UNIVERSITY OF NAIROBI
FULCULTY OF HUMANITIES & SOCIAL SCIENCES
Department of Journalism & Mass Communication

TOPIC

MOBILE PHONE USE AMONG WOMEN IN URBAN SLUMS-A CASE STUDY

KARIUA SLUM NAIROBI COUNTY
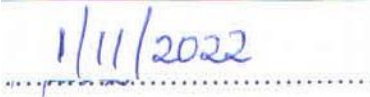
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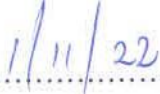
DATE

28th October 2022

DECLARATION

I hereby declare that this research project is my original work and has not been presented for a degree in any other University or Institute of Higher learning.

Signed .... Date. 1/11/2022

MAUREEN CHERONO

K50/11647/2018

This research paper has been submitted for examination with my approval.

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DEDICATION

To The Most Holy Trinity through The Most Blessed Mother Mary. To my parents

OPERATIONAL DEFINITION OF VARIABLES

Variables are all factors involved in a situation. Marascuilo & Serlin (1998) describe independent variables as the ones that have a causative effect upon other variables. They are artificially or purposely created by the researcher. Dependent variables, on the other hand, are described as variables which seem to be causally influenced by the independent variable. Therefore, changes in the independent variable cause or produce changes in the dependent variable. In this study, the independent variable is the adoption of mobile phone technology, while the dependent variable is socioeconomic development, whose variable indicators are empowerment and entrepreneurship.

Mobile Phone - Hand-held mobile or portable telephone device that is wireless and uses frequencies transmitted by cellular towers to connect calls, send, and receive data between devices.

Empowerment – It is the progression through which women achieve equal rights, resources, and power. A concept of women having better complete control over their own lives, and understanding of the political and social mechanisms to achieve that.

Entrepreneurship - The capacity and willingness to undertake conception, organization and management of a productive venture, with all its attendant risks, while seeking profit as a reward. In economics, entrepreneurship is regarded as a factor of production together with land, labor, natural resources, and capital. The entrepreneurial

spirit is characterized by innovation and risk-taking, and an essential component of a nation's ability to succeed in an ever changing and more competitive global marketplace.

The adoption of the mobile phone for various social and economic activities has directly impacted different aspects of social interaction between various groups in the social system. It has simplified communication, made the coordination of everyday life easier by eliminating the barriers of time and space, facilitated the timely dissemination of vital information to various vulnerable groups, enhanced the efficiency and effectiveness of disaster management during catastrophes such as earthquakes and floods and has also made users feel safer and more secure because they can easily reach their loved ones in event of an emergency.

Adoption of mobile phones has also influenced the growth of several factors which encourage entrepreneurship. Useful applications of the mobile phone have been created to make transactions easier, safer and more convenient. Women entrepreneurs who dwell in urban slums, via their mobile phones, are able to pay utility bills, perform bank transactions, save money for future use and receive timely information with regard to their different trades. The advent of the mobile phone has also created also created opportunities for those women who are venturesome to start their own businesses as MPesa dealers, airtime distributors, community phone vendors, wholesalers and retailers of mobile phones and their accessories. This has also created a conducive environment for innovation to thrive, as technologists strive to create new, efficient and effective applications for this gadget daily. Social innovation and social entrepreneurship, where entrepreneurial approaches are used to solve social problems, have also thrived with the introduction of the mobile phone. Most notably is the M-Pesa application which has

enabled the low-income women earners, who could not afford to maintain bank account, to perform transactions which would have otherwise required one to have a bank account. This application is said to have banked the "unbanked" in the society.

CHAPTER ONE: INTRODUCTION

1.1 Introduction and Background of the Study

The section discusses background studies relating to how mobile phone is used among women dwelling in urban slums. It also presents problem statement, objectives, research questions and justification of the study.

Globally, ICT is a powerful tool for soci-economic growth, improving productivity, poverty reduction and improvement of standards of living. ICTs comprise telecommunication, internet Business Process Outsourcing, broadcast and social services. ICTs increase production process, provide access to markets together with social interactions (Wilson, 2018). They also play a role in how efficient and transparent the government is. Mobile phones have a place in Africa's infrastructure that can provide efficiency for markets, minimize disaster risk, promotion of investment and are major contributor to empowerment. It is also an economic tool to help operators in profit making and tax contribution. Therefore, this resurgence of mobile phone with its applications will increase service delivery and efficiency and offer new opportunities as Scott (2006) puts it, as well as enhance market access. Gough and Grezo (2005) note that revenue generation from the telecommunication sector contribute 7% of the GDP in most of the African economies. Jensen (2007) found out that mobile telephones assist the informal sector businesses to attract additional businesses. This rapid mobile growth usage in developing countries shows that its use brings about households' convergence. Thus, persons who lacked any form of ICT were found to be poorer with regard to financial, human and physical capital. Studies have shown a relationship between information and communication technologies, and poverty reduction further noting that it has the potential to impact even on very low-income earners and that mobile phone

usage can result in improvement of living standards of the poorer population within a period of six to ten years. There are still not many innovations in recent history that have grown immensely like the mobile-phone technology which has emerged to be the current form of ICT usage globally. We are now faced with a new era where mobile phones are the most significant forms of information and communication technologies impacting licelihood. Existing studies affirm the role played by these forms of ICTs in soci-economic dynamics with less evidence pointing to the fact that it has also brought noticeable change to a larger population among the poor. It is this fact that pushes the researcher to attempt to fill in the gap by looking at a larger group in slum areas in the urban region to bring to light the soci-economic implications of mobile phones among the low-income earners otherwise know as the poor.

1.2 Kariua Slum in Nairobi

The emergence and rapidity growth of slums in big urban cities are well documented. During the past three decades there is an upsurge in growth of population has taken place in the urban cities (Patrick and Kate, 2010). This has led to issues such us inadequate infrastructure, congestion, insufficient resources and lack of proper hygiene and cleanliness. These slums are composed of extremely poor people whose major concern is survival as they struggle to meet their daily needs through available means including denied access to education for children in these families, commercial sex and engagement in drugs. Little is known about Kariua slum. This is a small slum yet densely populated with about 300 families in Ngara East on Kipande Road (Don Bosco Development Outreach Network, 2020). This slum emerged in an area that should been a road reserve located between two residential areas. According to Patrick and Kate (2010), Kariua slum was emerged as a result of people living on the streets as this was at one point a street in Nairobi. The area of about 100 by 10 yds has houses on both sides with a foot-path in between the

homes though depicting very poor hygiene standards. Patrick and Kate (2010) also assert that the entrance of Kariua hosts families with nowhere to live with a school located on the left-side. is occupied by people who needed an area to live in. After the small school there is the neighborhood that has homes and toilet at the end that serves about 300 individuals. The slum is generally overcrowded with very few amenities and the nairobi city streets are also very visible. Kariua is near chambers road from town, opposite and next to a beautiful newly build apartments. It has been in existences as early as 2006. When you walk around you come across several women who can barely afford food for their families thus with Covid-19 the high cost of living has increasingly impoverished this population forcing them to live from hand to mouth, barely unable to feed or afford other critical needs such access to health facilities, good housing and education.

1.3 Statement of the Problem

Mobile phones have changed ways in which people communicate socially as well as across organizations. King and Gura (2008) note that consumption of information and services of media have evolved in terms of access. Since mobile phones have emerged as tools for enhancing growth in the economy, the need to invest in women cannot be understated as key in improving living standards in family setting. Therefore, Porter et al. (2019) posits that to empower such groups the gadgets can increase social and economic development (Porter et al. 2019). The role of phones in helping women enhance interactivity, greater network and reduce vulnerability as they pursue opportunities is topical as advanced by Aker and Mbiti (2010). Life in a slum is a struggle with high crime rates, levels of poverty and illnesses. There are other challenges in the area that include insecurity due to high unemployment rates, alcohol and drug challenges which have led to increased HIV infection rates (Mitullah, 2003). This is because slum areas densely populated with

shanty shelter, inadequate water and sanitation as well as electric energy. This mirrors true nature of Kariua an informal settlement in Nairobi County.

The ownership of phones in developing countries have grown in recent times to about 1.25 billion. On the contrantry, the individuals without phones lack access to several benefits that those with the same enjoy. Wyche and Olson (2018) state that, a great number of them are women who are significant agents of growth both socially and economically. Empowering this group of individuals is critical as it can improve socio-economic status (Sekabira and Qaim, 2017). The majority who live within the slum settlements are women who have families and everyday struggle to raise families under very challenging economic keeping their families afloat remains a challenge. Studies have shown that with the resurgence of mobile phone this has changed many livelihoods (Porter et al. 2019). This is because mobile phones have changed the way of communicating, impacting on social, political and economic. Wyche (2016) connotes that the government of Kenya has been in the business of improving the livelihoods of urban slum dwellers and through this mobile technology, researchers may be able to establish whether this government initiative has impact. Women are known to be the basket of the economy and support the livelihood of their households (Sekabira and Qaim, 2017) thus the need to empower them.

As this study seeks to assess mobile phone culture among women in Kariua urban slum area and looks into influence of utilization of phones in changing households through women ownership, it is going to identify whether mobile phone usage shapes the lives of women dwelling in urban slums or not. The researcher discovered that there are several studies on phone usage. Globally, some researchers have analyzed usage patterns of mobile phone among women in urban areas. In their study Ghose, Rakibul and Sanni (2017) researched on disparities usage of phones to access child-delivery by urban women: A case study of Bangladesh Urban Health Survey.

Additionally, Cherie Blair Foundation did a global research study on Women & Mobile phones in 2018 focusing on gender-gaps across both low- and-middle-income nations. And lastly Brookings Education did similar research in 2019 on how Mobile phones are key to economic development. This research was trying to find out if urban women are missing out in use of phones.

Regionally in Africa some researchers have analyzed the relationship between mobile usage and women dwelling in urban slums. Gina Porter, Albert Abane, Elsbeth Robson, Alister Munthali, Ariane De Lannoy, Kate Hampshire, Augustine Tanle & Samuel Owusu in 2019 carried out a study to establish how mobile phones are related to gender, youth, and female empowerment in sub-Saharan Africa. Asha George, Amnesty LeFevre, Jean Bashingwa, Neha Shah and Diwakar Mohan in 2019 analyzed how women's mobile phone ownership matter when it comes to health, citing evidence from 15 countries in Africa.

Locally here in Kenya several research have been done, Prof. Mogambi in 2015 from University of Nairobi investigated on use of phones and gender by focusing on the students at the University of Nairobi. This study was trying to establish how students used mobile phone applications in academics and variation in use by gender in that same university. A survey by Ng'ethe in 2010 in Machakos county, attempted to find out the relationship between phone usage and income. This survey studied phone culture by the poor in terms of usage patterns, source of income, business and accessing information. In 2017, Susan Wyche and Jennifer Olson from Michigan State University, USA did research about the state of women in Kenya in rural areas, accessing internet on phone as well as Africa Rising. This research details how rural women's experiences with mobile devices, drawing on data from a long-term fieldwork in Western Kenya. In 2011, Ruth Wanjiru Waweru conducted research on the Impact of mobile phones on socio-economic development of urban slums by looking at phone users in Kibera slum, Nairobi County.

In her findings Ruth makes reference to those at a disadvantage in the urban slums and she asserts that there is need for them to achieve equal rights. She noted that women tend be naturally disadvantaged hence the need for empowerment.

As the study aims to evaluate and assess mobile phone ownership and use among women dwelling in urban slum area, it therefore seeks to answer its primary research question, which is: What has been the impact of mobiles on women users living in urban slums? The study focuses on the activities and the associated returns on the economic activities. socio-economic impacts of mobile phones on livelihood of low-income earners particularly the women living in slum areas, how phones affect the way they carryout their socio-economic

1.4 Objectives of the Study

1.4.1 The General Objective

To assess mobile phone culture among woman dwelling in urban slum areas.

1.4.2 Specific objectives include:

i. To investigate whether mobile usage significantly relates to empowerment of women in Kariua Slum

ii. To find out the effectiveness of mobile usage among women living Kariua urban slum and how it empowers them

iii. To explain how mobile usage should be redesigned to improve women livelihood and their empowerment

1.4.3 Research Questions

i.   What is the relationship between mobile usage and women dwelling Kariua urban slum?

ii. What factors contribute to proper mobile usage of women in Kariua Slum?

iii. How effective is mobile usage among women living Kariua and how does this empower them?

iv. How should mobile usage be redesigned to improve Kariua women livelihood and their empowerment

1.5 Significance of the Study

Kariua slum just like other slums in Nairobi is a poor image of the development. This is so because Kariua is characterized by unplanned settlements and overcrowding (Patrick and Kate, 2010). Although little has been said about Kariua, the study finding will enlighten the County Government of Nairobi on extent to which mobile phone technology has been adopted by Kariua inhabitants and how this innovation could bring socio-economic, cultural, environmental as well as political development in Nairobi. The challenges of implementing the remedies to various problems that this study will recommend, will finally be overcome via mobile phone technology. This could eventually raise the standard of living of slum dwellers in Kariua and eventually reduce the individuals in Nairobi, Kenya that live below poverty-line.

Additionally, it will give insight on various issues pertaining to information and communication technology and development within the country. More specifically, the Ministry of Information and communications and the Communication Authority of Kenya (CA), both whose mandate is to facilitate ICT development in Kenya, will be the principal beneficiary of the findings of this study. Secondary beneficiaries would include the Ministry of Planning, National Development and Vision 2030 who is mandated to facilitate and coordinate the national

development planning process (Wyche and Olson, 2018). The Ministry of Nairobi Metropolitan Development will also gain from this study considering that one of its main functions is to avail a framework for sustainable urbanization through providing capacity for regional and urban planning, provision of adequate housing for all, replacement of slums with affordable housing, improving and enhancing proper infrastructure and sanitary facilities. The above-mentioned government bodies will be able to derive information from this study that will assist them in policy formulation and implementation with regard to ICT and slum upgrading.

The ICT sector, both private and public, could use the study findings to increase penetration of ICT products within slum areas by designing products which address the specific needs of those living there. They will also be able to formulate marketing strategies which will best appeal to the inhabitants of various slums within the country. Non-Governmental Organizations the United Nations (UN), The USAID, WHO, World Vision, Plan International amongst others, may use this study to formulate policies that will enable them to fulfill their mandates via ICT. LeFevre et al (2020) denotes that these organizations may use ICT to communicate to the slum inhabitants concerning important issues such as health and sanitation, child and mother mortality, HIV/AIDS awareness, education, nutrition, economic empowerment, and human rights.

This research will help the women of Kariua use their mobile phone to gain empowerement financially, reduce unemployment, enhance access to healthcare, education, internet, government services as well as information (Wyche, 2016). From this study finding, Kariua women will be empowered to use mobile phones to open accounts and access financial services at the comfort of their homes, gain more control over their finances through account ownership, register and open up a business, register their children and enroll them in various schools and book clinics online. It

will also enhance their ability to provide for their families through the numerous opportunities that come with the phone.

Bishwajit, Hoque, and Yaya (2017) articulate that it will give birth to other future research to be done by scholars in the field of ICT that would examine the rest of mobile phone usage on specific gender groups. The study will provide other scholars with empirical information which adds to the general body of knowledge regarding ICT and its adoption. Moreover, its findings may bring out new knowledge gaps which will provide scholars with the opportunity to carry out further research, thereby adding to the existing body of knowledge.

1.6 Limitation of The Study

Limitations are the constraints that beyond a researcher's control. The study aims to evaluate, assess mobile phone ownership and use among women dwelling in Kariua urban slum area. This study is necessitated by the fact there is limited resources and accessibility to the area of research due to Covid-19 pandemic restriction of movement. However, even under these conditions the researcher will take extra protective measures through health workers during the study. Secondly, some Kariua dwellers may be reluctant to offer some information that deems confidential, and this might compromise the research to be conducted (Porter et al. 2019). However, the researcher will reassure that the information to be collected is for academic purposes only as evidenced by the University introductory letter and the benefits obtained thereafter. The letter obtained from the University will give the respondents assurance. To enhance the return rate of the questionnaires, the researcher will use data collectors or informants who have the knowhow of the research questionnaire. Further, some respondents may fail to respond to a number of questions. To solve this problem the researcher will communicate easily by reading unanswered questions to getting verbal responses and subsequently get feedback.

1.7 Scope

This study will exclusively focus on mobile phone technology and will not dwell extensively on any other form of information and communication technology. Furthermore, the study will specifically look into the dynamics of the usage of mobile phone technology and how it was introduced into social interaction while nurturing entrepreneurship within Kariua slum. The study period will be 3months. Kariua urban slum is an ideal area to analyze mobile phone usage among women dwelling in urban slums targeting about 300 inhabitants. Researcher's assumption is that respondents would be cooperative enough to complete the study instrument in a timely way and that availability of resources would not be a hinderance to the research process at any given stage.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

The chapter reviews the general body of specific and empirical knowledge relating to mobile phone technology, its origin and evolution over the decades, its diffusion and adoption in Africa, Kenya and low-income communities and its most predominant uses within these communities. The literature reviewed generally focuses on the relevance of the mobile phone within low-income communities, owing to the fact that slums such as Kariua are categorized under this social class. An overview of how this technology has influenced the major socio-economic variables under study, that is empowerment and entrepreneurship, followed. To conclude the chapter, the relevant theories are evaluated and a conceptual model derived, in line with the arguments emanating from the literature reviewed.

2.1 A Brief History of the Mobile Phone

The more widespread development of radio communication that got its start in the late 1800s is what led to current mobile telephony. According to Agar (2003), the Swedish electrical engineer Las Magnus Ericsson significantly contributed to enhancement of modern mobile iPhone where Ericsson produced as well as repaired his first telephone device. Later, Alexander Graham Bell created the telephone (Ling, i2004). In the course of his retirement in 1910, Ericsson installed a phone in the automobile he shared with his wife, Hilda. The car was connected to the overhead telephone lines that had emerged even in rural Sweden through wires and poles. Although this mobile iPhone was in some ways simply a toy, it nonetheless functioned. Agar (2003) goes on to

say that even if there is a large sector of explains that although no great industry of car-carried mobile phones was founded by the experiment, it was significant in many other ways because after many twists and turns, Ericsson's company would supply much of the infrastructure for the cellular phone systems built in the late 20th century.

Guglielmo Marconi, an Italian inventor, also contributed greatly to the advent of mobile phone technology, via the invention of the radio telegraph. Ling (2004) highlights that through the 1890s, Marconi sent radio signals over progressively longer distances, ranging from several hundred meters to several hundred kilometers and eventually to transoceanic communications. Ling (2004) also states that by 1899, Marconi was able to equip two ships with radio transmitters in order to report the progress of the American Cup. Two years later, he successfully sent a radio message from Cornwall, England to Newfoundland, Canada. This made marine communications one of the first areas of truly mobile radio-based communication (Grimstveit & Myre, 1995 as cited by Ling, 2004). Lee De Forest, an American inventor who created a vacuum tube in 1906 that made it possible to amp up relatively weak electrical signals, further contributed to the evolution of radio transmission. Vochin (2009) makes the point that mobile phone technology—more especially, the two-way radio—is fundamentally a very sophisticated and automated kind of radio technology.

The transistor's development during World War II led to a substantial advancement in mobile telephony, namely the routine use of radio telephony for switched communications. According to Ling (2004), landline telephony has enabled person-to-person contact over switched lines since the late 1800s. A dedicated circuit or "line" was set up between two people who were speaking to one another. Early switches were essentially imanual devices where the operator selected which party to contact first, connected the two via a cable or connector, and then turned

on the switch. Further research by Ling (2004) shows that these switches were gradually automated up until they were mostly replaced by electronic devices that could manage many thousands or perhaps millions of simultaneous calls.

One of the greatest hindrances to the development of the mobile phone was the size of the battery, which at first needed to be carried in the trunk of a vehicle. However, the advances made in battery technology over the years, has enabled mobile phones to be comfortably carried in shirt pockets and bags. The batteries have not only become more powerful, they have also become smaller. Agar (2003) notes that the great Prussian physicist, Walter Hermann Nemst, also contributed to the development of mobile phone technology when in 1899, he experimented with nickel as a means of converting chemical energy into electrical energy. This experiment eventually led to today's Nickel Metal Hydride (Ni-MH) battery, which in one sense is recognizably similar to Nemst's but is many times lighter and more efficient. Fast forward to mid-20lh century, Vochin (2009) notes that the first fully automatic mobile phone system called MTA (Mobile Telephone system A), that was developed by Ericsson and commercially released in Sweden in 1956. The system required no manual control, but yet again the issue of the equipment's weight about 40 kilos and this was an encumbrance to its portability. However, things changed dramatically with the arrival on the market of the Motorola Dyna 8000X, which was one of the first phones that could really be carried around easily, without requiring a briefcase in order to function (Agar, 2003). This was referred to as the 1G, first generation, mobile phones and network. These were first available in Japan, then some of the Nordic countries and later on, USA. This was further developed

to 2G (second generation), 3G (third generation), 4G (fourth generation) to the most current 5G (fifth generation) mobile phone and networks.

The 1980s saw increasing interest in the development of various mobile telephony standards. However, the Nordic Mobile Telephone (NMT) in Europe was the first generally successful cellular system that automated the calling process and allowed for international roaming. It was a standardized system where one could use the same mobile telephone across the Nordic region. Nonetheless, it was still a parochial system and was incompatible with similar systems in other countries such as the UK and France (Agar, 2003). This incompatibility led the European public network operators, in conjunction with the European communities and The European Telecommunications Standards Institute, to develop the Global System for Mobile Communications (GSM). The GSM technology allows for international roaming, is backward compatible with other systems, allows for various national tariff systems and includes the ability to send and receive various data-based services such mobile internet and Short Message Service (Ling, 2004). Developments in the industry clearly point out to the fact that mobile phones are here to stay, although it's still hard to predict what direction they'll eventually take. Thus, the most plausible scenario is that mobile phones will slowly turn into tiny, ultra-portable computers, able to carry out a huge array of functions besides voice communication. In the near future, we might witness a complete overhaul of this concept and the first signs of things to come being already here as evidenced by the Smartphone, iPhone and more recently, the Android operating system for mobile phones.

2.2 Diffusion and the Adoption of Mobile Phone Technology

The diffusion and the adoption of the technology of mobile phone started when the developed nations became concerned about the problems of the underdeveloped nations. According to Mabogunje (1980), to help underdeveloped countries to come out of the vicious cycle of poverty, ignorance and disease, the developed countries, out of a feeling of common humanity of 'enlightened self-interest'; were persuaded to extend assistance in the form of technical expertise, loans and credit. They also offered to train local entrepreneurs, technicians, managers and industrial workers. Such assistance was important since development was conceived of as resulting from innovations and changes generated in the developed countries and diffused to underdeveloped ones. These innovations were introduced into the metropolitan centers of underdeveloped countries, from where they were further diffused into rural areas. Such diffusion was assumed to be beneficial in its effect, serving to modernize the whole country and to raise the level of the backward periphery to that of the central region.

Technological advances in recent years made available mobile telecommunication services at an unprecedented scale. Barros & Cadima (2001) point out that, the introduction of the digital technology as well as a more liberal stance on spectrum licensing led to a quick diffusion of mobile telephones. Hall & Khan (2003) asserts that the diffusion of mobile technology is a result of a series of individual calculations that weigh the incremental benefits of adopting a new technology against the costs of change, often in an environment characterized by uncertainty (as to the future evolution of the technology and its benefits) and by limited information (about both the benefits and costs). Castells et al (2007) as quoted by Shrum et al (2011) notes that mobile telephony

has diffused more rapidly than any technology in the history of sub-Saharan Africa. As the developed world achieved almost universal connectivity with near perfect reliability, Africa had neither, remaining a region where phones were scarce and dysfunctional. For Western observers to appreciate this phenomenon, what is crucial is that working landlines were not rare simply in small villages. Even in a major urban area such as Nairobi, telephones were expensive and dysfunctional. Western visitors, ringing a landline persistently, were often surprised to find that it had been switched off for some times connections mysteriously disappeared for large areas of the city. Cell phones do allow their users mobility, but the astonishing rate of diffusion in the developing world owes more to the fact that they provide connectivity, often for the first time. Now, shortly after their introduction, the number of mobile phones exceeds the number of fixed lines by a substantial margin in many countries Barros and Cadima (2001) agree with the foregoing by implying that in response to the introduction of the cellular phone technology, a slowdown in fixed-link penetration is expected.

New generations of consumers entering the market perceive no advantage of the fixed-link over the cellular technology. In fact, the mobility associated with the latter gives a clear advantage at consumers' eyes. Thus, a negative impact is anticipated. This is supported by ITU (2018) which asserts that the high ratio of mobile phone subscriptions to fixed telephone lines, the highest of any region in the world and the high mobile cellular growth rate suggest that Africa has taken the lead in the shift from fixed to mobile telephony, a trend that can be observed worldwide. Between 1998 and 2008, African added only 4.4 million fixed telephone lines, less than 1% of the telephone lines added globally in the same period. According to ITU (2018) the penetration rate of

mobile technology in Africa is still considerably lower than in other regions, nonetheless and over time, mobile cellular subscriptions have become more evenly distributed across the continent. This is illustrated by the situation in south Africa, Nigeria, Kenya, Ghana, Tanzania and Cote d'Ivoire where the countries have accounted for 74% of Africa's mobile cellular subscriptions by 2018. Hall & Khan (2003) further claim that the contribution of new technology to economic growth can only be realized when and if the new technology is widely diffused and used. Diffusion itself results from a series of individual decisions to begin using the new technology, decisions which are often the result of a comparison of the uncertain benefits of the new invention with the uncertain costs of adopting it.

Unlike the invention of a new technology, which often appears to occur as a single event or jump, the diffusion of that technology usually appears as a continuous and rather slow process. Yet it is diffusion rather than invention or innovation that ultimately determines the pace of economic growth and the rate of change of productivity. Until many users adopt a new technology, it may contribute little to our well-being. ITU (2018) affirms the above by reporting that diffusion of mobile telephony in the last decade has had a strong social and economic impact. The technology has proven instrumental in raising prosperity and reducing poverty in developing countries. It has worked to reduce the digital and economic divide existing between high and lowincome countries. This has been driven by: acceptance of the technology in the developing world; an infrastructure that is fairly easy to deploy; a market that is generally open to new entrants; and the decreasing costs of mobile handsets and communication services. The technology has also

led to introduction of innovative, competitive and customized products such as mobile banking and mobile money transfer services.

About two thirds of the world's mobile phone subscriptions are in developing nations, with the strongest and continued rate of growth in Africa, where a quarter of the population now has a mobile phone. ITU (2018) further noted that between 2003 and 2018, Africa's mobile phone subscriptions grew twice as fast as that of the world. In light of the foregoing and supported by statistics published by the Communication Authority of Kenya (CAK) in their Quarterly Sector Statistics Report for the third quarter of 2019, as shown hereunder, this study can confidently state that mobile phone technology is well diffused in Kenya. According to CAK as at 31st March 2020, the number of active mobile subscriptions (SIM1 Cards) in the country stood at 55.2 million translating to mobile (SIM) penetration of 116.1 percent.

During the third quarter of the FY 2019/20, the number of active registered mobile money subscriptions stood at 29.1 million while the number of active mobile money agents stood at 202,102. Safaricom PLC recorded the highest number of mobile in-ports at 208, whereas Airtel Networks Limited and Telkom Kenya Limited recorded 41 and 16 in-ports respectively. The total local outgoing mobile voice traffic increased by 2.3 percent during the quarter under review to post 15.3 billion from 14.9 billion minutes posted in the last quarter. On-net traffic stood at 13.5 billion up from 13.2 billion minutes recorded last quarter. Similarly, off net and mobile to fixed traffic increased by 1.4 and 7.6 percent to post 1.7 billion and 15.8 million minutes respectively. The Minutes of Use per Subscription per Month increased to 92.5 from 91.5 minutes registered in the previous quarter. The average Minutes of Use per Call for on-net and

off-net local mobile voice traffic stood at 1.6 and 1.1 minutes respectively, during the period under review.

This is attributed to the fact that operators offer lower calling rates within their network as compared to across other networks. Airtel Networks Limited subscribers recorded the highest duration of on-net minutes per call at 4.0 minutes, whereas Safaricom PLC recorded the least Minutes of Use per Call for both on-net and off-net traffic. The total number of short messages sent during the period under review stood at 16.8 billion, up from 15.6 billion messages sent during the preceding quarter. The number of short messages sent per Subscription per Month increased to 101.5 during the third quarter, from 95.4 messages sent last quarter. Traffic originating from other countries decreased by 4.7 per cent during the period under review to stand at 137.8 million minutes, whereas voice traffic terminating in other countries increased by 6.0 percent to post 118.0 million minutes.

International traffic within EAC member countries has continued to decline over time owing to implementation of the regional One Network Area initiative, since 2014 that resulted in lowering of roaming voice charges within ONA member countries. Traditional fixed line service registered a decline of 3.6 percent to post 19, 848 subscriptions. Fixed wireless and fixed Voice over Internet Protocol grew by 6.3 and 0.9 percentage points to post 1,076 and 49,227 subscriptions respectively. Total data/Internet subscriptions dropped by 0.7 percent during the review period to stand at 39.3 million from 39.6 million subscriptions reported in second quarter. This is mainly attributed to the decline in the number of mobile data subscriptions posted by Telkom Kenya Limited during the period under review, which was as a result of measures taken by the company

to scale down on investments in anticipation of the proposed Airtel-Telkom merger, although this has since changed. Mobile data subscriptions for Safaricom PLC also declined during the period under review following stiff competition from other operators such as Airtel Networks Limited that reviewed their Vuka Pay as You Go tariff for mobile data from Ksh. 4/MB to Ksh. 2.3/MB.

In a country of well over 45 million people, this research can claim that mobile phone technology is well penetrated. This rapid diffusion of the mobile phone can be explained by, among other things, the drop in the price of mobile handsets to within reach of those with low incomes and the drop in mobile tariffs as a result of stiff competition between the three mobile phone operators namely Safaricom, Airtel, and Telkom, as well as the low cost of prepaid calling cards. With competitive pressure likely to remain intense among the three service providers, growth in subscriptions is expected to continue (CA, 2019). Gikenye and Ocholla (2010) noted that the rapid diffusion of mobile phones was accelerated by the fact that they require only basic literacy to use and thus making them accessible to a larger proportion of the population, particularly low-income, small business traders. In addition, they are easy to use and adaptable - for those without electricity, phone charging kiosks have quickly come up in small towns and shopping centers while solar-powered phones have also been introduced onto the market.

The relatively high user-friendliness and affordability of mobile phones have made it possible for low income micro and small enterprise traders, who are also referred to as the informal or 'Jua Kali' sector in Kenya, to adopt and use them widely. It is therefore agreeable when Aker and Mbiti (2010) remark that mobile telephony has brought

new possibilities to the continent, Kenya included, across urban-rural and richpoor divides, mobile phones connect individuals to individuals, information, markets and services. The mobile telephone is more than simply a technical innovation or a social fad. The examination if its adoption and use and of the attitudes associated with the device provides insight into some of the broader machinations of society. It is being used to coordinate peoples' everyday lives (Ling, 2004). It is used to chat, send texts and pictures messages, call sick aunts, organize parties, to build relationships by lovers who send endearments to each other, to buy and sell by businesspeople, by traders to keep track of their assignments, to surf the internet amongst many other uses.

2.3 Mobile Phone Technology Applications in Kenya

The three mobile phone service operators in Kenya, Safaricom, Airtel, and Telcom have developed different services to meet the unique circumstances of the society and boost mobile uptake and usage.

2.3.1 Voice Calls

The most prevalent of the applications is voice calls. CA (2019) reports that during the third quarter of 2019, a total of 6.63 billion minutes of local calls were made on the mobile networks against 6.05 billion in the previous quarter, representing 9.6 per cent increase. All the service providers mentioned above provide this service, on either prepaid terms (the user tops up airtime in an account by purchasing a recharge voucher prior to use) or post-paid terms, where the user is billed monthly. Some service providers have additional benefits of international calling, roaming when one has travelled overseas, voicemail, 24-hour customer, information services and loyalty schemes. These services vary from provider to provider.

2.3.2 Short Messaging Service (SMS) & Multimedia Messaging Service (MMS)

This service enables subscribers to send and receive text messages, charged per 160 characters. When an SMS is received it is stored in the mobile phone. It is quick, convenient and affordable and allows subscribers to get the messages across secretly and silently. Text messages are ideal when it is difficult to talk in crowded or public places, when in meetings, subscribers can send quick notes, arranging meetings, organizing social lives and receiving short updates on news, entertainment, sports, horoscopes, Bible verses and quotes. CA (2019) notes that the use of SMS has increased over years, which may be attributed to among others, the low cost of sending SMS, and increased use of SMS for social and commercial information dissemination. ITU (2018) underscores this by stating that text messaging is an area being used to enhance customer satisfaction. In Kenya, mobile operator Safaricom offers the "Flashcom 130" service which provides an alternative to calling someone, and letting their mobile phone ring just long enough to know they should call back (so-called "flash calling"). Flashcom 130 allows users to send a free text message asking for someone to call.

2.3.3 Accessing the Internet

Over the last decade, internet usage has greatly increased in Africa, and together with the mobile cellular market, the internet market represents an important area of ICT growth and development. The internet is now recognized not only as a source of information, but also as having the potential of a significant development enabler, with its many applications, and making it particularly important for Africa (ITU, 2018). It's worth noting that mobile internet services are currently priced much cheaper than fixed dial-up internet services. Mobile dial-up Internet is priced very differently from the fixed

dial-up internet. In this case, mobile operators charge customers for the data received or transferred and not the duration of the call. This is a big advantage especially considering that dial-up internet speeds are low and also more costly. CA (2019) points out that until 2005, only Internet Service Providers (ISPs) could offer internet services. However, the situation has changed since CAK issued a new licensing framework in late 2004 after the Telkom Kenya Limited's monopoly came to an end in June 2004. For example, two Internet Backbone Gateway Operators were licensed in December 2004 and Telkom Kenya, through its subsidiary Jambo Telkom, moved into the Internet market in 2005/2006. Dial-up mobile internet services were introduced by Kencell (now Airtel) in early 2001 but were expensive because of the per-minute mobile charges. In the period 2005-2006, the mobile operators introduced mobile internet services using GPRS and EDGE technologies and with flat volume-based pricing. This has increased the number of Mobile internet customers from zero in 2001 to over 250,000 by 2006. The study established that this number was higher than the total number of fixed dial-up internet customers in the country in 2016. It is likely, that the growth of internet services in Kenya will follow the growth of mobile telephone services. The websites of the three mobile phone operators in Kenya all indicate that they offer mobile phone internet services. According to CAK (2019), As at 2018, Nairobi had the lion's share of over 80% of the internet customers. The Coast province was a distant second with about 9% of the customers. Indeed, Nairobi and the Coast province accounted for about 90% of all internet customers. Eastern, Western and North Eastern provinces have the lowest number of internet customers in respective decreasing order, with the last two having a negligible percentage.

2.3.4 Mobile Commerce (M-Commerce)

Mobile cellular phones are also increasingly being used for local m-commerce applications, such as pricing information for rural farmers, banking, fund-raising for various projects and paying for goods and services. These commercial applications are increasing at an unprecedented rate, much to the delight of mobile phone users. The most popular, evolutional and socially innovative of these applications is mobile banking (M-banking). In a region where a significant part of its inhabitants has mobile cellular telephone but do not have a bank account, there is a huge opportunity to bring financial services to a largely untapped consumer base. Mobile operators have acknowledged this opportunity and have launched several m-banking services. Some international initiatives to support ICT for development projects have been launched, such as the Mobile Money for the Unbanked (MMU) program. The most successful m-banking experience up-to-date is the M-PESA (mobile money) system, launched by the Kenyan mobile operator Safaricom in conjunction with Vodafone in March 2007. It allows subscribers to use their phone as a virtual bank by depositing and withdrawing funds through the value stored on their mobile phone (ITU, 2018). Currently, mobile money transfer can also be used to pay for utility bills such as electricity, water, cable television, insurance, household shopping, church tithes and offerings, donations to charity, medical bills, salaries and school fees amongst others. The other three mobile phone service providers have since established mobile money transfer services, namely Airtel Money, Telkom's Cash, however, the most dominant is Safaricom's M-Pesa.

M-Pesa, Safaricom's Limited mobile money transfer service is a technological innovation with a high level of uniqueness. It is an innovative mobile payment solution

that enables customers to complete simple financial transactions such as person to person transfers, payment of utility bills and buying mobile phone airtime by using the short messaging service (SMS) technology. It is aimed at mobile phone customers who do not have a bank account, either by choice, because they do not have access to a bank or because they do not have sufficient income to justify a bank account. It is convenient, secure and easy to use; moreover, the pricing is competitive compared with other formal money transfer services. M-Pesa clients can withdraw and/or deposit electronic money from any of Safaricom's authorized agents with one or more outlets around Kenya. Must & Ludewig (2010) concur with the foregoing by stating that, because mobile money is a cheaper, safer, and more convenient way to transfer funds, and it reduces the costs associated with saving and lending, consumers in developing countries are recognizing its benefits. The emergence of homegrown solutions such as M-Pesa have greatly improved access to financial services to the rural areas and the poor in our society.

The mobile phone is a dynamic technology with several functions, other than those mentioned above. These functions increase from day to day. This research attributes that the rapid adoption of mobile phone technology in developing countries has increased due to a combination of low infrastructure costs, the rise of pre-paid service, the decrease in handset prices, and the privatization of mobile phone service. Mobile phone connectivity in otherwise marginalized communities facilitates social and economic development through increased access to people, information, and services such as health care, education, employment opportunities, and market information. Mobile phones also make it easier for small business owners to order products and interact with customers (Must & Ludewig, 2010). In these instances, mobile phones facilitate development by making it

easier to exchange information. With mobile money, phones can promote economic development by making it easier to exchange money.

2.4 Women Empowerment and Mobile Phone Technology

From direct observation, we can tell that mobile phone technology has reformed and revolutionized previously established modes of communication, commercial and noncommercial transactions, across the various strata of society. Linna & Richter (2011) highlight that over the past decade the ICT sector has been among the major drivers of economic growth for women entrepreneurs in Sub- Saharan Africa. Hence, it is expected that the ICT sector is the driving force of fundamental economic change within the continent. The ICT sector is not only growing in the number of women subscribers but more importantly new kind of ICT knowledge and businesses are arising from this knowledge. More specifically, they found that it was generally agreed that mobile applications represent a huge market opportunity in Kenya due to the unmet women needs of the low-income communities. Local women entrepreneurs regard applications for social change as a welcome business opportunity and recognized that ICT, and in particular mobile phone applications are a powerful tool to address social challenges and change the fate of women in slums.

Mobile phones in Kenya have been credited for much of the women activity in its small business sector. Eagle (2005) claims that adding an additional ten mobile phones per 100 people boosts a typical developing country's GDP growth by 0.6 percent. This boost comes from the innovative use of mobile phone technology by local women entrepreneurs. Kenyan business women, women farmers, and women laborers of all sorts are finding new uses for a tool thought of as two-way voice communication devices in

the traditional Western paradigm and coming up with original methods for solving their own problems. For example, contract women laborers can now provide their phone numbers to potential employers and move on, instead of having to wait for hours at a workplace in case a job arises. In addition, Eagle (2005) asserts that access to market information through mobile phones also provides women in slums with invaluable information about centers of business. The Kenya Agricultural Commodity Exchange (KACE), now provides crop growers with up-to-date commodity information. Women in farming can access daily fruit and vegetable prices from a dozen markets through a text message. Consequently, slum women farmers have quadrupled their monthly incomes because they have access to information about potential buyers and prices before making difficult journey into urban centers to sell their produce. Mwangi (2007) concurs with the foregoing and states that women traders' benefit from information of the Agricultural commodity prices. A service branded as SMS Sokoni (Swahili for Market) is provided by Safaricom Limited in conjunction with KACE which is a private sector firm that facilitates a linkage between sellers and buyers of agricultural commodities.

The increased accessibility to mobile phones has introduced changes in most sectors of the economy and particularly this urban informal sector, consequently changing the business and operation environment, thereby creating an impact on Kenya's fastest growing sector and employer. Mwangi (2007) found that the perceptions from the microentrepreneurs on the impacts that various communication modes showed that mobile phones had the highest perceived impacts on their Micro and Small Enterprises (MSEs) at 88.4% of the respondents. This was contributed by the fact that most of the businesses had no access to fixed lined and fax machines and hence felt no impact about them on

their businesses. The mobile phones were the most available tool to be used to perform business activities with the micro entrepreneurs. The mobile phone as a tool, transformed the way women entrepreneurs conducted their businesses. Practical Illustrations of how MSEs have benefited from the adoption of mobile phone technology include reduced costs of travelling and time, owing to the fact that they can now settle their utility bills and carry out basic bank transactions using this technology.

The benefits to MSEs discussed above are reinforced further by Donner (2005) who, in his research on the use of mobile phones among women micro-entrepreneurs in Rwanda, found that Kigali's women micro-entrepreneurs use their mobiles to increase the frequency of their contact with friends, family, and existing business contacts, and to facilitate new contacts with business partners, suppliers, and customers. Microentrepreneurs, policymakers, researchers and all other stakeholders have a hand in looking for more innovative ways in which technologies can enhance the productivity of businesses hence bringing about significant economic growth (Mwangi, 2007). The benefits of integrating and using mobile phone technologies in the microenterprises owned by women cannot be ignored by any government. Rangaswany & Nair (2010) on the other hand sought to study small on self-owned shops owned by women that conducted trade concerning mobile phone consumption, in the Mumbai slum community in India. They discovered four broad trends about business networking in the slum. Firstly, primary business was conducted through local social networking, secondly, these networks evolved to expand services, thirdly, outbound networks mostly connected non-formal socioeconomic sectors of the city and lastly, networks integrated local business practices to service a range of needs. They also found that small women entrepreneurs managing

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these stores became agents that actively mediated technology diffusion by occupying a consultant role in the community, by marshaling social networks and communication channels to expand businesses and by bringing in new technology and learning new skills to meet and promote consumer demand. The research noted that the women entrepreneurs behind these stores assumed a variety of roles; they forged relations with procurement channels, mediated between mobile phone companies (even multinational corporations) and the consumer, expanded business loops while renewing existing ones, and encouraged apprenticeships for relevant repairing skills.

The correlation of mobile phones and women economic development has potential mechanisms through which mobile phones can provide economic benefits to consumers and producers in Sub-Saharan Africa. Aker & Mbiti (2010) summarize by identifying five potential mechanisms: first, mobile phones can improve access to and use of information, thereby reducing search costs, improving coordination among agents, and increasing market efficiency. Second, this increased communication should improve firms' productive efficiency by allowing them to better manage their supply chains. Third, mobile phones create new jobs to address demand for mobile-related services, thereby providing incomegenerating opportunities in rural and urban areas. Fourth, mobile phones can facilitate communication among social networks in response to shocks, thereby reducing households' exposure to risk. Finally, mobile phone-based applications and development projects have the potential to facilitate the delivery of Financial, agricultural, health, and educational services.

To sum up, the adoption and use of mobile phones is the product of a social process, embedded in social practices. Mwangi (2007) states that, Micro enterprises owned by women are practices which lead to some economic benefits, that are defined through a social context. Therefore, the community defines the various uses of the mobile phone, whether business or social communication.

2.5 Theoretical Framework

A theory refers to reciprocally connected views, meanings and postulations presenting an organized outlook of phenomena through definition of relationships existing between sets of elements to provide explanations and predictions to certain phenomenon. Nachmias & Nachmias (1996) concur with the foregoing by noting that theories help us explain and predict phenomena of interest and in consequence, to make intelligent and practical decisions. Credible theory, they say, is the conceptual foundation for reliable knowledge (Kerlinger, 1964). The Diffusion of Innovation Theory and Domestication of ICT Approach, provide a suitable framework to help examine and explain the impact that mobile phone technology has had on socioeconomic development in urban slums.

2.5.1 Unified Theory of Acceptance and Use of Technology

Gender, age, experience, and IT application characteristics related to their position in the company (i.e., optional or compulsory) serve as a moderating effect on the use of specific information systems, according to Venkantesh et al (2003). UTAUT (Unified Theory of Acceptance and Use of Technology) theoretical model have performance expectancy, effort expectancy, influence, and facilitating condition as some of the characteristics that might be used as predictors. Venkatesh et al. (2003) merged eight existing technological acceptance models into

one theory called the Unified Theory of Acceptance and Use Model (UTAUT). The models are; Theory of Reasoned Action (TRA) by Fishbein & Azjen (1975), Theory of Planned Behavior by Ajzen (1991), Technology Acceptance Model by Davies (1989), Combined-TAM-TPB by Taylor and Todd, (1995), Model of PC Utilization by Thompson et al. (1991), and Motivational Model by Davis, Social Cognitive Theory by Bandura (1986); Diffusion of Innovation Theory by Bagozzi, and Warshaw (1992); and (Rogers, 2003).

Unified Theory of Acceptance and Use of Technology is based on the following underpinnings: 1. Performance The use of technology depends on the degree in which an individual believes that using that system would enhance effectiveness in the workplace; Expected Effort – ability to utilize the system easily, Social Influence – The extent to which an individual believievs that other inviduals are pro use of the technology, social influence – the extent to which a person thinks the new technology is in line with organisation and existing infrastructures, (Venkatesh et al. 2003) Available studies indicate that since its development, this model has been applied in different situations across the globe using different predictors of behaviour intent on use of technology and the behaviour. Some schalars have also increased the scope of the model through other elements though variation of outcome was seen. In this regard, some scholars' findings are in line with the assertions of Venkatesh et al., though some differ (Venkatesh et al., 2003). Additionally, most of the previous studies did not put into consideration other factors such as gender, age, experiences and willingness to use. Studies also show that there is a link between the expectations on performance and the intent to adopt the technology (Venkatesh et al., 2003) where studies involving students in college have shown a relationship between the performance expectations and the students behaviour intent to utilize technology (Yakubu & Dasuki, 2018). On

the other side, several studies have also reported that there is no link between the two varriables for example studies by Amin, Rahman, Khan & Karim (2018) and Abdullateef & Allumi (2014).

This theory further posits that behaviour intent is also highly influenced by effort expectation (Venkatesh et al., 2003). Even though scholars have shown a link between these two elements thus supporting the assertions of Venkatesh, others such as Decman (2015) between the same elements.

This model also advances that the social setting has a direct influence on behavioural intent to use the technology, an assertion that is supported by scholars including: Lwoga and Komba (2015); Awwad & Al-Majali (2015) and Decman (2015). On the contrary some scholars have disagreed with these assertions regarding social setting and technology use including Yakubu and Dasuki, (2018); Dulle and Minishi-Majanja (2011) as well as Deng, Liu and Qi (2011). The model has seen an expansion in scope adding to the earlier posited elements thus having the attitude (Akbar, 2013; Jong, 2014). 2009;) motivation to online learning (Maldonado et al., 2011), habit (Masa'deh, Tarhini, Mohammed, and Maqableh, 2016), quality of information, quality of service (Chang, Lou, Cheng, Lin, 2015), satisfaction (Bouznif, 2018), and self-worth (Lwoga & Komba, 2010) with a depiction of stronger relationships with the desired behaviou to use the technology.

Finally, a critical analysis of this model and existing literature shows that the various assertions of the model differ with the students under study. Other studies have also contributed to enhancement of the model by adding other elements. Even though this has come with differing views, the elements have been found to have a substantial influence on the behavioural intent of students to utilize the technology. The study seeks to offer a framework for analysing information

and communication technology utililization intent and behaviour in Ghana's students in instututions of higher learning.

2.6 Conceptual Framework

Conceptual framework is a level of theory where descriptive categories are systematically placed in a broad structure of explicit, assumed propositions, together with statements of relationships between two or more empirical properties, to be accepted or rejected. Nachmias & Nachmias (1996) describe that, the propositions included within the framework summarize and provide explanations and predictions for empirical observations. This research paper is interested in investigating whether the introduction of mobile phone technology has significantly influenced empowerment and enterprise among the women who reside in Kariua slum in Nairobi. Nachmias & Nachmias (1996) also highlight that theorists often attempt to provide conceptual organization by using models. These models usually consist of the characteristics of some empirical phenomenon, including its components and the relationships between the components, represented as logical arrangements, among concepts. Hence, a model is an abstraction from reality that orders and simplifies our view of reality by representing its essential characteristics. Below is a model, figure 2.1, simulating the impact that the adoption of mobile phone technology has had on empowerment and enterprise among its users.

Figure 2. 1: the impact of mobile Phone adoption ion empowerment and economic development is extrapolated from the literature reviewed

INTRODUCTION OF MOBILE PHONE TECHNOLOGY

UNIFIED THEORY OF ACCEPTANCE AND USE OF TECHNOLOGY

CURRENT MAJOR USES OF MOBILE PHONES:

- Voice Calls
- Text & Multimedia Messaging (SMS/MMS)

OF EMPOWERMENT:

- Improves coordination of everyday life by reducing barriers of time & space
- Boosts feelings of safety and provides psychological reassurance
- Assists in efficient disaster management during emergencies
- Greatly enhances clear and timely communication within & between various social groups
- Expedites the dissemination of

OF ENTREPRENEURSHIP:

- Facilitates job creation thereby raising standards of living
- Encourages innovation as new uses for mobile phones emerge yearly
- Inspires social innovation to meet society's needs and solve problems
- Reduces expenses and improves security of money remittance across geographic zones
- Provides access to timely business information for both

Source: Researcher, 2020

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The section covers and discusses the appropriate and logical research techniques used throughout the study to appropriately collect trustworthy and valid primary and secondary data. It provides information about the research tools that were used. As a result, the chapter includes the research design, target population, sample size and technique of sampling, data collecting, pilot study, and method of analysing sata.

3.2 Research Design

A design in research relates to the methods and techniques used in the research. According to Cooper and Schindler (2013), research activities must be carried out using a certain methodology. Critical study components make up a research design, which also sets the strategy for data collection, measuring, and analysing the same. For this study, a descriptive survey research design was used which, as defined by Strauss and Corbin (2008), is the activity of collecting data in order to respond to inquiries or test hypotheses pertaining to the current situation of the study subject. It entails creating the study's goals, designing the data collection techniques, selecting the sample, gathering the data, and interpreting the findings. The primary goal of a descriptive study is to describe the current condition (Kothari, 2004). Finding population means, occurrences, and other statistical information is crucial in this kind of study. With this knowledge, it was possible to determine demographic patterns and other details.

3.3 Population of the Study

This refers to the broader group of people to be studied with intent of generalizing study findings based on the objectives. It is from the study population that the sample is drawn. This includes elements and/or people with certain characteristics that make them stand out amongst the rest. A population is defined as a comprehensive set of cases, objects or individuals with some ordinary recognizable features and has some characteristics that separate it from other populations as posited by Tromp & Kombo (2006). Consequently, all mobile phone users within Kariua slum were targeted by the study. Communications Authority of Kenya (CAK) currently does not have any documented empirical data on the exact number of mobile phone users within Kariua slum. However, using the secondary data from the CAK referred to under literature review, regarding rapid adoption of this technology, the study deduces that the technology is as popular in Kibera as it is within the rest of the country, especially with the advent of low-cost mobile phone handsets. Thus, the study targeted 21 men and 157 women residing at Kariua Slum. The total target population was 178 respondents.

Table 3. 1 Target population

Location	Men	Women	TOTAL
Kariua Slum	21	157	178

Source: Researcher (2020)

3.4 Sampling Design and Procedure

Studying an entire population especially when a large group is targeted may not be visible thus the need to draw a sample by applying the right techniques. This study adopted the probability sampling method or random sampling method. This method involves developing a list of

individuals with the desired characteristics to respond to the research questions. The individuals are randomly selected. According to Bock (2020) data should be drawn from a randomly selected sample. Therefore, following the adopted plausible design and procedures, men and women across Kariua slum were randomly selected to form the sample size. As suggested by Book (2020), a total of 178 individuals were selected for the study resulting to 70% total respondents. This was therefore in line with Book's propositions. Bock (2020) points that stratified sampling technique involve categorizing the elements under study into smaller groups after which random selection of these elements and placement in groups is done for those with similar characteristics inorder to present final representative findings.

Table 3. 2 Sampling Frame

Location	Total Target Population	Percentage	Sample Size
Kariua Slum	178	70%	10

Source: Researcher (2020)

3.5 Sources of Data

Primary data was the main source of data for the study while this was complemented by secondary data. Data for this study was sourced from both primary and secondary sources. This included information gathered from respondents within the sample via structured questionnaires and information gathered from key informants such as M-Pesa dealers, scratch-card vendors, who will be purposively selected. Secondary data from different sources was also incorporated, more specifically, the national census results for Kariua slum, mobile phone- related statistics from CAK and any other documentary analysis of relevant literature.

3.6 Data Collection

This study sought to establish usage of phones by women in urban slum dwellings by looking at Kariua Slum Nairobi County while the mediating on empowerment, and entrepreneurship. A primary source of data collection was employed, and the primary instrument was measured by questionnaire as well as interview, intuition, participant and nonparticipant observation techniques. Mugenda and Mugenda (1999) defines a questionnaire as an instrument for data collection with listed questions and probes to guide the collection of quantitative data. The use of questionnaires which optimally used structured questionnaire. Twenty-six questions were derived from the study objectives and study questions, thirteen of which revolved around empowerement whereas ten were based on entrepreneurship. The study focused 21 men and 157 women as the target population in Kariua slum.

A letter of introduction was obtained from the University for recognition by the inhabitants of Kariua slum. Data collectors or informants like the M-Pesa dealers and scratch-card vendors assisted in distribution of the questionaires after a careful examination and determining that they have the knowhow of the research questionnaire. Every questionnaire was accompanied by the university letter and introductory section exposing the respondents to the researcher and as a way of building trust in the study. Issues of privacy were addressed in the letter and individuals exposed to the reasons behind the study which was for academic purposes.

The data collectors assisted with ensuring those who were not literate were able to comprehend and give verbal responses to the questions. The data was collected over a 4 weeks time frame. Individuals were reminded to complete the questionnaires in time and privacy maintained through this method of data collection. The data collected was cleaned and recorded

checking to ensure the data sets were reliable, consistent, and complete. The data underwent screening to eliminate errors and then entered into SPSS, analysed and finding recorded.

3.7 The Pilot Study

Pilot study assists to test the research instruments, questions and overall research process upto the analysis stage. This helps to check on the practicality of the study and ensure that prior to investing time and resources, the researcher has an outlook of how the study will generally progress. This is a time-saver during the actual data collection as you will have already identified which approaches will or will not help you solve your research problem (Leedy & Ormrod, 2005). Yin (1989) explains that this is because pilot studies help a researcher reveal inadequacies in the initial design. It also aids in questionnaire design or redesign as it highlights the questions that either need to be amended or dropped all together, thereby leaving the relevant line of questions in the questionnaire. Moreover, pilot studies make access to the site easier because one would already be familiar with the route. Noting that Kariua is an informal settlement, it was important to know the routes that are convenient and safe for the researcher and data collection team to use. The pilot study brought to light areas in the key informants' questionnaire that needed readjust. It was noted that some of the questions were repetitive, therefore, some of the questions were deleted and others were re-framed. The pilot study also revealed that the that the current situation (COVID 19) makes it suitable for data collection as most people are available.

3.8 Data Analysis Method

In line with the adopted method and approaches as well as techniques, the simple percentage and coding were employed in presenting and analysing the information collected. Data are analyzed likewise. Tabulation and percentage ratio or frequencies, which are most often associated with survey method of the research, as statistical tools, for valid figures and results, are employed. Only fully and correctly returned questionnaire copies are utilized and analyzed (Nisbat and Muhammad, 2014). Twelve of the one hundred and seventy-eight copies were partially and inaccurately filled and returned with a few copies missing. Therefore, the analysis figure as total became one hundred and sixty (160).

The process of analysing data as posited by Saunders, Lewis and Thornhill (2009) involves transforming the information collected into meaningful information by looking at the entire data sets. The study involved qualitative and quantitative information thus quantitative data was analysed using descriptive statistics as advanced by Kothari (2004) whereas the researcher employed content analysis for qualitative data. Consequently, bar graphs and frequency tables were used to present the data. The strength of SPSS is known for its ability to handle large or small datasets as pointed out by Dempsey and Low (2003). The study therefore drew from these strengths by employing SPSS in the analysis stage. The process of content analysis for qualitative data involved organizing the information, categorizing into different themes, coding and interpretation of meanings to draw conclusions. This data was presented in narrative format, drawing conclusions at the end. For this study, the dependent variable was mobile phone usage among women of Kariua slum (Y) whereas the study had two independent variables (empowerment (x_1), and entrepreneurship (x_2)).

The study used multiple regression equation to predict women of Kariua slum conveyed as indicated below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$ $Y=$

Women of Kariua slum, $\beta_0=$

Constant,

$X_1 =$ Empowerment, X_2

$=$ Entrepreneurship, ε

$=$Error term of the model,

β_1, and $\beta_2 =$ Coefficients of independent variables.

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION, AND INTERPRETATION

4.1 Introduction

Here, data collected at fieldwork via questionnaire are presented and analyzed, using the adopted plausible methods, techniques and approaches. They are presented in tables, figures and words as well as percentages. Each diagram is interpreted and analyzed after presentation, with the findings discussed. The data revolves around the study problem, objectives, questions and hypotheses. The first sets of diagrams contain data on the respondents, while the others contain information on the research subject matter.

4.2 Response Rate Analysis

4.2.1 Response Rate

The target population for the study was 178 respondents who have resided within Kariua slum for at least two years, aged between 21-60 years and have owned and used a mobile phone for a year. Among those who were also interviewed were informants such as mobile money transfer agents, mobile airtime hawkers, community phone vendors and mobile phone repair technicians. This category of individuals was deemed appropriate for the study to give an elaborate account of how phones interlink with entrepreneurship. The participants were grouped in 10s out of which all of them took part in the study amounting to 100|% rate in response.

As advanced by Kothari (2004) anything within or above 30% is adequate for drawing meaningful conclusions thus the responses were deemed adequate for the study. This reasonable response was attained through the passionate effort of the researcher and the data collection team, who made personal contact with every respondent and unwearyingly waited as they filled-in the questionnaires. The data collection team carried out this exercise over weekends, that is, Friday's

Saturday's and Sunday's only, for a period of three weeks. This was so because the pilot study disclosed that majority of the residents of Kariua slum would be accessible and willing to participate in the research over the weekends.

Figure 4. 1 Response Rate
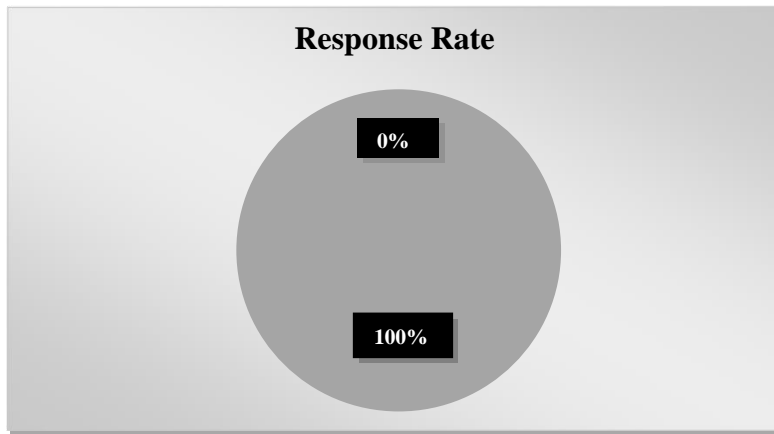
Source: Research Data (2020)

4.3 Demographic Analysis

The demographic features provided by repondents in the questionnaires are highlighted here including the age of respondents, gender, family status as whether married or not, education background, and how long the individual has lived in Kariua. Since the research is focused mainly on how phones impacted women's lives, researcher sought to ensure that women were the majority within the sample. This was made possible by purposely choosing women as the majority of the respondents when handing out the questionnaires, thereby resulting in a gender-disparity and representative sample as shown in the table 4.1 below.

4.3.1 Respondents' Gender Distribution

The researcher sought to establist the gender of respondents and results are as shown in table 4.1 below.

Table 4. 1 Gender Distribution

Gender	Frequency	Percentage (%)
Male	21	12
Female	157	88
Total	**178**	**100**

The findings in the above table indicate 88% were female respondents while only 12% were male. Since the research is mainly focused on women, the findings reveal a good representation of both genders based on the study objectives.

4.3.2 Marital Status

From the findings, 44% were married respondents, 25% single, 7% divorced, 13% widowed and 11% were separated from their spouses. The findings are as shown in the diagram below.

Figure 4. 2 Marital Status
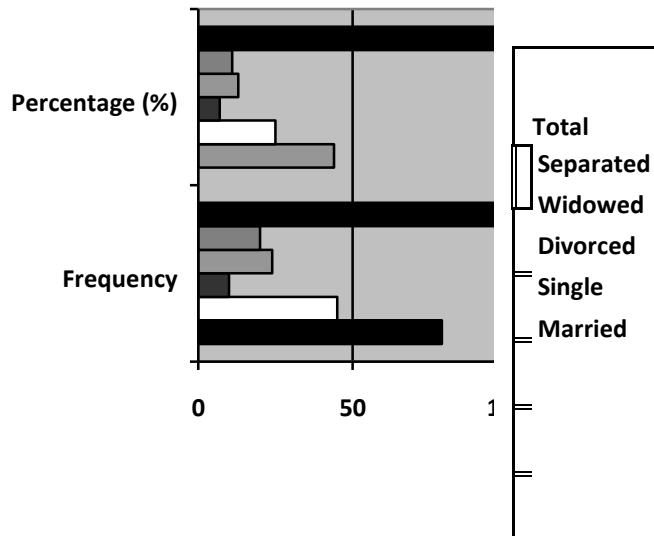
4.3.2 Age Distribution

The respondents were asked to indicate their age and results are as shown in table 4.3 below. Sixty seven percent were found to be between 30-39 years, twenty five percent were below 30 years whereas those between 40years - 60 years were eight percent. The findings therefore reveal that a majority of respondents were between 30yrs – 39 years represented by 67%. The implication is that most of the people living in area under study are of the age of 21 years – 40 years which are often known as prime age and most productive age. Such individuals tend to reside close to employment opportunities to maximize on their years of productivity thus interested in living closer to their workplaces or areas where potential for gainful employment is high.

Table 4. 2 Age Distribution

Age (in years)	No. of Respondents	Percentage (%)
21-29	45	25
30-39	119	67
40-60	14	8
Total	**178**	**100**

Source: Research Data (2020)

4.3.4 Educational Status Distribution

The findings revealed 13% were primary levers, 55% secondary levers and 32% had completed education in colleges as shown in the table below. Some of those who had completed college level revealed that they had attended tertiary colleges and polytechnics.

Table 4. 3 Educational Status Distribution

Education Level	No. of Respondent	Percentage (%)
Primary	22	13
Secondary	98	55
College	58	32
Total	**178**	**100**

Source: Research Data (2020)

4.3.5 Total Monthly Income

The study discovered 50%, earned a range of Kshs 1,000 to Kshs 6,000 per month. 22% of the respondents earned between kshs 6.000 and 10,000, and other 22% categorized themselves as earning between Kshs 10,000 and 15,000. Only 6% had income exceeding Kshs 15,000 monthly income. Kariua, often categorized as one of the urban slums where the unemployed reside. However, the results indicated that the respondents had some sought of income.

Figure 4. 3 Total Monthly Income
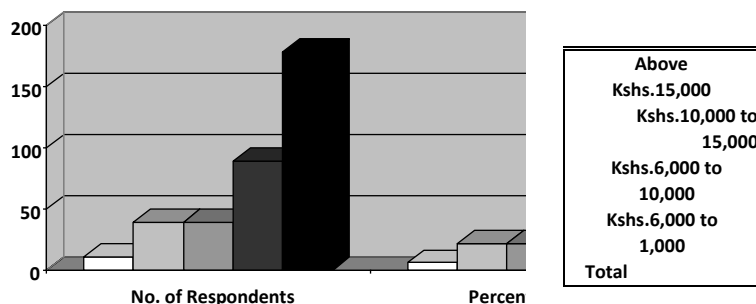
Source: Research Data (2020)

4.3.5 Period of Residing in Kariua

In line with the study's methodology, the researcher wittingly sampled respondents who had resided in Kariua slum for more than two years. The study finding show that 41% had lived in

Kariua slum between 6-10 yrs, 36% had lived there between 1-5 yrs, 14% between 11-15, 6% for

16- 20 years while 3% of the respondents had been residents of Kariua slum for above 20 years.

Figure 4. 4 Period of Residence
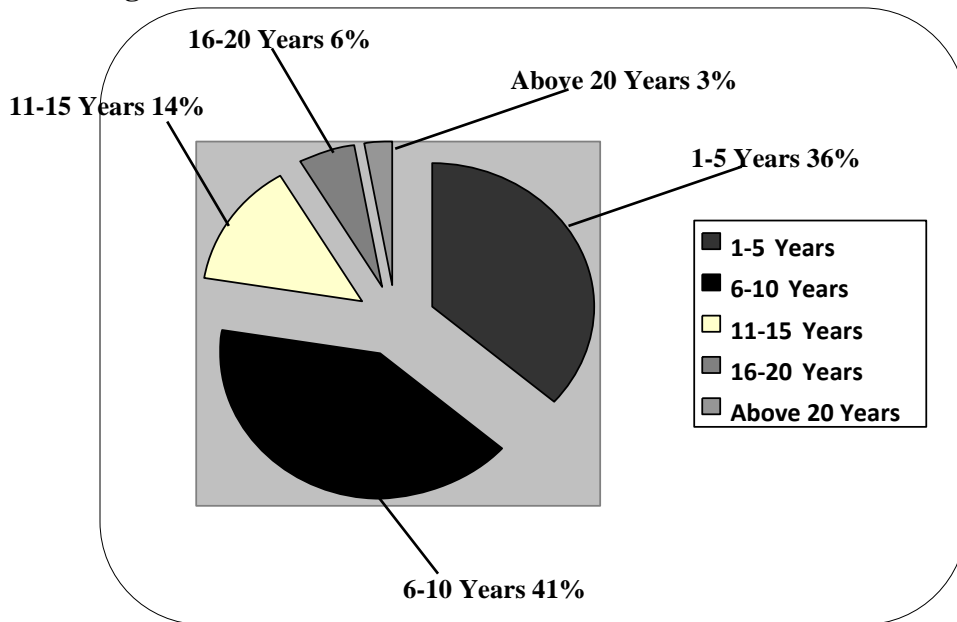
Source: Research Data (2020)

4.4 Analyzing the Questionnaire Items on the Variables

This part contains the gathered data on the subject matter (theme) of the research. The data are presented here in the diagrams below. Following the nature and style of the questionnaire, which were structured so as to enable the respondents give their own opinions or views freely. The data are thus presented, analyzed and interpreted as follow hereunder. The researcher employed the use of descriptive analysis.

4.4.1 Factors Determining the Adoption of Mobile Phones among Women in Kariua Slum

Assessing mobile phone culture among woman dwelling in urban slum areas like Kariua was the main study focus. To apprehend this objective, the researcher asked the respondents questions such as how long they had owned their mobile handsets, the mode of acquisition, the

terms of purchase, purchase price, their preferred tariff, ownership status and lastly, what factors they prioritize when purchasing a mobile handset.

4.4.1.1 Time of Ownership

The study revealed that a large majority, 70% of the respondents had owned and used their mobile handsets for 1-3 years. A limited number of 10% had owned their handsets for over 6 years, while an average number of 20% had owned them for 4-6 years.

Table 4. 4 Years of Owing a Mobile Phone

Time of Ownership	No. of Respondent	Percentage (%)
6 Years	18	10
4-6 Years	35	20
1-3 Years	125	70
Total	**178**	**100**

Source: Research Data (2020)

These findings affirm the details deduced from the reviewed literature, which highlighted that the introduction of cheaper mobile handsets into the market had encouraged the purchase and subsequent use of phones among low-income-earning societies like Kariua slum. In Kenya, for instance, low-cost handsets made their entrance about 15 years ago.

4.4.1.2 Manner of Acquisition

Findings revealed, 42% had acquired the phones through their potential employers, with monthly deductions of its cost from their income, 38% were given the phones as tools for trade thus remain employer's property to be returned if nolonger employed, 13% of the respondents had acquired their mobile phones by purchasing it from a mobile phone shop or dealer, while only 7% had no cost phones received from relatives and friends. This is as shown in the below table.

Table 4. 5 Manner of Acquiring Mobile Handset

Mode of Acquisition of Mobile Phones by Respondents	Frequency	Percentage (%)
Bought it from a mobile phone shop	24	13
Given at no cost by a relative or friend	10	7
From employer as a tool of trade, which is to be surrendered if employment ceases	68	38
From employer, with monthly deductions of its cost from my salary	76	42
Total	**178**	**100**

Source: Research Data (2020)

From the findings, most of the individuals under study own mobile phones courtesy of their employers. The implication is that one of the key determinants of phone ownership is employment status.

4.4.1.3 Terms of Buying Mobile Handset

Findings reveal that a higher respondent proportion represented by 42% acquired their handsets on credit basis, while 22% bought them for cash. And 36% indicated that the question was not applicable to them. This is as shown in the below figure.

Figure 4. 5 Terms of Buying Mobile Handset
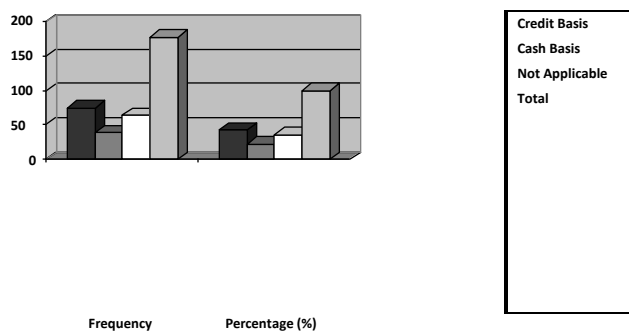
Source: Research Data (2020)

4.4.1.4 Costs Incurred in Purchase of Mobile Handset

27% of the respondents spent between Kshs 4000 to 7000 in acquiring a mobile phone, and a slight similar percentage of 28% indicate that the question on cost was not applicable. Almost half the individuals under study spent between Kshs 8,000 to 12,000 to acquire their phones, while only 10% spent less than Kshs 1,000 in acquiring a mobile phone.

Figure 4. 6 Estimated costs of Acquiring Mobile Handset

Cost	Frequency	Percentage (%)
Less than Kshs 1,000	18	10
Kshs 4000 – Kshs 7000	48	27
Kshs 8000 – Kshs 12,000	62	35
Not Applicable	50	28
Total	**178**	**100**

Source: Research Data (2020)

4.4.1.5 State of the Phone on Acquisition

As shown below 80% of the respondents indicated that their handsets were either secondhand or reconditioned when they acquired them, while a small minority of 20% purchased or received new handsets. This shows that the state of the phones, whether new or used, is not of major significance in the acquisition of mobile phone among women within Kariua Slum.

Figure 4. 7 State of Mobile Handset on Acquisition
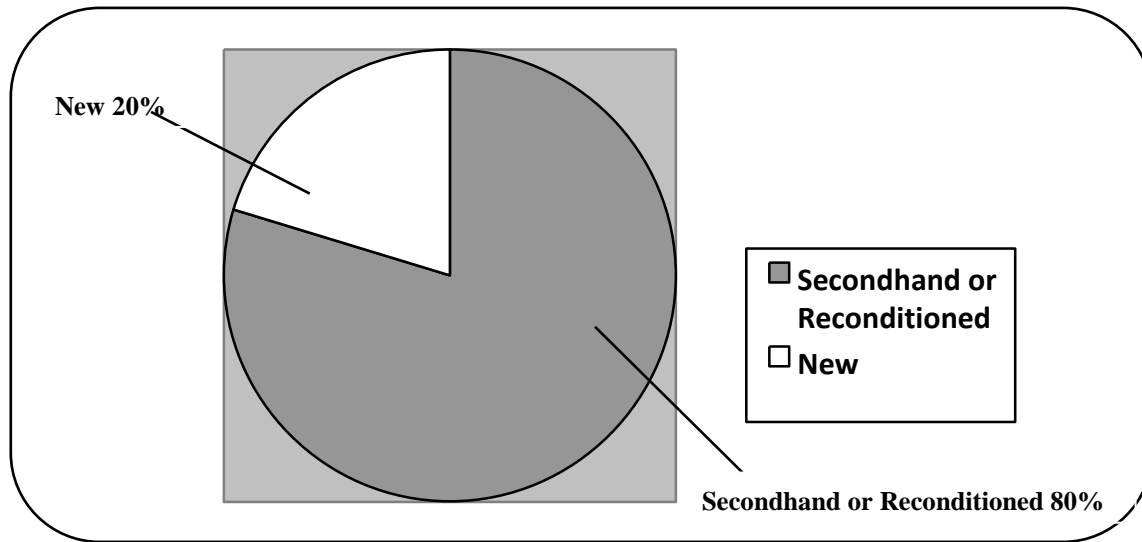
Source: Research Data (2020)

4.4.1.6 Ideal Tariff and Ownership Status

The pre-paid tariff was the ideal tariff of choice for 78% of the respondents. Nevertheless, 22% of the respondents had a postpaid tariff. Some of the respondents asserted that having a postpaid tariff was because of their nature of work and that it was funded or courtesy of their employers.

Table 4. 6 Ideal Tariff of Choice

Tariff	Frequency	Percentage (%)
Prepaid	138	78
Postpaid	40	22
Total	**178**	**100**

Source: Research Data (2020)

The choice of a prepaid tariff was popular among the mobile phone users, and this confirms that the introduction of a prepay option has positively influenced usage by women of Kariua slum. Further, availability of low denominations of mobile phone airtime such as Kshs 10 and 20, has

made it easier for majority of the women in this slum to own as well as maintain their mobile phone service.

The study also established that 85% owned and used their phones alone while 15% had collective usage among members of the households.

Figure 4. 8 Mobile Phone Ownership Status
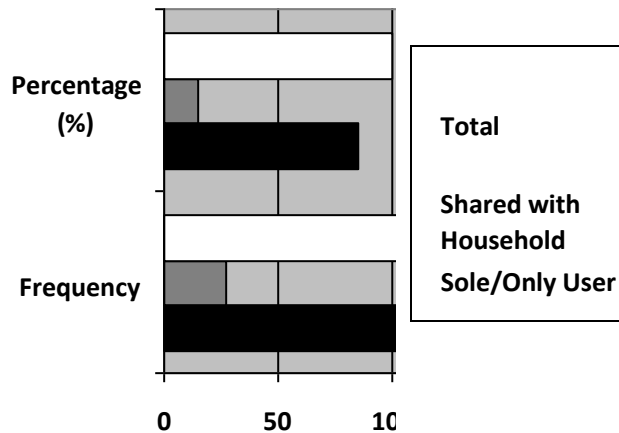
Source: Research Data (2020)

These findings further affirm the wide adoption of mobile phones by women of Kariua slum. The fact that sharing of phones was found to be minimal also show the wide ownership of the same among households of Kariua.

4.4.1.7 Factors Determining Decisions to Obtain a Mobile Phone

The findings on the table below reveal to what extent several attributes of a mobile phone determine the purchase decision of the respondents.

Table 4. 7: Degree to which Several Factors Determine the Purchase of Mobile Phone

Factors Influencing Acquisition of Mobile Phones	No. Extent	Little Extent	Moderate Extent	Great Extent	Very Great Extent	*Mean*	*Std. Dev.*
Price	3	1	6	24	56	**3.99**	**0.2**
Brand/Model	6	4	12	24	64	**4.66**	**0.4**
Physical Appearance (Its look)	1	2	23	67	7	**3.77**	**0.7**
Additional features like radio, internet or Camera	1	1	32	64	2	**3.65**	**0.3**
Opinion of relatives and friends	1	3	57	33	6	**3.40**	**0.3**
Quality	1	5	4	17	73	**4.56**	**0.6**
Ease of use	1	3	6	22	68	**4.53**	**0.4**
After sale service/Guarantee	2	3	5	23	67	**4.50**	**0.8**
Advertisement in the media	3	3	4	32	58	**4.39**	**0.6**
Special offer on handsets from mobile phone service providers & Dealers	2	2	6	32	58	**4.42**	**0.8**

Source: Research Data (2020)

In reply to the queries regarding the attributes of a mobile phone, the respondents consider the following when making a purchase decision: the brand or model, quality of the phone, ease of use, after-sale-services, special offers on handsets and advertisements in the media. These are the factors that influence them most. The respondents also said they consider the price, the phone's look, additional features on the handset and opinions of family and friends respectively as minor

factors that influence them when making a purchase decision. Interestingly, price did not influence the purchase decision to a greater extent, and yet Kariua slum mostly accommodates low-income earners.

4.4.2 Various Uses of the Mobile Phones among women in Kariua Slum

This research's general objective was to assess mobile phone culture among woman dwelling in Kariua slum. In order to attain this objective, the research also had to identify the various functions of the mobile phone among women within Kariua slum. The respondents indicated they use phones to communicate with family, friends, colleagues, and the secondly for money transfer services to relatives and friends and when doing business transactions.

4.4.3 Effects of Mobile Phones on Empowerment on women in Kariua Slum

This study intended to investigate whether mobile usage among women in Kariua significantly related to their empowerment; and also, to find out the effectiveness of mobile usage among the same women and how it has empowered them. To determine this, the respondents were asked which social and societal groups they most recurrently interacted with via mobile phones. And also, they were asked to what extent the numerous elements of their interaction had been affected by phone usage as well as as the resultant enrichment of livelihood.

Table 4. 8 Effects of Mobile Phones on Empowerment of women in Kariua Slum

Outcome of Adopting and using my Mobile phone	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree	Mean	Std. Dev.
I feel safer and more secure	3	3	4	26	64	*4.45*	*0.6*
I'm more accessible to friends and relatives	2	3	18	72	5	*3.75*	*0.7*
I've reduced the number of times I travel upcountry to visit relatives	6	4	24	64	12	*4.02*	*0.4*
It's easier to coordinate daily life between home & work	1	3	22	68	6	*3.75*	*0.4*
I'm able to handle home and work emergencies more effectively & efficiently	2	4	15	72	7	*3.78*	*0.6*
I'm more sociable, I've lots of friends	1	2	2	21	74	*4.65*	*0.7*
The relationship with my spouse/partner/lover has improved	3	4	24	64	7	*3.74*	*0.1*

The relationship with my children has improved	2	14	4	23	57	*4.19*	*0.5*
The relationship with my colleagues at work has improved	6	4	12	24	64	*4.66*	*0.4*
Conflicts with my family has decreased	1	2	23	67	7	*3.77*	*0.7*
Conflicts at my workplace have decreased	2	3	5	23	67	*4.50*	*0.8*

Source: Research Data (2020)

As revealed above, most of the individuals under study were in agreement that adoption and use of phones has improved the relationship with their colleagues and has as well decreased conflicts at the workplace. These scored 4.66 and 4.50 respectively as the mean score. Majority also agreed phones had enhanced communication and as a result they have become more sociable hence have more friends. This is reinforced by the summary of findings in the table above, which shows that 45% of mobile phone communication is with friends. This study also reveals that mobile phone technology has comparatively reduced the number of times the respondents travel upcountry to visit their loved ones. The reduction in travel to upcountry can be as an outcome of constant communication among loved ones through mobile phone as well as the ability to disburse funds to them through mobile money transfer. More so, the respondents also connoted their relationship with their children has been enriched.

Although, there are some questions where the respondents were somehow neutral, that is, they neither agreed nor disagreed on whether the adoption of mobile phone communication had improved the relationship with their spouses, partner or lovers and also on whether mobile phones helped them coordinate daily life, and between home and work. Respondents as well denoted that they were moderately neutral on whether possessing a mobile phone has made them more available, and on whether it has minimized family-related issues, and also on whether they were able to tackle with both work and home urgencies more proficiently and effectually.

4.4.4 Effects of Mobile Phones on Entrepreneurship on women in Kariua Slum

As the research attempted to find out how mobile phone technology had enriched Kariua women by empowering them, it also tried to find out how mobile phone technology adoption has molded Kariua women to become more entrepreneurial by creating job opportunities or starting small businesses within the slum. This was determined by establishing from the respondents the extent financial benefit from phone usage and extent of which employment opportunities had increased within Kariua and the mobile phone related innovations that may have mushroomed, owing the advent of mobile phones.

4.4.4.1 Financial Benefits Accruing from the Adoption of Mobile Phones

Findings show that usage of phones within Kariua slum has brought financial benefits among women where the below figure indicate that 90% agreed to have recorded benefits while 10% have not financially benefitted.

Figure 4. 9 Financial Benefits Accruing from the Adoption of Mobile Phones
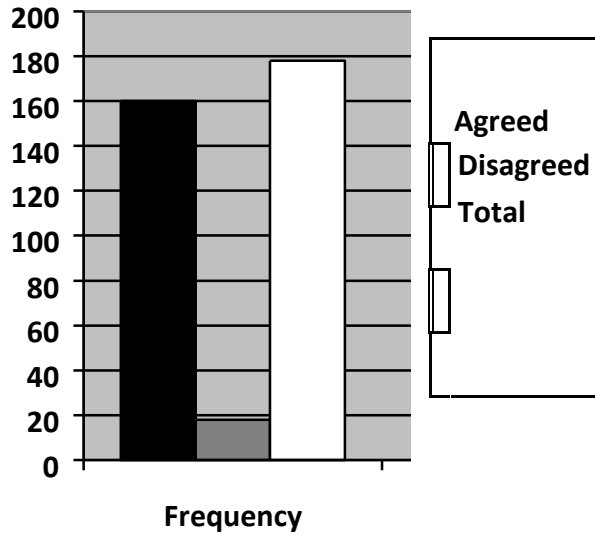
Source: Research Data (2020)

When explaining the extent of benefit financially, they said that it was mostly via mobile money transfer services through which they received wages, payment for goods bought or sold, hand-outs from relatives, friends, churches and non-governmental organizations. Some of the respondents also said they had received information on job vacancies, mostly casual jobs, via their mobile phones from friends or industries where they had left their contacts when inquiring on employment opportunities. Respondents also asserted, the use of phones has encouraged saving in informal saving groups such as merry-gorounds, commonly known as chamas. They clarified that, and self-help groups. The respondents clarified that collection and safe storage of it was much easier to collect money from members of chamas using mobile money transfer as this had minimized costs of travelling to deliver the money and enhanced accessibility.

4.4.4.2 Mobile Phone Adoption and New Business among women within Kariua

The study pursued to find out if the advent of mobile phones in the last couple of years has encouraged women who reside in Kariua to start-up mobile phone-related ventures or businesses. According to the findings, 70% of the respondents indicated that introduction of mobile phones has encouraged women of Kariua to start mobile phone-related ventures or businesses while 30% of the respondents indicated that introduction of mobile phones did not encourage Kariua women to start mobile phone-related ventures or businesses.

Figure 4. 10 Extent to which Mobile Phone Adoption Has Encouraged New Business

Encourage New Business	Frequency	Percentage (%)
Agreed	125	70
Disagreed	53	30
Total	**178**	**100**

Source: Research Data (2020)

Majority of the respondents who agreed listed businesses they are aware of, which had been set up following the rise in use of phones in Kariua slum. They listed airtime hawkers and vendors, mobile money transfer agents, commercial bank agencies which transacted via mobile phones, mobile phone handset dealers and mobile phone repair shops. This goes to indicate that entrepreneurship within the slum has relatively increased among women in the phone era.

4.4.4.3 Mobile Phone and Employment Opportunities for Women within Kariua

The study sought whether the adoption of mobile phone technology has brought about an increase of employment opportunities for women who reside in Kariua. 38% indicated that employment opportunities had not increased while 62% indicated otherwise. The findings are

summarized in figure below. The effects of mobile phones technology being channels of employment creation have been felt within Kariua slum just as the way they are felt within the city.

Figure 4. 11 Degree to which Mobile Phone Adoption Has Increased Employment Opportunities among women in Kariua Slum
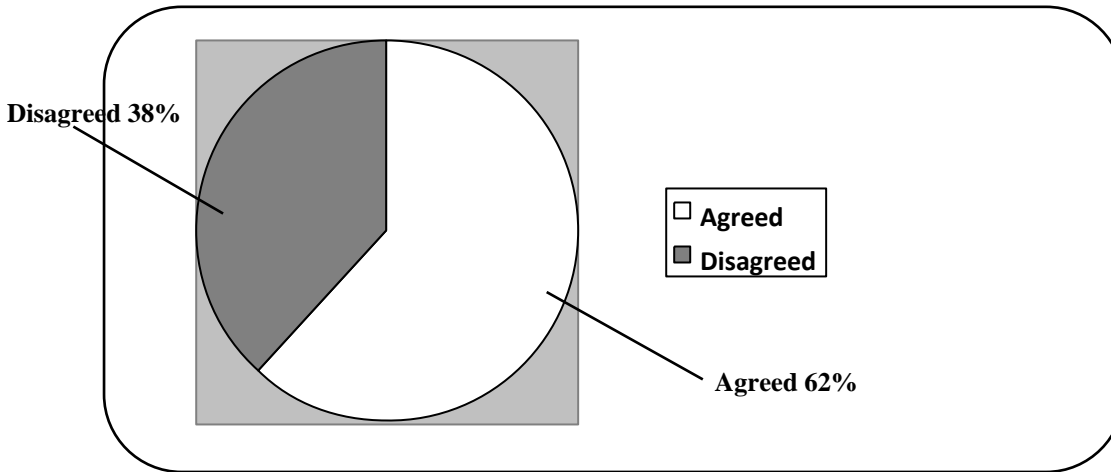
Source: Research Data (2020)

4.4.4.4 Mobile Phone and Ownership of Bank Accounts by Women of Kariua Slum

The finding summed up in the table below demonstrate that 55% of the respondents hold bank accounts in commercial banks while 45% do not hold commercial bank accounts.

Table 4.11 Ownership of Bank Accounts in Commercial Banks by Kariua Women

Hold a Bank Account	Frequency	Percentage (%)
Yes	98	55
No	80	45
Total	**178**	**100**

When requested to clarify how they transact with money, the 45% respondents who did not hold bank accounts designated that they used mobile money transfer services. They further elucidated that, when necessary, money is deposited and sent to the recipients, for instance, money is sent to relatives who are upcountry and some can be left on the phones for later use.

4.5 Summary Findings from the Interviews of the Key Informant

Key informants, mostly comprising of respondents who operated mobile phone related business, were interviewed with an intention of collecting additional qualitative data to aid in gratifying the study objective, which pursued to find out the degree at which phones have impacted empowerment and entrepreneurship among women in Kariua slum. The key respondents constitute of mobile money transfer agents, mobile airtime hawkers, mobile phone repair technicians and community phone vendors. It was discovered that a bulk majority of the businesses had been in existence between 2 and 10 years. This indicate that mobile phone related businesses had increased and that most individuals under study were'nt involved in other business before the introduction of phones in Kariua slum, few however had run other businesses unrelated to the mobile phone and only established their current mobile phone businesses because demand for mobile related services had increased. From the above discussions, it implies that introduction and use of phones Kariua slum has encouraged the mushrooming of mobile phone related business in the recent past. Quite a lot of the key informants affirmed that their living standards had improved due to getting involved in the mobile related businesses. When requested to explain how their standard of living had improved, majority of the respondents said they were able to provide for their families better predominantly in terms of food, education and health care. Nonetheless, there were few who said that there had not been any significant improvement in their living standards. Nearly all of the

businesses were run by the proprietors only, without the help of any other employees. The few businesses, which had salaried employees to help the proprietor, were exclusively money transfer businesses, which had been in existence for some time. Almost all of these had one employee each. The key informants said that this was so because having an employee would cut down their overall earnings.

From these findings, it is evident that phones in Kariua slum haven't only positively influenced entrepreneurship among women who reside in the aforementioned slum, thus bringing economic development to the area, but has also empowered Kariua women and enriched their livelihood. However, it is inauspicious that not a huge significant increament in employment opportunities among women within Kariua slum was reported. Women were using mobile phones for empowerment in both their economic and social life. Mobile phones enabled women to engage experts on social media on better ways of parenting, best practices in business and also social media platforms to discuss and coordinate family issues and therefore strenghthening their families. The women used various platforms to sell their wares, outsource farm inputs and buy domestic supplies giving them more time wit their families and dedication to their entrepreneurial activities. The study recommends empowerment and literacy to ensure that these women make the best using bigdata sieving to apply what is useful and avoiding misinformation and disinformation rampant in the media

4.6 Challenges of Data Collection

Some of the challenges encountered include sheng used by most respondents to communicate. This language is called 'lugha ya mtaa', a language that is unique to the slum, and is a combination of the national language kiswahili and different vernacular languages. The data collection team had to repetitively appeal for the translation of some of the phrases for lucidity.

This also unnecessarily raised the amount of time the researcher had to spend with some of the respondents.

Some of the respondents did not permit the research team to hold the interviews in their houses, so the team had to settle for the outdoors. But this gave a wrong impression to small crowd of curious onlookers, who were attracted by the conversations that were going on hence distracted the respondents and made them uneasy to react to some of the personal questions like income.

Some respondents sought to be included in study sample, persisted on exchanging their information for money, even after delivering them with the institution's letter of introduction. However, the researcher only interviewed those who willingly completed the questionnaire.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This section presents the summary of findings, the conclusion and recommendations based on the study objectives and the finding.

5.2 Summary Findings and Conclusion

From the findings, this study's conclusion is that indroducing mobile telephones inside Kariua slum tremendously impacted socio-monetary improvement of the women living within the slum. Findings show that respondents of either gender, who owned cellular phones with ease, this shows that Kariua slum women have certainly embraced mobile phone technology. This is likewise a hallmark that mobile phone generation has been of benefitial to them.

Regarding the factors that have an impact its acquisition among women of Kariua slum, providing credit facilities from various quarters is critical for the diffusion of this technology within low-earnings groups like Kariua slum was found to be a great contributor. More so, a few employers and mobile phone service providers like Safaricom with their Lipa Mdogo Mdogo initiative have presented credit score centers, whereby employees, service providers, and clients have been able to have the cost of a handset deducted in installments from their earnings According to world bank opportunities for sales of the credit facilities and services provide opportunities. Three quarters of the respondents had acquired their handsets in this manner. Additionally, providing affordable phones has been seen to influence acquisition of smartphone generation in low-profits groups along with Kariua slum, attributable to the truth more than half of the respondents spent money to purchase their handsets. The study further noted that with reference to

the mode of acquiring a mobile phone, there are those who indicated that they'd obtained their phones from a relative or buddy at no cost were all women.

The advent of low-fee handsets, which flooded the Kenyan mobile phone market in the recent past has substantially aided the fast diffusion of this generation within low-earnings urban slums. The findings assist this assertion wherein a good number of the respondents owned a handset for over one year. Low price handsets have more frequently than not been formerly owned, then reconditioned by means of the manufacturer or mobile phone technicians and resold at a subsidized fee. However, there are manufacturers who provide low-fee fashions with minimal features to enable penetration into low-profits markets. The findings showed that most of the respondents owned secondhand or reconditioned handsets because they have been greater lower priced.

The comfort of gaining access to pre-paid tariffs has additionally facilitated the adoption of mobile technology in Kariua slum. Pre-paid price permits a mobile phone person to load their telephones with airtime before usage. Pre-paid tariffs eliminate the hassle and bureaucracy involved in dealing with monthly bills, in addition to offering a 'plug and play' technology, where a mobile phone user purchases a sim-card from an authorized dealer, slots it into the mobile phone sim space and in a matter of seconds, it is activated and ready for use. The introduction of lowdenomination airtime has additionally inspired diffusion of mobile phone technology. One should purchase airtime for as low as Kshs 10/= and make a call for as much as 5 minutes or ship an unlimited number of short messages (SMS), depending at the service company of preference. It is therefore not unexpected that most of the respondents preferred a pre-paid tariff since increased usage of phones comes with costs of making sales-related calls, search for new jobs, transacting via the phone and other related costs.

Some of those who opted for the post-paid tariff, indicated that it became courtesy of their corporation, because the mobile handset they owned was given to them as a device of alternate that become to be surrendered if employment ceases. Trends indicate a rise in employment rates in mobile industries between the years 1996 – 2011 based on reports from various heads of state (ITU 2011)

Additionally, mobile phones have been seen to offer privacy and freedom to communicate. Most users reported to be using their phones alone without having it as a shared resource. Consequently, they choose when to call, sms, receive calls or use internet services without interference. This idea has further led to increase in acquisition and usage within Kariua slum. From these finding, its evident that affordability is key to acquisition and usage of this technology thus availability of such low-priced phones have ensured almost every household member can own a phone. This has further widened the usage patterns among the low-income-earners as those in Kariua slums.

Majority of the respondents were reported as youth. Penetration levels in Kenya stands at 67.9% as reported by CA. In this research, this group usually has a tendency to be brand conscious of their intake styles, extra so with regards to era, inclusive of cell phones. It therefore not sudden to find that even in Kariua slum. Youths are usually adaptive to trends, style that is very useful. Generally, these findings on penetration of mobile phones can be used for enhancement of services, labour sector through use of available applications to match potential employees to the job and acquire great talents from the youth while job seekers also utilize the same to acquire the right jobs based on academic qualifications and available opportunities.

The finding that indicates that phones are large used to communicate and transfer money via mobile networks. This supports current belief that advent of mobile phone communication has delivered about exchange in the patterns of interaction inside numerous social structures, Frequency and general use of SMS by teenagers has expanded from 2006 as advanced by Pew Research (2009). The increased use of mobile money has enhanced livelihood and improved economic status. The advancement is such that individuals can now transfer money across regions, it has literally faciliatated easy transaction from deposits to withdrwawals and sending money. This has put Kenya as a country in leading edge in acquisition and use of mobile monetary services, thus allowing for operating mobile-accounts. A large population in Kenya represented by about 96% own accounts for mobile money (Geopoll report 2021).

It is apparent that various forms of social interplay have metamorphosed due to the social dynamics that mobile phones have introduced into the society's conversation styles. The findings indicate that the adoption of mobile telephone technology has greater communication mainly inside the place of work, thereby lowering conflicts and fostering better relationships between the respondents and their colleagues. Evidence also points to the fact that interaction via mobile phones has made the respondents more social and consequently, they have more friends. On the other hand, this has greatly affected and reduced the traditional face-to-face interaction, as shown in the findings where the respondents said that they had reduced face-to-face interaction to a great extent. It may be concluded therefore that the usage of mobile phones has made social interplay among members of various social structures fantastically impersonal. This is because people can efficiently communicate without necessarily being in the same space. Report by Geopoll (2021) have indicated that nations with enhanced mobile access have strong economic projections as opposed to those with reduced mobile access.

The findings depicted a direct relationship between economic development and use of phones by women in Kariua slum. This is evidenced via the findings where majority of the women demonstrated having realized benefits economically through phone usage. This has enhanced employment as thousands of jobs for agents in Kenya alone originate from Mpesa services. The economic improvement is tied to mobile enablement making it easier to transfer money and get access to a pool of financing for growth of and development of formal business ventures (Worldbank report).

The study also found that respondents utilized mobile money services as an alternative to bank accounts as this has facilitated transactions in a similar manner as it would have been with banking service. A variety of respondents said that they had received facts on and invites for employment via their mobile phones. Private business owners also attested to the fact that phoes have enhanced efficiency and effectiveness in business operations. They are able to faster and efficiently deliver orders and run their businesses across the globe. The enahnacement in mobile phone technology has enhanced accessibility of information on market trends, pricing and improved relationships with customers and stakeholder. Scholars have also found that phones reduce risks in business engagements as it enables accessibility to crucial information for successful business (Aker 2008).

Further, the research findings disclosed that phones encouraged the burgeoning of new ventures among women within Kariua slum. They identified these ventures or businesses as mobile airtime hawking, mobile money transfer vendors, mobile phone repair shops, community mobile phones like Mpesa Agents and commercial bank agencies. However, more than half of them indicated that mobile phone adoption had led to the increase in employment opportunities. Be that

as it may, all the respondents articulated that they did not know of any special mobile phone innovation that was unique to Kariua women.

Findings from the key informants, who run businesses within Kariua slum, demonstrated that mobile phone adoption has significantly stimulated entrepreneurship among the women within the urban slum. The multiplying of mobile phone technology within Kariua, created an 'essential gap' for airtime, mobile money transfer agencies, community mobile phones, phone repair shops amongst other services. The women entrepreneurs within Kariua seized the opportunity to satisfy these needs and set up appropriate businesses. The findings displayed that a good number of these businesses have been in existence for more than a year. The study supported existing literature that existence of low-cost mobile handsets in the recent past has enhanced access and spread of such technologies to women especially in poor economic conditions who would have otherwise faced with the challenge of buying the phones at the expense of providing for their families. Eventually they would end up prioritizing their families andremaining without phones.

The findings also revealed that majority of the key informants did not operate any other business before their current mobile related business. The implication is that this technology encouraged women entrepreneurs in Kariua to start their own businesses. It was heartening to note that a reasonably large number of the key informants agreed that their standard of living had tremendously improved. They elucidated that the income earned from their businesses has enabled them to easily meet their family requirements and sustain them with better living standards. It was worthy to note however, that numerous of the key informants had not hired any employees hence are sole proprietors.

In view of the above, the researcher can conclude that the two objectives proposed in chapter two of this research study, namely: phone usage has empowered women in urban slums; and, that it has encouraged women entrepreneurship within urban slums are true. A positive link exists connecting mobile phone adoption and improvement in social interaction among women within urban slums. There is also a positive relationship between the adoption of mobile phone technology and entrepreneurship among women in urban slums, that is, mobile phone adoption has fostered womens' entrepreneurship. It is clear from the research findings that social interaction as well as entrepreneurship in Kariua slum has improved the livelihood of women, with the adoption of mobile phone technology.

5.3 Recommendations

The study recommends empowerment and literacy to ensure that these women make the best using bigdata sieving to apply what is useful and avoiding misinformation and disinformation rampant in the media

There is a positive correlation between adoption of mobile phone technology and socioeconomic development among women in Kariua, therefore, the stakeholders in the telecommunications sector and mobile phone service providers need to expand scope by bringing in other low-priced computing technologies on credit basis just like the Lipa Mdogo Mdogo initiative pioneered by Safaricom, which could further enhance social and economic development to women in Kariua. Enahnced and enablement of access to mobile technologies will improve livelihoods not only for slums women but of all the slums residents as well. Accomplishing of the nations long and short-term objectives then becomes part of the achievements as well as alleviation of poverty currently threatening to wipe out vulnerable populations.

Technical specialists in the ICT sector should also get involved in more research to enable them to design many other social innovations like the mobile money transfer services, which will eventually aid in resolving different challengess in the low-income communities within our country. Employers should also collaborate amongst themselves and those in telephone industries and phone dealers to empower their employees with the latest technologies as they offer credit facilities to those whose income limits them from accessing such facilities.

The national government, county governments like Nairobi County, in this case of Kariua slums; non-governmental institutions and women empowerment groups should collaborate and engage in innovation and entrepreneurship training. Together they should design programs which will serve to impart business management skills to the existing and potential women entrepreneurs within Kariua slum. This knowledge will help them increase the efficiency of their small businesses, thereby helping to create more employment opportunities within the slum. ICT stakeholders, and more so the mobile phone service providers, can include this kind of training in their corporate social responsibility. Because the findings indicated that mobile phones improve social interaction, the government and other social relevant groups such as justice and reconciliation, can use the mobile phone to solve societal conflicts, domestic violence and crime, and encourage members of a given society to live amicably with one another.

5.4 Suggestions for Further Studies

The study evaluated mobile phone use among women in Kariua slum, within Nairobi County. Similar studies could focus on other sectors like education. Moreover, research could as well focuss on assessing usage of phones by different gender, or age group. Related studies can also be done among other urban slums and low-income communities in various slums across the country. Additional research can be done to assess impact of other technologies in different societal classes, for instance in work organizations, churches, financial institutions and much more. This would help bring a different angle to the current study as a topical area in the current ditital world characterized by proliferation of mobile phones and technological advancement. Academicians and scholars can also delve into other social and economic factors not explored by this research, such as effect of mobile phones on trust, fidelity in relationships and marriages, or the influence of mobile phones on deviant behavior in school going children, teenagers, and college student to add on to existing knowledge.

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APPENDICES

APPENDIX I: KEY INFORMANTS QUESTIONNAIRE

My name is **Maureen Cherono**, a student at the University of Nairobi, School of Journalism and Mass Communication currently pursuing a Master of Arts Degree in Communication Studies Development Communications). **I am conducting a research to assess the impact of mobile phone on women in urban slums: Survey of Kariua slum**. This research is purely for academic purposes and as such your individual responses will remain confidential. You are free to withdraw

at anytime without penalty if you no longer wish to proceed. If you agree to participate please complete this schedule only once. Thank you

1. **Describe the cell phone related business or businesses that you are currently running in Kariua slum? Avoid two questions in one**

………………………………………………………………………………………………

………………………………………………………………………………………………

…

   b)For   how   long   have   you   run   it/them?

   …………………………………………………………………………………………………

   …………………………………………………………………………………………

2. **Before the introduction of cell phones, did you have another business in Kariua slum?**

   Yes   〔 〕   No   〔 〕

3. **Has the cell phone business or related business improved your standard of living?**

   Yes   〔 〕   No   〔 〕

   If your answer is yes, explain how ………………………………………………………

   ………………………………………………………………………………………………

   ………………………………………………………………………………………………

………

4. Have you employed anyone to assist you run your business?

Yes   ( )   No   ( )

If your answer is yes, how many employees do you have? ………………………………..

……………………………………………………………………………………………………

……………………………………………………………………………………………………

………………………

APPENDIX II: STRUCTURED QUESTIONNAIRE

My name is **Maureen Cherono**, a student at the University of Nairobi, School of Journalism and

Mass Communication currently pursuing a Master of Arts Degree in Communication Studies

Development Communications). **I am conducting a research to assess the impact of mobile**

phone on women in urban slums: Survey of Kariua slum. This research is purely for academic

purposes and as such your individual responses will remain confidential. You are free to withdraw

at anytime without penalty if you no longer wish to proceed. If you agree to participate please

complete this schedule only once. Thank you

Location: ……………………………

Date: ………………………….......

Serial Number: ……………………...

1. Gender

   Male 〔 〕   Female 〔 〕

2. Marital Status

   Married〔 〕   Single 〔 〕   Divorced〔 〕   Widowed〔 〕   Separated〔 〕

3. Age

                     〔 〕
   21 – 30 years   31- 40 years〔 〕   41 – 50 years〔 〕   Over 50 years〔 〕

4.   **What is the last level of formal education you finished?**

   Primary Education Level   〔 〕   Secondary Education Level   〔 〕

                         〔 〕
   College Certificate Level   College Diploma/Higher Diploma Level 〔 〕

   University Graduate Degree Level〔 〕   University Post-Graduate Level   〔 〕

5.   **What is your occupation?...**

6. Roughly, what is your gross monthly salary?

No Income [ ]   Kshs 1,000 – Kshs 5,000 [ ]

Kshs 5,000 – 10,000 [ ]   Kshs 10,000 – Kshs 20,000 [ ]

Kshs 20,000 – 50,000 [ ]   Above Kshs 50,000 [ ]

7. For how long have you stayed in Kariua Slums? ……………………….. Years

OBJECTIVE 1:

FACTORS IMPACTING RECEPTION OF MOBILE PHONES IN RELATION TO KARIUA WOMEN EMPOWERMENT

8. For how long have your owned a mobile phone?.. Years.

9. (a) By what means did you acquire your cell phone? (Tick where applicable).

i) Purchase it from a cell phone retail shop   ☐ ii) Given, at no

cost, by a friend, relative, husband or sponsor ☐

iii) From my employer, as a tool of trade, which will be handed back if the employment

☐

ceases

iv) From my employer with deduction of its cost from my monthly salary ☐

v) Others, please specify ☐

(b) If your answer to any of the question above is ☑ you bought your cell phone on

Cash ☐   Credit ☐

10. Roughly, how much did you spent when buying your cell phone?

Less than Kshs 1,000   ( )   Kshs 1,000 – 5,000   ( )

Kshs 5,000 – 10,000   ( )   Above Kshs 10,000   ( )

11. When buying or receiving your cell phone was it

First-hand   ( )   Second-hand/Reconditioned   ( )

12. What tariff is your cell phone on?

Pre Paid   ( )   Post Paid   ( )

13. Regarding to the ownership and everyday use of your cell phone

I am the only user 〔 〕

〔 〕
I share it with other members of my household

14. To what degree did the factors below impacted your choice of acquiring a cell phone?

Factors impacting Acquisition of Cell phone	1	2	3	4	5
Cost					
Brand/Model					
Physical looks (Its appearance)					
Added features like touch, radio, camera, internet					
Suggestions of relatives and friends					
Quality					
Ease of use					

Warranty

Advertisements in the Social and media & media

Special offers cell phone service providers &

dealers

OBJECTIVE 2: EFFECTIVENESS OF MOBILE USAGE AMONG WOMEN LIVING

KARIUA URBAN SLUM

15. Beginning with the most regularly used, state the several purposes for which you use your cell phone.

i) ———————————————————————————

ii) ———————————————————————————

iii)

———————————————————————————

iv) ———————————————————————————

v) ———————————————————————————

vi)

_____

vii)

_____

16. **Rate the people below in order of those you communicate with most via cell phone. Use a scale of 1 to 5, begin with 1 being the person(s) you communicate with most and 7 being the one(s) with whom you communicate with the least**

Spouses ……………...   Colleagues ……………...

Children ……………...   Friends ……………...

Parents ……………...   Siblings……………...

Other Relatives ……………...   Employer/Employee ……………...

Business Partners ……………...

17. **With regard to your day-to-day interaction with people using your cell phone, indicate using** ☑ **, the extent to which you agree or disagree with the following phrases.**

As a result of adopting and using my mobile phone:

i.   I feel safer and more secure

Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

ii. I am more available to friends and relatives

Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

iii. I have minimized the number of times I travel upcountry to visit relatives

Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

iv. It is easier to coordinate daily life and balance between home and work

Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

v. I am able to handle home as well as work emergencies more efficiently and effectively

Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

vi. I have become more sociable and I have lots of friends

Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

vii. I am able to connect effectively with my spouse/lover/fiancée and our relationship has improved

Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
☐ ☐ ☐ ☐			☐	

viii. The relationship between I and my children has improved

Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

ix. The relationship between I and my coworkers and employer has improved

Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

x. Conflicts in the family have minimized

Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

xi.

Conflicts at the work place have minimized

Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

18. **To what degree has the use of cell phone resulted in a declining of face-to-face encounters with your family and friends?**

To a greater extent   ( )

                             ( )
To a moderate extent

[ ]

To no extent

OBJECTIVE 3: CELL PHONES INFLUENCE ON ENTREPRENEURSHIP, INNOVATION AND JOB CREATION

19. **Have you, in anyway, benefited financially from the adoption of cell phones within Kariua slum?**

Yes   [ ]   No   [ ]

If your answer is yes, explain how ……………………………………………………………

…………………………………………………………………………………………………

…………………………………………………………………………………………………

…………………………………………………………………………………………………

20. **Has the introduction and acquisition of cell phones in the last couple of years encouraged residents Kariua Women to start mobile cell-related ventures or any related businesses?**

Yes   [ ]   No   [ ]

If your answer is yes, kindly list the business of the kind you know of

…………………………………………………………………………………………………

……

……

……

21. Has the introduction and acquisition of cell phones within Kariua slum increased employment opportunities for Kariua women?

Yes   [ ]   No   [ ]

22. Is there any cell phone related innovation(s) that have been created by Kariua women or that have been started or designed for Kariua women, which was as a result from the adoption and acquisition of mobile phones, and it is one of its kind to Kariua slum?

Yes   [ ]   No   [ ]

If   your   answer   is   yes,   list   the   innovation   and   its   function

……

……

……

……

23. Do you have a bank account in any of the country's commercial banks?

Yes   [ ]   No   [ ]

If   your   answer   is   No,   explain   how   you   transact   your   money

……

……

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Appendix iii: Research Authorization

UNIVERSITY OF NAIROBI   FACULTY SOCIAL SCIENCES   DEPARTMENT OF JOURNALISM& MASS COMMUNICATION

Telegram: Journalism Varsity Nairobi
 P.O. Box 30197 Telephone: 254-020-491 0000, Ext. 28080, 28061
       Nairobi.
Director's Office: 254-020 4913208 Direct Line)
                                   Kenya
Email:director-soj@uonbi.ac.ke

OUR REF:

YOUR REF: **DATE:** October 18, 2021

TO WHOM IT MAY CONCERN

RE: MAUREEN CHERONO - K50/11647/2018

This is to confirm that the above named is a bonafide student at the University of Nairobi, Department of Journalism and Mass Communication pursuing Master of Arts degree inCommunication Studies.

Ms Cherono has completed her course work and is currently going to collect data for her research project leading to a Master of Arts Degree in Communication Studies.

Any assistance accorded to her will be highly appreciated.

Wendy Cherono
Senior Administrative Assistant Department of Journalism & Mass Communication