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STUDY OF THE DIGITAL DIVIDE IN GHANA:
ANALYSIS AND RECOMMENDATIONS

Report for the
Ghana Ministry of Communications and
Ghana Investment Fund for Electronic Communications
(GIFEC)

October 2013

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The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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1. Introduction

This report has been prepared on behalf of the Ghana Ministry of Communications and Ghana Investment Fund for Electronic Communications (GIFEC) by the USAID Global Broadband and Innovations (GBI) program, as part of GBI's initiative to provide technical assistance relating to the development and implementation of Universal Service and Access Funds, such as GIFEC.

This technical assistance project was undertaken pursuant to an agreement between GBI and the Ministry for purposes of conducting a Digital Divide Study in Ghana. This report presents GBI's analysis, findings, and recommendations regarding this study, as documented in the sections that follow. In particular, the report addresses:

- The background, objectives, and methods of the study;
- Analysis of the study findings; and
- Conclusions and policy recommendations arising from the study.

The GBI team appreciates the opportunity to work with the Ministry and GIFEC on this important and ground-breaking project. We are confident that the outcomes of this research and analysis will provide valuable insights for further accelerating development of the communications sector in Ghana.

This report was prepared by GBI consultants David N. Townsend, Eric White, and Kojo Boayke.

2. Project Background, Objectives, Methods

This section summarizes the background, objectives, and methods of the Digital Divide study. Greater detail is provided in the study report developed by ISSER, on which this report is based.

2.1 Background

Ghana has historically been among the leading African countries in terms of telecommunications sector growth and policy. At over 100 cell users per 100 population, Ghana boasts one of the highest cellular penetration rates in the region. However, the country's progress in Internet and broadband development has been far slower, with only 14% Internet penetration as of 2011, less than half that of Nigeria or Kenya.

The Ghana Investment Fund for Electronic Communications (GIFEC) is among the most well established USAFs in Africa. It was launched in 2005 (and "strengthened" by new legislation in 2008), and has financed a wide range of projects, from new cell towers to Community Information Centers and school computers in rural areas, to electronic "fish-finders" for fishermen. Nevertheless, GIFEC's activities and spending patterns have been inconsistent, and the Fund has been recently revising its strategic focus, including a considerable emphasis on new demand-side and broadband-oriented programs.

In this context, the Ministry of Communications in 2012 approached USAID's GBI program to assist in its analysis of the slow development of Internet and broadband in Ghana, and the assessment of policy options, including GIFEC initiatives, to address this challenge. As a result, GBI agreed to work with GIFEC and the Ministry to support a comprehensive Broadband ICT market study and policy analysis. The study proposed to collect a wide range of primary data on ICT demand and utilization in Ghana, with particular attention to Internet and broadband markets. The core activity was a major consumer survey, supported by review of secondary data sources.

2.2 Study Objectives

The main objective of the study was to identify barriers to ICT growth in Ghana, and ultimately to propose policy responses. This issue has been approached most often from the supply side: where communications networks and Internet access have not been built, people obviously cannot make use of such services. However, as network coverage (especially cellular mobile networks) have become more ubiquitous, and as the quality of data connections over such networks has continued to improve, combined with expanding fixed Internet services, the gap in supply of Internet services is declining. At the same time, as mentioned above, the demand response to availability of Internet services has not come close to keeping track with available supply. Therefore, the focus of this study has been to highlight demand-side barriers or constraints to Internet and broadband take-up.

In this regard, the study sought to address the following questions:

- What factors account for the Digital Divide in Internet and Broadband usage in Ghana?
- How do different segments of the population perceive and respond to Internet and Broadband services?
- What constraints or barriers are most responsible for slow Internet demand growth among various segments of society?
- What near-term policy initiatives should GIFEC consider to help increase Internet and Broadband penetration, consistent with its mission and market analysis?

2.3 Study Methods

The study was undertaken primarily through the implementation of a national household survey, conducted by the Institute of Statistical, Social and Economic Research (ISSER) of the University of Ghana, under direct contract with the Ministry of Communications. The initial draft survey instrument was prepared by GBI consultants, along with the study framework, and other data inputs objectives. The ISSER team modified the questionnaire and developed the survey design and methodology, and conducted the survey interviews.

As summarized in the ISSER report, the study survey was based on a nationwide set of 6,014 interviews within 20 designated strata (defined by region and regional capital levels), with the primary sampling unit defined at the district level from the 2010 Population and Housing Census (Ghana Statistical Service 2013). Interviews were conducted within 30 districts out of the 170 districts from the ten national regions. The survey fieldwork was conducted during February and March 2013. ISSER then produced a set of reports on the survey data and findings, which GBI experts reviewed and critiqued, while some additional secondary data were obtained through the Ministry and the National Communications Authority. The study ultimately produced a set of important and useful results and findings regarding the status of Internet demand in Ghana. The data were disaggregated by geographic area, age, gender, and other metrics, and help to show some of the key differences between various types of Internet users and non-users in the country.

The following sections of this report highlight the most important and interesting findings of the study, and provide conclusions and policy recommendations arising from analysis of these findings.

3. Analysis of Key Study Findings

The study has collected a wealth of information that helps illuminate the status of Internet use and communications markets throughout Ghana. It will be important for the Government as well as the private sector and others to explore and build upon this research extensively in support of a range of policy initiatives. For this report, there are four main questions to examine:

- Who are the Internet Users in Ghana?
- What are the main characteristics of Non-Internet Users?
- What are the main reasons why people don't use the Internet?
- What will it take to increase Internet demand and use, among both Non-Users and Users?

The following sections address these questions, based upon the survey data.

3.1 Portrait of Internet Users in Ghana

The survey, together with some other data on ICTs and Internet in Ghana, helps provide the first in-depth picture of the characteristics of those Ghanaian citizens who use the Internet.

The survey for this study found that approximately 14.2% of Ghana's population are Internet users, to one degree or another. But the study goes on to determine a wide variety of details concerning these users, which help to define key distinctions among the nature, purpose, and other features of Internet demand in Ghana. Based on the survey results, we can describe the "typical" Internet user in Ghana as follows:

- Male
- 32 years old
- Professional or Government worker
- Lives in Accra
- Has a university education
- Uses mobile phone and 3G network to access the Internet
- Principally uses Facebook, e-mail, and accesses on-line news sites

Of course this is just a generalization from the most prevalent traits of those who were reported as Internet users. The following points summarize some of the more detailed characteristics of those users.

➤ Internet Penetration throughout Ghana

As a starting point, there is the basic question of overall Internet “penetration” in Ghana: i.e., what proportion of the population can currently be classified as “Internet users”? This is itself a very complicated question, with differing answers from different sources. As mentioned, the survey identified that 14.2% of Ghanaians use the Internet. This finding is very consistent with the most recent data reported by the International Telecommunication Union, which indicate that 14.11% of Ghana’s population used the Internet, as of 2011. On the other hand, the most recent Ghana National Census, measuring data for 2010, found the percentage of Ghanaians (over age 12) “using Internet facility” was 7.9%.

For purposes of this analysis, we are working with the survey results, which provide considerable detail on Internet use, beyond the top-level penetration figures. For example, it provides a breakdown of penetration rates by geographic regions:

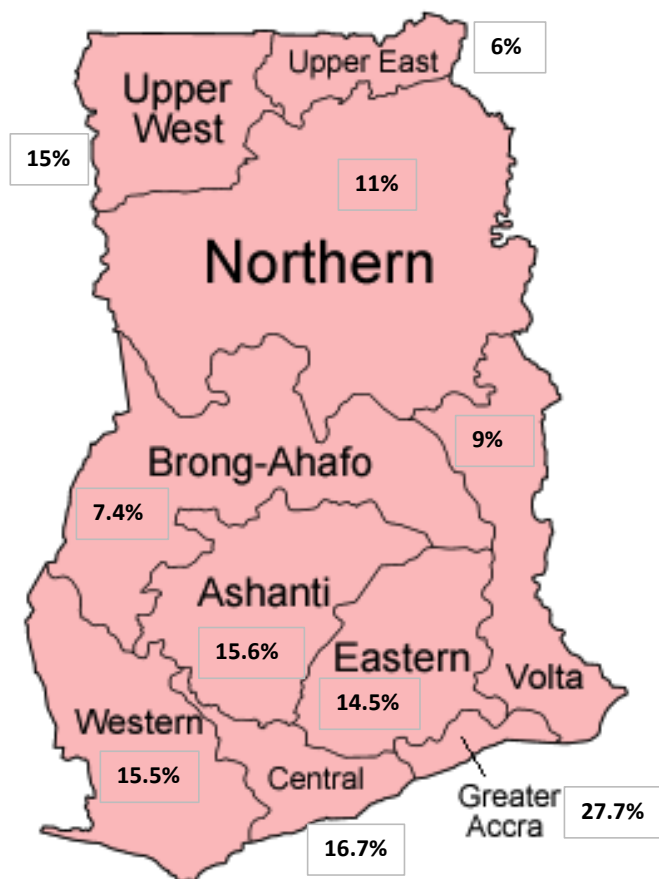


Figure 1: Internet Penetration in Ghana by Region

Note that levels of Internet use are relatively similar to the national average in most parts of the country. The main exceptions are Greater Accra, which has nearly 28% penetration, and the lower-end regions of Volta, Brong-Ahafo, and the Upper Eastern region, where Internet use levels are only 6% to 9%.

➤ Internet services represent a small fraction of the Ghana communications market

According to data provided by NCA, data services generated 166-million cedis in revenue for Ghana mobile operators in 2012. By contrast, voice services generated 1,828-million cedis in revenue, or more than ten times the operators' data service income. This contrast not only demonstrates the low level of Internet/data service development in the country, but helps explain the disparity in operators' focus on the two service segments.

➤ Most Internet Users mainly access “basic” service via their mobile phones

The study classifies Internet Users according to the “quality” of the Internet connections that they most often utilize. These are classified as Premium, Fast, Reliable, and general Internet (or Basic) service. About half of users only connect to Basic level quality service:

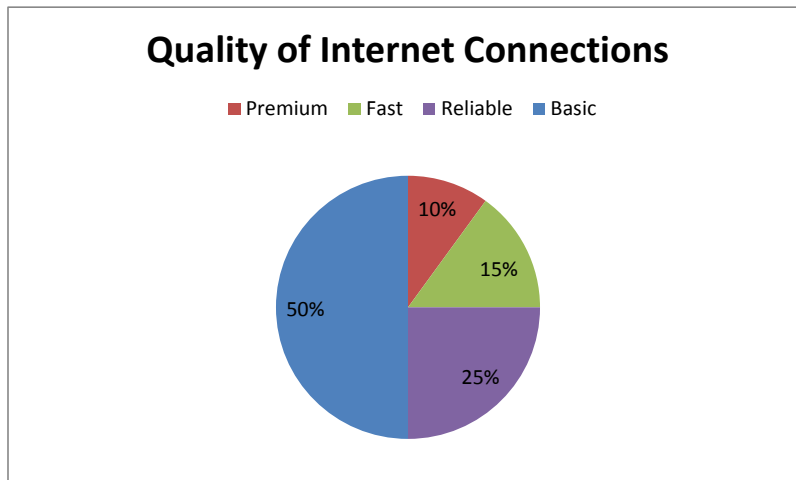


Figure 2: Quality of Internet Connections

In addition, users were asked about the types of devices that they use when they access the Internet. Not surprisingly, by far the most common device is a mobile phone with a data connection:

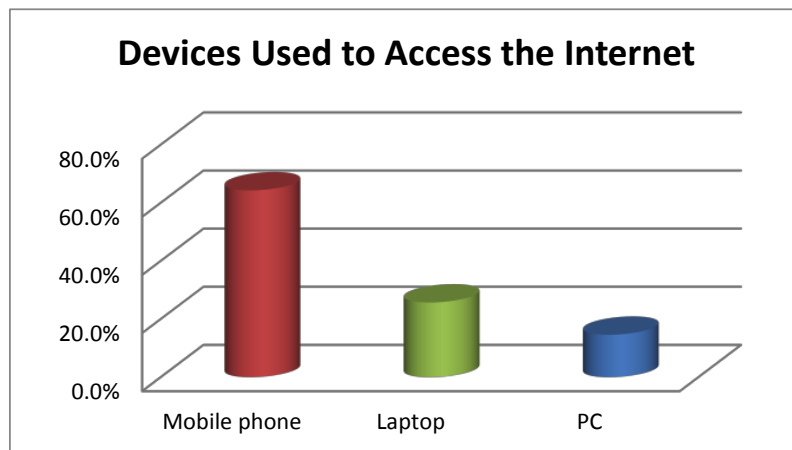


Figure 3: Devices Used to Access the Internet

Naturally, some users have multiple devices, but the mobile phone is clearly the most dominant option. Only very few users reported using either tablets or Internet-connected television sets. Among mobile users, the survey also found that 57% of Internet use is via lower-speed GPRS or EDGE network connections, while 43% connect over higher quality 3G services.

➤ Internet Users live mainly in Urban and Peri-Urban areas

The locations where people live correlate closely with whether they use the Internet or not. From the data, penetration in urban areas is about 25% nationally, even in the Northern regions, while peri-urban and especially rural penetration rates are much lower, particularly in the North:

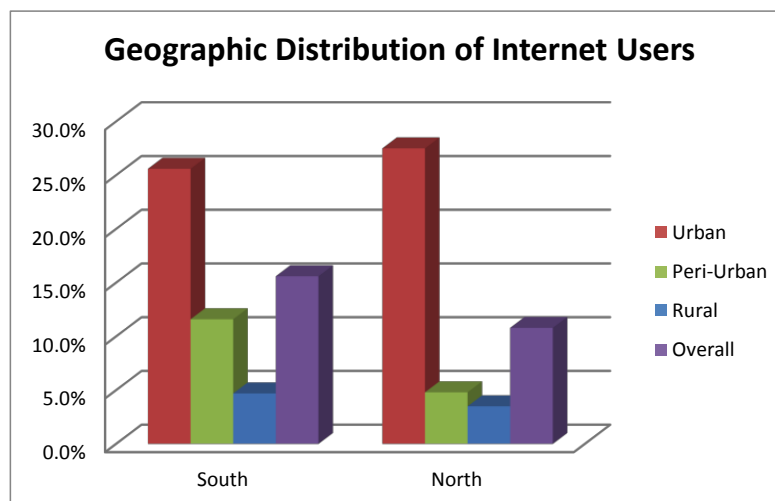


Figure 4: Geographic Distribution of Internet Users

The higher urban Internet usage figures undoubtedly reflect a better network coverage and service quality in those areas, as well as higher incomes and education levels among urban citizens.

➤ Internet Users are young, and disproportionately male

The study reports that the median age of all Internet Users in Ghana is 31.5 years old. Clearly, a large proportion of users are in their twenties or teens, the generation that is growing up with these technologies, and where demand growth is most likely to accelerate.

Concerning the gender of Internet Users, there is a wide divide:

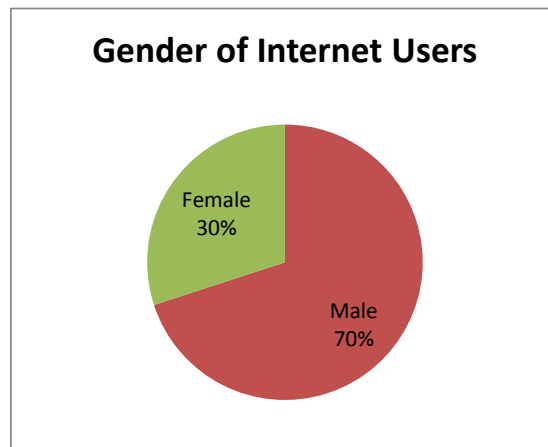


Figure 5: Gender of Internet Users

The population of the overall survey sample included 52.2% men and 47.8% women. The survey also indicated that almost 38% of household heads interviewed were women (a classification that typically means there is no male present in the household), while some 16% were classified as “spouses” of household heads, which most often suggests “housewives”. In any event, it is clear that divisions in gender roles in Ghana are reflected in Internet demand patterns as well.

➤ Internet Users are those who have obtained higher levels of education

There are two ways to look at the relationship between education and Internet use, and both demonstrate that Internet use increases substantially as Ghanaians’ education levels increase. On the one hand, among all Internet users, over 80% have at least a high school (SSS) education, and 50% have a post-secondary education:

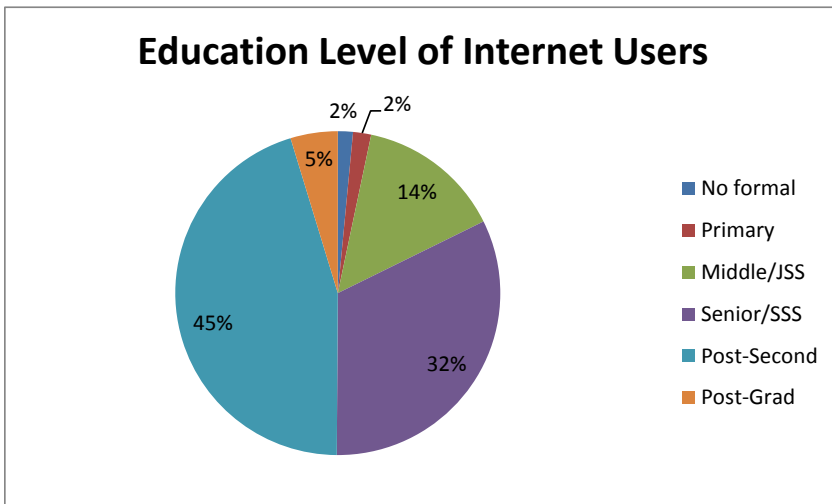


Figure 6: Education Level of Internet Users

From a different point of view, higher education attainment clearly drives Internet demand across the society. From the survey data, of all respondents who have a post-graduate degree, 85% are Internet Users. Of all who have attended college, over 45% are Internet Users. But of those with no formal education or only primary school, less than 2% use the Internet:

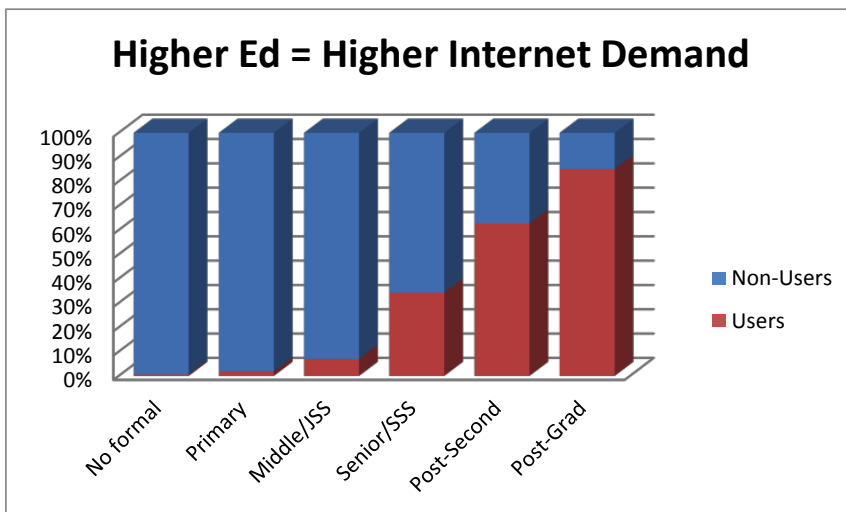


Figure 7: Education and Internet Demand

These findings demonstrate an unmistakable link between education and Internet demand in Ghana. Of all the indicators in the survey, a citizen’s education level is the most reliable predictor of whether he or she uses the Internet.

➤ Internet Users are found in a variety of occupations

The range of occupations in which Internet Users in Ghana are employed is fairly broad, with the largest proportion among Professionals:

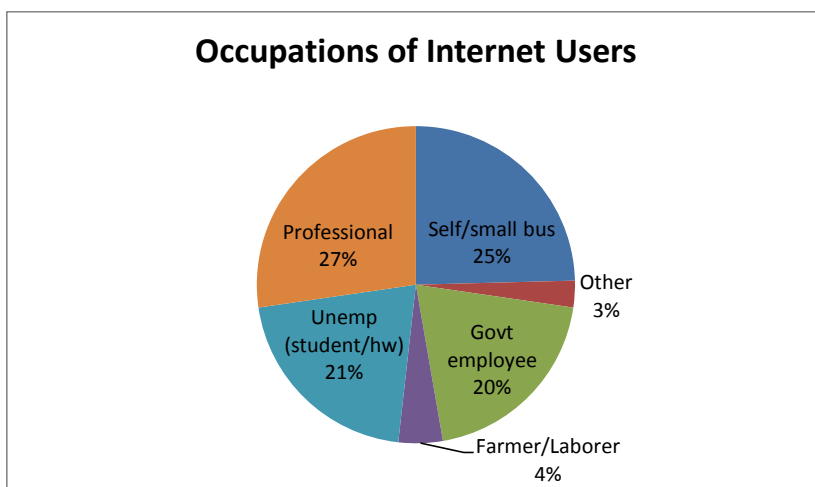


Figure 8: Occupations of Internet Users

Note that the “Unemployed” category includes a diverse variety of persons, from students to housewives and others. The likelihood is that the substantial majority of Internet Users within that group are students. The fact that 25% of Internet Users are self-employed or small business persons suggests that some degree of entrepreneurship using the Internet is beginning to take hold in Ghana’s economy. However, as indicated below, the overall proportion of this group that utilizes the Internet remains small.

➤ The most popular Internet applications are social, information, education, and entertainment

Ghana’s Internet Users were asked in the survey to identify the types of activities for which they use the Internet. As with Internet users worldwide, social contacts with friends and family are the most popular: Facebook leads the way, with over 91% of users reporting that they are Facebook subscribers. Among the other most common uses are obtaining news, educational uses, and entertainment:

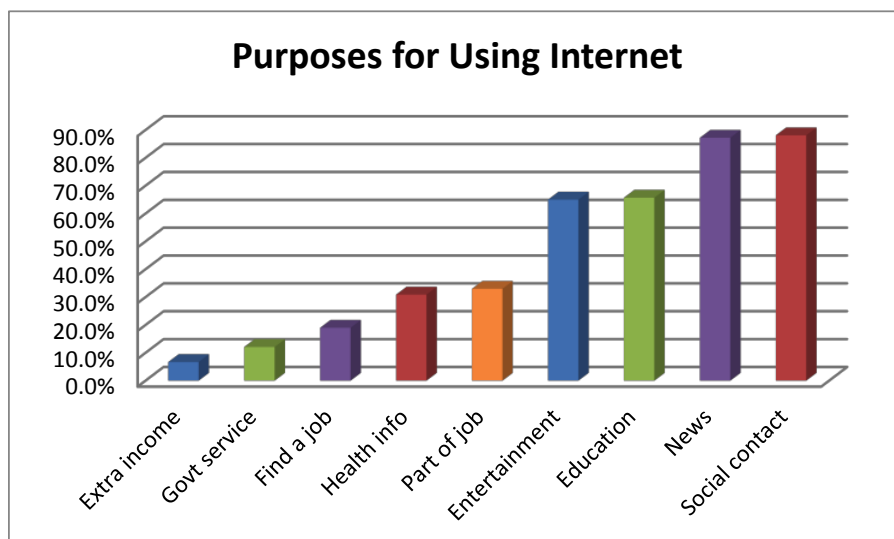


Figure 9: Purposes for Using Internet

It is noteworthy that relatively few users see the Internet as presenting economic opportunities, whether to earn extra income or to help find a job. Also, apparently Government on-line services are not seen as widely available or useful, as only 12% report using the Internet to access Government sites.

3.2 Main Characteristics of Non-Internet Users

The above findings reveal much about the 14% of Ghanaians who are occasional or regular users of Internet services. But of greater importance for this study are their counterparts: the 86% of the population who are non-Internet users. Who are they? How do they differ from users? What are the most common traits that seem to classify those citizens who are on the far side of the Digital Divide?

The following sections elaborate on these questions.

➤ Non-Internet Users are mostly rural, female, older, less educated

The fact is, with 86% of the population currently not classified as Internet users, this group cuts across all segments of Ghanaian society. Even among those with the highest usage profiles, such as urban and wealthy citizens, a clear majority still do not yet use the Internet. However, some of the demographic traits that stand out the most among non-users are their geographic location, gender, and age. These divisions are highlighted in the following graph:

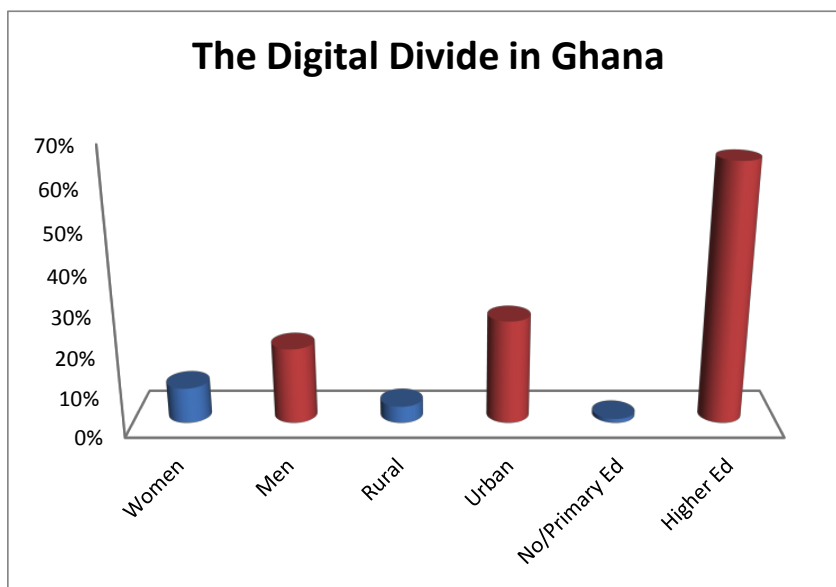


Figure 10: The Digital Divide in Ghana

As indicated above, the rural areas surveyed are almost entirely devoid of Internet users, even including locations where access to the service, for example via cell phones, is available. On the whole, less than 5% of rural inhabitants in the country are users of the Internet.

The Digital Divide also separates men and women. Only about 9% of women in Ghana were found to be Internet users, compared with 19% of men. And the median age of all non-users was calculated as 42.8, fully ten years older than the median age of users.

Above all, citizens' education levels reveal the most dramatic split in Internet demand results, with less than 2% of those with no or only primary education using the Internet, while 64% of all post-secondary graduates are Internet Users.

➤ Working Class, Self-Employed, and Small Business Owners don't use the Internet

The other area where significant differences in Internet use can be identified is in people's areas of employment. Again, the disparities noted under descriptions of those who are most likely to be Internet users are reflected on the opposite extreme among non-users:

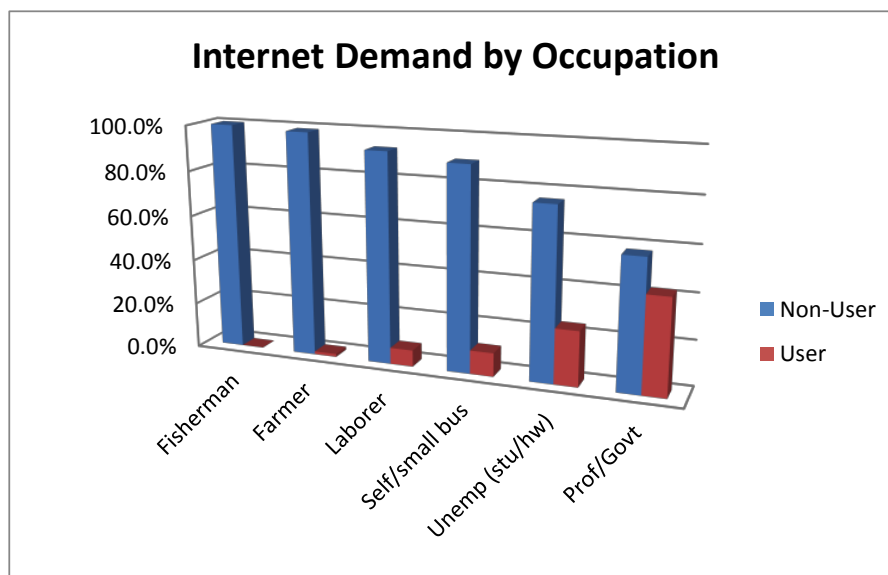


Figure 11: Internet Demand by Occupation

In particular, the classifications of fishermen and farmers show almost zero Internet utilization, while laborers are not much higher. Similarly, more than 80% of small business employees or the self-employed do not use the Internet. Note that this finding may at first seem to conflict with the observation above that 25% of Internet users in the country are, in fact, small business or self-employed persons. However, these figures are not inconsistent, but a reflection of the low overall level of Internet usage, and the relatively high numbers of people who describe their occupation as self-employment or small business.

Recall that the classification of “unemployed” includes students, who undoubtedly account for the overwhelming proportion of those in this category who report as Internet users, while the over 75% of this group who are non-users includes a large group of self-identified housewives, and the traditional unemployed. Finally, the group that includes Professionals and Government employees is the only category that approaches 50% Internet users, which is consistent with the job requirements of many in that group. And still, over half of these still do not yet utilize the Internet.

3.3 Barriers and Constraints to Internet Demand

Understanding some of the most basic characteristics of the respective groups of Internet users and non-users helps lay the groundwork for evaluating the central question underlying the Digital Divide issue: i.e.: Why do some people take advantage of the Internet and similar advanced technologies, while others do not?

This is fundamentally a question of customer demand. Obviously, where Internet supply remains unavailable, there is no opportunity to use the service, but there can still be potential customer awareness and interest, which can help drive commercial investment. But where

services are already accessible, those who do not utilize those services are making a choice through their inaction. Given the overwhelming popularity, importance, and growth of Internet usage around the world – and the similarly limitless demand even within Ghana for other forms of communication technology, specifically cell phones – it is worth asking these fundamental question of non-Internet users: What is holding you back? Why are you refraining from joining the bandwagon?

The survey results offer some of the most vital and eye-opening answers to these queries. In brief, the main reasons that most Ghanaians don't (yet) use the Internet include:

- Lack of awareness of the Internet itself
- Lack of understanding of how to use the Internet
- Perception of little value in Internet use

These reasons dominate over more conventional constraints such as lack of infrastructure access or cost constraints, suggesting some critically important findings for both policy and the communications industry, as will be discussed in Section 4. The survey data concerning Non-Users' perceptions and choices are summarized below.

➤ Nearly 65% of Non-Internet Users in Ghana have “not heard of” the Internet

This finding is among the most significant results of the survey. All subjects interviewed were initially asked about their basic awareness of the Internet. Almost 65% responded that they did not know of, were not familiar with, the Internet at all. These responses break down across the geographic regions of the country as shown below:

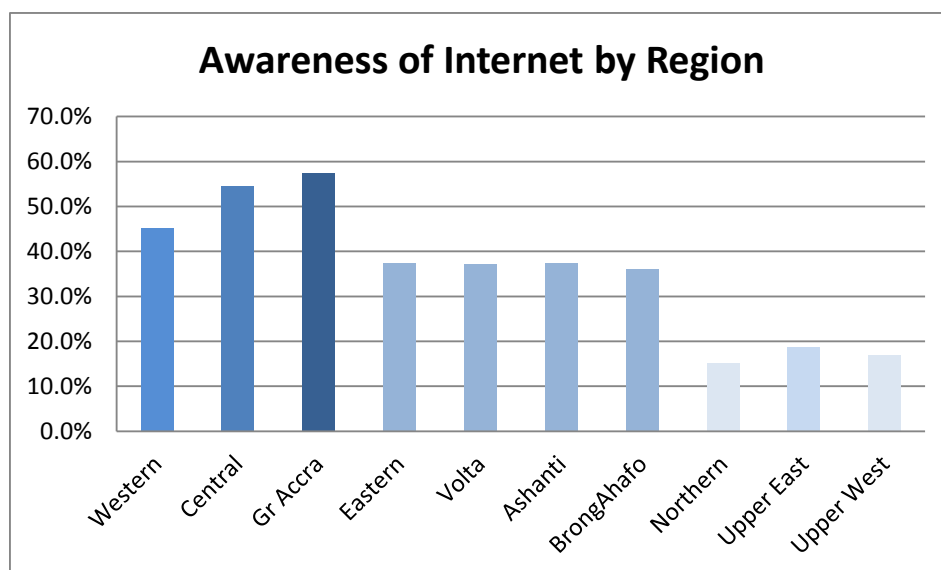


Figure 12: Awareness of Internet by Region

It is apparent that the lowest levels of Internet awareness are in the northern regions, where infrastructure and service coverage are also lowest, suggesting that the main reason that citizens are unaware of the Internet is because the service is simply not available in their communities. Where Internet access is more common, such as in Greater Accra, awareness is much higher, although still below 60% of the survey population. These findings indicate that lack of network access is the primary driver of low awareness, but that there are still large numbers of Ghanaians who have not “heard of” the Internet, despite its local availability.

- The main reasons why people don't use the Internet are because they don't know how or don't see any value in it

For those Ghanaians who indicated that they do know about the Internet, but who do not use it, the survey inquired as to the main reasons why they have not chosen to utilize this technology. The responses are shown below:

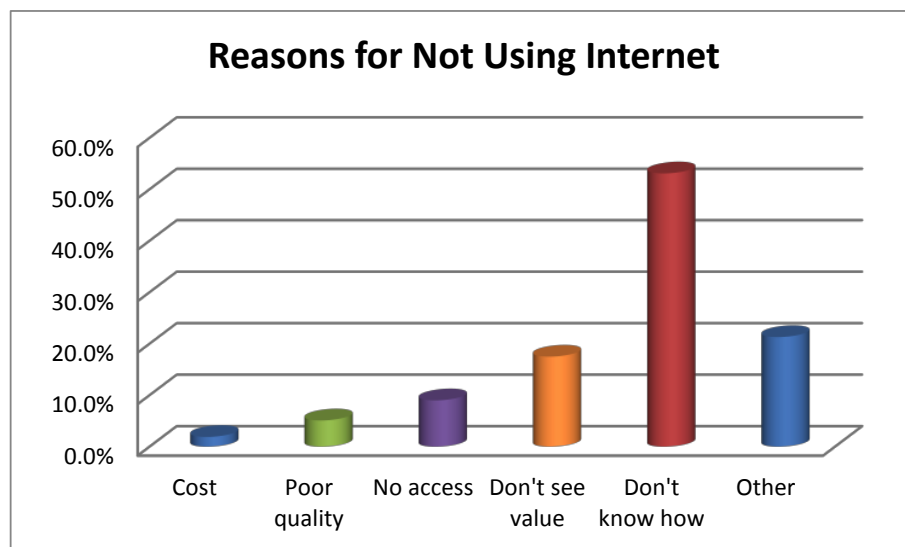


Figure 13: Reasons for Not Using Internet

These findings are quite revealing. By far the most significant reason (over 50%) given for not using the Internet was that respondents didn't know or understand how to use such services. The second strongest concern specified was that potential users didn't see any value in Internet service. Technical concerns, such as lack of access or poor quality were also indicated by some, while the cost of Internet service was actually the least common reason. These responses, combined with the previous finding of very low public awareness of the Internet in the first place, strongly suggest that the greatest barriers to Internet demand growth in Ghana are in the areas of citizen knowledge, capacity, and understanding, as opposed to cost, at least in those locations where Internet services are already available.

3.4 Needs and Opportunities to Stimulate Internet Demand

The ultimate question that this study seeks to address, based upon the findings arising from Ghanaians' reported attitudes and habits concerning the Internet, is: What will it take to increase demand for Internet use? This concern applies both to current non-users, particularly those who are aware of and have access to Internet services, as well as to those who may already use the Internet somewhat, but may not find much benefit in expanding their use.

Some of the data already reported from the survey begins to address this issue, and there are some additional results that can also help reveal the underlying barriers to further Internet demand, the needs that greater Internet utilization could help serve, and thus the opportunities to stimulate demand in a beneficial manner. The following findings from the survey contribute to understanding the perceptions and needs of current and potential users. Part IV of this report then elaborates upon all of the findings to present recommended policy responses.

➤ User and Non-User Perceptions of Internet Use

The following findings are derived from responses given both by users and non-users, concerning their perceptions of certain key issues surrounding the Internet in Ghana. For all questions, respondents were asked whether they shared the opinion stated, even if they already use the Internet. So, for example, concerns about cost or value reflect both non-users' reluctance to take up Internet services, as well as current users' barriers to increasing and expanding their Internet use.

The key findings are as follows:

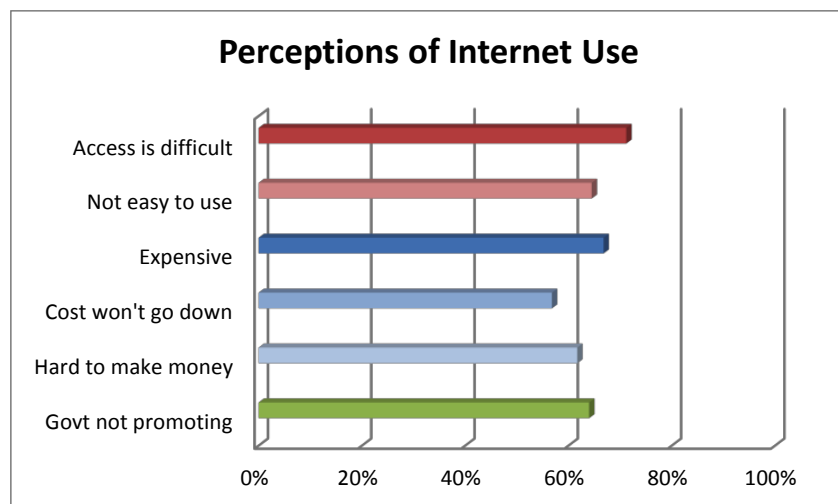


Figure 14: Perceptions of Internet Use

In summary, these responses suggest a number of interesting findings, some of which reinforce other survey results, while others may be somewhat contradictory:

- Ease of access, use: Clearly, Ghanaians find the Internet in general difficult to access and difficult to use, with over 60% of all respondents expressing both concerns. These views confirm the finding that resistance to wider Internet use results significantly from lack of understanding and awareness.
- Cost and financial opportunity: Somewhat in contrast to the previous findings among non-users that cost was not a major barrier, a majority of overall respondents (including users), feel that Internet services are expensive, and that costs are not likely to decline in the future. In addition, most people don't see the prospect of making money through use of the Internet as a realistic opportunity.
- Government promotion: Another important perception is that the Government is not doing enough to promote Internet use in Ghana. Whether this includes bringing down prices, providing better services (such as e-Government), or helping with training and awareness, there appears to be a significant sentiment that Government has a role to play in helping to reduce barriers to Internet use.

It is useful to compare these perceptions among all respondents with the findings regarding the ways in which people actually use the Internet in Ghana, as indicated in Section 3.1 above. The most popular uses are social networking, obtaining information, entertainment, and education. Most of these do not have a direct link to earning income, for example. And social networking, such as Facebook, is one of the most common and easiest types of Internet applications to learn. The fact that most citizens see limitations on more extensive and lucrative Internet uses, without further support and promotion, suggests that the industry has not yet moved far beyond the most introductory level for the great majority of Ghanaians.

➤ Information needs

The survey also inquired about the general areas of citizens' information needs and uses, beyond Internet technologies. They were asked to rank the level of importance of different categories of information in their lives, and the frequency and means by which they obtained this information. The most significant trends from these queries included the following:

- Economic Activity: Overall, respondents acknowledged that they have significant needs to obtain various types of information to support their jobs, livelihoods, and businesses. The most common sources of such information are from face-to-face communication, and from radio broadcasts. While all types of information are considered important, some stand out more than others. According to the survey, Ghanaians in general are most interested in (% of those citing each type of information as important or very important):

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- Market information (87%)
 - Costs of inputs, products (83%)
 - Weather (75%)
 - New products (64%)
 - Financial services (58%)
 - Crop management (55%)
 - Livestock management (48%)
-
- Government Activity: Citizens look for various types of information from their Government as well, principally via radio broadcasts, according to the survey. The areas in which respondents said Government information is important or very important include:
 - Policies (65%)
 - How government and democracy work (63%)
 - Government and legal requirements (63%)
 - Availability of subsidies and grants (58%)
-
- Education, Health, Social Needs: Activities in these areas involve the most extensive information needs among Ghanaian citizens. Respondents indicated their greatest requirements for information in the following areas:
 - Social contacts with friends and family (98%)
 - Information relating to illnesses (96%)
 - Other health information (92%)
 - News (91%)
 - Information regarding emergencies (86%)
 - Education and training opportunities (73%)
 - Business skills training (68%)
 - Sports information (62%)

4. Conclusions and Policy Recommendations

This section presents analytical conclusions and policy recommendations arising from the Ghana Digital Divide survey and related findings. These conclusions and recommendations are focused on the goal of increasing utilization of Internet and Broadband services in Ghana, particularly among those groups that have proven to be under-represented among users, even where services are accessible. The recommendations are directed to the Government of Ghana in general, and especially the Ministry of Communications and GIFEC, for consideration in the revision of policy priorities aimed at closing the Digital Divide.

4.1 Internet Service Demand is Not Adequately Promoted

In summary, the key findings that have been described in the preceding section of this report include the following critical points:

- A large proportion of Ghanaians are not aware of or familiar with the Internet.
- Many potential Internet users feel that they do not know how to use the Internet, or that it would not be of value to them.
- The main categories of Internet users are urban professional males, while most other groups are very low Internet users.
- The Internet is not perceived as offering many of the types of information that most people want and need.

From these findings, it is evident that slow growth and relatively low demand for Internet and Broadband services in Ghana is largely attributable to factors that are non-economic in nature. That is, perceptions concerning pricing and costs of Internet connectivity are less important than basic questions of awareness, understanding, and value of Internet services.

Such findings suggest that the demand pattern for Internet service in Ghana differs dramatically from the experience of the mobile telephone industry with voice (and text/sms) services. In the case of voice, potential customers had decades of exposure to at least the concept of a voice telephone, if not widespread access to the use of such phones. Talking and even simple texting are functions that nearly everyone understands and can learn quickly, and the payoff – direct, real-time, “live” communication with a distant friend or relative – is instant and obvious.

In the case of computers, Internet, and broadband, familiarity is often near zero in unserved communities, and even upon exposure to these technologies, many people will find them confusing, uninteresting, cumbersome, time-consuming. The findings of the survey support this assessment.

In this situation, it would appear to be essential to the interests of the telecommunications industry to develop marketing programs aimed at educating potential customers and

encouraging interest in take-up of advanced Internet services, to build demand and grow this new market segment. This is not a simple undertaking. The “investment” necessary to transform a disinterested and uninformed non-user into an active and enthusiastic ICT consumer could be weeks or months of exposure, encouragement, training, and hand-holding. Simple promotional campaigns such as those that have been undertaken in the mobile voice market will not be sufficient.

The fact that such demand-stimulation programs have not been widely introduced by the operators suggests that either:

- (a) the operators do not perceive the potential Internet market as “worth” the cost of such marketing initiatives, and/or
- (b) they are relatively unfamiliar and inexperienced with Internet-oriented marketing and awareness campaigns.

In the first instance, it is likely that the current small size of Internet service demand and revenues compared with voice services (about 8% vs. 92%) creates constraints on operator interest in spending money on market stimulation. Similarly, because the result of Internet marketing investments would only “pay off” in the medium- to long-term, operators may be reluctant to allocate significant amounts of current resources toward such goals.

At the same time, it is also likely that the established mobile operators are not very experienced with the types of customer awareness and demand stimulation measures that would be most effective at accelerating Internet demand in Ghana. This is a missed opportunity, given that the base of mobile phones is so broad, and the quality and functionality of such phones could be upgraded to “smart” phones for many users at prices that have been declining rapidly. The chance to transition customers toward a full-featured Internet+phone experience, as a first step toward more robust Broadband services, would seem to be a welcome prospect for mobile operators, particularly in a voice market that is saturated and facing declining per-customer revenues.

In all likelihood, the mobile operators and other industry players are indeed seeking to develop longer-term marketing campaigns and demand stimulation initiatives aimed at shifting the Ghana communications market toward higher Internet penetration. However, these private commercial plans would seem to be slow to materialize, constrained by the industry’s inexperience and/or conservative business practices, while the public benefits of wider broadband and Internet use are being missed by large segments of Ghana’s population. For these reasons, there is strong justification for the Government, through the Ministry and GIFEC, to intervene to augment industry marketing and stimulation efforts, to help accelerate Internet demand in Ghana.

4.2 Policy Recommendations

The above findings regarding the gaps in demand-side awareness, capacity, and interest concerning Internet and Broadband services suggest that policy initiatives should strongly focus on these needs. While there will be a continuing need to finance ICT infrastructure investments in rural areas to expand access to broadband capabilities, it is apparent that access alone will not quickly close the Digital Divide. The Government of Ghana, especially the Ministry of Communications and GIFEC, should therefore consider developing a series of demand-stimulation programs which will directly address the challenges of promoting Internet awareness and capacity among prospective users. These initiatives should be conducted in close coordination with both the private sector providers in the sector – telecom operators and equipment and service providers – as well as various other stakeholders in local and national government and civil society.

In sum, the key areas in which demand stimulation initiatives should be considered include the following:

➤ Digital Literacy and Capacity Building Programs

This appears to be the area that is most urgently in need of support on a widespread basis, to encourage and inform new Internet users, and to help existing users to take better advantage of Internet-based opportunities. Digital Literacy programs can take many forms and can be implemented in many locations, in conjunction with other initiatives, including local infrastructure and access installation, primary and secondary education curricula, local government activities, and programs directly targeted to the least informed groups, such as farmers, fishermen, housewives, and so forth. GIFEC and the Ministry can develop partnerships with other programs and organizations that provide support to these groups in various locations, to connect with local citizens and make available resources that will be of greatest value to each community and group.

As the study report states, the data also suggest that leveraging the mobile phone platform as a pathway into Internet usage might be an effective means to encourage users to consider adopting Internet services. The increasing penetration rates of mobile phone usage could be a leading indicator of Internet usage if an integrated communications strategy (to include voice, video, and Internet) is developed. Focusing digital literacy and capacity building programs on the use of smart phones as the entry point to Internet usage could help such a strategy.

➤ Public Access ICT Facilities

While GIFEC and the Ministry have already established a number of public Community Information Centers (CICs), these types of public access ICT facilities could be expanded substantially, with an aim to reach out to non-Internet users. Rather than mainly offering access to computers and Internet connections, these CICs should be seen as public relations and

capacity building vehicles to entice and support potential new users throughout the country, particularly in rural areas. The business model of successful CICs should focus on promoting community awareness of the potential of the Internet, through publicity, events, networking, and linkage with local government and organizations. The CICs should seek to attract curious but uninformed users, offer extensive training in a range of Internet applications, and assist with small business entrepreneurship, such as setting up web sites, hosting e-commerce services, and providing liaisons with financial services and other partners.

➤ Services, Applications, and Content

GIFEC should also support programs to develop and support Internet services, applications, and content of relevance and value to potential Internet users in various categories, especially marginalized communities in rural areas, including farmers, fishermen, and other working class Ghanaians. Such services should be tailored to the specific interests of these groups, such as local community information, agricultural and small business applications, local language content, and other user-centered software. These programs should also include e-government programs and applications aimed at improving provision of public services to these communities.

GIFEC and the Ministry should also recognize that there are certain key groups among potential users that may respond to targeted services and applications that take account of their special needs or unique characteristics. These include women, for example, especially housewives, who may have different interests and needs for information services than men in many communities. Services for people with disabilities should also be supported, to take account of their unique needs and barriers to information access.

➤ ICT Affordability Programs

While cost may not be the primary driver of low Internet use, it is certainly a factor for many potential users. GIFEC and the Ministry should thus also consider programs aimed at improving the affordability of Internet services, such as discounts for low-income users, social tariffs, and other forms of subsidy support. These can be supplemented by programs to help make user devices more affordable, such as access to low-cost PCs, smartphones, tablets, through bulk purchases, discounts, and joint ventures with suppliers, potentially in the context of institutional programs, such as ICTs in schools.