on this questionnaire. Please tick where appropriate or fill in the required information on the spaces provided.

Diversification Strategies Applied by Electronic Mobile Phone Telecommunication Companies to Increase Subscriber Base Growth.

1. Given below are diversification Strategies Applied by e-Mobile Phone Telecommunication Companies to Increase Subscriber Base Growth. You are to indicate the extent to which each influences the subscriber base growth of your firm, using the scale below:

<table>
<thead>
<tr>
<th>IG: Influence Greatly</th>
<th>IM: Influences Moderately</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS: Influence Slightly</td>
<td>NI: No Influence</td>
</tr>
</tbody>
</table>

(a) Does addition of new similar products such as internet bundles to Airtel-Kenya’s existing products impact on its subscriber base growth?

IG □ IM □ IS □ NI □

Explain.

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(b) Do the different call rates and tariffs offered increase the subscriber base growth?

IG □ IM □ IS □ NI □

(c) Does addition of significantly different products such as Mobile Phone Electronic Money Transfer (Airtel Money) of Airtel-Kenya increase the subscriber base?

IG □ IM □ IS □ NI □

70
(d) Does Strategic Staff Training in forging alliances with other companies and franchising of Airtel-Kenya staff especially in Mobile Number Porting increase subscriber base growth of Airtel-Kenya?

IG □ IM □
IS □ NI □

Explain.

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...................................................................................................

(e) Do Strategic Partnerships with other companies idea of it supplying some or all of the items used in producing its present commodities increase subscriber base growth of Airtel-Kenya?

IG □ IM □
IS □ NI □

Explain.

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...................................................................................................

2. How can additional facilities you have been using in Airtel-Kenya be improved or added to facilitate increase and growth of subscriber base?

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(a) List some reasons that have attracted you to Airtel-Kenya?

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Thank You for Your Co-operation
Appendix D

Time Schedule
The researcher will operate within the following time plan (2012)

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
<th>AUG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing and submission of the proposal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposal correction and submission</td>
<td></td>
<td></td>
<td></td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pilot testing and adjustment of the instruments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>Collection of data for the study</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presentation of the report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correction of final report and submission</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Researcher
Appendix E

Budget

The researcher will operate within the following budget plan:

<table>
<thead>
<tr>
<th>Details</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposal writing, Pilot Study, Data Collection, Data Analysis and Project typing:</td>
<td></td>
</tr>
<tr>
<td>Typing, Printing, Photocopying &amp; Binding</td>
<td>15000</td>
</tr>
<tr>
<td>Stationery</td>
<td>11000</td>
</tr>
<tr>
<td>Data Processing and Report Writing</td>
<td>16000</td>
</tr>
<tr>
<td>Transport</td>
<td>14000</td>
</tr>
<tr>
<td>Subsistence</td>
<td>20000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>66000</td>
</tr>
</tbody>
</table>
# Appendix F

## Participation

<table>
<thead>
<tr>
<th>Population Category</th>
<th>Population Size</th>
<th>Percentage (%)</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee</td>
<td>250</td>
<td>10%</td>
<td>25</td>
</tr>
<tr>
<td>Subscriber</td>
<td>400</td>
<td>10%</td>
<td>40</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>650</strong></td>
<td><strong>65</strong></td>
<td></td>
</tr>
</tbody>
</table>
Appendix G

CONFERENCES INCLUDED IN THE LITERATURE RESEARCH

Conferences by topics

A. Information System
Americas Conference on Information Systems, AMCIS
Australasian Conference on Information Systems, ACIS
European Conference on Information Systems, ECIS
Hawaii International Conference on System Sciences, HICSS
International Conference on Information Systems, ICIS
IEEE Conference proceedings
Pacific Asia Conference on Information Systems, PACIS

B. Electronic Commerce
Bled Electronic Commerce Conference, BLED
International Conference on Electronic Commerce, ICEC
International Conference on Electronic Business, ICEB
IADIS International Conference on E-Commerce
IADIS International Conference on WWW/Internet

C. Mobile Commerce
International Conference on Mobile Business, ICMB (previously m Business)
Mobility Roundtable

Source: Researcher
<table>
<thead>
<tr>
<th>Year (Creation/Starting time)</th>
<th>Technology</th>
<th>Maximum data transmission speed</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Generation Mobile (1G)</td>
<td>Advanced Mobile Phone Service (AMPS); NTT; C-Netz (C-Netz, C-450); Comvik; Nordic Mobile Telephone 450 (NMT 450); Nordic Mobile Telephone 450 (NMT 900); AURORA-400; RadioCom (RadioCom2000); Radio Telephone Mobile System (RTMS); Total Access Communications System (TACS); ETACS; NTT Hi Cap; NTACS/ITACS; Narrowband Advanced Mobile Phone Service (NAMPS)</td>
<td>1.9 Kbits/s</td>
<td>Analog voice services, simultaneous data transmission 9.6 Kbits/s; No data capabilities;</td>
</tr>
<tr>
<td>Second Generation Mobile (2G)</td>
<td>Global System for Mobile (GSM); Code Division Multiple Access (CDMA); Time Division Multiple Access (TDMA);</td>
<td>14.4 Kbits/s</td>
<td>Digital voice service; Push-to-Talk (PPT); Short message service (SMS); Conference calling; Caller ID;</td>
</tr>
<tr>
<td>Two Point Five Generation Mobile (2.5G)</td>
<td>1985/1999</td>
<td>General Packet Radio Service (GPRS)/ High Speed Circuit Switched Data (HSCSD); Enhanced Data Rates for Global Evolution (EDGE); Code Division Multiple Access (CDMA2000) (first phase);</td>
<td>384 Kbits/s</td>
</tr>
<tr>
<td>Third Generation Mobile (3G)</td>
<td>1990/2002</td>
<td>International Mobile Communications - 2000 (IMT-2000) (Universal Mobile Telecommunications System (UMTS); Wideband Code Division Multiple Access (WCDMA); Code Division Multiple Access (CDMA2000)</td>
<td>2 Mbits/s</td>
</tr>
<tr>
<td>Fourth Generation Mobile (4G)</td>
<td>2000/ 2010</td>
<td>Single standard</td>
<td>200 Mbits/s</td>
</tr>
</tbody>
</table>

Source: compiled by the authors based on [Ibrahim, 2001 et al]
Appendix I

Google Map of Nairobi City

Source: Google Maps (2011)