THE SOCIO-ECONOMIC USE OF MOBILE PHONES BY HIGH SCHOOL STUDENTS: A CASE STUDY OF SAMIA DISTRICT, IN BUSIA COUNTY

BY

PATRICK M. ODONGO

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DECLARATION
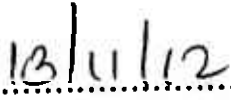
I declare that the work presented in this project is my original work and has not been presented before for any academic pursuits.

Signature: .... Date: ...13/11/12...

Name: Patrick M. Odongo

Registration number: K50/63997/2010

This project has been submitted for examination purposes with my approval as the University supervisor.

Signature: .... Date: ...13/11/12...

Name: Martina Mutheu

Supervisor: School of Journalism and Mass Communication

DEDICATION

I wish to dedicate these works to my wife, the late Edna C. Odongo, my daughter, Merab T. Odongo and son, Martin Neville Odongo ,my entire extended family, relatives and friends who supported me in various ways and more so the comfort and confidence even in my low moments.

I also dedicate the works to my Lecturer, the late Dr. Peter Oriare, who sharpened my skills in the field of Public Relations.

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ABSTRACT

This paper looks at the evolution of the mobile /Cellular telephones and the effects it has had on our Society, more specifically among the youth (herein represented by high school students). This paper is a shift from the tendency to regard media as a necessary and sufficient cause of audience effects to a view of media as working amid other influences, in a total situation. The mediating factors in effects of mass communication have been identified and illustrated to show how the mobile phone has become part of our lives through its various uses they work. Chapter 1 introduces us to the study, the statement of the problem, and the objectives of the study and dissemination strategy. In Chapter 2, we look at the Literature review, including the theoretical framework and theories that informed this study, we also look at some of the previous studies that have been done and also have a broader view of what uses the students utilize their mobile phones.

Data was collected from 40 students and analyzed using SPSS and spreadsheets. The findings obtained were presented using tables, pie charts and bar graphs. There were various socio-economic aspects related to the use of mobile phones by students. The use of mobile phones in schools was determined by affordability of phones. As such, the family incomes of students determined whether students could afford mobile phones or not. Safaricom services were the most used although they were not the best juicy in the view of students. Indeed, Yu/Essar had the best services. Mobile phones were indeed used for academic reasons such as getting help on class work, mainly peers and learning online. On the negative side, students agreed that mobile phones could be used for examination cheating. As such various measures had to be put in place to curb such cheating.

The various service stakeholders in mobile phone use for academic reasons (the school, parents, mobile service providers and the government) could enhance the use of mobile phones for academic reasons through the following ways: mobile service providers could reduce calling rates, have cheap airtime value, provide current and up to date education materials, reduce prices of data bundles and, make data bundles offer constant not periodic and reducing call rates to other networks. The government put in place policies to guide use of mobile phones in learning places); harmonizing call rates across all networks; give priority to challenged students to use mobile phones in schools; create checks and balances to prevent cheating through proper invigilation of examinations; lower importation charges of phones; ensure the availability of phones to ensure easy access to phones, reduce internet bills and; providing free cyber cafes.

On their part, the school could allow students to use mobile phones in studies; create strict rules on use of music phones; allow phones that are web-enabled in school; allow students to use mobile phones in school at a certain time; install phones in accessible areas in case of emergency in schools; create systems that help students to move with digital evolution; create a website that has academic information and; create free Wi-Fi.

Lastly, parents to foster the use of mobile phones for academic reasons by buying affordable handsets for their children to enable them communicate; controlling the use of phones among their children; advising students not to access websites that will degrade their morals and; buying laptops to do assignments.

ABBREVIATIONS AND ACRONYMS

KCPE	Kenya Certificate of Primary Education
KCSE	Kenya Certificate of Secondary Education
KNEC	Kenya National Examinations Council
MSP	Mobile service providers
SPSS	Statistical Package for Social Studies
SMS	Short message service
U&G	Uses & Gratification Theory

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CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

There has been augmented use of mobile phones globally. In both developed and developing nations, thousands of people buy a mobile telephone each day (Donner, 2004). According to the International Telecommunication Union, there has been increased adoption and use of mobile phones in developing nations. In African countries such as Nigeria, there are close to 50 million users. The Republic of South Africa has about 32 million mobile phone users while Egypt has over 25 million people owning and using the mobile phone (ITU Report, 2008).

In the East Africa scene, Kenya leads the pack. The four licensed mobile phone operators in Kenya are: Safaricom, Airtel, Orange and Econet Wireless which operates the Yu brand (Kenya National Economic Survey, 2010). According to The Kenya Economic Survey report (2010) close to 20 million of the Kenyan population own and use the mobile phone. At the end of the second quarter of 2009/2010, the Kenya had a combined subscriber base of 19.4 million mobile phone users (CCK, 2010).

With the rise and rise of mobile telephony globally, students have not been left behind. A study by Pew Internet & American Life Project (2010) study established that 65 percent of cell-owning teenage bring phones to school despite existent bans. As a result, schools are allowing teens to bring phones in some American states. Such schools demand students to put off their phones during class hours. Such students (43%) however send SMS during class time at least once a day (Cohen, 2011).

In Africa, the use of mobile phones in educational processes has been remarkable. According to Molina (2006) mobile phones influence education in the administrative area, in the classroom, in student affairs, in security and in information delivery. This is also supported by Siff (2006) who points out mobile can improve improving student retention, enhance social cohesion, improve resources management, enhance teaching, learning and research among other uses.

Whereas the use of phones among students can be easily proven, socio-economic factors affect the accessibility of such phones by students. In a survey of mobile phone accessibility in Cape Town, such factors were found to affect accessibility of mobile phones to various extents. As shown in Figure 1.1, off-campus access of mobile phones was influenced by the socio-economic status of students. To this end, students from low income homes had the highest inaccessibility incidences (57%) and access through third parties (44%). Such students had the lowest home access (25%). This trend is inversely different among students with high socio-economic standing (Czerniewicz, 2009).

Figure 1.1: Family Income Level and Mobile Phone Access among students in South Africa

	No access	Access through third party	Home access	Home and portable access
■ low	57%	44%	25%	28%
▨ average	25%	29%	38%	33%
■ high	18%	28%	38%	40%
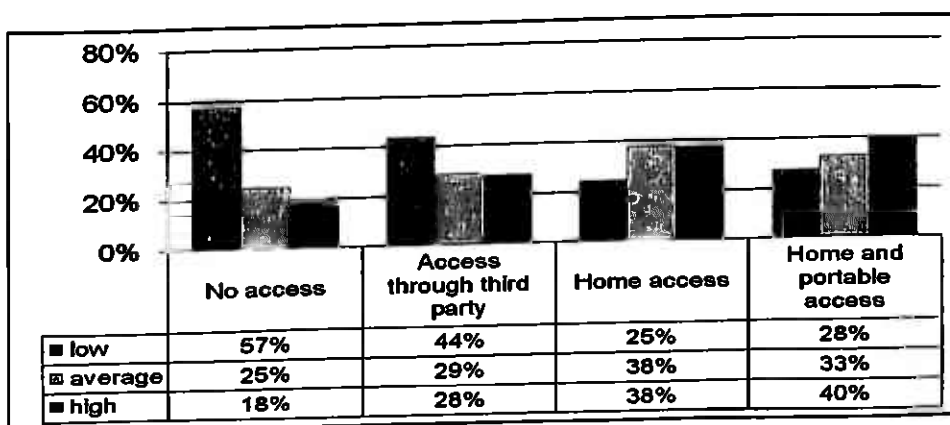
Source: 2007 survey of South African University students

In Kenya for example, mobile phone access among students has been low, especially in rural areas. This is as a result of a number of challenges that include: high levels of poverty, limited rural electrification, and unstable power supply (Farrell, 2007).Irrespective of the extent of accessibility of mobile phones, students put mobile phones to various academic uses.

In Malaysia, students use mobile phones in various ways in learning processes. To this end, students are using mobile phones to keep in touch with their family, friends and colleagues. They use mobile phones for Short Message Service (SMS), playing music, watching videos, playing games, internet among others (Zulkefly and Baharudin, 2009).

Javid, Malik and Gujjar (2011), point out that the mobile phone has some positive and negative effective effects on university students in India. Mobile phones affect university students in various ways. These include contact with the teachers, classmates and parents. It also enhances easy interaction with teachers and classmates for the solution of educational problems. Students also use the mobile phone to search out for useful information and as a minicomputer. Other uses include use as a dictionary and thesaurus, to read news, to listen F.M radio for entertainment, to read religious books such as the Quran, to make photos and movies, to use Bluetooth technology to transfer and exchange data between mobile phones and computers among other uses.

In Kenyan schools, various mobile backed platforms have been put in place to enhance the use of mobile phones to help students with their academic work. An example of these is the text messaging assessment tool that is aligned to the Kenyan curriculum (Mulupi, 2012). The

facility provides quizzes to students on various topics learnt in class. It also gives feedback and more information on various subjects based on students' specific needs.

Regrettably, there are various detriments associated with the use of mobile phones among students. These include the erosion of moral values. In addition, students may lose valuable time writing and sending useless messages. They may also tease fellow students by sending missed calls (flashing) and sending anonymous SMS. Furthermore, they may also waste money talking, gossiping, telling lies to parents and teachers (Zulkefly and Baharudin, 2009).

In pursuance to the above discussion, it is evident that mobile phones are becoming accessible to students globally. There accessibility is influenced by the socio-economic standing of students. Once in their hands, students put mobile phones to various uses. Some of the uses have academic value while others do not. This study sets out to determine the socio-economic use of mobile phones by students in Kenyan schools.

1.2 Statement of the Problem

In reference to a study by undertaken in 2009 by researchers from Carnegie University, Harvard School of Public health and Kenya Medical Research Institute, most rural Kenyans do not own mobile phones. In such areas, women and the youth are less likely to own phones than men. The study surveyed over 30,000 people aged over 16 drawn from about 650 Communities nationally. Participants gave information on their mobile phone usage, ownership, monthly airtime expenditure and demographic background (Nakweya, 2012).

Whereas the levels of mobile phone usage varied greatly within various parts of the country, it was noted that low ownership was not a reflection of low usage. Many subscribers pointed

out that they shared handsets (whereas only 44% of individuals owned a mobile phone, 85 % had actually used one). This showed that many Kenyans own SIM cards but do not have handsets. Despite low levels of ownership, there was strong appetite for mobile phone use in Kenya (Nakweya, 2012).Although young people were less likely to own mobile phones, these results could help organizations device plans to target and engage with these groups more effectively.

That mobile phones have become academic tools among many students is indisputable. They are been used in scheduling school activities and as lifesavers in emergencies since one can use it to call the students' parent or the police conveniently. In addition teachers and parents elucidate that cell phones can help in conducting interviews, surfing the internet and accessing facilities like the inbuilt calculators that do the work of computers where such software lack.

Regrettably, after the release of the 2011 Kenya Certificate of Secondary Examination (KCSE), 2900 candidates were denied their results over cases of cheating (KNEC Bulletin, 2012). According to the KNEC Chief Executive Officer Mr. Paul Wasanga, 'the use of mobile phones in examination centers is the greatest challenge we are facing in curbing irregularities in Secondary school National exams". Though there were no reported cases of cheating in Busia County, which is this case study, it is suffice to say that the use of mobile telephony has a big impact at various levels, a matter that cannot be taken for granted (KNEC Bulletin, 2012).

With cases of cheating in national examinations in Kenya on the rise, various studies at the global level show that this tool has increasingly become a way of life in communication and

especially among students. Several other sectors and communities have also been transformed over time. Developing countries like Kenya must thus design policies and legislation that will help in regulating the emerging issues surrounding the mobile phones. There is great danger that if such issues are not well tackled then the various gains made by mobile telephony over time may become injurious to our Educational development as a Country.

There are no clear cut laws that prohibit use of mobile phones by students and hence there have been arguments to retain their usage among students. However another school of thought is opposed to access of mobile phones by students mainly due to their distraction of students from academic work, even though most schools requires the phones to be switched off during school hours, this has remained difficult to follow-up or enforce.

Furthermore due to differences in economic power, the more privileged students may be the ones who own phones, leading to envy, additional socio-economic stratification and at times theft. In spite of the knowledge about the pros and cons of mobile phone usage among learners, its socio-economic use by students yet to be investigated in totality. In fact, exhaustive studies on mobile use among Kenyan students in the local scene are scarce. In addition, there is lack of sufficient work to address the controversy on whether mobile phones should or should be used in schools, a knowledge gap that needs to be bridged as mobile telephones become increasingly available.

1.4 Objectives of the Study

The study sets out to meet the following objectives

(i) Determine mobile telephone accessibility by the students;

(ii) Ascertain academic usage of the mobile phones by students;

(iii) Establish the socio-economic challenges encountered by students in the usage of mobile phones

(iv) Suggest ways of enhancing the use the mobile phone for academic purposes among students

1.5 Research Questions

(i) How do students acquire the phones?

(ii) To what academic purposes are mobile phones put?

(iii) What socio-economic challenges do students encounter in the utilization of the mobile phones?

(v) How can the use of mobile for academic reasons among students be enhanced?

1.6 Significance of the Study

This study will be useful to the following: (a) Students: they will be able to appreciate the benefits that the use of technological devices like the mobile phones can bring. With the introduction of subjects like computer studies in most of the local secondary schools, most students are likely to reap greatly if they can put to good use these devices (b) School administration: they will be able to understands how to handle and cope with issues surrounding the mobile telephony, much as it has been a useful tool in our daily lives, the device has been a source of misery in our learning institutions especially when it comes to examinations. (c) The Kenya National Examination Council has done well in tracking cases

of cheating using the National Examinations; the results of this study can help them introduce other measures that will ensure the exams are free and fair to all. (d) Parents and Guardians; they will be able to appreciate the importance of mobile phones and also ascertain of the money they could be providing for the purchase of telephones and airtime and if it is a worthwhile investment. (e) Mobile phone service providers: they will be able to know the feel of the market and especially the youth (represented here by students) and be able to develop mobile phones with features and prices that are accessible by this group.

1.7 Limitations and Delimitations

Limitations are conditions beyond the control of the researcher that may place restrictions on the conclusions of the study and the application to other situations (Best and Khan, 1988). It might not be easy to control the attitude of the respondents. This might affect the validity of their responses. The study was confined to 5 schools selected from a total of 13 secondary schools in the 4 divisions of Samia District. The divisions are Funyula, Namboboto, Bujwanga and Hakati. The findings therefore reflect the situation in the district. This is a limitation because each division has its own uniqueness.

On the other hand, delimitation refers to the act of deciding what the limit of the study is. It shows how the study can be narrowed in scope. Due to the logistics involved in reaching all stakeholders, only students shall be used as respondents. In addition, private secondary schools shall not be included in this study.

1.8 Dissemination Strategy

The findings of the study will be disseminated through reports which will be bound and distributed to the stakeholders. Copies of the report will also be given the to the Kenya

National Examination Council, who can then distribute them to the various examination centers as may deem fit, other copies will also be kept in the offices for archiving purposes. It will be good to engage opinion leaders in talking about these issues so that they can give their position and help the masses in making informed decisions. The social, broadcast and print media are also useful avenues in disseminating this information and features newspapers and journals, making use of TV and radio as well as face book and You tube are other avenues of dissemination that should be exploited.

1.9 Definition of Important Terms

The following terms and phrases are restricted to their use and application in this research:

Academic uses of mobile phones: Mobile phones are put to different uses by students in Kenya. These include: Voice calls, SMS, social networks, internet access, photography, voice recording, listening to radio etc.

Adoption: The use or intentional use of new product, idea or practice. Thus, in this study this means the adoption and use of mobile phones by learners.

Challenges in use of mobile phones: These include factors that could hinder students from effectively using mobile phones for academic purposes. These may arise from inability to afford mobile phones, poor services offered by service providers among others.

Gratification: The satisfaction of any need being met. These needs could include successful and clear voice calls, uninterrupted access the internet, presence of applications inbuilt or downloadable in mobile phones that can make learning easy for students etc.

Mobile phone: It is a hand held wireless communication gadget that is power fuelled by an inbuilt battery.

Mobile service provide: These are companies that sell mobile telephony services such as voice call, sending SMS, accessing the internet, money transfer, paying bills etc.

Socio-economic issues: these include issues related to parent/guardian income level and ability to afford to mobile phones for their children (students). In this study, it could also mean the positive use of mobile phones to enhance learning among students.

Student (children/adolescents): These are learners in secondary schools who may not have independent source of income and mostly rely on parents/guardians to foot their learning bills.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section reviews literature related to socio-economic use of mobile phones by students. Literature review establishes what has already been done with reference to the area the researcher is working on (Mugenda and Mugenda, 1999). The literature is derived from studies done outside as well as in Kenya. The chapter is presented in the following sections: introduction, theoretical framework, accessibility of mobile phones and academic use of mobile phones by students and socio-economic challenges faced by students in using of mobile phones by students.

2.2 Academic Use of Mobile Phones by Students

Silander, Sutinen and Tarhio (2004) indicate that students respond favorably to using short message service (SMS) as a tool of learning and interaction. No serious technical or pragmatic problems are encountered. These potentially relate to different individual learning stages of culture. The former study relates with this study in that it highlights on one of the features of mobile phones for academic use.

Milard, Hoppe, Gottenfker and Janse (2004) explored the use of mobile devices to support hands-on scientific experimentation and learning. They found out that mobile phones were used in different ways for academic purposes. These involved use of mobile phones for study help including help with difficult assignment, assistance with a part of a course, notification of deadlines for assignments and tutorial help among others. Accordingly, academic support occurred through platforms such as SMS, MMS and Internet. Through such platforms students were able to communicate and interact from and with educational institution, communicate and interact with fellow students and study groups, browse course materials,

download study guides, receive tutorials via e-mail, undertake interactive online assessments and receive motivational messages. The former study relates to the present study in that it explores the various ways in which students may put mobile phones to use.

Zulkefly and Baharudin (2009) carried out a study on the use of mobile phones among students in Putra University, Malaysia. The study explored the extent of mobile phone use among students to determine their personal and family factors related to mobile phones use and relationship with their psychological aspects. A total of 386 were sampled using a self-administered questionnaire. The results revealed that students spent at least 6 hours daily on mobile and a great amount of monies. The study also revealed that Short Mailing Service (SMS) was the most used feature while older students used more voice calls than text. The study also revealed that students from higher income families spent more money on telephones than those less endowed. In line with the present study, Zulkefly and Baharudin (2009) focused on the ways students use mobile phones for academic reasons. It also relates to socio-economic status of students and its effect on the use of mobile phones by students.

2.3 Accessibility of Mobile Phones by Students

Ling (2001) found out that young adults spend more time using mobile phones as compared to adolescents. Ling found out that women spent less time on phone than men; they prefer more face-to-face interaction as compared to men. Ling's study established that adolescents, irrespective of the extent, actually accessed mobile phones. The study did not however endeavor to establish the socio-economic challenges facing students within the processing of acquiring or using mobile phones. In addition, the study did not ascertain the academic use of mobile phones by students as in the case of this study.

Lie (2004) also did a study which found that there is a certain pattern in Mobile Phone usage among young adults. Men call more than women , they also make business oriented calls while women like using fixed lines than men and maintain a social network more than men.

It is important to note that mobile phones first appeared in Malaysia in 1998. A survey in 2008 by the Malaysia Communications and Multi-media Commission (MCMC) ranked the Country second in terms of mobile phone availability in Asia, with 54% being male while 46% were female. The study also revealed that most of the users were mainly aged between 20-49 years. In relation to this study, Lie's study could be a predicator of the use mobile phones among students since some young adults of up to 21 years are still found in Kenyan secondary school.

In 2010, a study was done in Kenya by Buzz city (which is one of the world's leading mobile media companies in the development and marketing of mobile services and entertainment to a global audience).The study was administrated amongst various students from Primary, Secondary; Middle level, Trade schools and University. The findings revealed that more than seventy five percent of Kenyans use the mobile phones to communicate with friends (mainly via chat, blogs and discussion forums) it also revealed that 1 percent surf the mobile internet for entertainment like games, music or watch videos). Ninety Four percent of Kenyan user's access mobile internet at least once a day and some 45 percent go online more than 5 times per day. A third of the sampled population spend at least one hour on online session each day. It also revealed that the top three handsets were Nokia (41 percent, Motorola (14 percent) and Samsung (10 percent).

The socio-economic status of students determines the extent to which they use mobile phones. According to Clonen (2002), school-going mobile phone users in Europe spent

approximately €25 a month on their mobile phone airtime. In Australia, a large proportion (66%) of Australian adolescents depended on the pre-paid system (Australian Psychological Society, 2004) within the process of using their mobile phones. As such more than half (57%) of adolescents in the Australian study pointed out that they were very careful in spending money on their mobiles. Owing to peer pressure, a small number (38%) were of the view that they tend to overspend through SMS replies. A considerable proportion (13%) of adolescents pointed out that they bought additional credit without their parents' knowledge. Others, 8% borrowed money from their parents to purchase airtime.

2.4 Challenges Encountered by Students in the Usage of Mobile Phones

Cirelli (2012) points out various Potential Problem associated With Cell Phone use in School. To begin with, a mobile phone can be a source of distraction. Instead of concentrating in school, students can be busy playing games, checking their newsfeed on Facebook, Twitter, and Google plus among others. This can have adverse effects on students learning. Secondly, students can use mobile phones to cheat in exams through SMS, Bluetooth and other platforms such as internet surfing. This leads to gross academic dishonesty.

According to Cirelli, another major issue with mobile telephony among students is theft. As a result of the competitive nature of pupils, students can be forced to steal in order to afford phones and gain the associated social standing among peers. Another major challenge associated with phones is the moral erosion. Students may find themselves taking illicit photos or downloading phonographic material from the internet. Socioeconomic diversity may determine which students afford mobile phones. In this case, students from humble backgrounds may be looked down upon by their richer mates. Furthermore online predators could take advantage of innocent students.

The study by Cirelli agrees with Zulkefly and Baharudin (2009) that there are various detriments associated with the use of mobile phones among students. These include the erosion of moral values through uncontrolled exposure to dirty internet material. In addition, students may lose valuable time writing and sending useless messages. They may also tease fellow students by sending missed calls (flashing) and sending anonymous SMS. Furthermore, they may also waste money talking, gossiping, telling lies to parents and teachers. This inhibits the achievement of academic goals by such students.

The previous studies agree with a study undertaken in Kenya that the use of mobile can lead to antisocial behavior. In the study entitled "Effectiveness of communication on students discipline in secondary schools in Kenya", Kindiki (2009) points out that the use of ICT especially the use of mobile phones, digital TVs and internet lead to antisocial behavior among students. This may include bad sexual behavior, drunkenness, theft, examination cheating among others. In the same accord, this present study endeavors to find out the extent to mobile phone result to negative use among students.

2.5 Theoretical Framework

2.5.1 The Uses and Gratification Theory

This study utilized The Uses and Gratification Theory of Mass Communication. This theory was formally outlined by Elihu Katz in 1959, and says audiences are active in their choice of content and media that they want to use. Katz says audiences select and attend to media that satisfies and gratifies their range of needs. He suggests that communication research should reverse the traditional questions of what the media does to people and further what people do with media. According to Katz, the process of media selection was concerned with the: (i) the

social and psychological origins (a more psychological version of the theory); (ii) the expectations of the mass media and other sources; (iii) different activities which lead to varied gratifications.

The basic assumptions of the approach when it was discovered and elaborated many years later were as follows: (a) media and content choice is generally rational and directed towards certain specific goals and satisfaction\ (thus the audience is active and audience formation can be logically explained); (b) audience members are conscious of the media related needs which arise in personal and social circumstances and cab voice these in terms of motivations; (c) broadly speaking, personal utility is a more significant determinant of audience formation that aesthetic or cultural factors; (d) all or most of the relevant factors for audience formation including media choices, background, and satisfaction) can be measured. In line with these assumptions, the process of media selection was described by Katz et al (1974; 20) as being concerned with various social and psychological needs.

A more psychological version of the theory of audience motivation was suggested by McGuire (1974) based on the general theory of human needs. He distinguished first between cognitive and affective needs, then added three further dimensions of an 'active' versus 'passive', 'external' versus 'internal', goal orientation and stability. When interrelated, these factors give us 16 different types of motivation which apply to the media. These include 'search for cognitive consistency by reading a newspaper, watching drama have been other attempts to write a model of 'uses and gratification process'. Renckstorf (1996) attempts to write a model of users and gratification process by outlining the process of social action based on symbolic interactions. This theory reinforces the fact that mobile phones users get gratification and value for money as they make use of the gadget.

There is little doubt that media do have many effects and they probably do account for come general trends. However their effects are often inconsistent and cancel each other out, complex societies are often characterized by different lines of development at the same time. The media are unlikely to be the man driving force of long term fundamental change.

Rather, they act as a channel and facilitator; they help to make society aware of itself as well as changes, by reflecting them in content by providing the means of debating and adapting to change.

2.5.2 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was developed by researchers Fred Davis and Richard Baggozi, it basically shows us how users come to accept and use technology .It suggests that when users are presented with a new technology a number of factors influence their decision about how and when they will use it. These are: (a) **Perceived usefulness**: this describes the degree to which a person believes that using a particular system would enhance his/her job performance. (b) **Perceived ease of use**: this is the degree to which a person believes that using a particular system would be free from a lot of effort. This study finds this theory relevant. This is because students in this case study are utilizing mobile technology and will derive various benefits and satisfaction. As such, they have accepted and adopted it. Figure 2.1 shows the Technology Acceptance Model.

Figure 2.1: Technology Acceptance Model (TAM)
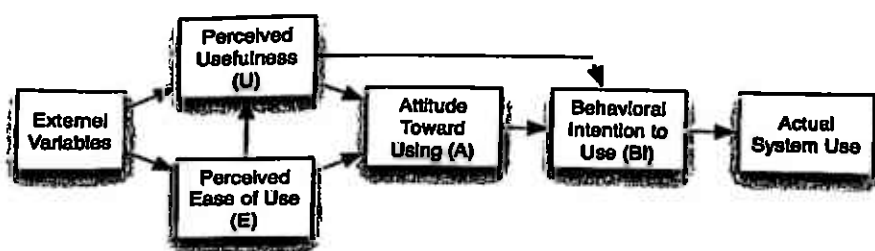
Source: (Davis, 1989)

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CHAPTER THREE: METHODOLOGY

3.0 Introduction

Research methodology is a system of exploiting rules and procedures upon which claims of knowledge are evaluated (Nochmias & Nochmias, 2005).This Chapter covered types researchused, paradigm of research, research methods, sampling techniques, data collection data analysis and presentation.

3.1 Type of Research

A research design provides a framework for the collection and analysis of data and the choice gives a reflection of on priorities that have been given to various dimensions (Bryman 2001).In this research the mixed research methods (both,qualitative and quantitative) were applied. Creswell, 1994) describes qualitative research as an inquiry process of understanding a social or human problem based on building a complex holistic picture with words and views conducted in a natural setting. The aim of the study is to establish the socio-economic uses of the mobile telephones among students, it also aims at establishing if students use their mobile phones for their academic programmes and generally to appreciate the benefits of technology. The study also gives us an insight into the challenges that may be faced by these students owing to the fact that the study area is classified as 'rural'. Behavior exhibited from the experiences of all participants was therefore determine the final analysis and inferred assumptions.

3.2 Paradigm of Research

Knowledge is about how people make meaning in their lives and it is based on observable phenomena, subjective beliefs, values, reasons and understanding. Theory is thus shaped by socio-cultural contexts. It is with this in mind that we look at how high school students make

the best out of their mobile telephones and technology in general. The philosophy of this study is interpretative and investigative. The approach focused on these two aspects (Creswell 2009).

3.3 Research Approach

The research approach adopted was a case study. Mugenda and Mugenda (1999)define a case study as an in depth investigation of an individual ,group, institutions or phenomena The study looks at high school students and their usage of mobile phones. Wimmer and Dominick (2006) describe a case study as an empirical inquiry that uses multiple sources of evidence to investigate a contemporary issue. The study method thus affords an opportunity to deal with a wide range of evidence, including, types of phones owned, their values, their advantages and disadvantages. This evidence was gained from questionnaires.

3.4 Sampling Techniques and Sample Size

Determining the size of a sample is always challenging and controversial. Time, cost and methodology influence sample size (Dominick, 1987). The study employed several sampling techniques. The main technique used was random and purposive sampling. Sampling refers to the process of selecting a number of individuals to represent the rest or the larger group (Mugenda and Mugenda, 1999). Through random sampling, 5 schools were sampled from the entire population of 16 public secondary schools. Purposive sampling was employed to group the respondents into male and female. From within the school, random sampling shall be used to sample 50 to represent the population of about 500 students in the four schools. Table 3.1 shows the Sampling Frame.

Table 3.1 Sampling Frame

Sample	Population	Sample	Sampling procedure
Schools	16	5	Simple random sampling
Students	497	50	Simple random sampling/purposive sampling

3.5 Methods of Data Collection

The instruments used in this study comprised of questionnaires.

3.5.1 Questionnaires

Questionnaires were used to collect data from students because of reasons such as confidentiality is upheld, it saves on time, there is no interviewer bias and also that the information can be collected from a large sample. The questionnaire for students had 31 questions focusing on the variables of the study. The questions were either open or closed.

3.6 Data Analysis

The study employed quantitative analysis. Quantitative gave numerical and scientific information. This is needed for generation of scientific models, theories and hypothesis regarding natural phenomena (Chanron, 2004). Data was analyzed using computer tools like SPSS and Microsoft excel 2007. Data from open ended questions shall be quantified and to obtain the relative importance of each response where applicable. Findings were presented in tables, pie charts and bar graphs.

3.7 Ethical Considerations

Permission to carry this research was sought from relevant authorities. Respondents were given full disclosure of information nature and purpose of the research. Identity of respondents was not disclosed as no names were required for the study. The researcher ensured the confidentiality of participants throughout the study. The physical and psychological safety of each respondent was also ensured. All research standards and guidelines required by University of Nairobi were followed. All communication and relationships encountered during the study were conducted in a professional and ethical manner. Precautions were taken to respect the welfare of all those concerned.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

The research study was geared to investigate the socio-economic use of mobile phones by high school students through a case study of Samia District in Busia County. The findings of this study have been organized, analyzed and presented in line with the objectives and research questions of the study.

4.2 Demographic Characteristics of the Participants

The students (participants of this study) were asked to give some background information that touched on their gender, age, current class, number on the family and household income sources. Out of a target population of 50, only 40 questionnaires were returned. The overall return rate was, as a result, 80%. This was deemed sufficient for data analysis.

The study established that the majority of the participants were female (70%). In terms of age, the majority of the students were aged between 19 and 21 years (52.5%) followed by those aged between 15 and 19. This shows that the some factors, without the scope of this study, influenced the age at which students finished secondary school. Form 4 students comprised the bulk of the participants (47.5%) followed by Form 3s (35%). This shows that the majority of the participants had been in school long enough to contribute on the subject under study. The majority of the students (72.5%) came from middle sized families (4-6 members). The size of the family might affect the affordability of mobile phones. Furthermore, the main source of income for the families of the participants was parents' salary/income (47.5%). The complete findings are presented in Figures 4.1 - 4.5.

Figure 4.1: Sex of participants
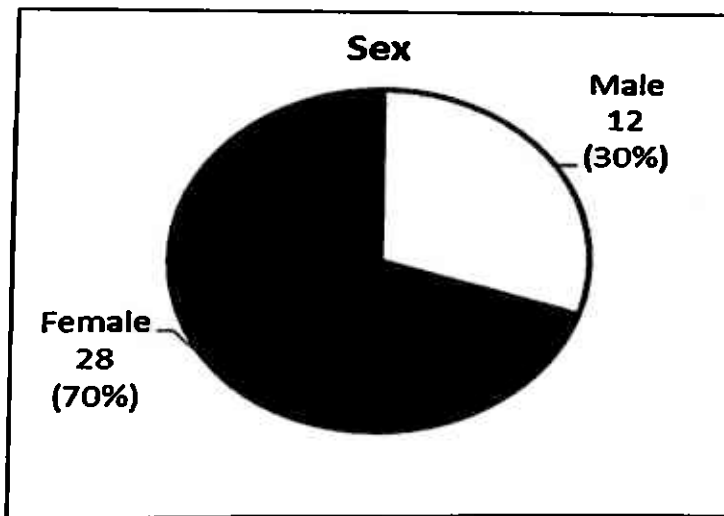
Figure 4.2: Age bracket of participants
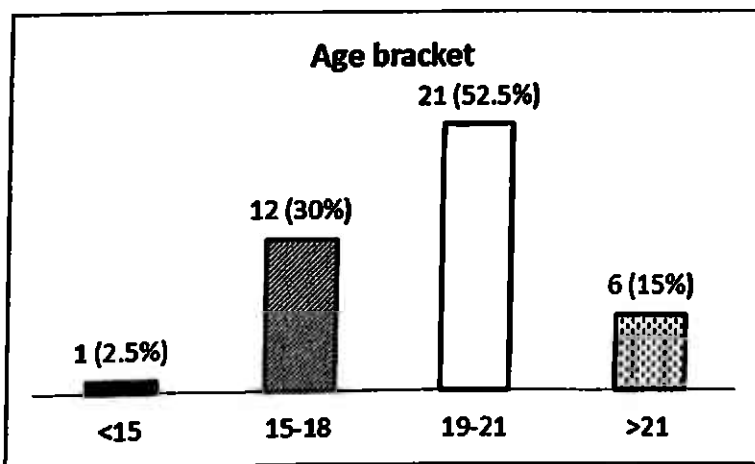
Figure 4.3: Current class of participants
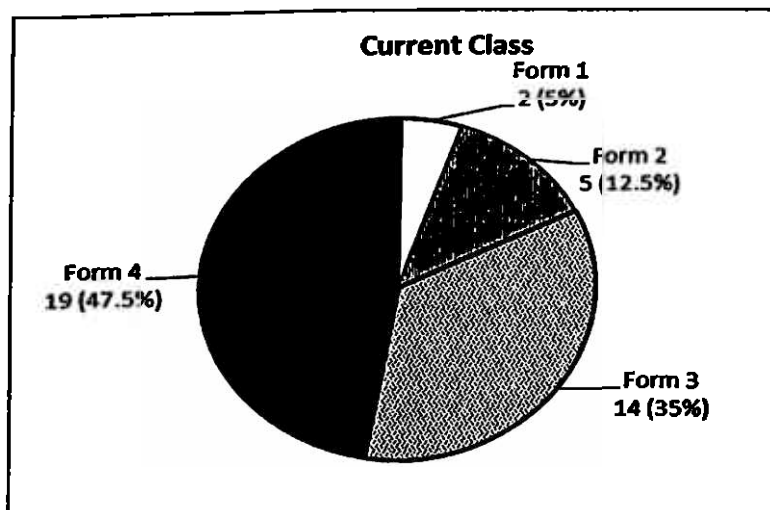
Figure 4.4: Number of members of the family participants

Members in the Family

29 (72.5%)

6 (15%)

2 (5%)

3 (7.5%)

1 to 3   4 to 6   7 to 9   10 plus
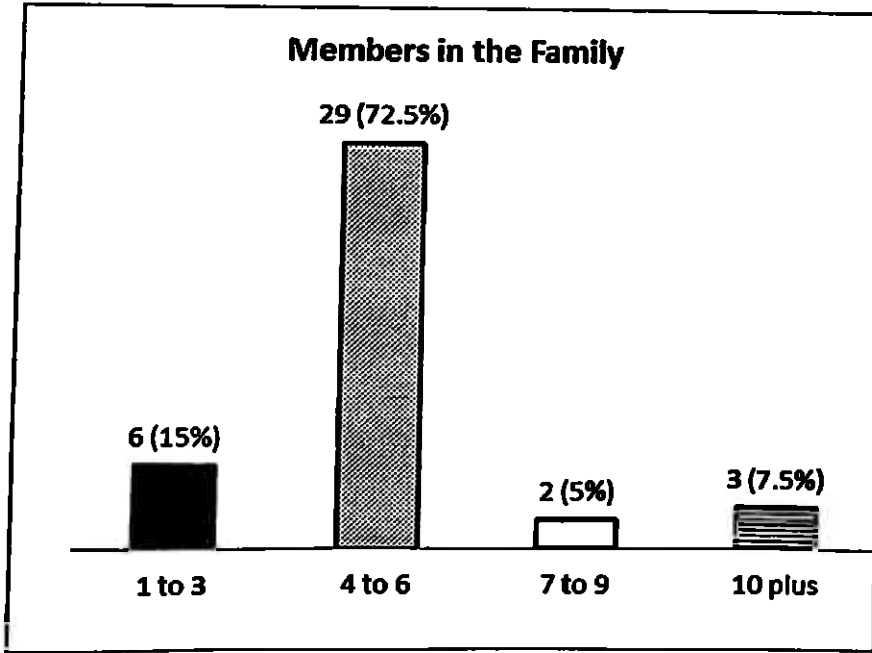
Figure 4.5: Main household income sources of participants families

Main household income sources

Remittal from   Other
relatives/siblings, 1 (2.5%)
3 (7.5%)

Farming
activities
3 (7.5%)

Business
14 (35%)

Parent's
salary/wages
19 (47.5%)
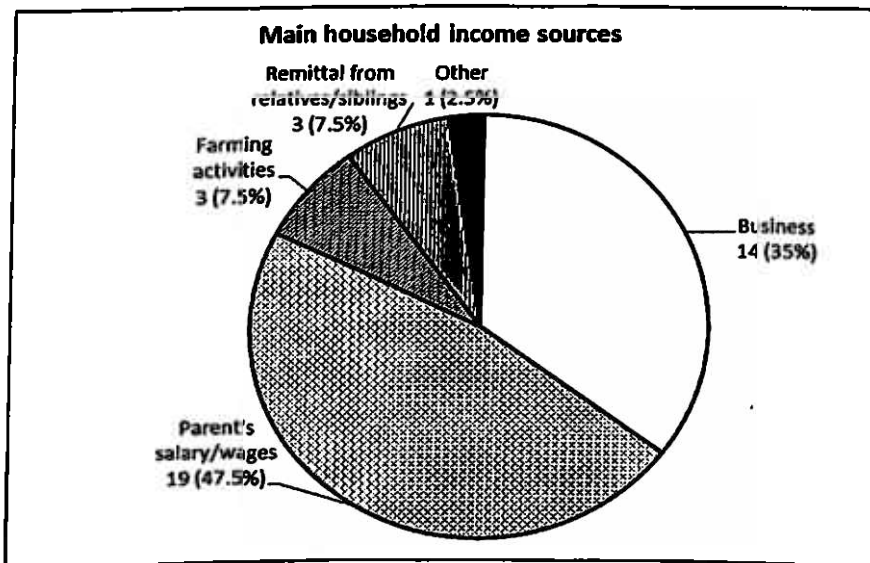
4.3 Acquisition Patterns of Phones by Students

As shown in Figure 4.6 - 4.13, most of the families had cell phones only (72.5%). These were followed by families that had both cell phones and landlines (17.5%). Only 4 (10%) of the families represented in the study did not have phones. At least 92.5% of the participants used mobile phones. All the students who used mobile phones used their own phones (92.5%). Nokia phones were the most used phones (63.2%) followed by Samsung (23.7%). The price of most of these phones ranged from Ksh. 2001 to 5000 followed by those with prices of between Ksh. 1001 to 2000. The majority of participants got money from parents (67.5%) to buy phones. Most of the phones used were web-enabled (82.5%). Safaricom lines were the mostly used (77.5%) followed by Airtel 12.5% and Yu (10%

Figure 4.6: Household telephone ownership

Household telephone ownership

None
4 (10%)

Landline only
0 (0%)

Landline and
cellphone only
7 (17.5%)

Cellphone only
29 (72.5%)
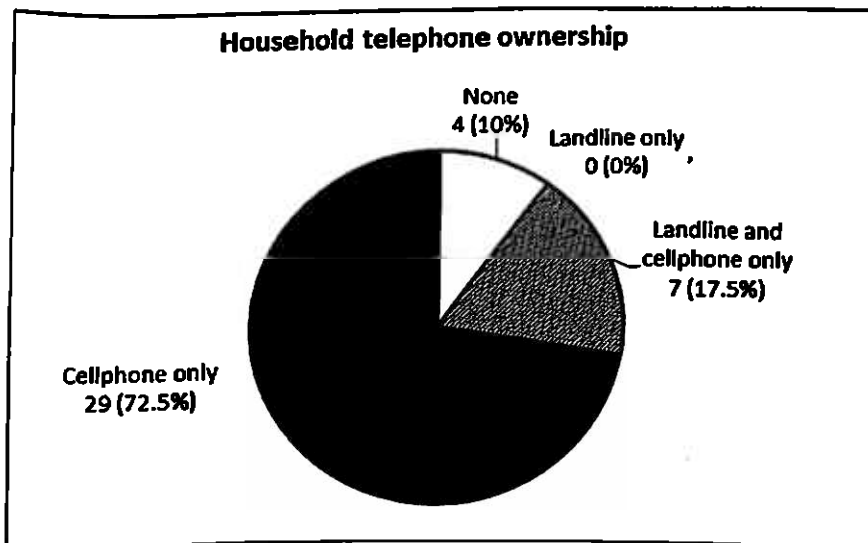
Figure 4.7: Student use of mobile phones

Use of mobile phones

37 (92.5%)

3 (7.5%)

Yes   No
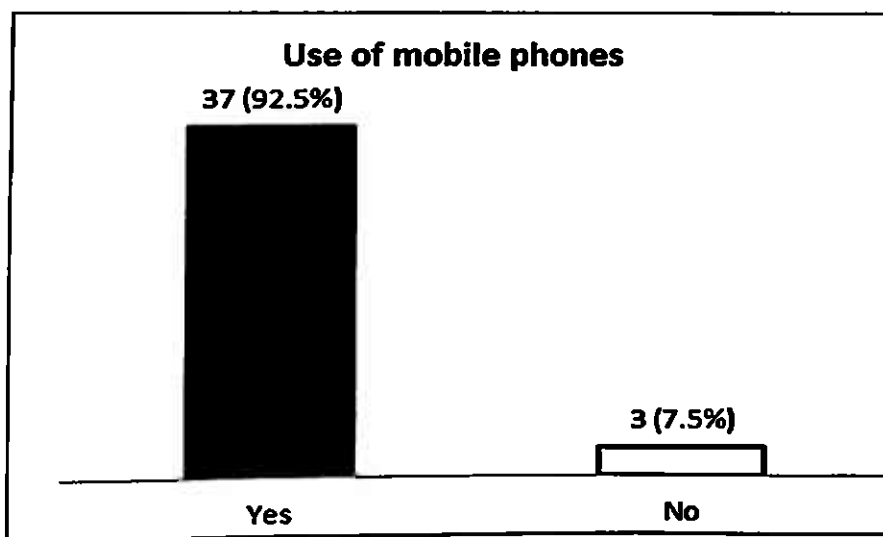
Figure 4.8: Student use own mobile phone

Student uses own mobile phone

No
3 (7.5%)

Yes
37 (92.5%)
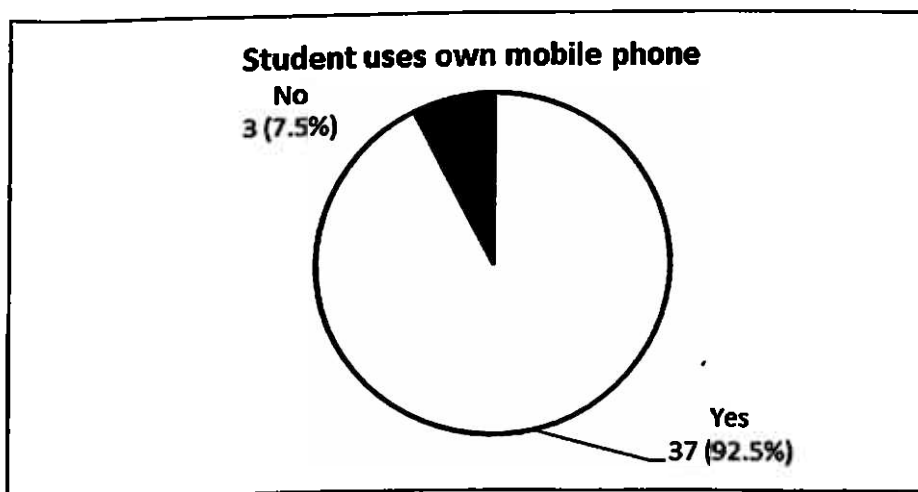
Figure 4.9: Type of phone used

Type of phone used

24 (63.2%)

9 (23.7%)

0 (0%)   1 (2.6%)   0 (0%)   4 (10.5%)

Nokia   Samsung   Motorolla   Sagem   Alcatel   Bird
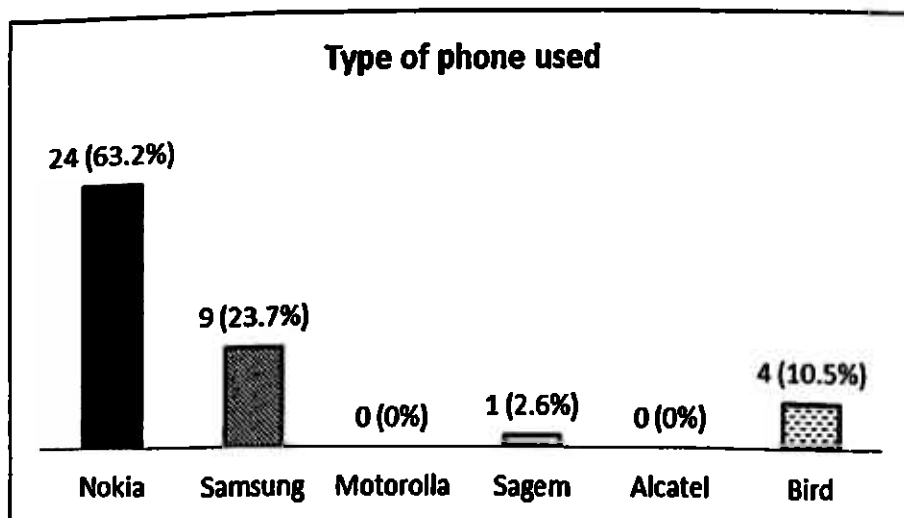
Figure 4.10: Price range of phone used in KSH

Price range of phone used in Ksh.

31 (77.5%)

0 (0%)   3 (7.5%)   2 (5%)   4 (10%)

<1000   1001-2000   2001-5000   5001-10000   >10000
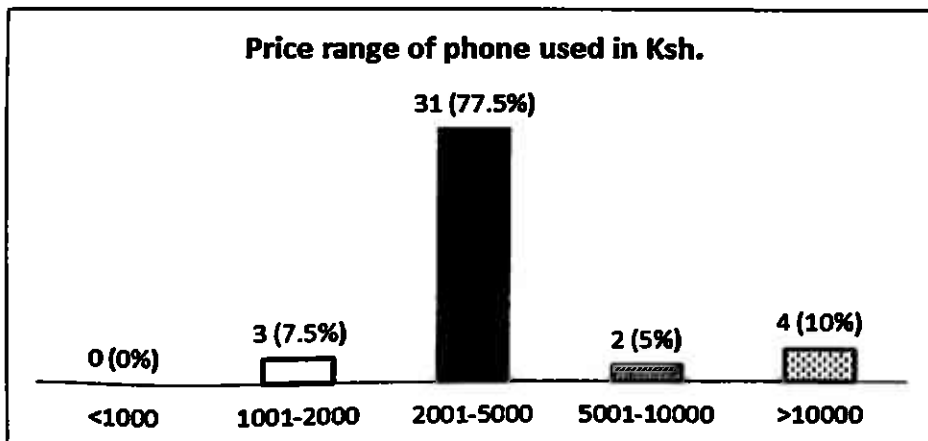
Figure 4.11: Source of money to buy phones

Source of money to buy phones

Other
18%

Friend
0%

Family
member
15%

Parents
67%
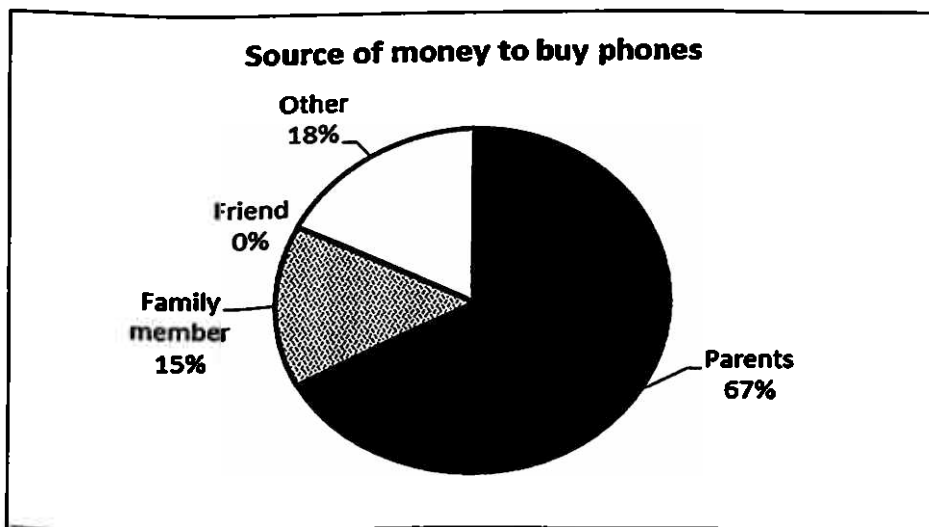
Figure 4.12: Phone web-enabled

Phone web-enabled

No
13%

Yes
82%
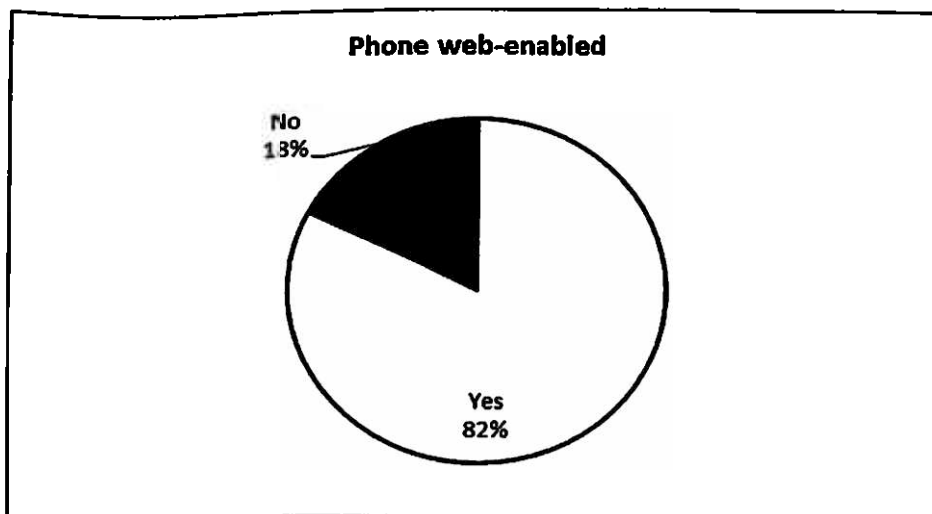
Figure 4.13: Mobile Service Providers

Mobile service providers

31 (77.5%)

5 (12.5%)

4 (10%)

0

Safaricom | Airtel | Yu/Essar | orange
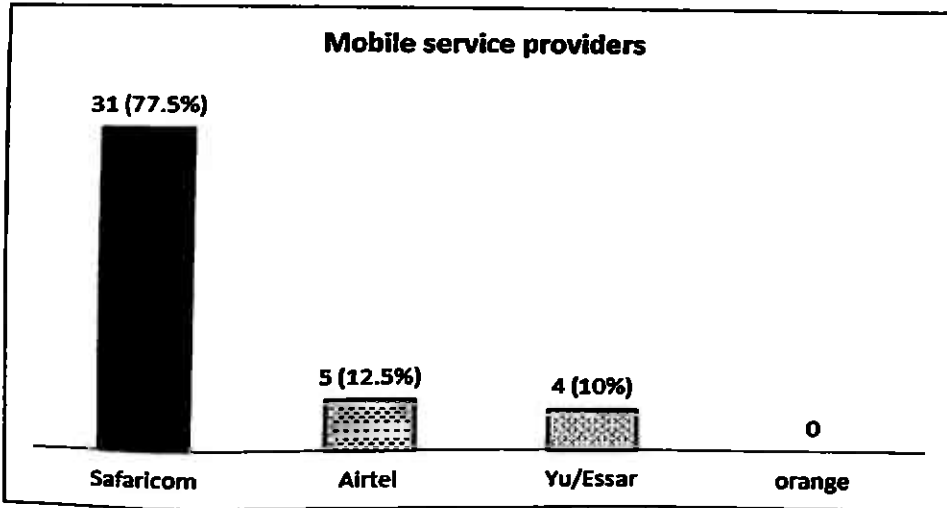
4.4 Use of Phones by Students/Academic Use of Mobile Phones

Participants were required to give information on issues related to their use of mobile phones for academic and non-academic purposes. The results obtained were presented in Figures 4.14 and 4.15 and Table 4.1.

4.4.1 Persons Participants Called Most

As shown in Figure 4.14, all the students (100%) pointed out that they called mostly called their friends.

Figure 4.14: Persons Participants Called Most

Person called most

40 (100%)

0 (0%)   0 (0%)   0 (0%)

Friends | Parents | Teachers | Relatives
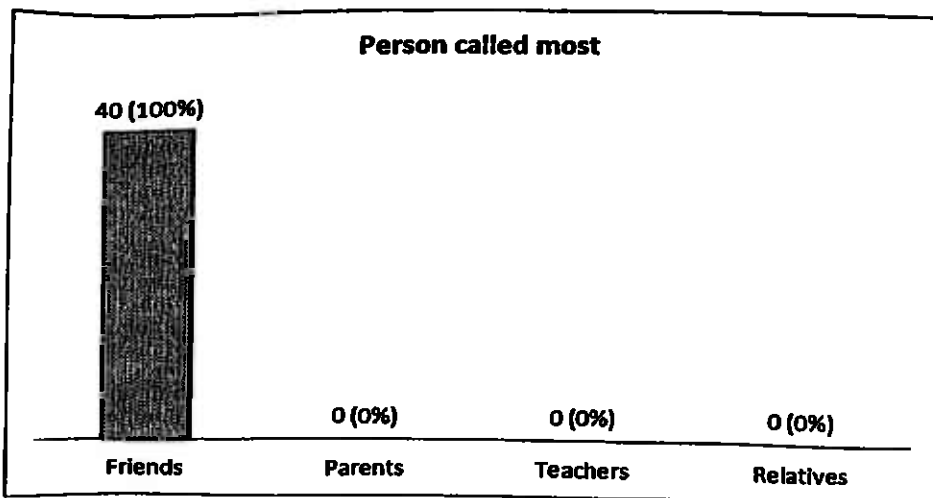
4.4.2 Areas Students Used Mobile Phones Most

As presented in Table 4.1, at home was the place where students used mobile phones mostly (very often or often). This was followed by students who used cell phones outdoors (34). Use of phones at school was also common (30). This confirms that students indeed used phones at home. Use mobile phones at class was minimal, with 20 students pointing that they only did so rarely.

Table 4.1: Areas Students Used Mobile Phones Most

Place phone used most	Very Often (VO)	Often (O)	V.O. + O.	Rarely	Very Rarely	Never
At home	27	10	37	2	1	0
Outdoors	20	14	34	1	3	0
In school during breaks	11	19	30	5	5	5
Others	3	4	7	6	3	24
In school during class time	0	0	0	0	20	20

4.4.3 Support to Get Familiar with Mobile Phones

Within the process of getting familiar with mobile phones, students got assistance from different sources as shown in Figure 4.15. The main source was user manuals (30%) followed by teachers (27.5%). Mobile service providers, on their part, were the third main support on using mobile phones (22.5%). Other ways (15%) and friends (5%) were the least sources of help of mobile phone use.

Figure 4.15: Support to get familiar with phone use
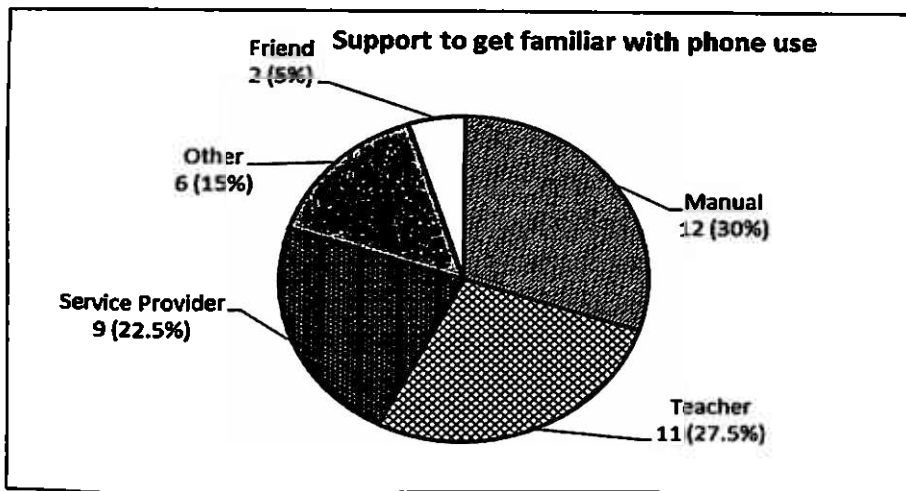
4.4.4 Use of Various Mobile Phone Services/Applications

Students were also required to give information on the various ways in which they used mobile phones. The findings obtained were presented in Table 4.2. It was established that socio-media (e.g. Facebook) and radio were the applications/services used most frequently according to 39 students each. This was followed by music/video player and voice recorder (34 students each). SMS and Photography scored next (26 students each) followed by other uses (unidentified by this study). Other major uses were calculator (15), voice call (12) and e-mail (12).

Table 4.2 Use of Various Mobile Phone Services/Applications

Use of mobile phone services/applications	Very Often (VO)	Often (O)	V.O. + O.	Rarely	Very Rarely	Never
Social-media (e.g. Facebook)	17	22	39	0	1	0
Radio	31	8	39	1	1	0
Music/Video player	26	8	34	3	2	1
Voice recorder	20	14	34	6	0	0
SMS	13	13	26	11	1	1
Photography	10	16	26	8	4	2
Others (specify)	2	20	22	12	1	2
Calculator	3	12	15	23	1	1
Voice call	2	10	12	26	2	0
E-Mail	1	11	12	23	4	0
As a modem	3	4	7	23	8	2
Storage media (memory cards and inbuilt phone memories)	5	1	6	19	9	6
Playing games	2	3	5	28	5	2
Office applications (inbuilt word processing, excel etc.)	2	3	5	20	7	6
Sharing files (blue tooth etc.)	2	1	3	25	6	6

4.4.5 Use of Mobile Phones to Enhance Fulfillment of Academic Objectives

All the participants (100%) pointed out that they used mobile phones in the fulfillment of academic purposes as shown in Figure 4.16.

Figure 4.16: Use of Mobile Phones to Enhance Fulfillment of Academic Objectives

43
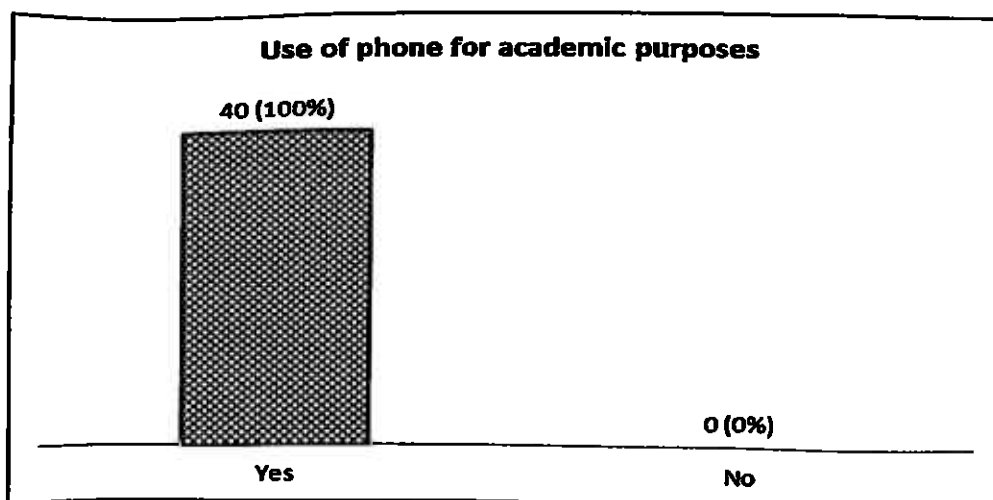
4.4.6 Use of Mobile Phones for Selected Academic Reasons

The researcher was required to point out how often they used their mobile phones for selected academic reasons. The findings were presented in Table 4.3. The main academic uses to which mobile phones were often put were: Communicating with parents/guardians on school requirements such as fees and equipment (19 students), Getting help on classwork from friends (15 students), Reading online/downloading academic materials (14 students) and receiving money from parents through mobile money transfer services such as M-PESA (11). These services were used to varying extends. The mostly rarely used services were: getting help on classwork from parents/relatives (17 students; sharing academic materials with/getting academic help through e-mails and social media (e.g. Facebook) and other platforms (17) and Geographical Information Systems (GIS) (17). Getting help on classwork from teachers was seldom done as seen in 24 students who opined that they never used it.

Table 4.3 Use of Mobile Phones for Selected Academic Reasons

Use of mobile phones for academic reasons	Very Often (VO)	Often (O)	V.O. + O.	Rarely	Very Rarely	Nev
1. Communicating with parents/guardians on school requirements such as fees and equipment	3	16	19	20	2	
2. Getting help on classwork from friends	3	12	15	9	14	
3. Reading online/downloading academic materials	6	8	14	9	8	
4. Receiving money from parents through mobile money transfer services such as M-PESA	3	8	11	23	0	
5. Getting help on classwork from parents/relatives	2	2	4	19	17	
6. Sharing academic materials with/getting academic help through e-mails and social media (e.g. Facebook) and other platforms	1	2	3	3	17	
7. Getting help on classwork from teachers	0	0	0	2	14	:
8. Geographical Information Systems (GIS)	0	0	0	6	17	

4.4.7 Current Services/Applications in Mobile Phones Up To Date with Participants Communication Needs

The researcher sought to establish if the current applications/services offered through mobile phones were met all the communication needs of students. To this end, most of the participants (80%) were of the opinion that such services/applications were up to date. On 20% were of the contrary view.

Figure 4.17: Current Services/Applications in Mobile Phones Up To Date with Participants Communication Needs
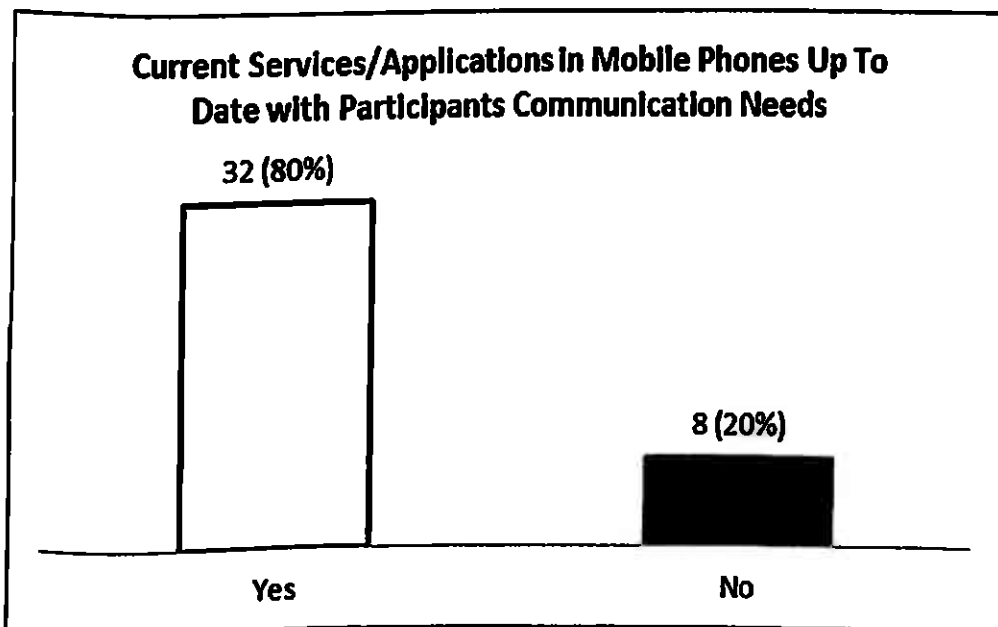
4.4.8 Cases of Cheating in Examinations Using Mobile Phones

As shown in Figure 4.18, most of the students (92.5%) pointed out that there were cases of cheating in examinations using mobile phones. Only three students (7.5%) were of contrary opinion.

Figure 4.18: Cases of Cheating In Examinations Using Mobile Phones

Cases of Cheating In Examinations Using Mobile Phones

No
3 (7.5%)

Yes
37 (92.5%)
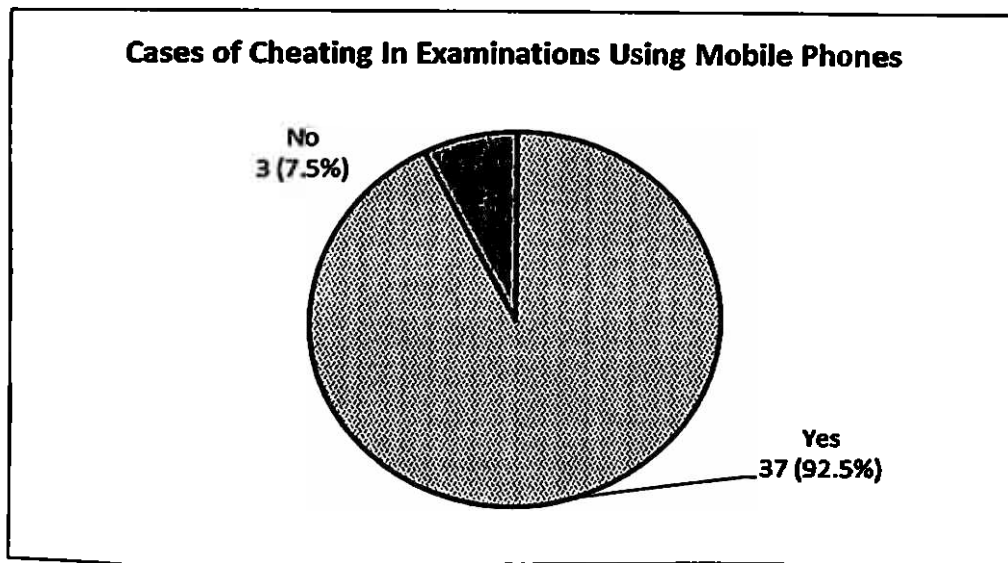
4.4.9 Measures Used To Curb Cheating in Examinations Using Mobile Phones

The respondents were required to point out the extent to which various factors could be used to curb cheating using phones in examinations on a scale of 1-5. Means were obtained for each variable and interpreted on the basis of 1-1.49 (strongly agree); 1.50-2.49 (agree); 2.50-3.00(Neutral); 3.01-3.49 (disagree) and; 4.00-5.00 (strongly disagree).

The participants strongly disagreed that all the proposed measures could reduce cheating in national examinations. The extent of such disagreement differed. As such the method that could be used to curb cheating using mobile phones, on preference could be predicted using the extent of disagreement. In this accord, curbing cheating in examinations using mobile phone could be curbed, in ascending order, through: (a) changing the examination techniques to make cheating generally hard (4.25); (b) hindering the use of certain phones during exams (4.45); advising students to avoid such cases (4.55); imposing harsh punishments such as results cancellation (4.30); and banning the use of mobile phones from schools (4.50). The results were presented in Table 4.4.

Table 4.4: Measures Used To Curb Cheating in Examinations

Measures for curbing cheating in examinations using mobile phones	Std. Dev.	Mean	Range
Banning the use of mobile phones from schools	0.75	4.50	3.0
Imposing harsh punishment such as results cancellation	0.76	4.30	3.0
Advising students to avoid such cases	0.60	4.55	2.0
Hindering the use of certain phones during exams	0.93	4.45	4.0
Changing the examination techniques to make cheating generally hard	0.98	4.25	4.0
Others	1.1	4.10	4.0

4.5 Socio-Economic Challenges Encountered in Using a Mobile Phone

The researcher set to determine the socio-economic challenges encountered in using a mobile phone by students. The findings obtained were presented in Figures 4.19 – 4.24.

One of the main challenges facing students was the affordability of mobile phones. Irrespective of the students desire to use particular types of mobile phones, most of the students (72.5%) could not afford such phones. The ability to afford the phones of choice was determined by various factors. The main factors among these were: (a) family income (30%); (b) affordability of the phone (22.5%); and guardian's income (17.5%).

Cost of airtime was another challenge facing students. A large number of the students (30%) spend a lot of money (more than KSH 500 per month on airtime). The vast majority however spent up to Ksh. 500 (70%). This means that the majority of the students operated on little daily airtime. The affordability of airtime did not hinder use of a mobile phone according (60%). Surprisingly, all the students (100%) opined that they had electricity at home. To

these students (as seen in 67.5%), having electricity at home did not hinder the possession of a mobile phone.

Figure 4.19: Student can afford the kind of mobile phone desired

Student can afford the kind of mobile phone desired

☐Yes ☒No

29 (72.5%)

11 (27.5%)

Yes   No
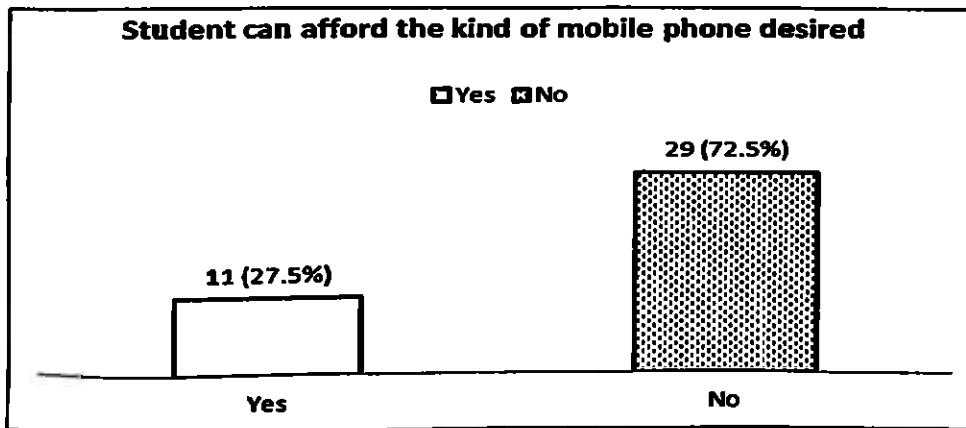
Figure 4.20: Factors hindering affordability of mobile phones

Factors hindering affordability of mobile phones

High costs of repair 1 (2.5%)

Other 1 (2.5%)

Availability of phone in the market 10 (25%)

Family income 12 (30%)

Guardian's income 7 (17.5%)

Affordability of phone desired 9 (22.5%)
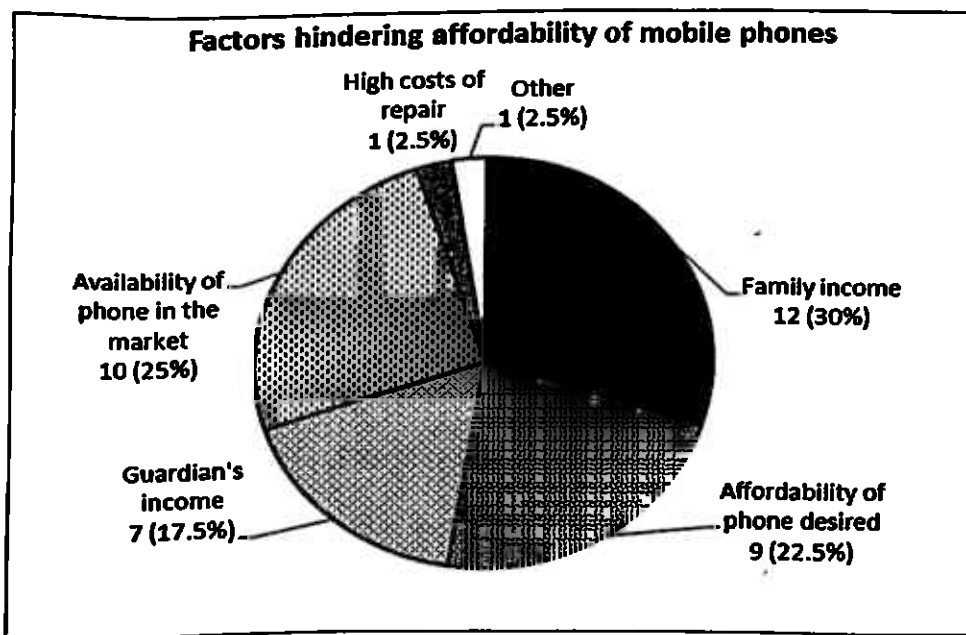
Figure 4.21: Monthly airtime spending in KSH

Monthly airtime spending in KSH

12 (30%)

10 (25%)   10 (25%)

8 (20%)

<100   101-200   201-500   >500
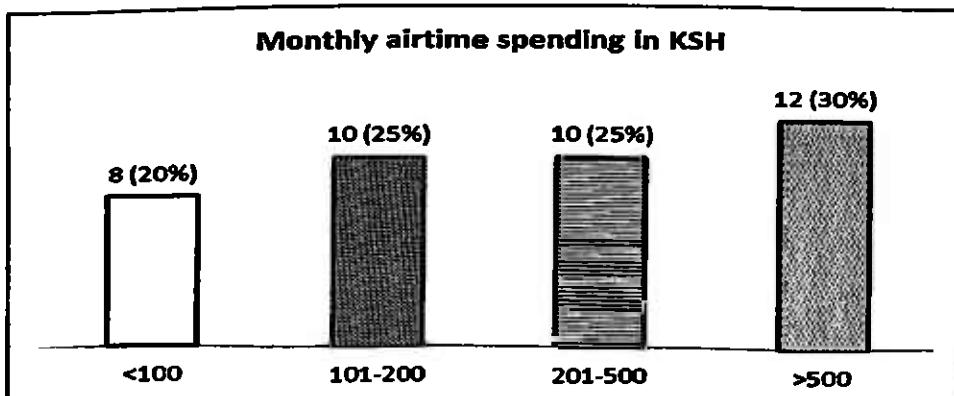
Figure 4.22: Affordability of airtime hinders use of a mobile phone

Affordability of airtime hinders use of a mobile phone

Yes
24 (40%)

No
16 (60%)
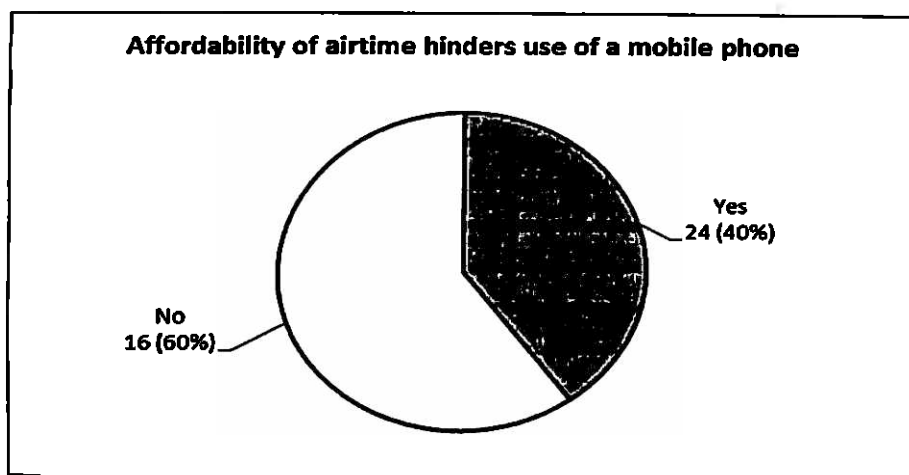
Figure 4.23: Presence of electricity at home

Presence of electricity at home

40 (100%)

0 (0%)

Yes   No
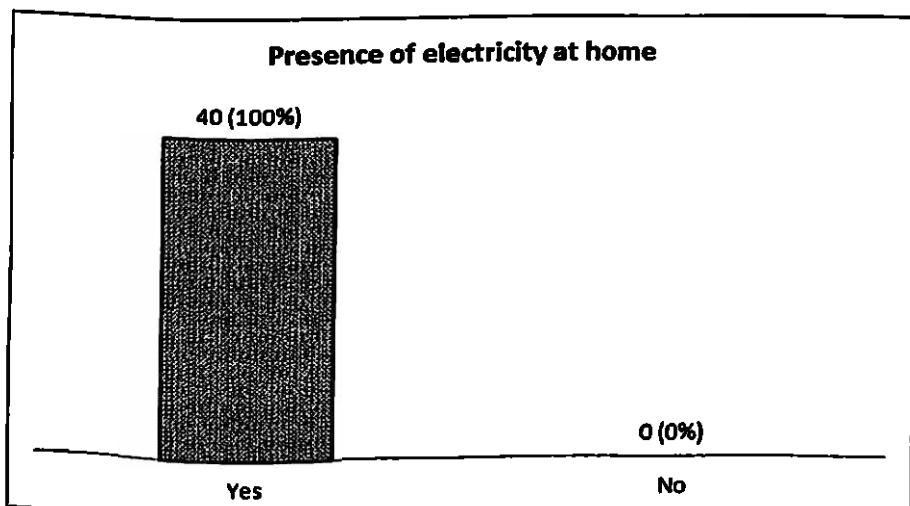
Figure 4.24: Availability of electricity hinders possession of mobile phone

Availability of electricity hinders possession of mobile phone

Yes
32%

No
68%
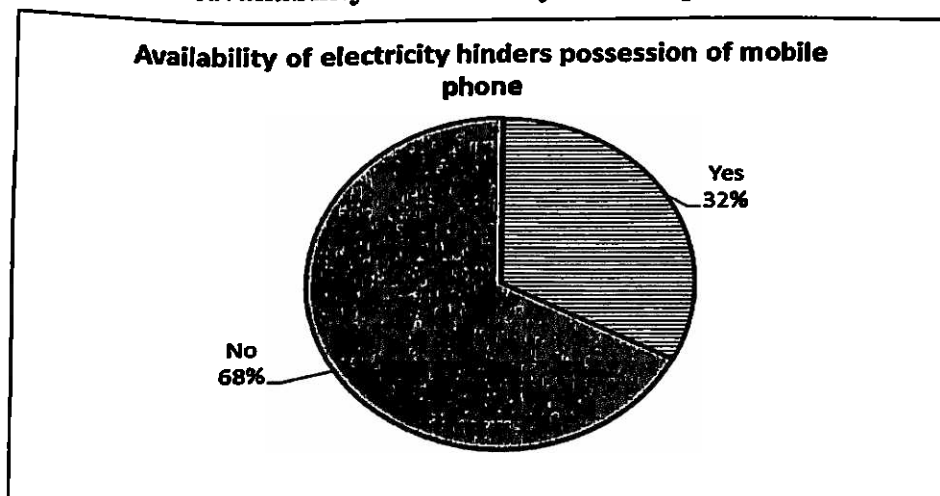
4.6 Recommendations to mobile Service Providers to make it easy and convenient for students to access mobile telephony technology

4.6.1 Quality of service of various mobile service providers

The respondents were required rank the quality of service from various mobile service providers on a scale of 1-5. Means were obtained for each service provider and interpreted on the basis of 1-1.49 (strongly agree); 1.50-2.49 (agree); 2.50-3.00 (Neutral); 3.01-3.49 (disagree) and; 4.00-5.00 (strongly disagree).

The extent of disagreeing was used to predict the level of satisfaction with various services offered by the four mobile service providers in Kenya. Yu had the best offers (best satisfaction) (3.40) followed by Orange (4.05) and Safaricom (4.17). Airtel had the poorest services (4.20). Table 4.5 shows the findings obtained.

Table 4.5: Quality of Service provided by various service providers

Quality of Service provided by various service providers	Std. Dev.	Mean	Range
Safaricom	1.11	4.17	3.0
Airtel	0.94	4.20	3.0
Yu	0.93	3.40	2.0
Orange	0.99	4.05	4.0

4.6.2 Enhancement of use of mobile phones for academic purposes

The researcher aimed at determining the various measures that various individuals could put in place to enhance the use of mobile phones for use in academic processes.

(a) Mobile service providers: The participants opined that mobile service providers could enhance the use of mobile phones for academic purposes through reduce the calling rates,

creating cheap airtime value, providing current and up to date education materials, reducing prices of data bundles, making data bundles offer constant not periodic and reducing call rates to other networks

(b) The government could enhance the use of mobile phones for academic purposes by: subsidizing prices of phones; controlling the use of mobile phones (put policies to guide use of mobile phones even in learning places); harmonizing call rates across all networks; giving priority to challenged students to use mobile phones in schools; creating checks and balances to prevent cheating through proper invigilation of examinations; lowering importation charges of phones; ensuring the availability of phones to ensure easy access to phones, reducing internet bills because there is optic fibre; providing schools with computers to discourage phone use; providing free cyber cafes and providing service providers with ample network to avoid congestion during emergencies

(c) The school could do so by: allowing students to use mobile phones in studies; having strict rules on use of music phones; allowing phones that are web-enabled in school; allowing students to use mobile phones in school at a certain time; installing phones in accessible areas in case of emergency in schools; creating systems that help students to move with digital evolution; creating a website that has academic information and; creating free Wi-Fi.

(d) Parents and guardians on their part could: buy affordable handsets for their children to enable them communicate; control use of phones among their children; advise students not to access websites that will degrade their morals and; buy laptops to do assignments.

CHAPTER FIVE: CONCLUSIONS, SUMMARY AND RECOMMENDATIONS

5.1 Introduction

The essence of this last chapter is to make significant conclusions based on the findings of the study. It reflects on the contribution of the study to scholarship, makes important recommendations in regard to the causes of the socio-economic use of mobile phones by high school students.

5.2 Summary

The study managed to establish the socio-economic use of mobile phones by high school students. The findings obtained are summarized below.

5.2.1 Mobile Telephone Accessibility by Students

The study established that students had access to mobile phones as evidenced by the ownership of phones in 72.5% of the families of the students. Mobile usage was also high among students. To this end, at least 92.5% of the participants pointed out that they used mobile phones and that such were personal. These findings were in line with Ling (2001) who found out that adolescents- irrespective of the extent- actually accessed and used mobile phones mobile phones.

Nokia phones were the most used phones (63.2%) followed by Samsung (23.7%). The price of most of these phones ranged from Ksh. 2001 to 5000 followed by those with prices of between Ksh. 1001 to 2000. The majority of participants got money from parents (67.5%) to buy phones. Most of the phones used were web-enabled (82.5%). In terms of service providers, Safaricom was the mostly used (77.5%). This corroborates the Kenya National Economic Survey (2010) that Safaricom was licensed in 1997 controls over 75 % of the 20

million mobile subscribers in Kenya. The other mostly used networks were Airtel 12.5% and Yu (10%).

5.2.2 Academic Usage of Mobile Phones by Students

The study established that there was evidence of academic use of mobile phones among students. To this end, it was found out that although home and outdoors were the places where students used mobile phones mostly (very often or often). Use of phones at school was also common. This confirms that students indeed used phones at home. Use mobile phones at class was minimal, with only 20 students pointing that they rarely did it. This study thus agrees with Pew Internet & American Life Project (2010) that 65 percent of cell-owning teenage bring phones to school despite existent bans.

Generally, various application and services were used by students. The main applications used were socio-media (e.g. Facebook) and radio. These were followed by music/video player and voice recorder, SMS and Photography. Other major uses were as calculators, voice calls and e-mail. In addition, the participants were satisfied with the current applications/services offered through mobile phones. They opined that all their pertinent communication needs were being fulfilled by mobile phones.

In terms of use of mobile phones to fulfill academic reasons, all the participants responded in the affirmative. The researcher was required to point out how often they used their mobile phones for selected academic reasons. Most of the ways in which mobile phones were used for to enhance learning processes (in order of importance) included: communicating with parents/guardians on school requirements such as fees and equipment; getting help on classwork from friends, reading online/downloading academic materials and receiving money

from parents through mobile money transfer services such as M-PESA (11). Although rarely, other services used included: getting help on classwork from parents/relatives; sharing academic materials with/getting academic help through e-mails and social media (e.g. Facebook); and other platforms and Geographical Information Systems (GIS). Getting help on classwork from teachers was seldom done. These findings agree with Millard, Hoppe, Gottenfker and Janse (2004) that the use of mobile phones could be used for study help.

Whereas, phones were being used to positively enhance learning, it was also established that phones were also used to promote cheating in national examinations. This corroborates the findings by Kindiki (2009) that phones could be used in examination cheating. In the same accord, this present study will endeavor to find out the extent to mobile phone result to negative use among students.

Controlling such cheating could be undertaken through various measures that included the following in order of importance: changing the examination techniques to make cheating generally hard; hindering the use of certain phones during exams; advising students to avoid such cases; imposing harsh punishments such as results cancellation and; banning the use of mobile phones from schools.

5.2.3 The socio-economic challenges encountered by students in the usage of mobile phones
Students could not afford and use the mobile phones of choice due to affordability. The ability to afford mobile phones depended on: family and guardians' income as well as the affordability of the phone. Cost of airtime was another challenge facing students. Some students spend more than KSH 500 per month on airtime. This was in agreement with Zulkefly and Baharudin (2009) study in Malaysia that students spend a great amount of

monies on airtime. It was also in line with Clonen (2002) who established that school-going mobile phone users in Europe spent a lot (approximately €25 a month) on their mobile phone airtime.

The vast majority however spent up to Ksh. 500. This means that the majority of the students operated on little daily airtime. Interestingly, the affordability of airtime did not hinder use of a mobile phone according. This might mean that students could use mobile phones for receiving calls or they could borrow handsets from others among other possible explanations for this trend.

Surprisingly, all the students (100%) opined that they had electricity at home. To these students (as seen in 67.5%), having electricity at home did not hinder the possession of a mobile phone. This was surprising since electricity is a major determinant of the adoption of various ICT technologies. The possible explanation for this might be presence of alternative ways of changing mobile phones such as the use of solar, car battery and phone charging services in local shopping centers.

5.2.4 Enhancing the use the mobile phone for academic purposes by students

The students pointed out that the quality of service by the four mobile service providers in Kenya differed. Yu had the best offers (best satisfaction) followed by Orange and Safaricom. Airtel had the poorest services. Mobile service providers needed to improve their services so as to enhance their use for academic purposes and to fulfill the needs of learners.

It was also found that selected stakeholders (mobile service providers, the government, the school and parents/guardians) could were instrumental in enhancing the use of mobile phones for in learning processes by instating various measures.

5.3 Conclusion

In conclusion, there were various socio-economic aspects related to the use of mobile phones by students. The use of mobile phones in schools was determined by affordability of phones. As such, the family incomes of students determined whether students could afford mobile phones or not. Safaricom services were the most used although they were not the best juicy in the view of students. Indeed, Yu/Essar had the best services. Mobile phones were indeed used for academic reasons such as getting help on classwork, mainly peers and learning online. On the negative side, students agreed that mobile phones could be used for examination cheating. As such various measures had to be put in place to curb such cheating. The various service stakeholders in mobile phone use for academic reasons (the school, parents, mobile service providers and the government) could enhance the use of mobile phones for academic reasons in various ways.

5.4 Recommendations

On the basis of the findings several recommendations were made. So as at to enhance the use of mobile phones for academic reasons, the following needs to be done. To begin with, mobile service providers needed reduce the calling rates, create cheap airtime value, provide current and up to date education materials, reduce prices of data bundles and, make data bundles offer constant not periodic and reducing call rates to other networks.

On it part, the government could enhance the use of mobile phones for academic purposes by subsidizing prices of phones; controlling the use of mobile phones (put policies to guide use of mobile phones even in learning places); harmonizing call rates across all networks; giving priority to challenged students to use mobile phones in schools; creating checks and balances to prevent cheating through proper invigilation of examinations; lowering importation charges of phones; ensuring the availability of phones to ensure easy access to phones, reducing internet bills because there is optic fibre; providing schools with computers to discourage phone use; providing free cyber cafes and providing service providers with ample network to avoid congestion during emergencies.

In enhancing the use of mobile phones for academic purposes, the school could allow students to use mobile phones in studies; create strict rules on use of music phones; allow phones that are web-enabled in school; allow students to use mobile phones in school at a certain time; install phones in accessible areas in case of emergency in schools; create systems that help students to move with digital evolution; create a website that has academic information and; create free Wi-Fi.

Lastly, parents to foster the use of mobile phones for academic reasons through ways such as: buying affordable handsets for their children to enable them communicate; controlling the use of phones among their children; advising students not to access websites that will degrade their morals and; buying laptops to do assignments.

5.5 Suggestions for Further Study

(i) This study focused on schools in a rural setting. There is need for undertake more studies focusing on urban areas and their suburbia for correlation purposes;

(ii) Studies should also be undertaken in other parts of the Western Region using the same tools for comparative purposes;

(iii) A comparative study should be carried focusing on college students in the region using the same tools;

(iv) Studies could also be undertaken focusing on the various stakeholders (government, parents, schools and mobile service providers) to ascertain in-depth the implication of their policies on mobile use for academic reasons by students.

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APPENDIX 1: RESEARCH QUESTIONNAIRE

RESEARCH QUESTIONNAIRE

Dear Respondent

My name is Patrick M.Odongo, a Masters of Arts (Communication Studies) student at the University of Nairobi. I request you to spare some of your valuable time to fill out this questionnaire. The Questionnaire is highly simplified in order to help you respond with ease in a short time. The information provided is for my use in a case study of mobile phone usage among high school students.

The study is being conducted purely for academic purposes in partial fulfillment for the Masters degree. You have been selected to participate in the study and your responses to the questions in this instrument will remain confidential. Thank you for sparing a bit of your time to provide your information.

If you have any questions regarding this questionnaire please contact the undersigned.

Name of researcher: Patrick Odongo

Mobile phone: 0722 296296

QUESTIONNAIRE

INSTRUCTIONS: Please tick the appropriate box [ ] or [1]   [2]   [3]   [4]   [5] that represents your response or Fill in the blank spaces with appropriate information.

PART 1: SOCIO - DEMOGRAPHIC INFORMATION

1. What is your sex?   Male ☐   Female ☐

2. Age Bracket (years);   < 15 ☐   15-18 ☐   18-21 ☐   >21 ☐

3. Current Class;   Form 1 ☐   2 ☐   3 ☐   4 ☐

4. How many members in the family? --

5. What are your household income sources of your family?

Business ☐   parents' salary/wages ☐   Farming activities ☐

Remittal from relatives/siblings ☐   Other ☐ (Specify)......................

PART 2: ACQUISITION PATTERNS OF PHONES BY STUDENTS

6. What is your household telephone ownership?

None   ☐   Landline only   ☐

Cell phone only ☐   Landline and cell phone ☐

7. Do you use a mobile phone for whatever reasons?

Yes ☐   No ☐

8. If yes, in question 7 above, do you use your own mobile phone?

Yes ☐   No ☐

9. If no, in question 8 above, which mobile phone do you use?

Parents' ☐   Family member ☐   Friend ☐ Other (specify) ☐ ....

10. What type (s) of mobile phones do you own? *(Tick all options that apply to you).*

☐ Nokia   ☐ Samsung   ☐ Motorola ☐ Sagem   ☐ Alcatel
☐ Bird   ☐ Sony Ericsson ☐ Siemens ☐ Dorado   ☐ Black berry
☐ Others (specify)...........................

11. What is the price range of phones that you use in KSH?
< 1000 ☐   1001-2000 ☐   2001-5,000 ☐   5001 - 10,000   > 10,000 ☐

12. Where do you get the money to acquire a mobile phone?

Parents' ☐   Family member ☐   Friend ☐   Other (specify) ☐ ....

12. Are the mobile phones that you use web enabled?

Yes ☐   No ☐

13. What mobile service provider do you use? (Tick all used)
Safaricom ☐   Airtel ☐ Yu/Essar ☐   Orange ☐

PART 3: USE OF MOBILE PHONES BY STUDENTS/ACADEMIC USE OF MOBILE PHONES

14. Who do you call most?

Friends ☐ Parents ☐ Teachers ☐ Relatives ☐ Others (specify) ☐

15. In the scale given below, please select the area where you use a mobile phone most.

Academic use	Very often	Often	Rarely	Very Rarely	Never
1. At home					

2.	In school during breaks				
3.	In school during class time				
4.	Outdoors				
5.	Others (specify)................				

16. Who supports you when getting familiar with phone usage?

Friend ☐ Service provider ☐ Manual ☐ Teacher ☐ Other ☐ (specify)........

17. On the scale given below, please indicate how often you use the mobile phone services/application listed below.

Use	Very often	Often	Rarely	Very Rarely	Never
Voice call					
SMS					
Photography					
E-mail					
Social media (eg Facebook)					
Radio					
Music/video player					
Voice recorder					
Calculator					
As a Modem					
Playing games					
Office applications (e.g. inbuilt word processing, excel etc					
Storage media (memory cards and inbuilt phone memories etc)					
Sharing files (bluetooth etc)					
Others (specify)					

18. Do you use your mobile phone enhance the fulfillment of your academic objectives?

Yes ☐   No ☐

19. On the scale given below, please indicate how often you use your mobile phone for the academic reasons listed below.

Academic use	Very often	Often	Rarely	Very Rarely	Never
6. Getting help on class work from teachers					
7. Getting help on class work from friends					
8. Getting help on class work from parents/relatives					
9. Reading online/ downloading academic					

material					
10. Communicating with parents/guardians on school requirnements such as fees and equipements					
11. Receiving money from parents through mobile money transfer services such as M-PESA					
12. Sharing academic materials with/getting academic help through e-mails and social media (e.g. facebook) and other platforms					
13. Geographic Information Systems (GIS)					
14. Other uses (specify)					

20. Do you feel the current service/applications in mobile phones up to date with your personal communication needs?

Yes ☐   No ☐

21. If NO in question 19, what other services/applications do you think should be offered through mobile phones?

....

....

22. Could you imagine your life without a mobile phone?

Yes ☐   No ☐

22. Are you aware of cases of cheating in examination using mobile phones?

Yes ☐   No ☐

23. If yes in question 22, please indicate to what extent you think the following measures could be used to curb such cheating.

Indicate your response based on the following scale: 1-Strongly disagree; 2- Disagree; 3- Neutral; 4 – Agree; 5- Strongly agree

Academic use					
1. Banning the use of mobile phones from schools	[1]	[2]	[3]	[4]	[5]
2. Imposing harsh punishment such as results	[1]	[2]	[3]	[4]	[5]

	[1]	[2]	[3]	[4]	[5]
cancellation					
3.	[1]	[2]	[3]	[4]	[5]
4. Advising students to avoid such cases	[1]	[2]	[3]	[4]	[5]
5. Hindering the use of certain phones during examinations	[1]	[2]	[3]	[4]	[5]
6. Changing the examinations techniques to make cheating generally hard	[1]	[2]	[3]	[4]	[5]
7. Others (please specify).......................	[1]	[2]	[3]	[4]	[5]

PART 4: SOCIO-ECONOMIC CHALLENGES ENCOUNTERED IN USING A MOBILE PHONE

24. Can you afford the kind of mobile phone you would wish to have?

Yes ☐   No ☐

25. If No in question 24 above, what factors hinder you from affording such phones?

Family income ☐
Guardian income ☐
Affordability of phone desired ☐
Availability of phone in the market ☐
High costs of repair ☐
Other (specify)..................... ☐

26. About how much money do spend on your mobile phone monthly on airtime in KSH?

<100 ☐   101-200 ☐   201-500 ☐   >500 ☐

27. Does your ability to afford airtime hinder you from having/or using a mobile phone?

Yes ☐   No ☐

28. Do you have electricity at home?

Yes ☐   No ☐

29. Does the availability of electricity at home hinder you from possessing or using a mobile phone?

Yes ☐   No ☐

PART 5: RECOMMENDATIONS TO MOBILE SERVIVE PROVIDERS TO MAKE IT EASY AND CONVENIENT FOR STUDENTS TO ACCESS MOBILE TELEPHONY TECHNOLOGY

30. On a scale of 1-5, 1 being the lowest 5 as highest, what mark would you give your mobile service provider in terms of service?

Service provider	[1]	[2]	[3]	[4]	[5]
Safaricom					
Airtel					
Essar/Yu					
Orange					

31. What general advice would you give to the following mobile phone service provision stakeholders order to enhance the use of mobile phones for academic reasons?

(a) Mobile service providers (e.g. Safaricom, Airtel, Yu, Orange)

....

....

(b) The government

....

....

(c) The school

....

....

(d) Parents/guardians

....

....

THANK YOU