



NATIONAL COMMUNICATIONS AUTHORITY AND
GHANA STATISTICAL SERVICE



HOUSEHOLD SURVEY ON ICT IN GHANA

ABRIDGED REPORT

March 2020

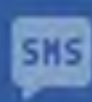


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ABBREVIATIONS

BWA	Broadband Wireless Access
CAPI	Computer Assisted Personal Interview
EA	Enumeration Area
GIFEC	Ghana Investment Fund for Electronic Communications
GSS	Ghana Statistical Service
ICT	Information and Communications Technology
IDI	ICT Development Index
ITU	International Telecommunications Union
LTE	Long Term Evolution
MNO	Mobile Network Operator
NCA	National Communications Authority
NDPC	National Development Planning Commission
NITA	National Information Technology Agency
PIT	Project Implementation Team
PMT	Project Monitoring Team
PPS	Probability Proportional to Population Size
PSU	Primary Sampling Unit
SDG	Sustainable Development Goals
SIM	Subscriber Identification Module
SMS	Short Messaging Services
TAC	Technical Advisory Committee

GLOSSARY

Active SIM Card	The SIM card should have been used during the past three months (90 days)
Active subscription	Subscription to services of the telecom service provider for the past three months (90 days)
Basic phone	Mobile phones that allow users to perform functions such as make/receive calls and send/receive text messages. Basic phones are often referred as “yam” in Ghana.
Bundling	The provision of different products or services as a single package e.g voice, data and SMS services as single product by the mobile network operators. In Ghana, the mobile network operators offer single product such as data only as a bundle, although these marketing strategies are not consistent with the standard definition of bundling.
Computer	An electronic device for storing and processing data based on instructions provided by software or hardware programme. Examples include desktop computer, a laptop (portable) computer or a tablet (or similar handheld computer).
EGH	Expert Group on ICT household indicators
EGTI	Expert Group on telecommunication/ICT indicators
Enumeration Area	Geographical area canvassed for statistical surveys according to the number of inhabitants (on the average 750 persons).
Enumerator	An official responsible for administering the questionnaire to household members during the survey
Feature phone	Mobile phone that has pre-installed functions and applications beyond voice calling and text messaging but is not as extensive as a smartphone.
Functional Computer	The computer (desktop, laptop, tablet) should be in good working condition at the time of the survey
Functional Mobile Phone	The mobile phone should be in good working condition at the time of the survey
Functional radio	The radio (standalone or integrated into other devices) should be in good working condition at the time of the survey
Functional television	The television should be in good working condition at the time of the survey
Household	A group of people, who live together in the same house or compound, share the same housekeeping arrangements, catered for as one unit and recognises one person as the head.
Internet	A telecommunication network that uses telephone lines, cables, satellites and wireless connections to connect computers and other devices to the world wide web.
Locality	Area of residence of an individual (rural or urban)
Mobile money	A service that stores funds in a secure electronic account, linked to a mobile phone number. Mobile money services in Ghana are mainly provided by the mobile network service operators namely MTN, Vodafone and AirtelTigo, for cash deposit, cash transfers, payment of goods and service among others.
Mobile Phone	A portable telephone device that can make and receive calls over a radio frequency link while the user is moving within a mobile network coverage area.
Post-paid	These are subscriptions where subscribers pay an ongoing monthly fee for the products and services they consume (consumers are billed at the end of the month)
Pre-paid	These are subscriptions where, instead of paying an ongoing monthly fee, users buy the recharge credit before they use the services of the service providers
Self-employed	When an individual does not work for a specific employer or organisation to be paid a consistent salary. A self-employed earns income by contracting with a trade or business directly.
Smart phone	Mobile phone that performs many of the functions of a computer, typically having a touchscreen interface, internet access and an operating system capable of running downloaded applications.
Standalone radio	Radio device that is not integrated in to a phone, vehicle or other devices
Supervisor	An official in charge of the day-to-day affairs on the field, which includes identifying the enumeration area and households, providing logistics to team members and reviewing the completed questionnaire before submission.

ABOUT THE ICT SURVEY

Introduction

The ICT survey is an initiative of the National Communications Authority to bridge the data availability gap in the ICT industry at the household level. This is the baseline survey and the Authority aims at conducting the ICT survey every two years. This section provides a brief information about the survey including the collaboration, funding, data disaggregation and the age threshold.

Collaboration

The National Communications Authority (NCA) collaborated with the Ghana Statistical Service (GSS) to conduct the survey to ensure that the methodology for the survey met global benchmarks. The NCA is the regulator for the communications industry in Ghana and the GSS is the agency mandated to produce official statistics in Ghana.

A Technical Advisory Committee (TAC) was set up to oversee the planning, implementation and monitoring of the survey as well as the data analysis and report writing. The TAC comprised representatives from the National Communications Authority (NCA), Ghana Statistical Service (GSS), National Information Technology Agency (NITA), Ghana Investment Fund for Electronic Communications (GIFEC) and the National Development Planning Commission (NDPC).

The partnership approach to the survey is consistent with goal 17 of the United Nations Sustainable Development Goals (SDG). At the 17th joint meeting of the Expert Group on Telecommunications/ICT Indicators (EGTI) and the Expert Group on ICT/Households indicators (EGH) in Geneva in September 2019, the International Telecommunications Union (ITU) commended Ghana for the collaboration. Ghana has since been sharing her experience with other countries, who want to adopt a similar approach.

Funding for the Survey

The National Communications Authority (NCA) provided funds for the project through its internally generated funds. The Ghana Statistical Service supported the project with technical support, as well as providing tablets for the data collection process.

Age Threshold for the Survey

The age threshold for individuals that participated in the ICT survey was five years. This was based on a number of considerations. For instance, we observe that ICT is increasingly becoming ubiquitous, cutting across every aspect of our lives. All individuals, both children and adults participate in the ICT ecosystem. In addition, children in Ghana enrol in primary school by the age of five or six years and they get access and begin to use ICT devices and services such as computers, mobile phones and internet for educational purposes.

Ghana also seeks to leverage on technology to accelerate socio-economic development, thus its importance to take a holistic stock of ICT adoption during the baseline ICT survey. All these contributed to the reasons the age threshold was lowered to five years to ensure we leave no one behind.

Level of Data Disaggregation

Data disaggregation is essential to guide policy makers in providing targeted interventions in the communications industry, thus the data was disaggregated as follows:

Ghana: For each indicator, the average estimate is provided at the national level for all individuals aged five years and older. National estimates are also provided at the households level where the entire household is considered a single unit.

Regions: There are 16 administrative regions in Ghana after the creation of six additional regions in February 2019. Estimates were provided for each of the 16 regions to measure regional variations in ICT adoption.

Age Group: Each of the ICT indicators were disaggregated for age groups from five years and older, at interval of five years. The age groups are 5 – 9 years, 10 –14 years, 15 – 19 years, 20 – 24 years, 25 – 29 years, 30 – 34 years, 35 – 39 years, 40 – 44 years, 45 – 49 50 – 54 years, 55 – 59 years, 60 – 64 years, 65 – 69 years, 70 year and older. This allows for age specific analysis e.g children, youth, adult

Sex: The data was disaggregated by sex to be able to measure the digital divide between males and females across the country

Locality: Urban and rural estimates were provided for the indicators to measure the urban rural dichotomy of the digital divide

Educational Level: Educational level from no education to post graduate studies were also considered for the data disaggregation to assess ICT penetration based on level of education

Employment status: The data was segregated by employment status to allow for more insight into the contribution of employment status to ICT usage

Abridged and Main Report

The report is in two parts: the abridged version and the comprehensive report. This abridged version provides high level results of the survey. Details of the disaggregated data and analysis are available in the main report, which can be accessed from the National Communications Authority.

Need for developing country-specific indicators

Based on the outcome of the survey, we recommend that the International Telecommunications Union (ITU) should consider revising some of the ICT indicators to reflect the Ghanaian, and by extension the developing countries’ environment. In Ghana and most developing countries, the fixed telephone and fixed broadband is almost non-existence whereas mobile telephony is widely adopted. Therefore, indicators that are inclined to fixed network has the tendency to mask the market in the developing countries. We back this with the case of household internet access and fixed telephone in Ghana based on the survey results.

From the survey, household access to the internet is 16.8% because the ITU definition is inclined to fixed internet subscription at the household. The survey revealed that more individuals access the internet via their mobile phones (92.7%). Although there may not necessarily be a dedicated internet for the entire household, we propose that if members of the households have access to internet, then the household should be considered as having internet access. This approach will better represent the Ghana situation and it may be applicable to other developing countries, where the fixed network is underdeveloped. This is complemented by the fact that from the survey, fixed telephone access in households is 0.8%.

Foreword - From The National Communications Authority



The Board, Management and Staff of the National Communications Authority (NCA) are immensely proud of this standalone nationwide survey on Information Communications Technology (ICT) access, usage, skills and digital divide at the household level in Ghana. This is the first nationwide household survey in the country since the creation of the 16 regions in February 2019. It also forms an important baseline for same as there is no record of a survey of its kind conducted in Ghana.

The decision to undertake this survey was borne out of the need to provide reliable data to meet key objectives and as well as set standards on the African continent and beyond.

Well aware of the need to continue with its mandate and to be innovative and novel as well for the benefits of its varying stakeholders including the government, licensees and authorisation holders, consumers, international telecommunication and ICT related organisations, the NCA from 2017, set out on a course to strengthen its regulatory oversight on various areas.

One of the key measures the Authority has taken to strengthen its regulatory oversight is to reinforce its decision taking using empirical evidence. While continuous regulatory monitoring does provide data for interventions and inputs for policy development, it is always important and critical to have an in-depth, objective and quality data which can be the bedrock for current and future assessments, monitoring and evaluation purposes.

Again, since 2003 and 2005, when two (2) key policies were developed for implementation; ICT for Accelerated Development Policy and the National Telecommunications Policy respectively, there has not been an attempt to holistically measure ICT access and usage. Although the NCA has undertaken other surveys to gather information on consumer satisfaction which have provided much useful data from consumers' perspective and for regulatory interventions, this has been our first foray into collecting data on ICT access and usage.

Furthermore, the Authority has a duty to provide quality data for the ever increasing data needs on ICT indicators at both the national and global level for programmes such as the Sustainable Development Goals (SDG) and to meet Ghana's administrative data requirement for global organisations such as the International Telecommunications Union (ITU).

In an ever-changing technological world, this baseline study will afford the government, regulators, and other stakeholders an overview of current trends and potential changes to anticipate in the ICT space going forward.

The survey measured Ghana's ICT development based on ICT access, usage, skills and digital divide and the outcome provides rich database that would be useful for the planning, implementation and evaluation of policies and programmes aimed at promoting the accelerated development of the ICT industry in Ghana. It

is important to state here that the survey focused on ICT indicators that are consistent with the standards used by the ITU in computing the ICT Development Index (IDI).

This survey was conducted in June 2019 through a collaborative effort between the National Communications Authority (NCA) and the Ghana Statistical Service (GSS). The project was fully funded by the NCA while the GSS provided technical and logistical support. Other partners such as the National Information Technology Agency (NITA), the Ghana Investment Fund for Electronic Communication (GIFEC) and the National Development Planning Commission (NDPC) were part of the Technical Advisory Committee that supervised the planning and implementation of the survey.

It is instructive to also put forward that this survey will help put into perspective, the prevalence of telecommunication devices in homes in Ghana. Contrary to other jurisdictions, the mobile phone is the preferred communication device for households in Ghana with individuals owning multiple phones although there may not be fixed phones. We take this opportunity to advocate a change on the narrative on the use of telecommunication devices especially for Ghana and other developing countries.

The Authority would like to commend all the partners and the NCA team for their invaluable support and successful execution of this project. This is a perfect example of where national expertise and resources have been effectively leveraged in a collaborative manner for a successful project execution.

The NCA will be using the results of the survey for its work: regulatory interventions and policy advice to the relevant government agencies with respect to identified gaps. To encourage the practice of sharing data, the Authority will make copies of this report available and it is also our expectation that the report will serve as a useful reference for international benchmarking of ICT statistics for use by policy makers, the academia and stakeholders in the ICT sector.

National Communications Authority, (NCA), Ghana

March, 2020

Message From Ghana Statistical Service



It is a pleasure to present this report on the “Nationwide survey on ICT access, usage, skills and digital divide in Ghana”. There is no doubt that Information and Communication Technology (ICT) has become the trailblazer of modern development. The Ghana Statistical Service is certain that the results of this survey will bring to bear the status of access to ICT, usage, skills and bridge the digital divide in Ghana. For several years, a comprehensive and in-depth research in this area has been minimal, at least within the context of bringing out the fundamental issues of access to data, level of utilisation of ICT, adequacy and diversity of ICT skills and incidence of digital divide at the individual, household and community levels.

The fundamental role and importance of ICT in national development leaves no one in doubt as it provides the catalyst for change in the development of policies, programmes and projects. It also provides the strategic tools and synergies among stakeholders as a guide to engage in a continuous dialogue and direction for various developmental interventions that the Government of Ghana and the private sector desire. This publication provides evidence of opportunities and gaps that exist in the ICT sector. It also provides inputs into how to improve on access to ICT data, strengthen skills in the area and bridge the gap between those who have access to ICT and those who are lagging behind.

This study also provides insight into the existing digital divide at the disaggregated level including the rural-urban ICT segregation. In this study, there is clear evidence and understanding that there is lack of data, and sustainable infrastructural investment in ICT at all levels of development in the country. Thus, the digital divide is not a mere slogan but a reality with clear manifestation between rural and urban dichotomy in ICT usage. It is expected that the results of this study will provide a clear understanding and direction on how to accelerate ICT development to foster the realisation of “The Coordinated Programme of Economic and Social Development Policies (2017 - 2024) – An Agenda for Job: Creating Prosperity and Equal Opportunity For All” and the Sustainable Development Goals (SDGs).

The GSS recommends this publication to stakeholders as the results of this study will bring interpretive discussions on the reasons why despite an upsurge in ICT at the global level, developing countries such as Ghana are still lagging behind in investment in ICT infrastructure, usage and skills acquisition to accelerate ICT development and bridge the digital divide in the country. The policy implication is that while making total and complete utilisation of this publication, further research works are needed to highlight issues, drivers and the extent of the digital divide in respect of gender, rural-urban and individual levels.

As we articulate the reasons and justifications for this study, we should focus on the need to foster and integrate ICT in our everyday life, business community, governance, and environmental needs. There is the need to continuously collect, compile and disseminate data on the status of our ICT in the context of national development. It is one of the most effective ways of maximising the full benefits of globalisation, while ensuring competitive productivity at all levels of our collective responsibility in ensuring sustainable development within the paradox of abundant resources and glaring poverty among the citizenry.

From this publication, the GSS acknowledges that the use of ICT in the context of our national development effort thrives a literate population. This implies that all segments of the society, from basic schools through to the tertiary level have to acquire the right knowledge and skills to utilise the benefits of ICT. A wide dissemination of the data and results will provide the necessary invaluable insights into how and where people may access and use ICT, types of ICT data available for evidence-based decision making, and help in assessing ICT’s impact on the lives of the citizens of the country.

The results of this study will provide broader and coordinated perspectives on key issues and concerns about ICT development and utilisation in Ghana. It will also act as a framework and mechanism in accelerating ICT literacy in the country, while teachers and students will take full advantage of the benefits of ICT. The study will provide strategic direction and guidance for sustainable national development through the systematic application of ICT in Ghana.

Ghana Statistical Service (GSS)
March 2020

Executive Summary



Executive Summary

The National Communications Authority (NCA) in collaboration with the Ghana Statistical Service (GSS) in an effort to meet the increasing data needs on Information and Communications Technology (ICT) indicators from all stakeholders, both domestic and global, conducted a nationwide survey on ICT access, usage, skills and the digital divide at household levels in Ghana.

The objective of the survey was to provide a database that would contribute to the planning, implementation and evaluation of policies and programmes to promote the rapid development of the ICT industry in Ghana.

A total of 5,946 households were interviewed representing a 99.1% response rate of the 6,000 households that were targeted for the survey and yielding a total number of 30,916 individuals. These individuals comprise 15,934 (51.5%) female and 14,982 (48.5%) male. The survey was conducted across the 16 regions of Ghana.

The survey results showed that 54.1% of individuals, aged five years and older, own a functional mobile phone. The proportion of persons owning functional mobile phones increased to an average of 82.0% as children and teenagers were excluded. On average, more individuals own basic phones (47.9%) and smartphones (46.1%) as compared to feature phones (12.8%).

The results further show that 55.9% of individuals aged five years and above own Subscriber Identification Module (SIM) cards. Out of these individuals, 63.1% own one SIM card, approximately 36.9% own two or more SIM cards. Similar to mobile phone ownership, proportion of the population who own SIM card increases when children and teenagers were excluded.

The survey also assessed ownership of computers, and the results show that 7.9% of persons aged five years and older own a computer; laptops (5.1%), desktops (1.2%) and tablets (1.6%).

From the survey result, 39.7% of individuals, aged five years and older, know what the internet is, and out of this proportion, 56.6% used the internet in the last three months preceding the survey. The survey further indicates that 73.8% of internet users, aged five years and older, in Ghana make calls over the internet. It was also realised that 40.8% of Ghanaians, aged five years and older, have ever used mobile money for transactions.

The study assessed ownership and usage of ICT products and services at the household level, and we found that 70.1% of households own radios and 68.9% of households own televisions. Household access to internet was 16.8%.



5,946
households were interviewed



99.1%
response rate (6,000 households targeted)



30,916
total number of individuals



16
regions of Ghana



47.9%
Basic Phone ownership



46.1%
Smartphone ownership



12.8%
Feature Phone ownership



55.9%
own Subscriber Identification Module (SIM)




63.1%
own one SIM card



32.9%
own two SIM cards



4.0%
own three or more SIM cards

 7.9%
aged 5 years+ own computers

 39.7%
aged 5 years+ know what
the internet is

 70.1%
households own radios

 5.1%
own laptop computers

 73.8%
aged 5 years+ make calls over
the internet

 68.9%
households own televisions

 1.2%
own desktop computers

 40.8%
aged 5 years+ do mobile money
transactions

 16.8%
households have access
to the internet

 1.6%
own tablets

SECTION 1:

Survey objectives & methodology



1.0 Introduction

The demand for reliable, timely and accurate statistics on the communications industry has increased. To meet this increasing data demand from all stakeholders, both domestic and global, a nationwide survey was conducted on ICT access, usage, skills and the digital divide at the household level in Ghana.

1.1 Objectives

The objectives of the ICT survey are:

1. To collect, collate and analyse data on ICT statistics to evaluate the impact of policies and regulatory interventions implemented by the NCA on the ICT industry.
2. To provide ICT statistics for international and regional benchmarking such as the ICT Development Index (IDI) by the International Telecommunications Union (ITU), the UN Sustainable Development Goals (SDGs) and the African Union Agenda 2063.
3. To develop a comprehensive and disaggregated database on ICT access, usage, skills and the digital divide in Ghana.

1.2 Sampling

A two-stage stratified sampling design was used in the survey. For stage one, three hundred (300) enumeration areas (EAs) were selected to form the Primary Sampling Units (PSUs). The PSUs were allocated into the 16 administrative regions using probability proportional to population size (PPS). At the second stage, 20 households from each EA were systematically selected yielding a total sample size of 6,000 households nationwide.

1.3 Fieldwork for data collection

A total of 27 days was used for the survey, from 12th June to 8th July 2019 across the 16 administrative regions of Ghana simultaneously. Computer Assisted Personal Interview (CAPI) was used for the data collection. A total number of 5,946 households were interviewed, representing a 99.1% completion rate of the 6,000 households targeted for the survey.

Fifty-four (54) households were missed, which is 0.9% of the targeted households. The number of individuals covered was 30,916, comprising 15,934 (51.5%) female

and 14,982 (48.5%) male with an average household size of five. Weights were applied to the survey results to reflect the entire population of Ghana.

The survey was conducted over a period of 27 days from 12th June to 8th July 2019 across the 16 administrative regions of Ghana simultaneously.

SECTION 2:

Individual ownership of mobile phones and SIM cards



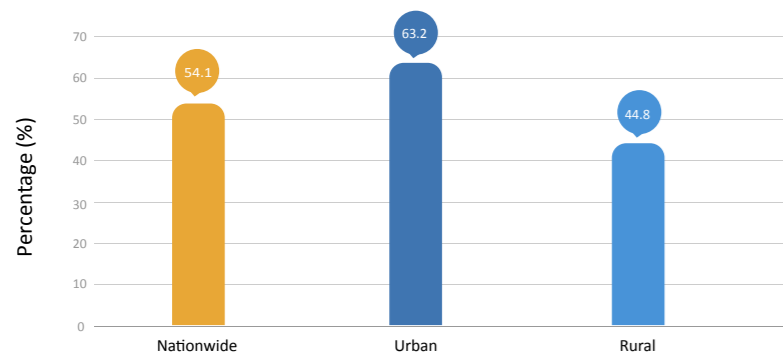
2.0 Introduction

This section presents information on ownership, access and usage of mobile phones by individual household members aged five years and older in Ghana. It provides disaggregated data on indicators such as number of mobile phones owned, types of mobile phones, joint mobile phones ownership and the activities often performed with the mobile phone.

2.1 Individual ownership of mobile phone by locality (Individuals five years and older)

At the national level, the results show that 54.1% of individuals aged 5 years and older own a mobile phone (Figure 2.1). When the data is disaggregated by locality, 63.2% of individuals in the urban locality own a mobile phone whilst 44.8% of rural dwellers own a mobile phone.

Figure 2.1: Individual ownership of mobile phones by locality - Individuals five years and older



2.2 Individual ownership of mobile phone by sex (Individuals five years and older)

On average, ownership of mobile phones nationwide is higher among males (56.0%) relative to females (52.4%) as presented in Figure 2.2 below.

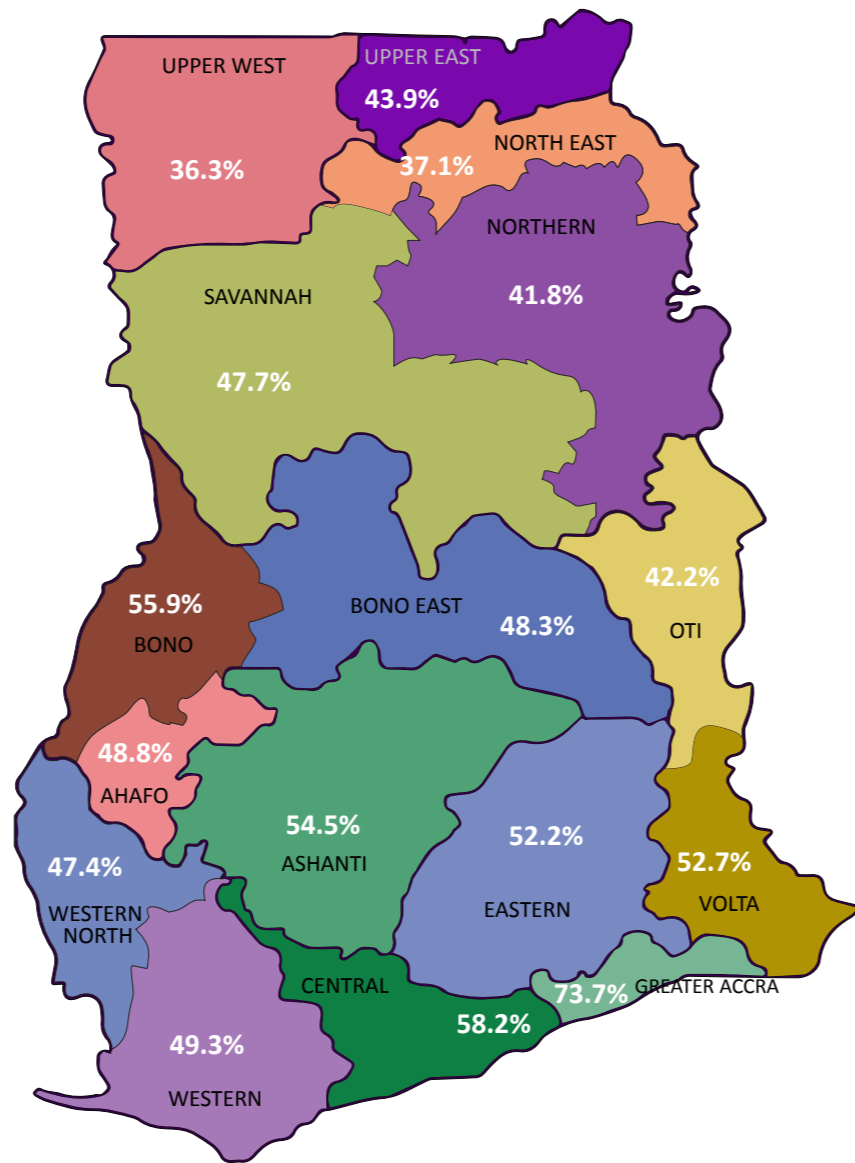
Figure 2.2: Individual ownership of mobile phone by sex - Individuals five years and older



2.3 Regional distribution of mobile phone ownership in Ghana (Individuals five years and older)

From Figure 2.3, ownership of mobile phone is highest in the Greater Accra Region (73.7%) and lowest in Upper West Region (36.3%).

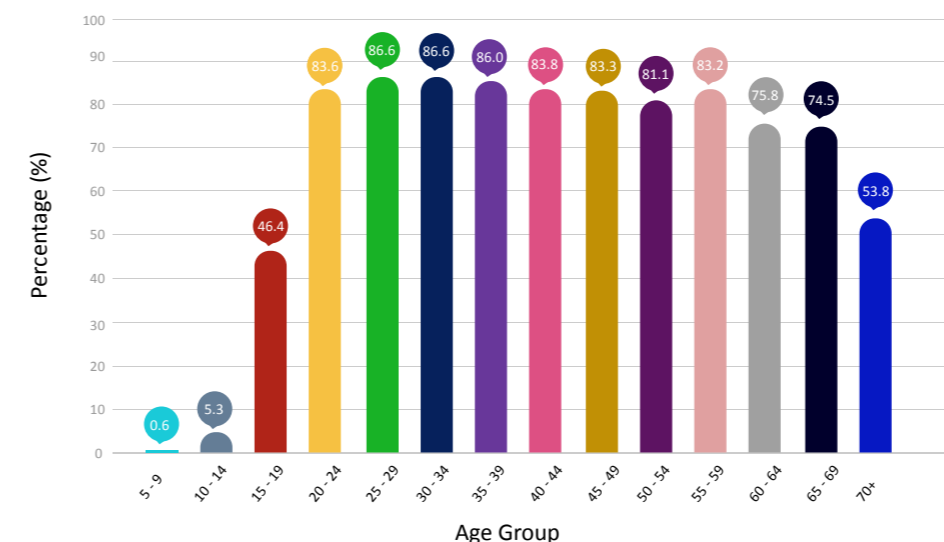
Figure 2.3: Regional distribution of mobile phones in Ghana - Individuals five years and older



2.4 Mobile Phone ownership by age group (Individuals five years and older)

From Figure 2.4 below, ownership of mobile phone is above 80% in most of the age categories (20–59) years. Children below the age of 14 years recorded less than 6% ownership of mobile phones.

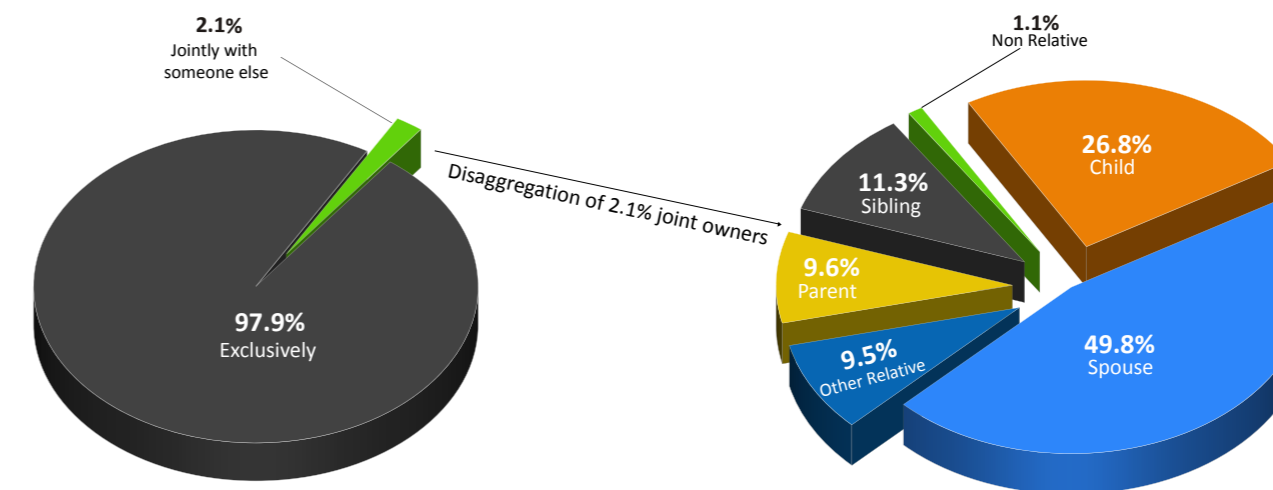
Figure 2.4: Mobile phone ownership by age group - Individuals five years and older



2.6 Joint ownership of mobile phones (Individuals five years and older)

Among individuals, aged five years and older, who owned a mobile phone, 97.9% owned their mobile phones exclusively whilst 2.1% jointly owned their mobile phones (Figure 2.6). Among the 2.1% who jointly owned their phones, 49.8% of them jointly owned their mobile phones with their spouses.

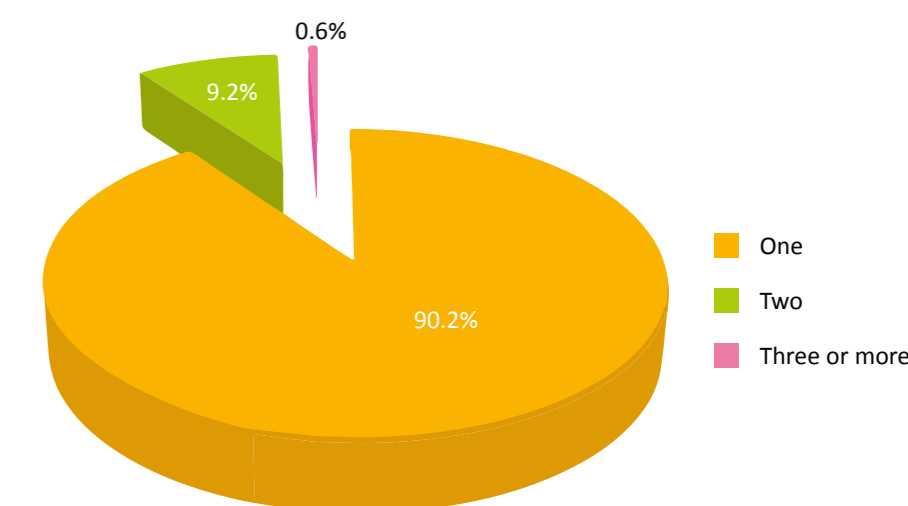
Figure 2.6: Joint ownership of mobile phones – Individuals aged five years and older



2.5 Number of mobile phones owned (Individuals five years and older)

Figure 2.5 shows that 90.2% of individuals who owned mobile phones owned one phone whilst the remaining 9.8% owned two or more mobile phones.

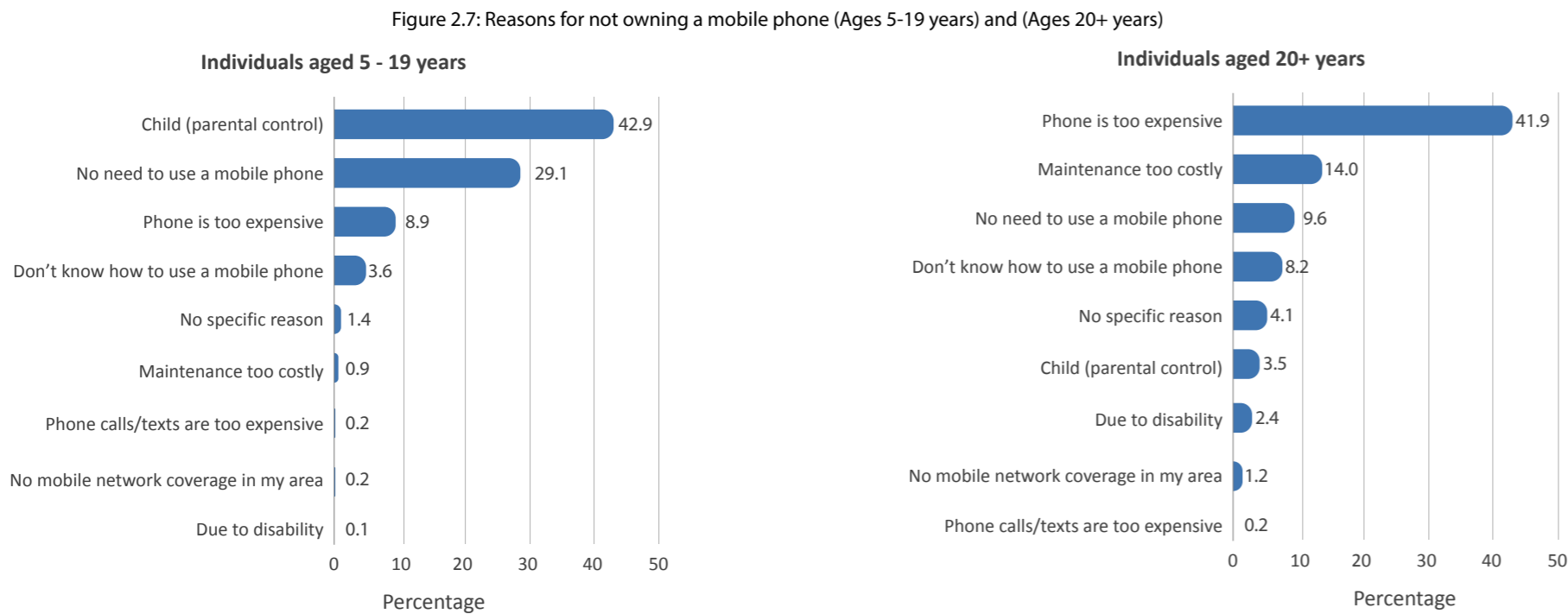
Figure 2.5: Number of mobile phones owned - Individuals five years and older



2.7 Reasons for not owning a mobile phone (Individuals five years and older)

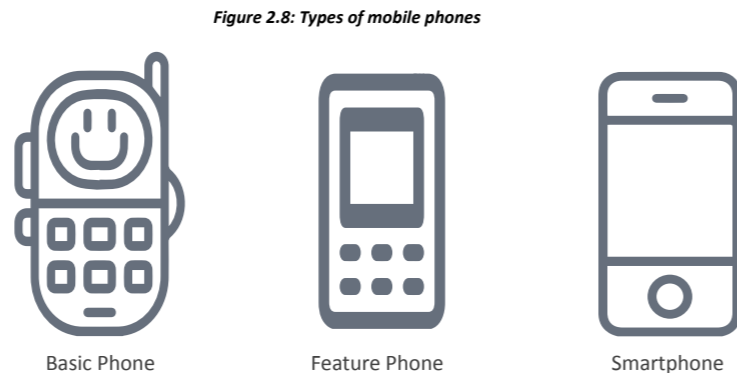
Among individuals, aged between 5 – 19 years, “Child (parental control)” was the most prevalent reason for not owning a mobile phone (42.9%) followed by “No need to use a mobile phone” (29.1%) as presented in Figure 2.7 below.

For individuals, aged 20 years and older, the most dominant reason for not owning a mobile phone was because phone was expensive (41.9%), followed by the high cost of maintaining a mobile phone (14.0%).



2.8 Types of mobile phone (Individuals five years and older)

There are three types of mobile phones namely; basic phone¹, feature phone² and smartphone³.

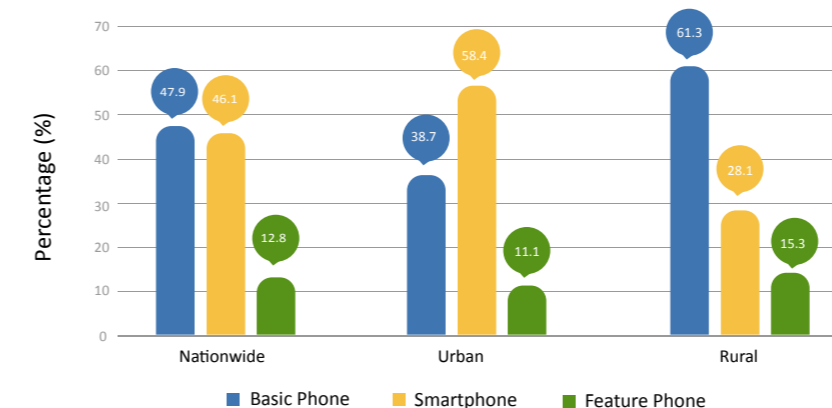


2.9 Type of mobile phone owned by locality (Individuals five years and older - multiple response)

The survey results as presented in Figure 2.9 reveals that at the national level, ownership of a basic phone was highest (47.9%) followed by smartphones (46.1%), whereas ownership of a feature phone was the least (12.8%). In the urban locality, the ownership of a smartphone (58.4%) was higher as compared to the basic phone (38.7%).

However, in the rural locality, the ownership of a basic phone (61.3%) was more than twice of that of smartphone (28.1%).

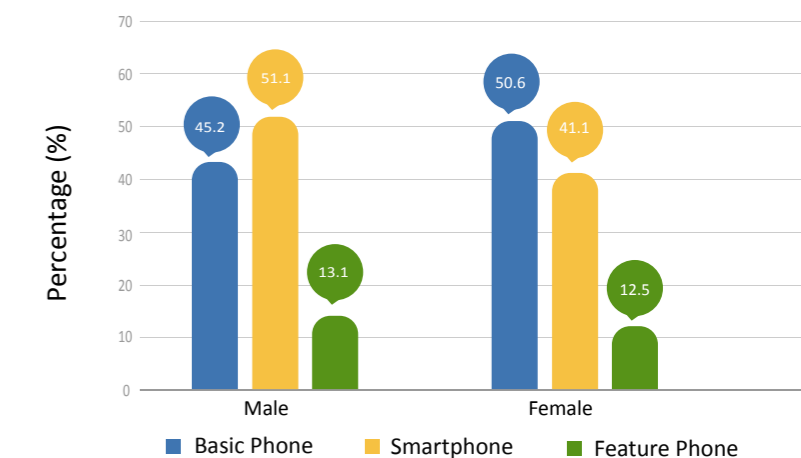
Figure 2.9: Type of mobile phone owned by locality - Individuals five years and older - multiple response



2.10 Type of mobile phone owned by sex (Individuals five years and older - multiple response)

Females ownership of a basic phone was 50.6% compared to males (45.2%) (Figure 2.10). The ownership of smartphone was higher among the males (51.1%) as compared to females (41.1%). Feature phone ownership of male was 13.1% and that of female stood at 12.5%.

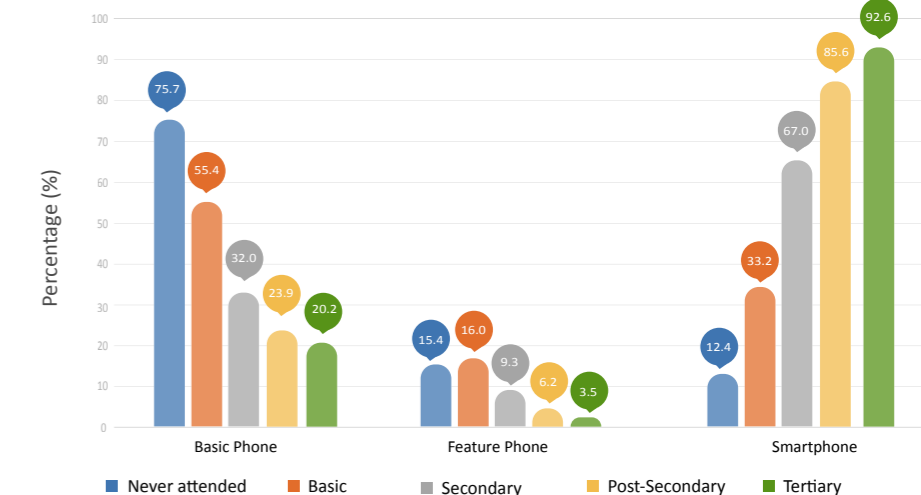
Figure 2.10: Type of mobile phone owned by sex - Individuals five years and older



2.11 Types of mobile phone owned by educational attainment (Individuals five years and older - Multiple response)

The ownership of a basic phone reduced as one attained higher education whereas the ownership of a smartphone increased with higher education. The study revealed that 75.7% of individuals with no basic education owned a basic phone whereas 12.4% of individuals of the same category owned a smartphone (Figure 2.11). However, 92.6% of individuals with tertiary education owned a smartphone.

Figure 2.11: Type of mobile phone owned by educational attainment - Individuals five years and older - multiple response



¹ Basic phones are phones that allow users to perform basic features such as make/receive calls and send/receive text messages.

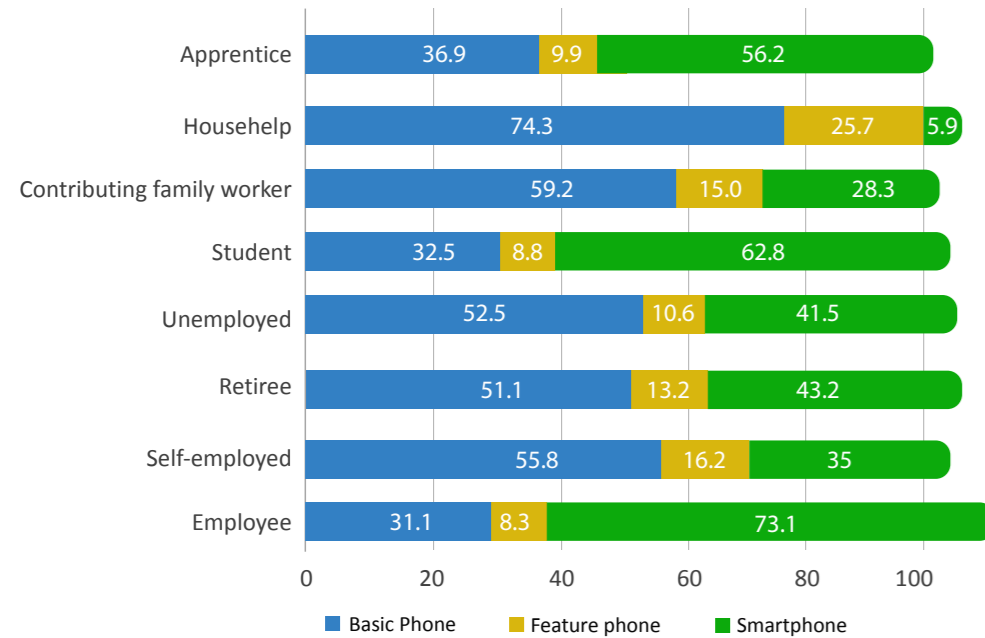
² A mobile phone that contains affixed set of functions beyond voice calling and text messaging but is not as extensive as a smartphone. For example, feature phones may offer web browsing and email, but they generally cannot download apps from an online market place.

³ A mobile phone that performs many of the functions of a computer, typically having a touchscreen interface, internet access, and an operating system capable of running downloaded apps.

2.12 Type of mobile phone owned by employment status (Individuals five years and older - multiple response)

From Figure 2.12, ownership of smartphones is highest among employees (73.1%), whereas more househelps own basic phones (74.3%).

Figure 2.12: Type of mobile phone owned by employment status - individuals five years and older - multiple response

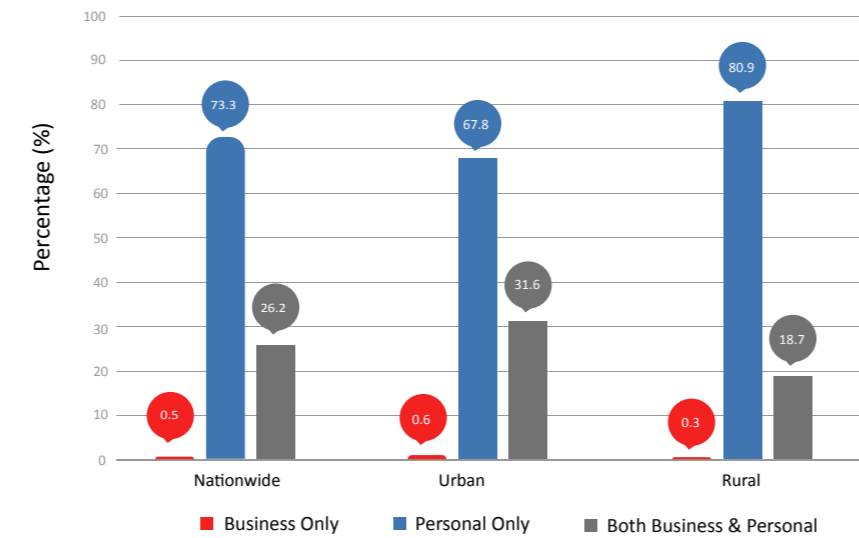


2.13 Use of mobile phone for business or personal activities by locality - (Individuals five years and older)

At the national level, the result indicated that 73.3% of individuals, aged five years and older, used their mobile phones for personal activities whilst 0.5% used it for business only (Figure 2.13). Individuals' usage of mobile phones for both personal and business activities was 26.2%.

Most people in rural localities use their mobile phones for personal activities (80.9%) compared to their counterparts in urban localities (67.8%).

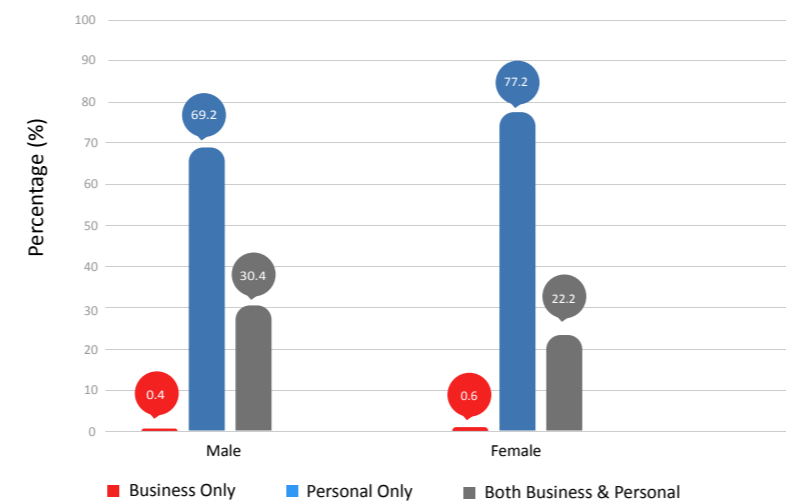
Figure 2.13: Use of mobile phone for personal or business (private use) by locality (Individuals five years and older)



2.14 Use of mobile phone for business or personal activities by sex (Individuals five years and older)

The usage of a mobile phone for personal activities only was high among females (77.2%) as compared to male counterparts (69.2%) (Figure 2.14). The usage of mobile phones for both business and personal activities recorded 30.4% for males and 22.2% for females.

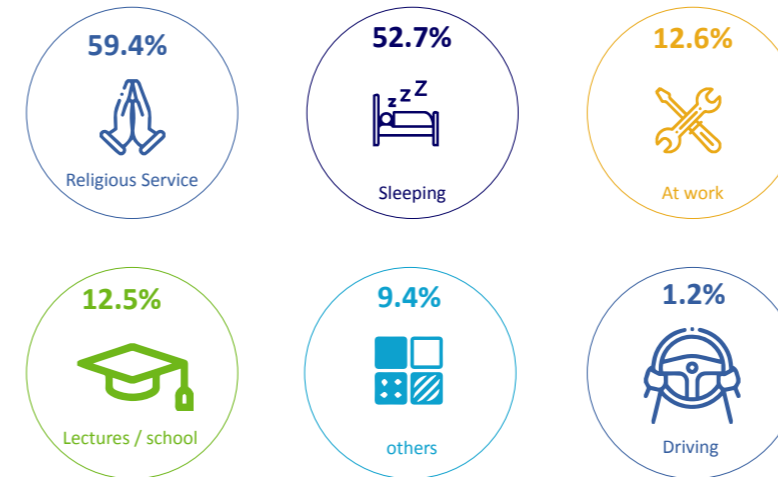
Figure 2.14: Use of mobile phone by sex (Individuals five years and older)



2.15 Activities for which mobile phones are switched off/put on silence (Individuals five years and older - multiple response)

Individuals, aged five years and older, were asked under which conditions would they put their phones off/on silence. The survey result indicated that 59.4% of the individuals put their phone off/on silence during religious services and 52.7% also indicated that whilst they were sleeping, they put their phone off/on silence (Figure 2.15).

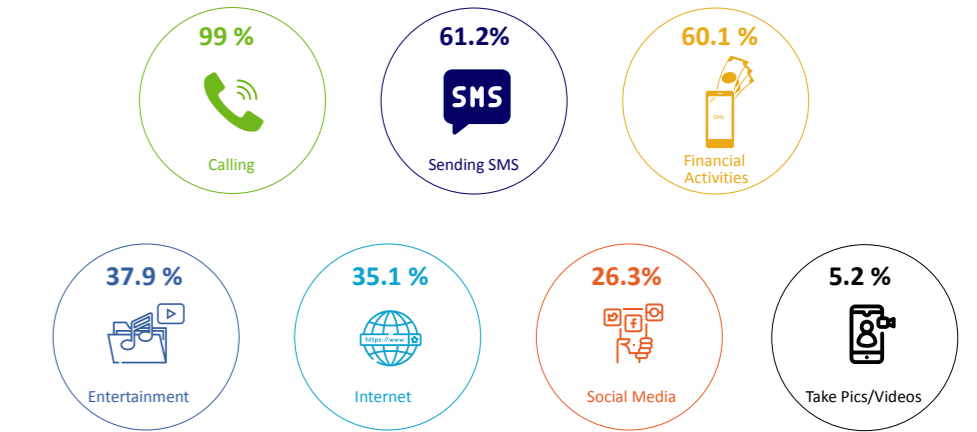
Figure 2.15: Activities for which mobile phones are switched off/put on silence - Individuals five years and older (Multiple response)



2.16 Activities usually performed with mobile phones (Individuals five years and older - multiple response)

Individuals, aged five and older, were asked which activities they usually performed with their mobile phones. The survey results indicated that 99.0% used their mobile phones for calls and 61.2% for receiving and sending short messages (Figure 2.16).

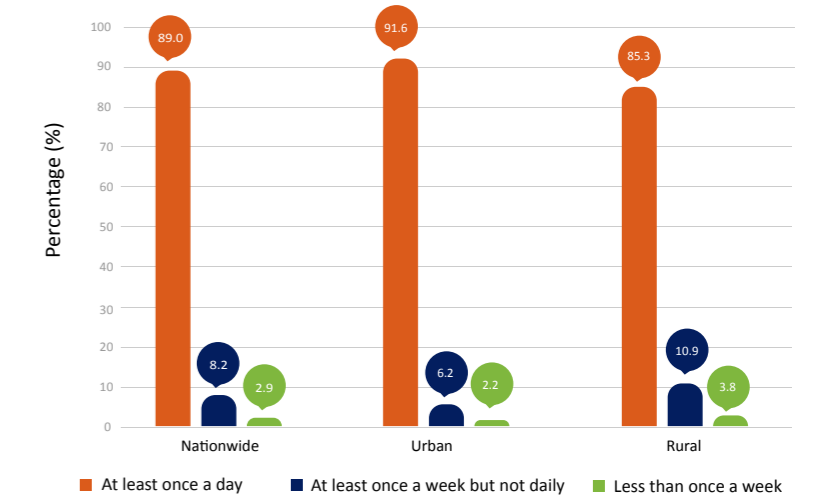
Figure 2.16: Activities usually performed with mobile phone - Individuals five years and older (Multiple response)



2.17 Frequency of mobile phone usage by locality (Individuals five years and older - multiple response)

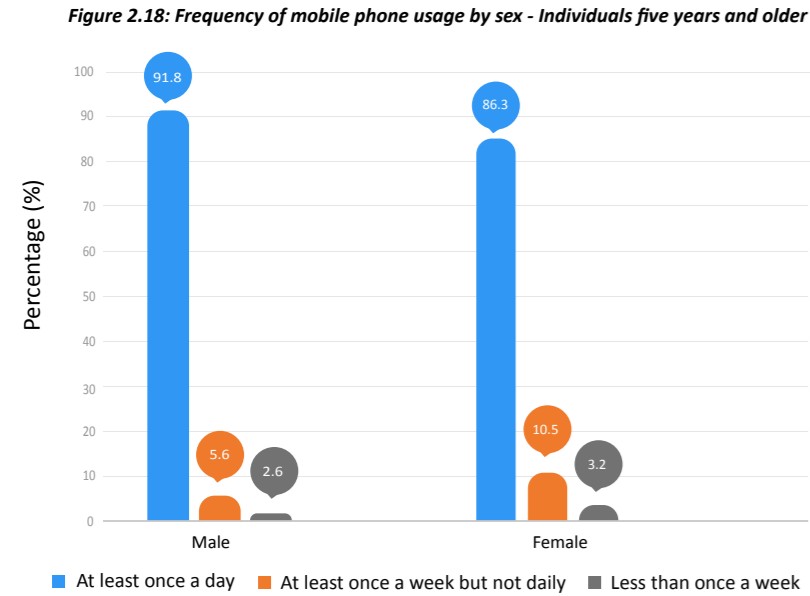
Among mobile phone users, 89.0% used their mobile phones at least once a day at the national level, and this pattern is consistent in urban (91.6%) and rural (85.3%) localities (Figure 2.17).

Figure 2.17: Frequency of mobile phone usage by locality - Individuals five years and older (Multiple response)

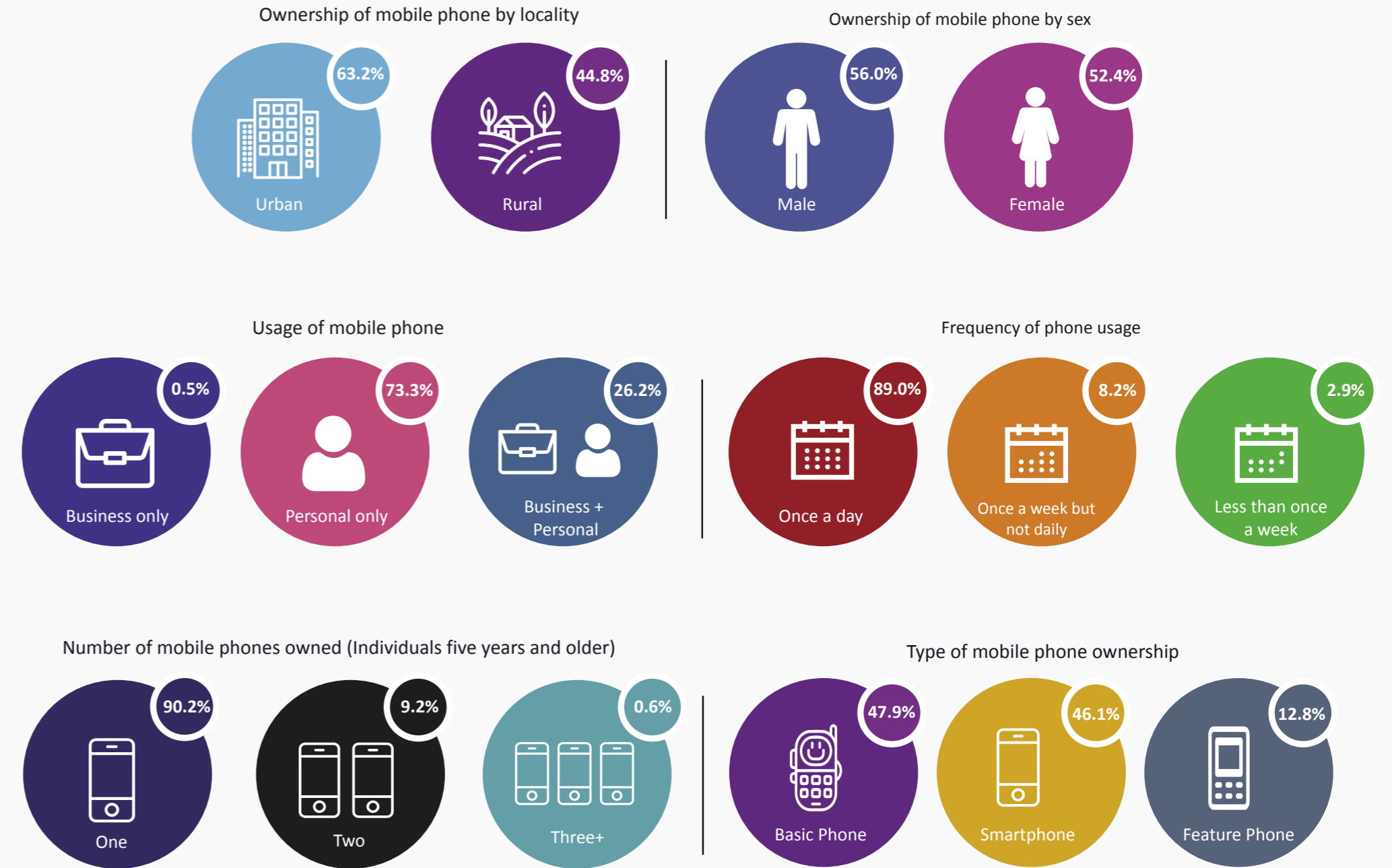


2.18 Frequency of mobile phone usage by sex (Individuals five years and older)

Both male (91.8%) and female (86.3%) used their mobile phones at least once a day. Less than 11% of the individuals used their phones at least once a week but not every day, but not every day.



CHAPTER 2 SUMMARY



SECTION 3:

SIM card ownership and usage



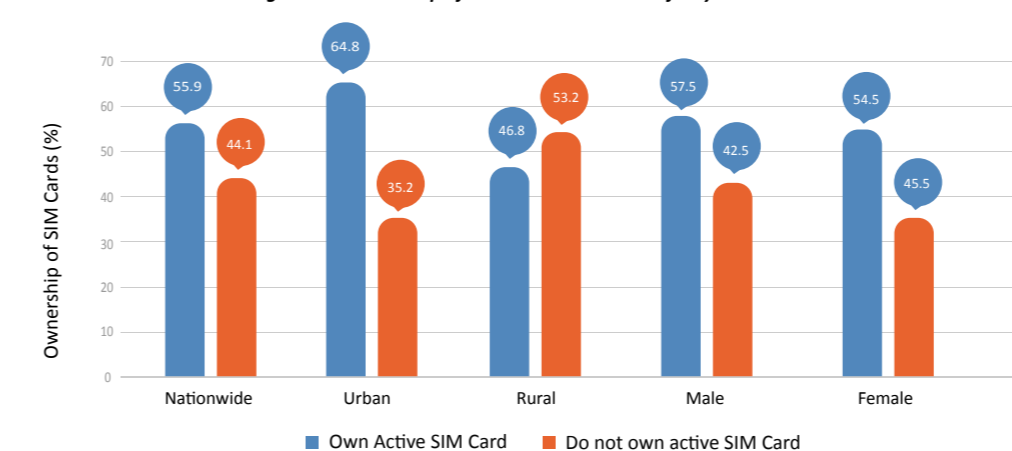
3.0 Introduction

This section explores the ownership and usage of subscriber identification module (SIM) cards in Ghana for all individuals, aged five years and older. It focuses on ownership and registration of SIM cards, type of payment plan for SIM cards, subscription to mobile network operators, among others.

3.1 Ownership of SIM cards (Individuals five years and older)

In Ghana, 55.9% of individuals aged five years and older, owned an active SIM card and 44.1% of them did not own an active SIM card (Figure 3.1). While majority of people in the urban areas (64.8%) owned active SIM cards, less than half (46.8%) of individuals in rural localities owned active SIM cards.

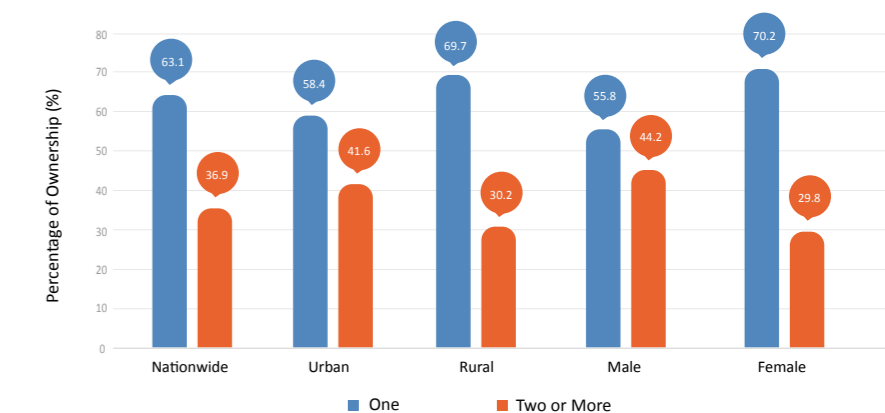
Figure 3.1: Ownership of SIM cards - Individuals five years and older



3.2 Multiple SIM ownership (Individuals five years and older)

Among individuals, aged five years and older, who owned active SIM cards, 63.1% owned one SIM card whereas about 36.9% owned multiple SIM cards (Figure 3.2). Ownership of multiple SIM cards were high in urban localities (41.6%) compared to rural localities (30.2%). More males (44.2%) owned multiple SIMs in Ghana compared to females (29.8%).

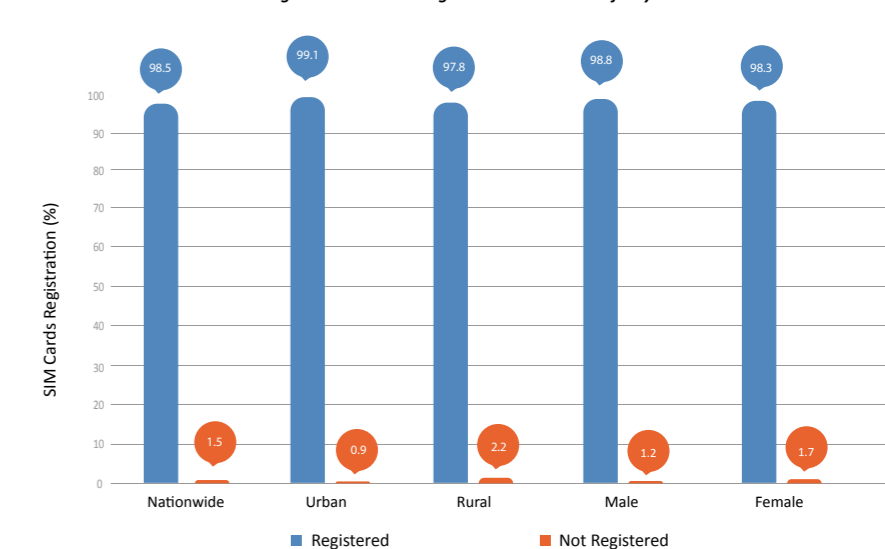
Figure 3.2: Multiple SIM ownership - Individuals 5 years and older



3.3 SIM card registration (Individuals five years and older)

At the national level, 98.5% of users indicated that they have registered their SIM cards (Figure 3.3.). When the data was disaggregated by locality, 99.1% of SIM cards in the urban areas were registered while 97.8% of SIM were registered in the rural areas. In the sex category, 98.8% of males had registered their SIM cards as compared to the 98.3% females.

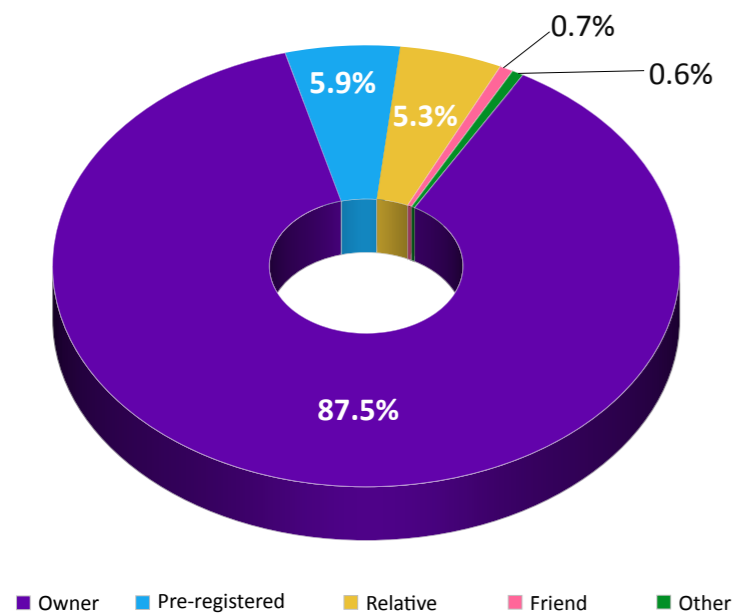
Figure 3.3: SIM card registration - Individuals five years and older



3.4 Details used to register SIM (Individuals five years and older)

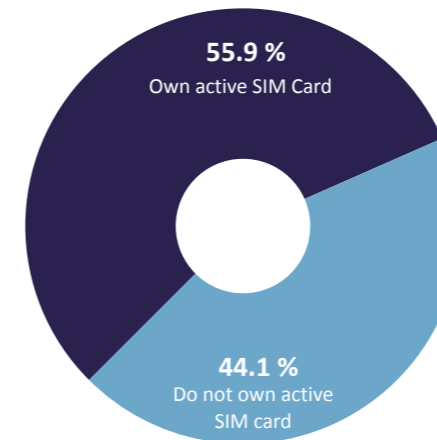
Among individuals who have registered their SIM cards, 87.5% used their personal details to register their SIM cards, 5.9% acquired pre-registered SIM cards and the rest used other people's details to register the SIM cards (Figure 3.4).

Figure 3.4: Details used to register SIM - Individuals five years and older

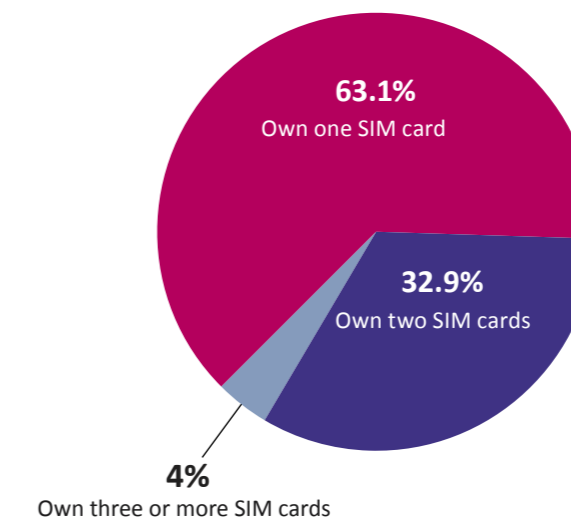


CHAPTER 3 SUMMARY

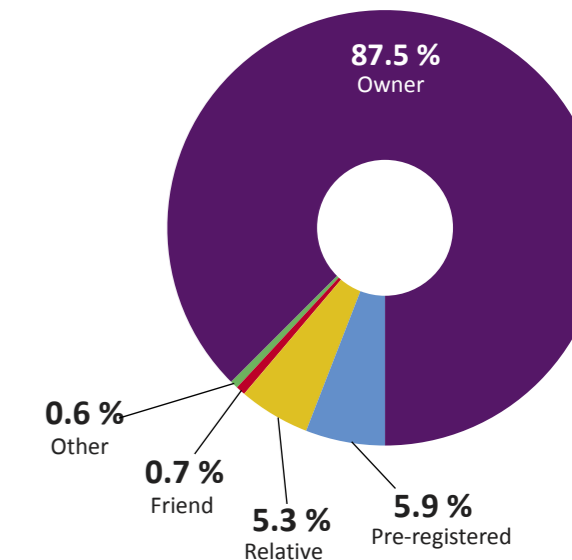
Ownership of SIM Cards



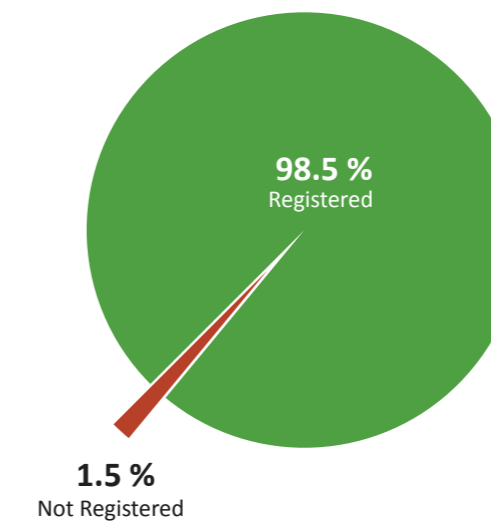
Multiple SIM card ownership



Details used for SIM card registration



SIM card registration



SECTION 4: Individual ownership and usage of computers



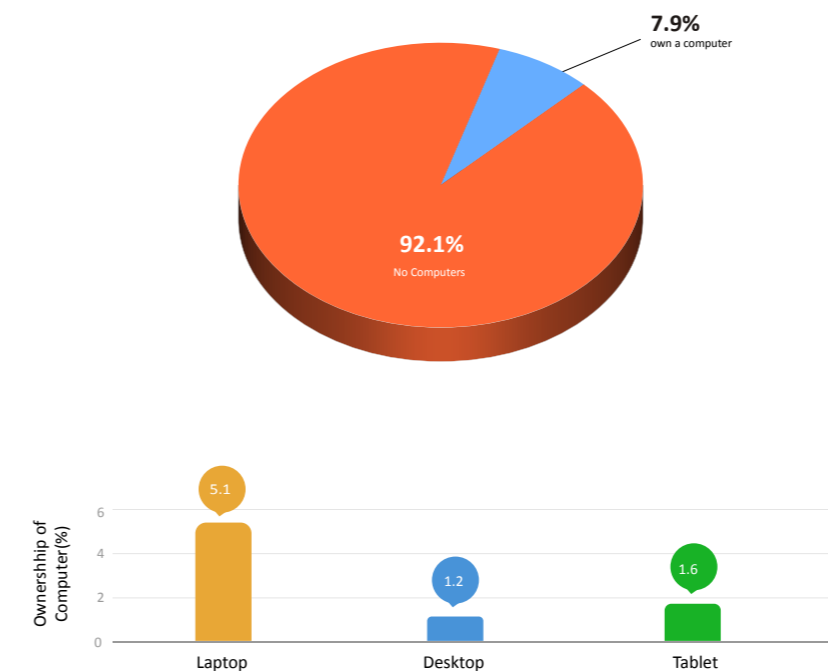
4.0 Introduction

This section assesses the ownership and usage of desktop, laptop and tablets among individuals aged five years and older.

4.1 Ownership of a functioning computer (Individuals five years and older)

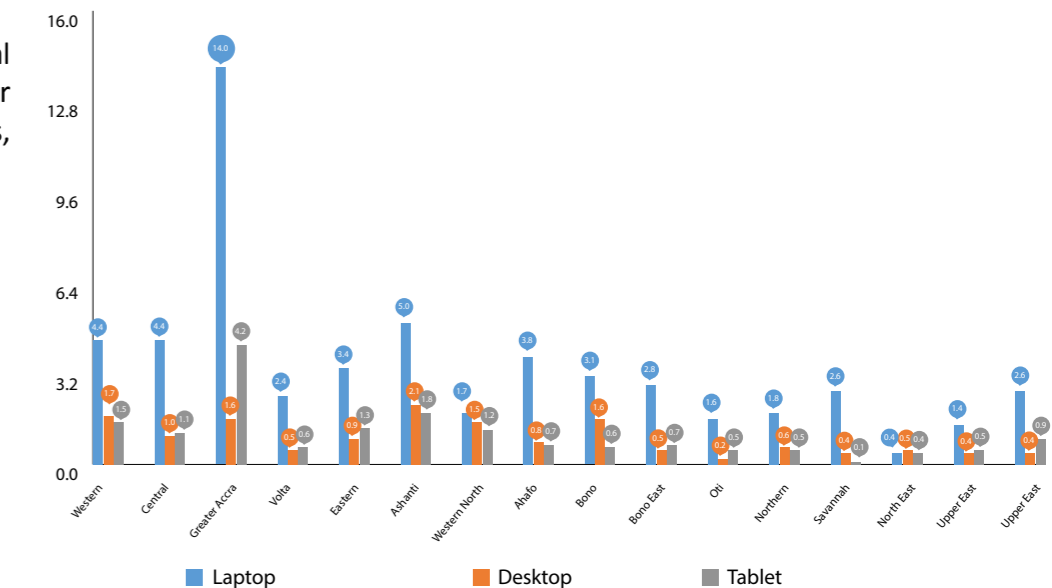
Individuals, aged five years and older, were asked whether they owned a functional computer and the results showed that 7.9% of individuals owned a computer (Figure 4.1). The 7.9% computers ownership comprised 5.1% owning laptops, 1.2% owning desktops and 1.6% being tablets owners.

Figure 4.1: Ownership of functional computers - Individuals aged five years and older - multiple response



whereas Ashanti Region had the highest ownership of desktops (2.1%) as presented in Figure 4.2 below.

Figure 4.2: Ownership of functional computers by regional distribution (Multiple response)



4.3 Ownership of computer by sex and locality (Individuals five years and older - multiple response)

The results revealed that males owned more computers than their female counterparts. Whereas 7.6% of males owned laptops, only 2.8% of females were owning same (Figure 4.3). Again, desktop ownership for males was 2.1% as against 0.4% for females. Ownership of tablets for male was 1.9% as against 1.3% for females.

It was also observed that people living in urban communities owned more computers (12.9%) than those in the rural communities (2.9%). The figure below gives a picture of ownership based on sex and locality.

4.2 Regional distribution of computer ownership (Individuals five years and older - multiple response)

Ownership of a functioning computer on regional basis indicated that Greater Accra had the highest ownership of both laptops (14.0%) and tablets (4.2%),

Figure 4.3: Ownership based on sex and locality - Individuals five years and older (Multiple response)

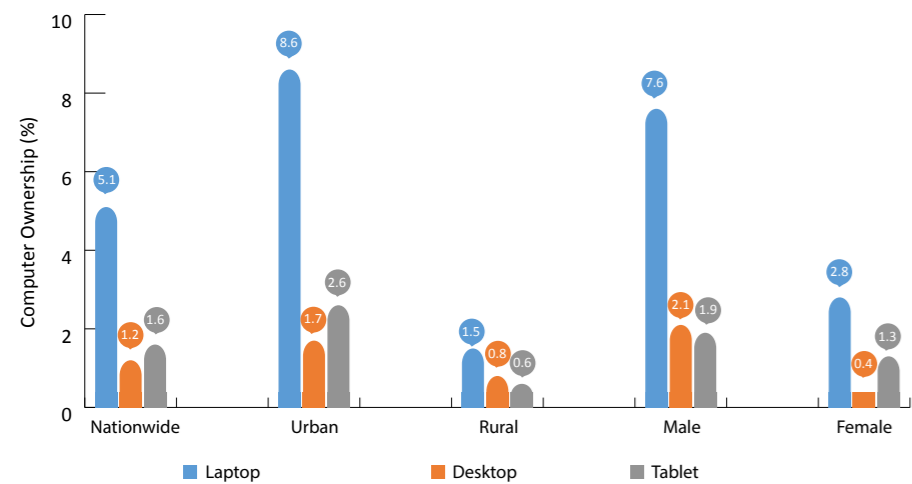
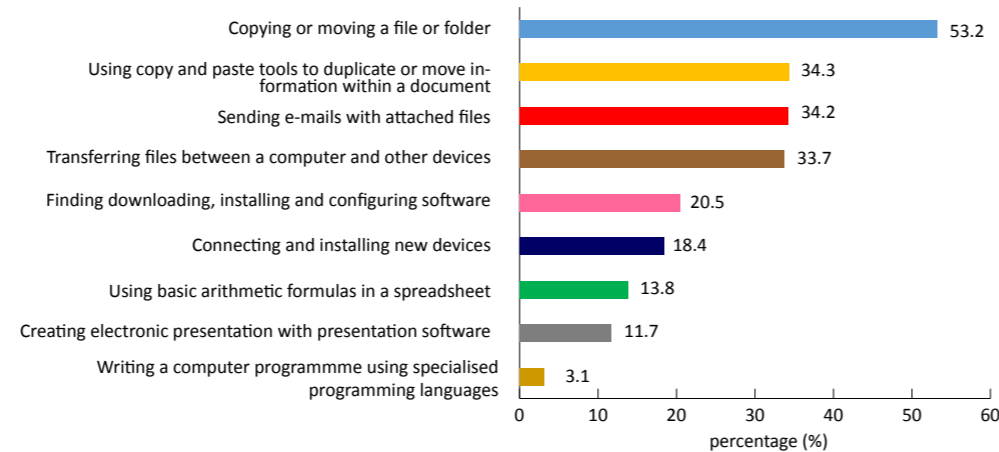


Figure 4.4: Computer-Related actions carried out in the last three months - Individuals five years and older



4.4 Computer-related activities carried out in the last three months (Individuals five years and older - multiple response)

All individuals aged 5 years and older who used a computer in the three months were asked about the activities they performed using the computer. The results, as presented in Figure 4.4 show that 53.2% used the computer for copying or moving a file or folder. Writing a computer programme using a specialised programming language was the least computer-related activity with a response rate of 3.1%.

SECTION 5: Internet access and usage



5.0 Introduction

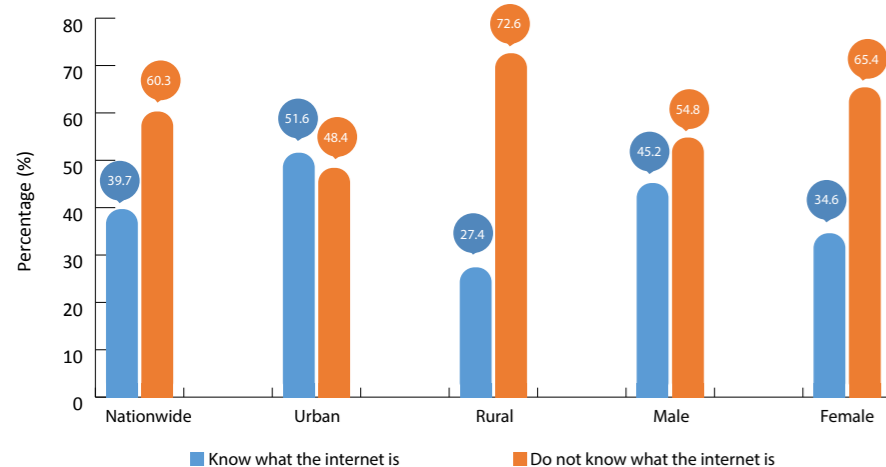
This section provides information on the access and usage of the internet among individuals aged five years and older as well as activities often performed on the internet.

5.1 Awareness of the internet (Individuals five years and older)

The study asked individuals, aged five years and older, if they knew what the internet is. The results as indicated in Figure 5.1 showed that 39.7% Ghanaians were aware of the internet. In urban areas, 51.6% of individuals had knowledge about the internet whereas 27.4% of individuals in the rural communities had knowledge about the internet.

More males (45.2%) had knowledge about the internet more than their female (34.6%) counterparts.

Figure 5.1 Awareness of the internet - Individuals five years and older

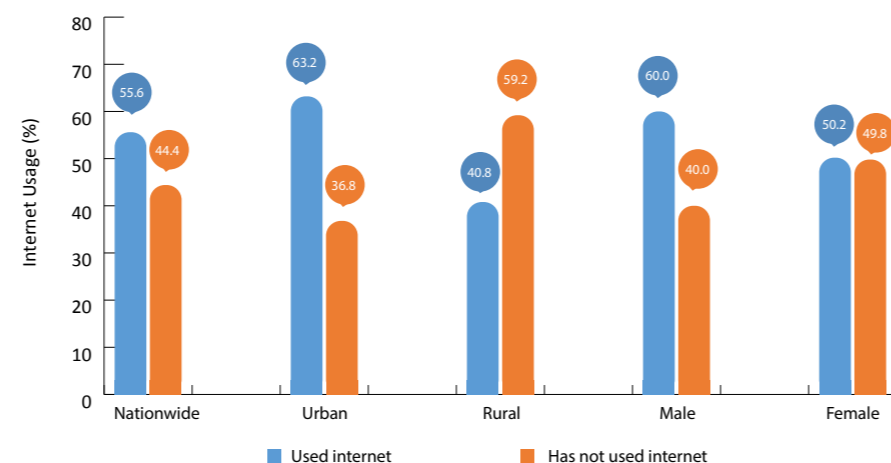


5.2 Use of the internet in the last three months (Individuals five years and older)

The survey revealed that 39.7% of individuals, aged five years and older, in Ghana knew what the internet was and out of that number, 55.6% of them have used the internet for one activity or the other within the last three months (Figure 5.2).

Again, the survey revealed that, males are more active on the internet than females and also those living in urban settings use the internet more often than those living in the rural communities.

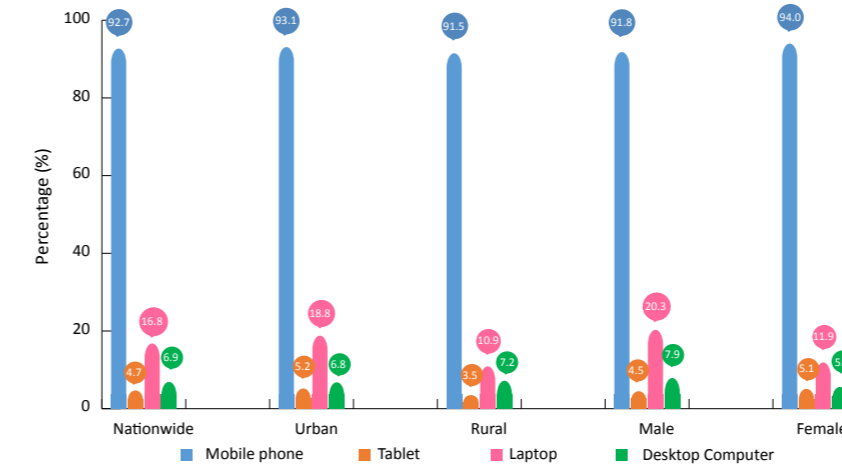
Figure 5.2: Use of the internet in the last three months - Individuals five years and older



5.3 Devices used to access the internet (Individuals five years and older - multiple response)

The mobile phone (92.7%) was the device mostly used to access the internet (Figure 5.3). From all categories, either sex or locality, more than 90% of individuals who used the internet, accessed it through their mobile phones. It is interesting to note that while 93.1% of individuals used their mobile phones for internet access in the urban areas, 91.5% of individuals in the rural areas did same. The laptop (16.8%) was the second device mostly used to access the internet followed by the desktop computer (6.9%) and lastly tablets (4.7%).

Figure 5.3: Devices used to access the internet - Individuals five years and older (Multiple response)



5.4 Activities usually performed on the internet (Individuals five years and older - multiple response)

From Figure 5.4, majority of people used the internet to access information (78.2%). Communication and collaboration (75.3%) were the next activities that people mostly engaged in using the internet. Only 1.8% used the internet for the creation of digital contents.

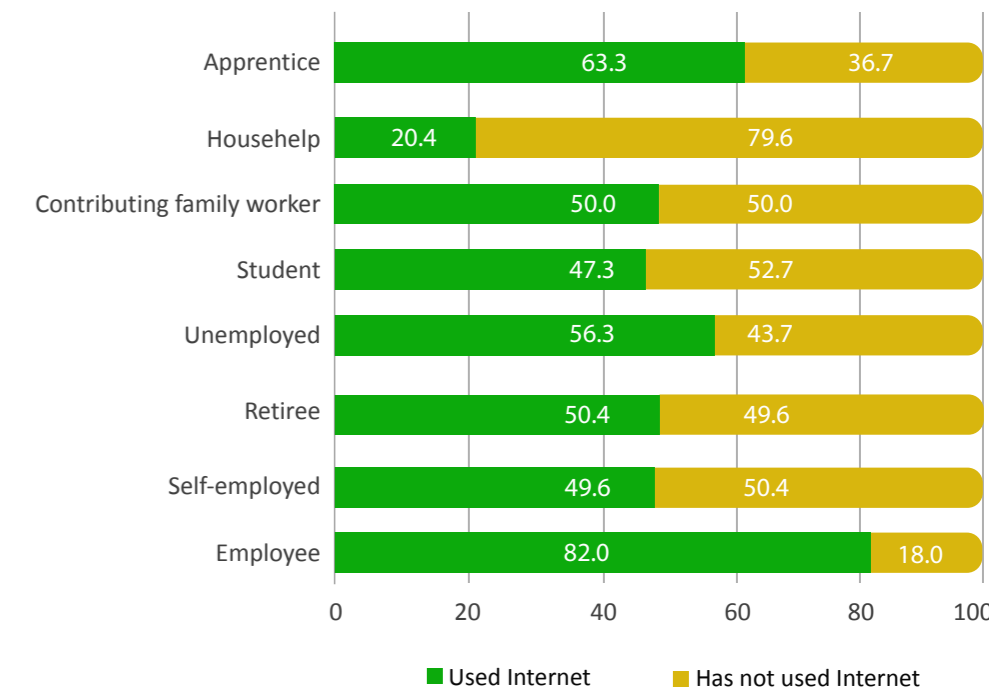
Figure 5.4: Activities usually performed on the internet (Individuals five years and older - multiple response)



5.5 Use of the internet in the last three months by employment (Individuals five years and older)

For those who had knowledge about the internet, they were asked if they had used the internet over the past three months. As presented in Figure 5.5, the highest category of people who used the internet were employees (82.0%) while the least category of people who used the internet were the househelps (20.4%).

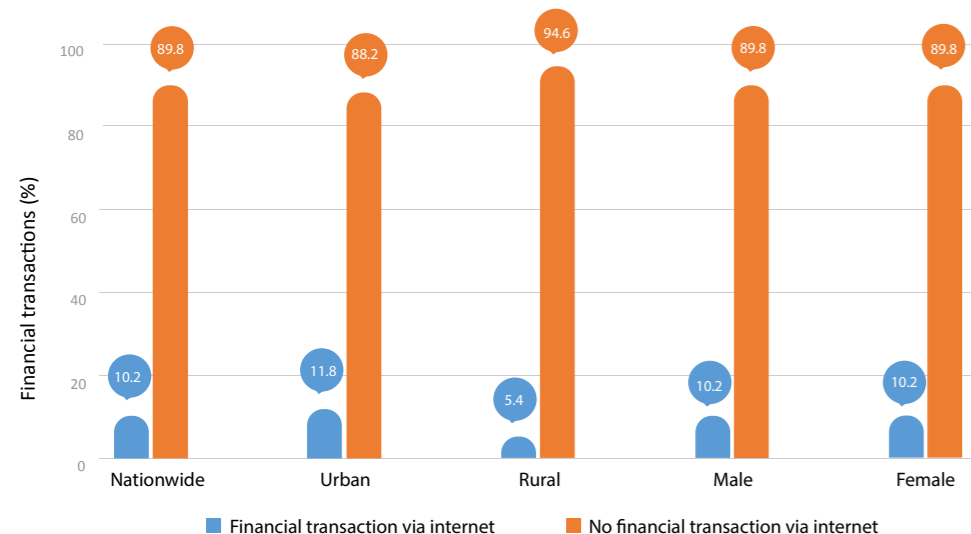
Figure 5.5: Use of the internet in the last three months - Individuals five years and older



5.6 The use of the internet for financial transactions (Individuals five years and older)

Out of the people who used the internet in Ghana, only 10.2% of them used it to transact any form of financial activity (Figure 5.6). Even in the urban areas of the country, the story was no different.

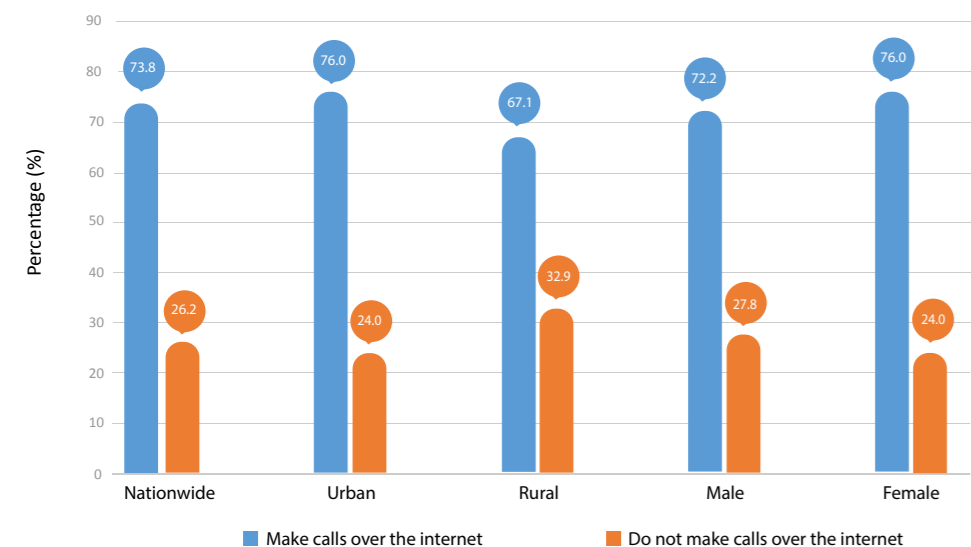
Figure 5.6 : The use of the internet for financial transactions (Individuals five years and older)



5.7 Using the internet to make calls (Individuals five years and older)

The percentage of internet users, who made phone calls via the internet, was 73.8% according to this survey (Figure 5.7). Females (76.0%) made more calls via the internet than their male (72.2%) counterparts and same went for urban (76.0%) dwellers as against rural (67.1%) dwellers.

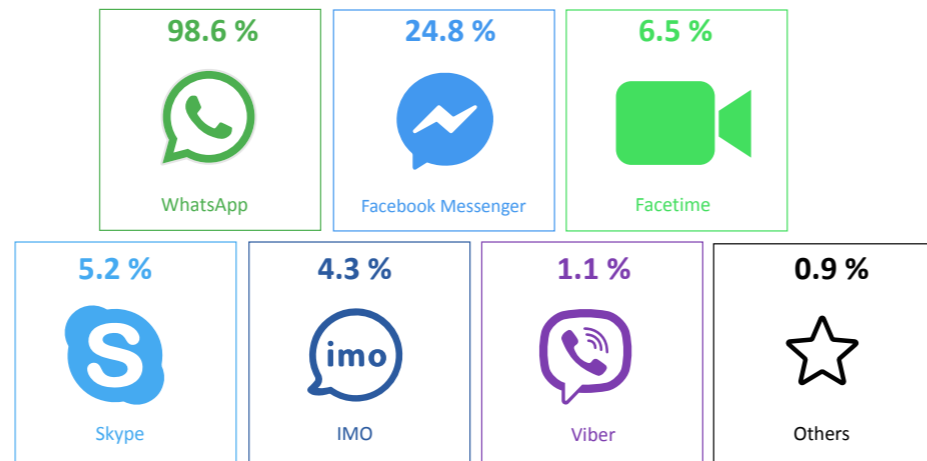
Figure 5.7: Using the internet to make calls – Individuals five years and older



5.8 Applications used to make calls (Individuals five years and older - multiple response)

The survey results as presented in Figure 5.8 showed that WhatsApp (98.6%) was the most preferred application for making calls over the internet, followed by Facebook (Messenger) (24.8%) and Facetime (6.5%).

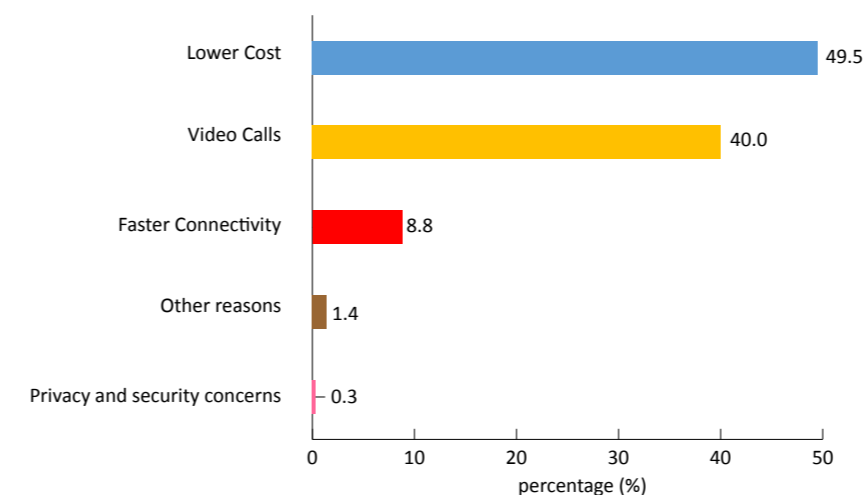
Figure 5.8: Applications used to make calls - Individuals five years and older (Multiple response)



5.9 Reasons for making calls over the internet (Individuals five years and older)

Almost half (49.5%) of individuals who made calls over the internet attributed their use to lower cost (Figure 5.9). Another reason, which ran through, was the opportunity to make video calls (40%) since the regular phone calls were limited in this regard. Other reasons given were captured in Figure 5.9.

Figure 5.9: Reasons for making calls over the internet - Individuals five years and older

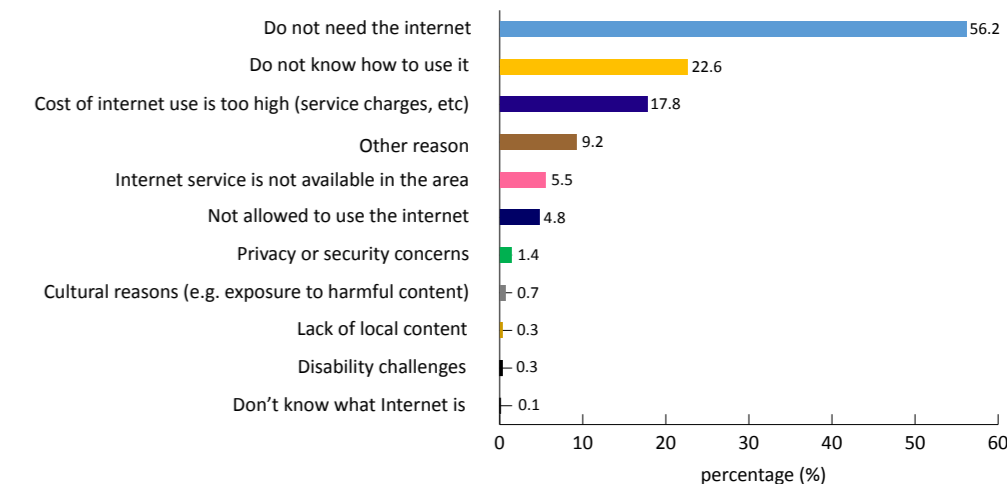


5.10 Reasons for not using the internet (Individuals five years and older - multiple response)

Individuals, who said they did not use the internet, were asked to state why they did not use the internet. As indicated in Figure 5.10 below, 56.2% indicated they do not need it for any activity, 22.6% said they did not know how to use it and 17.8% said it was because of the high cost of using the internet.

Other reasons such as unavailability of internet, not allowed to use the internet, privacy and security concerns, cultural reasons etc were also given. Figure 5.10 gives further details on the reasons given.

Figure 5.10: Reasons for not using the internet - Individuals five years and older (multiple response)

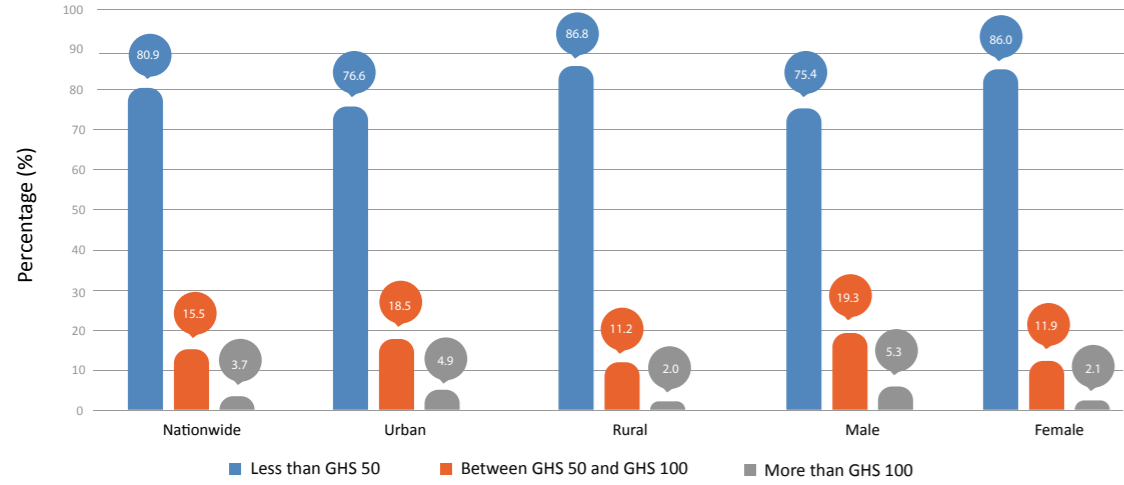


5.11⁴ Average monthly expenditure on telecom products and services (Individuals five years and older)

From this survey, majority of mobile phone users (80.9%) spent less than GHS 50 monthly on voice, SMS and data services with 15.5% spending between GHS 50 and GHS 100. Only 3.7% said they spent more than GHS 100 monthly on telecom services (Figure 5.11). More rural dwellers (86.8%) fell below the GHS 50 monthly expenditure compared to 76.6% from urban communities.

⁴ Bank of Ghana USD/GHS interbank exchange rate for June 2019 was 5.24 GHS per 1USD. Thus the GHS 50 = USD 9.54 and the GHS 100 = USD 19.08.

Figure 5.11: Average Monthly Expenditure on Telecom Products and Services (Individuals five years and older)



SECTION 6:

Mobile money



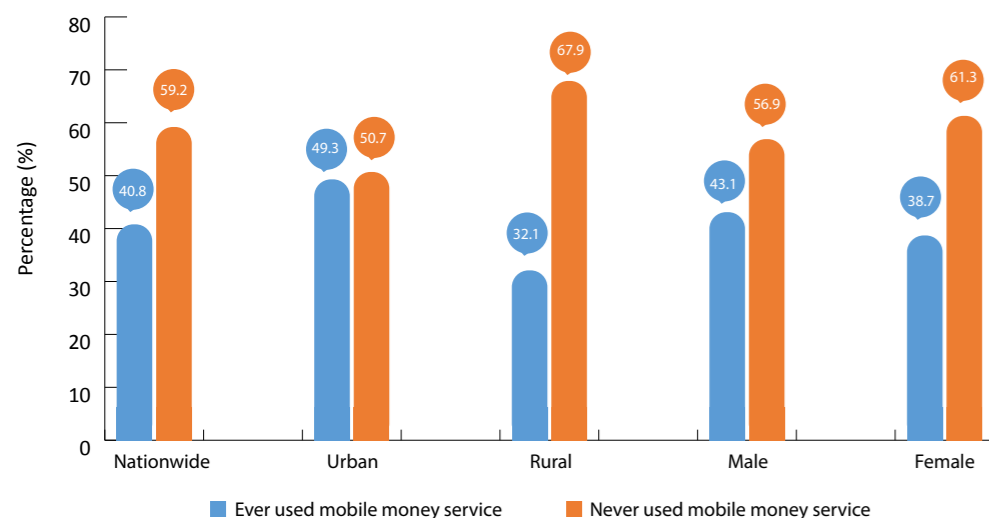
6.0 Introduction

Mobile money is contributing significantly to financial inclusion in Ghana, due to the increasing access and usage of mobile phones. The study sought to estimate the access and usage of mobile money in Ghana among individuals, aged five years and older. This included whether they have ever used mobile money, registered for a mobile money account and transactions they often perform with mobile money. Mobile money fraud is also a major challenge for users so the study enquired from individuals if they have ever experienced mobile money fraud. The mobile money questions in the survey were based on the services provided by MTN, Vodafone and AirtelTigo only.

6.1 Mobile money usage (Individuals five years and older)

At the national level, 40.8% of individuals aged five years and older indicated that they had ever used mobile money and the remaining 59.2% had never used mobile money (Figure 6.1). Amongst the urban population, distribution was 49.3% users as against 50.7% non-users of mobile money. But in the rural communities there was a bigger gap between users and non-users, in that, while 32.1% had used mobile money, a greater percentage of individuals in this category (67.9%) had never used mobile money services.

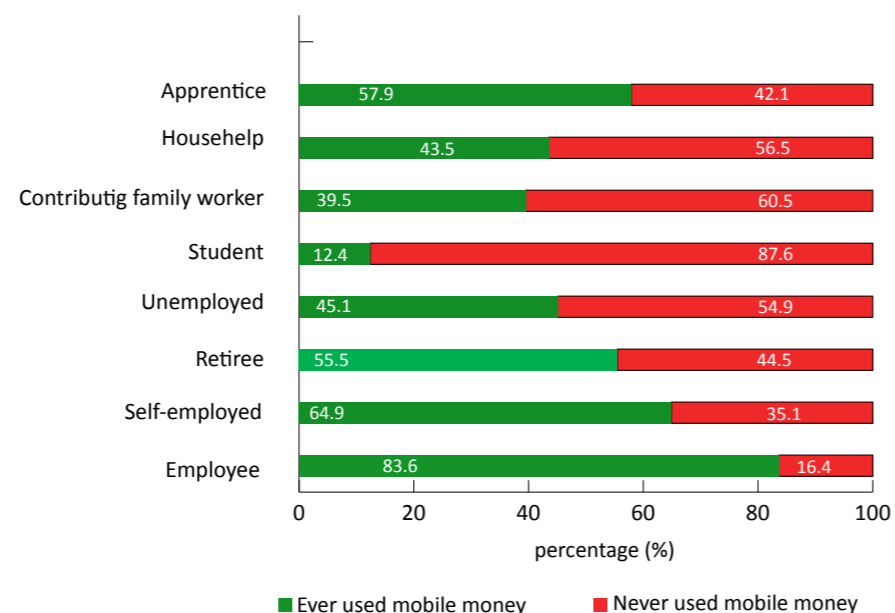
Figure 6.1: Mobile money usage (Individuals five years and older)



6.2 Mobile money usage by employment status (Individuals five years and older)

Employees who had used mobile money services was 83.6% and 12.4% of students had also used mobile money service (Figure 6.2).

Figure 6.2: Mobile money usage by employment status (Individuals five years and older)

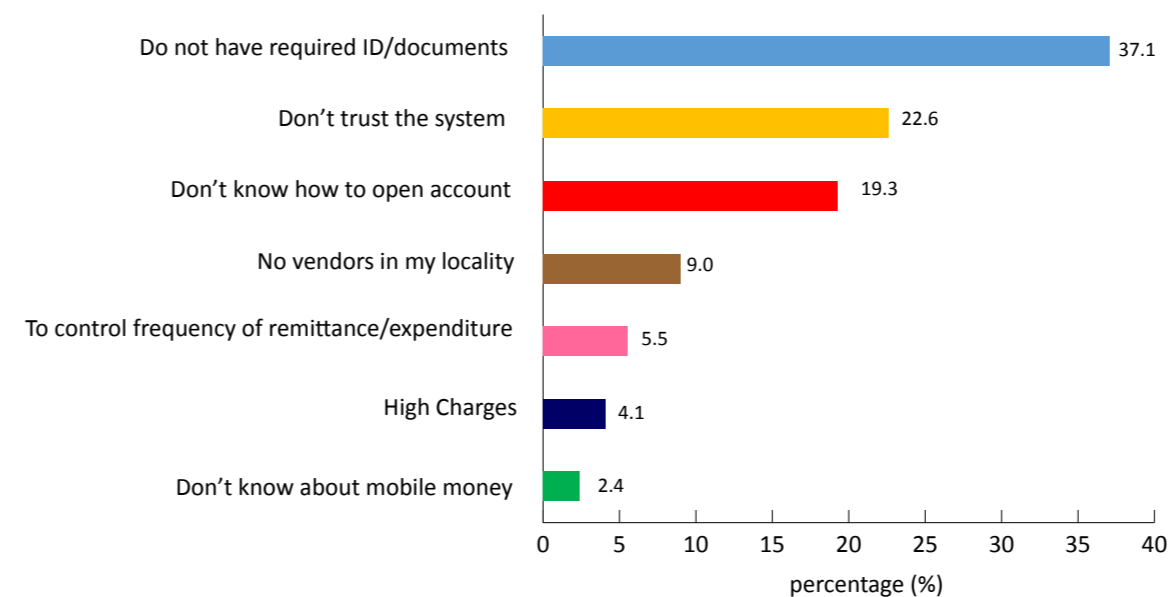


6.3 Reasons for not using mobile money (Individuals five years and older)

This survey went ahead to enquire from individuals the reasons for not using mobile money and the following were the responses given; 37.1% said they did not have the required documents (IDs) to register for the service, 22.6% did not trust the mobile money system and 19.3% did not know how to open a mobile money account (Figure 6.3).

Other reasons that were given included lack of vendors in the locality (9%), as a means of controlling remittances and expenditure (5.5%) cost of transactions (4.1%) and lack of knowledge about mobile money services (2.4%).

Figure 6.3: Reasons for not using mobile money (Individuals five years and older)



SECTION 7: Bundling



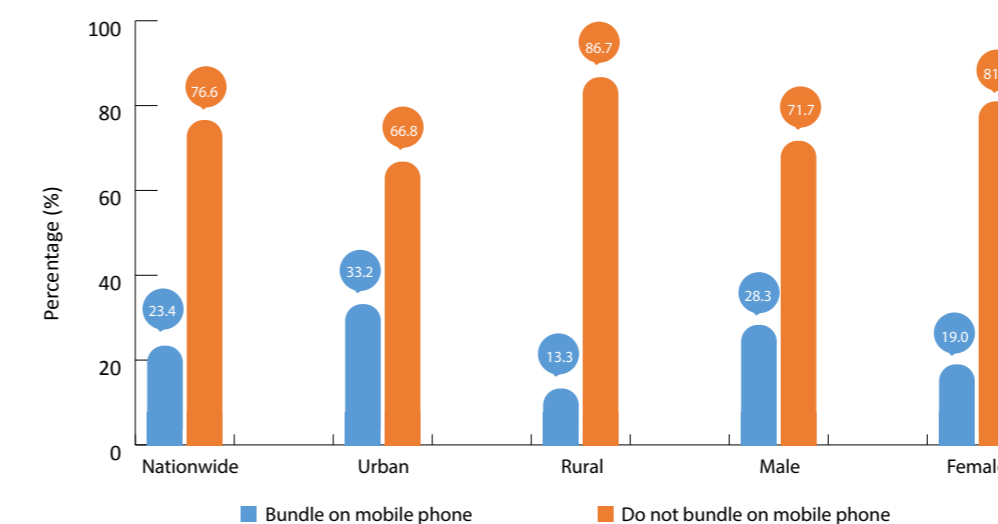
7.0 Introduction⁵

Bundling on voice, short messaging services (SMS) and data on mobile network service as a single product is a service provided in the communications industry in Ghana. In this survey, individual mobile phone users and subscribers were asked if they bundle the products and services and the reasons for bundling. For those who do not bundle, the survey was interested in the reasons they do not bundle. In Ghana, the definition of bundling focuses primarily on Mobile Network Operators' packages of voice, SMS and data as a single product and this is significantly different from the double play, triple play and quadruple play in other markets which combine mobile telecoms services with pay television and fixed network. Again, in Ghana even single products such as data only is marketed as a bundle although it is a departure from the global definition of offering at least two products as a single package.

7.1 Bundling of voice, SMS and data (Individuals five years and older)

At the national level, 23.4% of all mobile phone users, aged 5 years and older, bundled mobile services while the remaining population did not bundle (Figure 7.1). More phone users patronised bundles in urban localities (33.2%) relative to rural localities (13.3%). More males also subscribed to bundles relative to females.

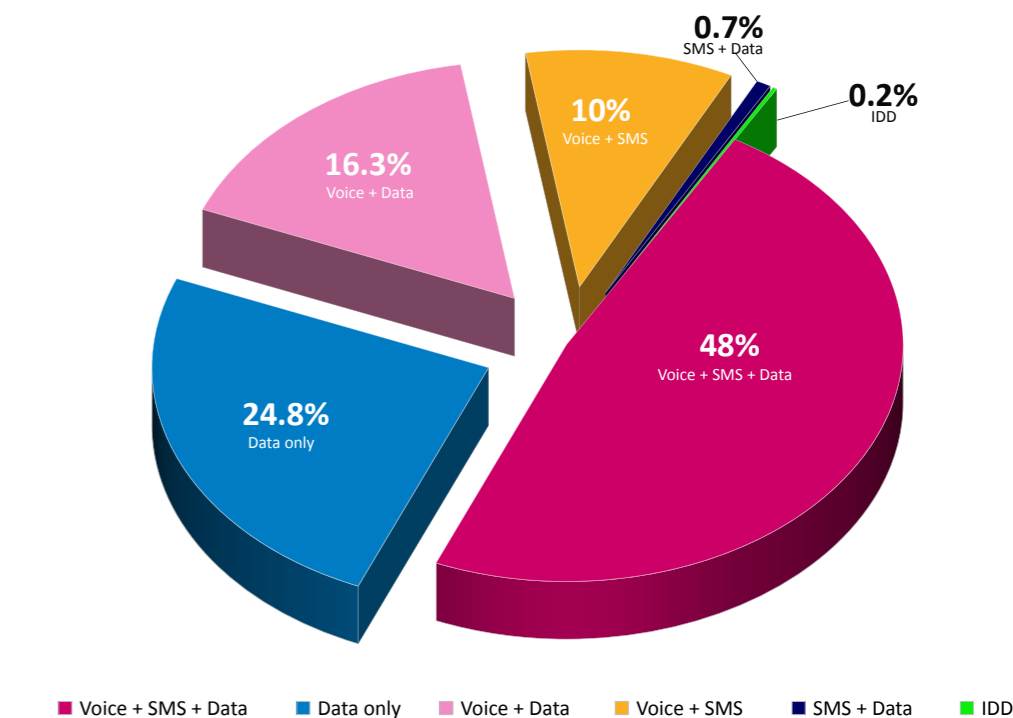
Figure 7.1: Bundling of Voice, SMS and Data (Individuals five years and older)



7.2 Types of bundle often subscribed to (Individuals five years and older)

The most popular bundle that was often purchased was the three-in-one bundle comprising voice, SMS and data with 48.0% choosing that option followed by data only bundle (24.8%); see Figure 7.2.

Figure 7.2: Types of bundle often subscribed to (Individuals five years and older)



⁵ Although bundles are supposed to comprise at least two or more products sold as a single package, due to marketing strategies, the true definition is slightly altered, thereby mobile service providers can offer data only, and still market it as a bundle.

SECTION 8:

Households ownership and use of ICT products and services

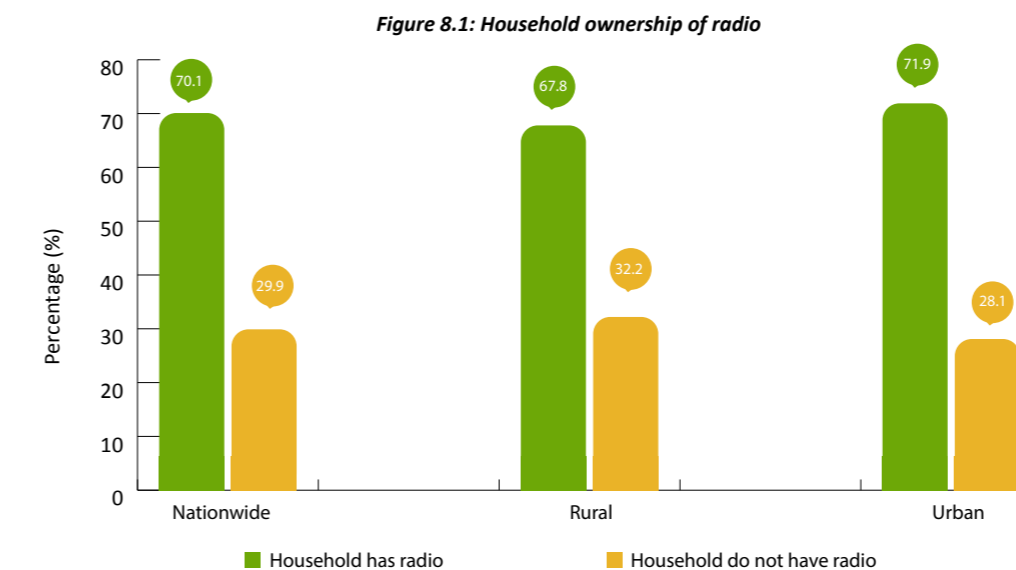


8.0 Introduction

A household consists of a person or a group of persons who live together in the same house or compound, share the same house-keeping arrangements, are catered for as one unit and recognise one member as the head. The head of household or the most knowledgeable member of the household (if the household head is not available) responded to the questionnaire on behalf of the household. The ICT products, services or equipment for the households should be in a good working condition at the time of the interview even if the household is not using the product or service.

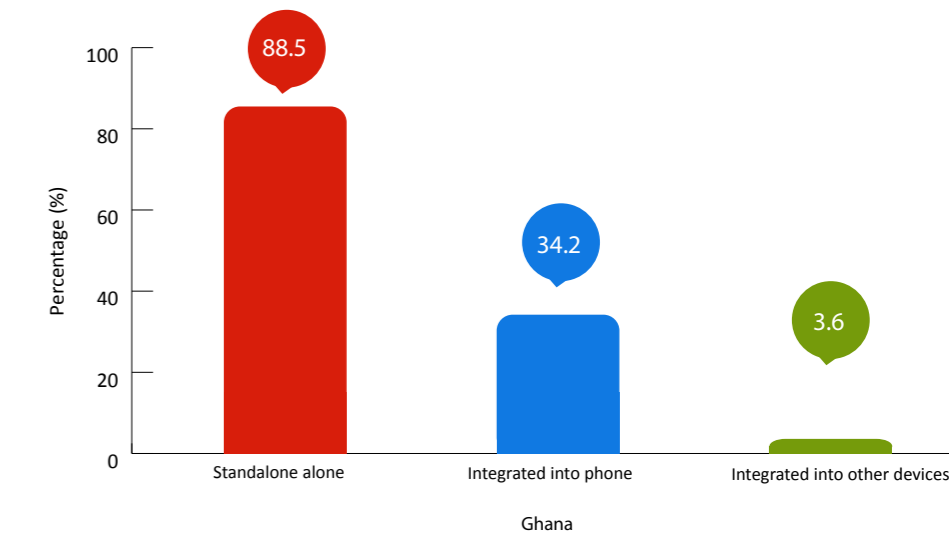
8.1 Households ownership of radio

The survey indicated that 70.1% of households in Ghana owned a radio set (Figure 8.1). In the urban locality, 71.9% of households owned a radio set as against 67.8% ownership of a radio set in the rural locality.



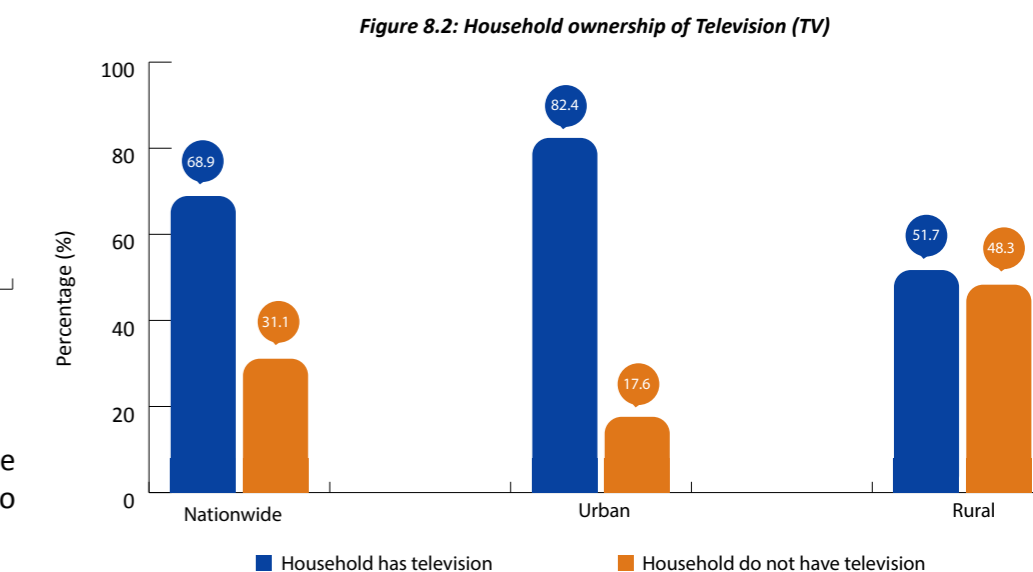
Among the 70.1% of households who owned a radio, 88.5% owned a standalone radio, 34.2% owned a radio integrated into a phone and 3.6% owned a radio integrated into other devices like televisions and vehicles (Figure 8.1.2).

Figure 8.1.2: Types of radio owned by Households



8.2 Households ownership of television (TV)

On average, 68.9% of households in Ghana owned a functional television. More households in the urban areas (82.4%) had a television than in the rural areas (51.7%) (Figure 8.2).



8.3 Households subscription to pay TV

The figure below reveals that 9.2% of those who owned a television have subscribed to a pay TV service and 12.0% of these were in the urban areas while 3.5% were in the rural areas (Figure 8.3).

8.5 Households access to internet⁶

The survey results as presented in Figure 8.5 shows that households in Ghana who had access to internet services was 16.8%. However, access to internet is relatively higher in urban areas (20.0%) as compared to rural localities (12.8%).

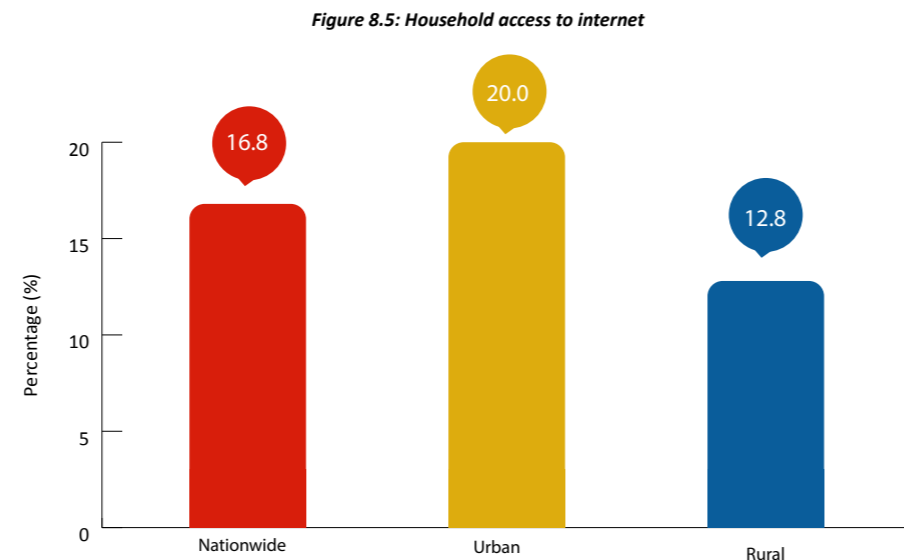
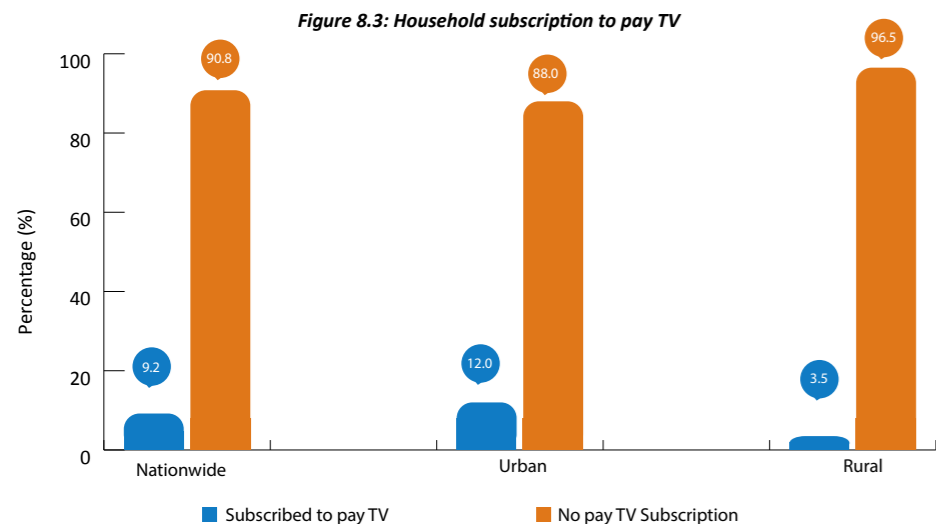
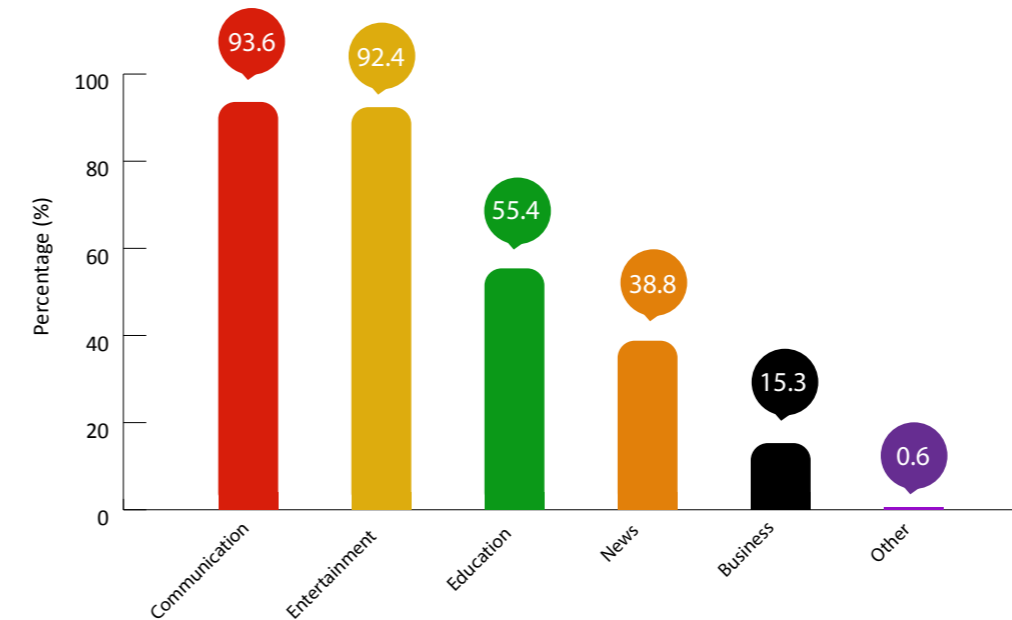


Figure 8.6 : Household internet activities (Multiple response)

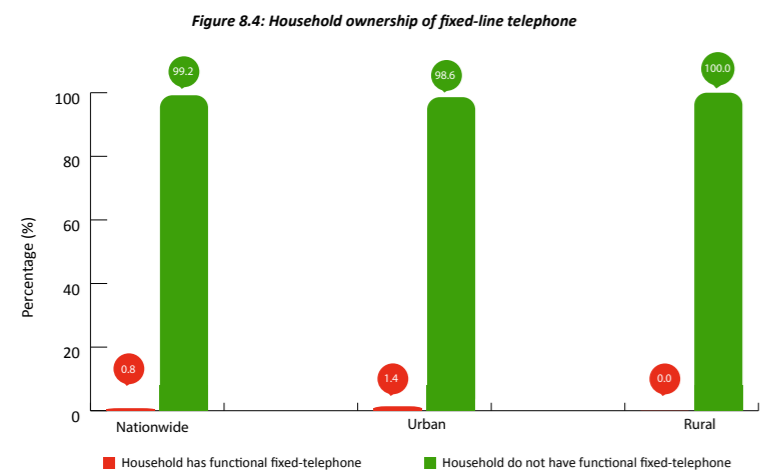


8.4 Households ownership of fixed-telephone

Household ownership of functional fixed-telephone was 0.8% in Ghana. In the urban area, 1.4% household owned a functional fixed-telephone whereas no household in the rural area owned a functional fixed-telephone (Figure 8.4).

8.6 Households internet activities (multiple response)

Households that indicated they had internet access were asked about what activities they often performed using the internet. Figure 8.6 shows that households relied on the internet mostly for communication (93.6%), entertainment (92.4%) and education (55.4%).



⁶ The internet should be available for use by any member of the household at any time (Similar to electricity and water). The internet service can be owned or not by the household and the internet services should be available and in use during the period of the survey

Appendix



National Communications Authority (NCA)

&

Ghana Statistical Service (GSS)



SURVEY ON ICT ACCESS, USAGE, SKILLS AND DIGITAL DIVIDE IN GHANA

2019

HOUSEHOLD QUESTIONNAIRE

IDENTIFICATION	
ADDRESS _____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
LOCALITY NAME _____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
ENUMERATION AREA NUMBER.....	<input type="checkbox"/> <input type="checkbox"/>
STRUCTURE NUMBER.....	
HOUSEHOLD NUMBER.....	<input type="checkbox"/> <input type="checkbox"/>
DISTRICT	<input type="checkbox"/> <input type="checkbox"/>
REGION	<input type="checkbox"/>
URBAN =1 RURAL = 2.....	<input type="checkbox"/> <input type="checkbox"/>
ID OF PERSON INTERVIEWED:	<input type="checkbox"/> <input type="checkbox"/>
NAME OF HOUSEHOLD HEAD	
NAME OF FIRST PRINCIPAL RESPONDENT? _____	

8 DWELLING NOT FOUND	
9 OTHER (SPECIFY) _____	
LANGUAGE OF RESPONDENT <input type="checkbox"/>	LANGUAGE OF INTERVIEW <input type="checkbox"/>
LANGUAGE CODES:	
ENGLISH = 1 AKAN = 2 GA = 3 EWE = 4 NZEMA = 5 DAGBANI = 6 OTHER = 7 (SPECIFY) _____	

INTERVIEWER VISITS				
	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY <input type="checkbox"/> <input type="checkbox"/> MONTH <input type="checkbox"/> <input type="checkbox"/> YEAR <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
INTERVIEWER'S NAME	_____	_____	_____	INT. ID NUMBER <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> SUP. ID NUMBER <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
SUPERVISOR'S NAME	_____	_____	_____	RESULT <input type="checkbox"/>
RESULT	_____	_____	_____	TOTAL NUMBER OF VISITS <input type="checkbox"/>
NEXT VISIT – DATE	_____	_____		TOTAL PERSONS IN HOUSEHOLD <input type="checkbox"/> <input type="checkbox"/>
TIME	_____	_____		TOTAL ELIGIBLE PERSONS 5 YEARS+ <input type="checkbox"/> <input type="checkbox"/>
RESULT CODES:				TOTAL ELIGIBLE PERSONS INTERVIEWED <input type="checkbox"/> <input type="checkbox"/>
1 COMPLETED				
2 NO HOUSEHOLD MEMBER AT HOME OR NO ELIGIBLE RESPONDENT AT HOME AT TIME OF VISIT				
3 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD OF TIME				
4 POSTPONED				
5 REFUSED				
6 DWELLING VACANT OR ADDRESS NOT A DWELLING				
7 DWELLING DESTROYED				

SECTION A: DEMOGRAPHIC INFORMATION

M E M B E R I D	1. Name of Household Member	2. What is NAME's Sex?	3. What is the relationship of NAME to the head of the household?	4. What is NAME date of birth? (DAY, MONTH, YEAR)	5. How old is NAME (Age in completed years)?	6. What is NAME highest educational qualification?	7. Does name have any disability ?	8. What kind of disability does name have?	9. What is NAME labour force status?	10. What is NAME average monthly income? (write amount in GHS)
01		01 - Male 02 - Female	01 - Head 02 - Spouse (Wife/Husband) 03 - Child (Son/ daughter) 04 - Grandchild 05 - Parent/ Parent-in-law 06 - Son/Daughter-in-law 07 - Other relative 08 - Adopted/Foster/step-child 09 - House help (other relative) 10 - House help (Non-relative) 11 - Non-relative 12 - Other (specify)			01- Nursery 02- Kindergarten 03- Primary 04- JSS/JHS 05- Middle 06- SSS/SHS 07- Secondary 08- Voc/technical/commercial 09- Post middle/secondary certificate (teacher training/college of education, agric, nursing, etc) 10- Post-secondary Diploma (University diploma, HND, teacher training/college of education diploma, etc.) 11- Bachelor degree 12- Masters 13- PhD 14- None 15- Other (specify)	01- Yes 02- No (>> Q9)	A- Hearing B- Visual C- Speech D- Cognitive E- Physical F- Other (Specify)	01- Employee 02- Self-employed 03- Retiree 04- Unemployed >> section B 05- Student >> Section B 06- Househelp 07- Other (Specify) [HH MEMBERS AGED 5 YEARS AND OLDER ONLY]	[HH MEMBERS AGED 5 YEARS AND OLDER ONLY]
02										
03										

SECTION B: INDIVIDUAL OWNERSHIP OF MOBILE PHONES & SIM CARD (AGE 5 YEARS AND OLDER)

M E M B E R I D	ID OF PERSON INTERVIEWED	1. Does NAME currently own any FUNCTIONING mobile phone(s)? (ONLY FUNCTIONAL PHONES AT THE TIME OF SURVEY)	2. How many FUNCTIONING mobile phone(s) does NAME currently own? (ONLY FUNCTIONAL PHONES AT THE TIME OF SURVEY)	3. Does [NAME] own the mobile phone(s) exclusively or jointly with someone else? 01- Exclusively (>>15) 02- Jointly	4. Who jointly owns the mobile phone(s) with [NAME]? That is, what is their relationship to [NAME]? [MULTIPLE OPTIONS ALLOWED]	5. What type of mobile phone(s) does NAME own? [MULTIPLE OPTIONS ALLOWED]
01		01- Yes 02- No (>>6)	01- One 02- Two 03- Three 04- Four or more 98- Don't know		A- Spouse B- Child C- Sibling D- Parent E- Grand parent F- Grand child G- Other male relative H- Other female relative I- Non relative – male J- Non relative - female	A- Basic phone B- Feature phone C- Smartphone >> 7
02						
03						

M E M B E R I D	ID OF PERSON INTERVIEWED	6.	7.	8.
		What is the main reason (NAME) does not own a mobile phone?	Does [NAME] currently own any active Subscriber Identification Module (SIM) card(s)?	How many active Subscriber Identification Module (SIM) card(s) does [NAME] own?
		01- Phone is too expensive 02- Maintenance too costly 03- Phone calls/texts are too expensive 04- No mobile network coverage in my area 05- No need to use a mobile phone 06- Don't know how to use a mobile phone 07- Due to disability 08- Not allowed to use phone 09- No specific reason 10- Other (specify)	01- Yes 02- No (>> Section C) 98- Don't Know	01- One 02- Two 03- Three 04- Four or more 98- Don't know
01				
02				
03				

SECTION C: USAGE OF MOBILE PHONE & SIM CARDS

M E M B E R I D	1.	2.	3.	4.	5.	6.
	Has NAME used a mobile phone in the last three months?	Does [NAME] use the mobile phone for business use, personal use, or a combination of both?	Which of these activities does (NAME) usually use the mobile phone to perform?	Does [NAME] sometimes switch off or put mobile phone on silence?	For which of the following activities would [NAME] usually have the mobile phone switched off or put on silence?	Does anyone other than [NAME] use the SIM or mobile phone device with the owner?
	01- Yes 02- No > 14	01 – Business use 02 – Personal use 03 – Both Business & Personal Use 98- Don't Know	[MULTIPLE OPTIONS ALLOWED] A- Make/ receive calls B- Send/receive SMS/MMS C- Make a financial transaction D- Browse the internet E- Take pictures/ videos F- Listening to radio G- Other, specify	01- Yes 02- No (>>6) 98- Don't Know	[MULTIPLE OPTIONS ALLOWED] A- Sleeping B- Driving C- At work D- Religious service E- Lectures/School F- Other, specify 98- Don't Know 99- Not Applicable	[MULTIPLE OPTIONS ALLOWED] A- No-one B- Spouse C- Child D- Sibling E- Parent F- Grand parent G- Grand child H- Other male relative I- Other female relative J- Non relative – male K- Non relative - female 98 – Don't Know 99- Not Applicable
01						
02						
03						

M E M B E R I D	7. What type of payment does NAME have for the main SIM card currently?	8. Has NAME registered his/her SIM card?	9. Whose details did NAME use to register the SIM card?	10. How many mobile network operators (MNOs) is NAME subscribed to/registered for telecom services?	11. Which mobile network operators (MNOs) has (NAME) subscribed to/registered with currently for telecom services? [MULTIPLE OPTIONS ALLOWED] A- MTN B- Vodafone C- AirtelTigo D- Glo	12. How much does (NAME) spend on average per month on mobile phones services (voice, data and text)? [write amount in GHS]
01	01- Prepaid 02- Post-paid 98 - Don't know	01- Yes 02- No (>> 10)	01- Owner 02- Relative 03- Friend 04- Pre-registered 05- Employer 06- Other (specify)	01- One 02- Two 03- Three 04- Four		
02						
03						

M E M B E R I D	13. How often does (NAME) typically use the mobile telephone?	14. What is the main reason (NAME) does not use mobile phone?	15. If NAME needs to access a mobile phone, can name readily access a mobile phone for any telecom services, when necessary?	16. Whose mobile phone is NAME most likely to use if NAME needs to use a phone?	17. If the phone belongs to someone else, does (NAME) have to pay to use the phone?
01	01- At least once a day 02- At least once a week but not everyday 03- Less than once a week	01- Phone is too expensive 02- No place to access a phone 03- Phone calls/texts/data are too expensive 04- No mobile coverage in my area 05- No need to use a mobile phone 06- Don't know how to use a mobile phone 07- Health Reasons 08- Disability challenge 09- No Electricity 10- Other (specify)	01- Yes 02 - No (>> Section D)	01- Relative (household member) 02- Relative (Non-Household Member) 03- Non-Relative 04- Friend 05- Workplace 06- Neighbour 07- Public pay phone >> Section D 08- None 09- Other (Specify)	01- Yes 02- No
	>> Section D				
01					
02					
03					

SECTION D: COMPUTER AND INTERNET ACCESS AND USAGE

M E M B E R I D	1. Does (NAME) own a functioning computer (desktop, laptop, tablet)?	2. Has (NAME) used a computer (desktop, laptop, tablet) from any location in the last three months?	3. Which of the following computer-related activities has (NAME) carried out in the last three months? [MULTIPLE OPTIONS ALLOWED]	4. Does [NAME] know what is internet?	5. Has (NAME) used the internet in the past three months from any location?
01	[MULTIPLE OPTIONS ALLOWED] A- Yes Laptop B- Yes Desktop C- Yes Tablet D- No	01- Yes 02- No (>> 4)	A- Copying or moving a file or folder B- Using copy and paste tools to duplicate or move information within a document C- Sending e-mails with attached files D- Using basic arithmetic formulas in a spreadsheet E- Connecting and installing new device F- Finding, downloading, installing and configuring software G- Creating electronic presentations with presentation software H- Transferring files between a computer and other devices I- Writing a computer program using a specialized programming language J- None K- Other [Specify]	01- Yes 02- No (>> Section E)	01- Yes 02- No (>> 18)
02					
03					

M E M B E R I D	6. What device did (NAME) use to access the internet mostly, within the last 3 months?	7. Where did (NAME) often use the Internet in the last 3 months?	8. What is the Main challenge for (NAME) in getting internet access?	9. Which telecom service provider(s) has (NAME) subscribed to for internet services currently?	10. Has NAME subscribed to 4G internet services from any service provider?
01	[MULTIPLE OPTIONS ALLOWED] A- Mobile phone B- Tablet C- Laptop D- Notebook/netbook E- Desktop computer F- Other (please specify)	[MULTIPLE OPTIONS ALLOWED] A- Home B- Work C- Place of Education D- Another person's home E- Facility open to the public (Of which: Community Internet access facility) F- Commercial Internet access facility G- While commuting, in transport or walking	01- Cost of device 02- Finding network access 03- Cost of service 04- Lack of access to a device 05- Lack of skill to use internet 06- Security or privacy concerns 07- Cultural concerns 08- Disability 09- Not allowed to use the internet 10- None 11- Other (specify)	[MULTIPLE OPTIONS ALLOWED] A- MTN B- Vodafone C- AirtelTigo D- Glo E- Surfline F- Busy G- None H- Others (specify)	01- Yes 02- No
02					
03					

M E M B E R R I D	11. What activities does NAME often do on the internet?	12. How much does [NAME] spend on average per month on internet services? (GHC)	13. Has NAME bought or sold any product or service from any location via the internet in the past three months?
	[MULTIPLE OPTIONS ALLOWED] A- Access information B- Communication and collaboration C- Electronic commerce, trade and transactions D- Learning E- Professional life F- Digital content consumption G- Digital content creation H- Entertainment I- Others (specify)	WRITE THE AMOUNT IN GHS	01- Yes 02- No 98- Don't know
01			
02			
03			

M E M B E R R I D	14. Does NAME make calls over the internet?	15. Which of the applications does NAME mostly use to make calls over the internet?	16. What is the MAIN reason why NAME make calls over the internet?	17. Which of the following messaging applications does NAME often use?	18. Why does (NAME) not use the internet?
	01- Yes 02- No (>> 17)	[MULTIPLE OPTIONS ALLOWED] A- Skype B- WhatsApp C- Viber D- IMO E- Facetime F- Facebook (Messenger) G- Others, specify	01- Lower cost 02- Faster connectivity 03- Video Calls 04- Privacy of Security concerns 05- Others, specify:	[MULTIPLE OPTIONS ALLOWED] A- Whatsapp B- Facebook (Messenger) C- Instagram D- I-message E- Snapchat F- Twitter G- Skype H- Viber I- IMO J- Other (Specify)	[MULTIPLE OPTIONS ALLOWED] A- Do not need the Internet B- Do not know how to use it C- Cost of Internet use is too high (service charges, etc.) D- Privacy or security concerns E- Internet service is not available in the area F- Cultural reasons (e.g. exposure to harmful content) G- Don't know what Internet is H- Not allowed to use the Internet I- Lack of local content J- Disability challenges K- Other reason
01				>> Section E	
02					
03					

SECTION E: MOBILE MONEY

M E M B E R I D	1. Has NAME ever used mobile money service for any financial activity? 01- Yes 02- No (>> 6)	2. Does NAME have a registered account (account registered in your name) with any mobile money service? 01- Yes (>> 4) 02- No	3. What is the main reason NAME has not registered for mobile money services? 01- To control frequency of remittance/expenditure 02- Don't know about mobile money 03- Do not have required ID/documents 04- High Charges 05- Don't trust the system/Fraud 06- No mobile money agents in my locality 07- Others (specify):
01			
02			
03			

M E M B E R I D	4. What is the main challenge NAME face in using mobile money? 01- High charges 02- Poor network 03- Wrong transactions 04- Fraud 05- None 06- Other (Specify):	5. What transactions does NAME usually use a mobile money account to do? [MULTIPLE OPTIONS ALLOWED] A- Deposit B- Send money C- Withdraw/ receive money D- Buy airtime top-up E- Pay utility bills F- Pay merchandise good/services G- Education fees H- Health fees I- Transportation J- Others, specify	6. Has NAME ever experienced a mobile money fraud or an attempted fraud? 01- Yes 02- No
01			
02			
03			

SECTION F: BUNDLING OF TELECOMS SERVICES

M E M B E R I D	1. Does NAME bundle telecom services on the mobile phone?	2. Which of the following mobile packages does NAME MOSTLY bundle?	3. What is the validity period of the mobile bundle NAME MOST OFTEN buy?	4. How much does NAME averagely spend on a bundle? (REFER TO CHOICE OF VALIDITY PERIOD) GHS.....	5. Does NAME purchase the following products and services as a single bundle? 01- Mobile + TV + Fixed Broadband 02- Fixed broadband + TV 03- Mobile + TV 04- Mobile + Fixed 05- None If Q1 = Yes >> 7	6. What is the main reason why NAME does not bundle for telecoms services and products? 01- Not interested 02- Don't trust the system 03- Expensive 04- Other (specify)	7. How would NAME rate the overall quality of experience for telecoms services? 01 - Very poor 02 - Poor 03 - Neutral 04 - Good 05 - Very good
01							
02							
03							

SECTION G: HOUSEHOLD ACCESS TO ICT PRODUCTS AND SERVICES

R E S P O N D E N T I D	1. Does this household have a radio? 01- Yes 02- No >> 2	1a. IS it a standalone radio or integrated into other device such as phone, vehicle etc A- Standalone radio B- Integrated into phone C- Integrated into vehicle D- Other (Specify)	2. Does this household have a television? 01- Yes (>>5) 02- No (>>5)	3. Does this household have any of the following multichannel television services? [MULTIPLE OPTIONS ALLOWED] E- Cable TV (CATV) F- Direct-to-home (DTH) satellite services e.g DSTV G- Digital Terrestrial TV (DTT) e.g GTV H- Internet-protocol TV (IPTV) I- Other specify	3a. Does This household have access to set-up box for Digital terrestrial Television (DTT) 01 – Yes 02 – No	4. Has this household subscribed to any pay television service provider? 01 – Yes 02 – No	5. Does this household have a functional fixed telephone line? [THE EQUIPMENT SHOULD BE IN WORKING CONDITION AT THE TIME OF THE SURVEY]. 01- Yes 02- No (>> 7)	6. Which telecom company provides fixed telephone services for this household? 01- Vodafone 02- AirtelTigo 03- MTN 04- Other specify	7. Does this household have access to electricity? 01 – Yes 02 – No

R E S P O N D E N T I D	8. Does your household have Internet access?	9. What type(s) of Internet service(s) have your household subscribed?	10. Has this household subscribed to 4G/Long Term Evolution (LTE) from any of the service providers?	11. Which service provider has this household subscribed to for internet services?	12. How much does the household spend on average per month on internet services?
	01- Yes 02- No (>> 14)	[MULTIPLE OPTIONS ALLOWED] A- Fixed (wired) narrowband network, at advertised download speeds below 256 Kbit/s B- Fixed (wired) broadband network, at advertised download speeds of at least 256 Kbit/s C- Terrestrial fixed (wireless) broadband network, at advertised download speeds of at least 256 Kbit/s D- Mobile broadband network (at least 3G, e.g. UMTS) via a card E- Mobile broadband network via a handset F- Satellite broadband network	01- Yes 02- No	[MULTIPLE OPTIONS ALLOWED] A- MTN B- Vodafone C- AirtelTigo D- Surfline E- Busy F- BBH G- Glo H- Other (specify)	(Amount in GHS)

R E S P O N D E N T I D	13. What activities does the household often use the internet to do?	14. Why does this household not have Internet access?	15. Does this household have a functional computer (desktop, laptop, tablet)?	16. What is the average monthly income for this household?
	A- Education B- Entertainment C- Communication D- News E- Business F- Other (Specify) <div style="border: 1px solid green; padding: 2px; display: inline-block;">>> 15</div>	[MULTIPLE OPTIONS ALLOWED] G- Do not need the Internet H- Have access to the Internet elsewhere I- Lack of skills to use the Internet J- Cost of the equipment is too high K- Cost of the service is too high L- Privacy or security concerns M- Internet service is not available in the area N- Poor network O- Cultural reasons	[MULTIPLE OPTIONS ALLOWED] A- Yes Desktop B- Yes Laptop C- Yes Tablet D- No	(WRITE AMOUNT IN GHS)

R E S P O N D E N T I D	17. How much does your household spend on average in a month on the following items	
	ITEM	AMOUNT (GHS)
	Mobile phones and accessories	
	Pay Television Subscription	
	Information processing equipment	
	Photographic and cinematographic equipment (including cctv)	

<<<END >>>