

November 2018

# EXAMINING INTERNET USAGE PATTERNS ON SOCIO-ECONOMIC BENEFITS OF MARGINALISED COMMUNITIES: THE CASE OF COMMUNITY INFORMATION CENTRES IN GHANA

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Bekoe, Stephen; Atiso, Kodjo; Ayoung, Daniel Azerikatoa; Dzandu, Lucy; and Kumangkem, Kennedy Kubuga, "EXAMINING INTERNET USAGE PATTERNS ON SOCIO-ECONOMIC BENEFITS OF MARGINALISED COMMUNITIES: THE CASE OF COMMUNITY INFORMATION CENTRES IN GHANA" (2018). *Library Philosophy and Practice (e-journal)*. 1870.  
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## INTRODUCTION

In reinforcing the significance and potential usefulness of ICTs, the former Ghanaian UN Secretary General, Mr Kofi Annan, pointed out in 1999 that communication and the access to communication technologies are just like social security, fundamental human rights and that the digital divide is a pressing humanitarian issue. He said publicly:

Three days from now, the world's population will pass the six billion mark. Five out of those six billion live in Southern countries. For many of them, the great scientific and technical achievements of our era might as well be taking place on another planet. The capacity to receive, download and share information through electronic networks, the freedom to communicate freely across national boundaries – these must become realities for all people. These people lack many things: jobs, shelter, food, health care and drinkable water. Today, being cut off from basic telecommunications services is a hardship almost as acute as these other deprivations, and may indeed reduce the chances of finding remedies to them, (Annan, 1999).

In 2003, the government passed into law the Ghana Information and Communications Technology for Accelerated Development (G-ICT4AD) policy document. The policy sought to spearhead the development effort of the country with a focus on the implementation of strategic ICT initiatives to transform the country into a middle-income economy (G-ICT4AD, 2003). The policy proposed the implementation of universal access centres as the best approach to introduce the pervasive power of ICTs in underserved and underprivileged communities mostly located in rural areas of Ghana. Contained in the policy document was a very broad vision of a future Ghanaian modernity based on ICT. The policy specifically identified the establishment of universal access centres as a

driving force to train citizens with requisite ICT skills needed in support of the developmental effort of the country (G-ICT4AD, 2003). The vision was to ensure that all citizens, especially the marginalised in rural communities be granted access to Internet facilities. This vision paved the way for the establishment of the government funded Telecentres, called Community Information Centres. Ghana was a party to the United Nations Millennium Development Goals framework, which called for universal access to ICTs for poverty reduction and sustainable development (Gilhooly, 2005). Ultimately the CICs were intended to provide access to ICTs for underserved communities with the expectation of reducing inequalities in access to ICTs and other online services (Ayoung, Abbott & Kashefi, 2016). The Ghana CIC project was a hybrid for-profit telecentre and non-profit community resource centre, implemented by the Ministry of Communication through its subsidiary, Ghana Investment Fund for Electronic Communication (GIFEC). The initial funding was from the Highly Indebted Poor Countries (HIPC) Initiative (GIFEC, 2013). The vision of the CIC project was to ensure universal access to ICT applications for accelerated growth and development through the efficient and timely availability of information. The purpose of the project was to provide business services and community development information to remote communities and to open such areas to the information technology era. Its eventual adoption and diffusion would aid in the reshaping of the Ghanaian rural economy into an ICT-led economy by creating a new society shaped by information technology.

## **REVIEW OF RELATED LITERATURE**

The internet has tremendous potential to achieve greater social equity and empowerment and improve everyday life (livelihoods) for those on the margins of society (Mehra, Merkel & Bishop, 2004). Heeks (2008) also opines that the emergence of the Internet

has sparked general interest in ICTs and how internet technology can help the developing world achieve further growth. Social networks, formed by interconnections among participants of society, are prevalent on the Internet according to Castells (2011). Information technology affects lives, and for those who, over the last decades have gained access to mobile phones and the internet, the fast and efficient flow of communication technologies have played a key role in changing the way people live (Kleine, 2013). Over the space of two decades, the Internet has fast advanced its ability to inform, connect, enable, and empower humanity. It has permitted people around the world to envisage and construct new possibilities for their livelihoods development for themselves, their families, and nations as well as enabling them to lead lives they value (Sen, 1999). The internet again, has been hailed as the new base technology of the information age (Kleine, 2013). Never before has information been so widely available (Verveer & Esque, 2013), businesses more efficient and transparent, or people better connected to one another (Fuchs, 2007). The Internet can be a great equaliser (Zahir, Dobing and Gordon Hunter, 2002; Richmond, Rader & Lanier, 2017). Access to the internet is also a requisite for overcoming inequality in society (Fuchs and Horak, 2008). Social groups and civic movements are increasingly utilising the Internet as a mobilising force (Castells, 2001). Bjørn Furuholt and Øystein Sæbø (2018) suggest that public internet access points, variously referred to as information kiosks, telecentres, cybercafés, community technology learning centres, and the like, experience varying degrees of success with a variety of approaches to service provision. “Telecentres operate mostly as not-for-profit organisations, relying on sources of external funding, including government institutions, multilateral agencies, and nongovernmental organisations. They have an explicit objective to support the community, which often includes efforts to support development among underprivileged populations” Furuholt and Sæbø (2018). In the era

of the information revolution, web technologies, in particular the Internet and its deployment to a broader public since the early 1990s, are penetrating all levels of societies and are also affecting the political aspects of every society (Chadwick, 2006). According to Nhambiu ( ) the importance of the internet in a country's development should be highlighted, in particular, the pertinence of reducing costs to access information and communication technologies. The Internet plays an important role in the social and economic development of developing countries.

...when done right, ICT infrastructural investment and proper policy reforms in the ICT sub-sector can be a key enabler of poverty reduction and shared prosperity. It has been noted that 10 percent increase in high-speed internet connections could yield on average a 1.4 percent increase in economic growth (World Bank, 2014).

Castells (2000) and Friedman (2006) examined the role of ICT in structural changes in society and noted that extensive use of the Internet and computers are the surest way of individual networking. ICTs have transformed the world into a global village while computerised systems have increased the efficiency of both the private and public sector. The Internet has given people access to a world far beyond their countries' borders. For instance, millions of people sign up to *Facebook* or *MySpace* to communicate and see information about other people. Institutions such as government, private or non-governmental organisations, despite geographical locations, can effectively work together through networks to achieve their set goals in the short, medium or long terms. In the network society, the accumulation of wealth is based primarily on nation's technological capacities (Castells, 2011). Only those countries that have the cultural and

economic resources to invest in Informational Technology can compete in the global economy (Castells, 2011).

The network society works effectively with capitalism (Castells, 2011). However, this does not apply to countries that are not part of the telecommunications revolution. For example, businesses can use the Internet to inform their customers about great deals and discounts. This makes customers feel special and drives the desire to buy. The Internet can also be used to listen to the latest news from any country on the globe (Global Internet Report, 2014). Users have appropriated it as a marker of modernity, a way for people and places to distinguish the 'developed' subject by the connections they forge to other people and places (Mercer, 2005).

In many developing countries including Ghana, the notion of modernity is frequently under construction. Within the current policy context of the Ghanaian economy in particular, market liberalisation, poverty reduction and concerns about the 'digital divide', have encouraged individual entrepreneurs and the government to invest substantially in ICT in general and the Internet in particular to expand the path of modernity across the length of breadth of the country (Awotwi and Owusu, 2010).

## **STATEMENT OF THE PROBLEM**

Enacting ICT policies alone will not necessarily lead to the achievement of the objectives of such policies. Although ICTs are enablers and they are deployed with the anticipation of improving livelihoods and socio-economic benefits as well as effecting change to make people lead the lives they value (Sen, 1999). Nonetheless, access to them is not enough

if those they are intended to benefit cannot adequately utilise its value and improve their livelihoods outcome in this information age. Government, realising this deficiency in Ghana, set about to tackle the problem at its roots. Studies on CIC initiatives in Ghana had principally centred on adoption (Awotwi and Owusu, 2010) and the neglect of some critical elements in the implementation of the CICs leading to their unsustainability (Ayoung, Abbott & Kashefi, 2016). I reason that the single most important element in the use or non-use of Ghana's CICs is the availability of internet services at almost all facilities as reported in the previous studies. This served as our motivation to investigate the phenomenon and to make appropriate recommendations for the benefits of the people. The underlying notion of this research was also that the provision of ICT facilities more particularly the internet to underserved and marginalised communities could improve their wellbeing because of the potential that ICTs possess.

## **OBJECTIVES OF THE STUDY**

The objectives of the study were:

1. To determine internet usage on the livelihoods of people in three regions of Ghana.
2. To ascertain the challenges of using internet in the CICs for the socio-economic benefits of the people
3. To make appropriate recommendations for effective operations of CICs to enhance livelihood development

## **Research questions**

The research objectives led to the following research questions:

1. How had the provision of Internet access through the CICs improved the livelihoods of users?
2. What were the challenges of using internet in the CICs?
3. What recommendations were appropriate for effective implementation of provision of internet services at CICs?

## **REGIONAL CONTEXT AND INTERNET USAGE**

Ghana, the first African country south of the Sahara to gain independence from the British, has an estimated population of about 27million, a total land area of 238,537 square kilometres, English as its official language and operates a multiparty democracy since 1992, (GSS, 2015).

These regions were purposively selected on the bases of their geographical locations and relevance to the study. The selected regions were appropriate because they captured the diversity of people's experiences to embody the full range of environmental, agro-ecological and socio-cultural conditions in the coastal, central and the northern belts of the country respectively. The high incident of poverty in the regions (GSS, 2010) also made them suitable for the study. Figure 1 below shows the locations of the three regions selected for the study.

### **Brong Ahafo Region**

This region lies in the middle belt of Ghana, separating the north of the country from the south. It is often referred to as the transitional belt because of its climatic conditions. To its south is the relative forest conditions while to its north, it transitions into the northern savanna. The region is purported as one of the food-basket Ghana. Five (5%) of the region's population is aged 20-29 years used internet facilities compared to less than two (2%) percent for those aged 50 years (GSS, 2010). The use of Internet facilities in



Brong Ahafo was more popular among the youth than the elderly. The use of Internet facilities is less known among females of all ages particularly after age 35 years. Across all ages more males than females used Internet facilities (GSS, 2010).

### **Central Region**

The region lies within the dry equatorial zone and the moist semi – equatorial zone constituting mainly of coastal savanna and a semi-deciduous forest inland. It was the administrative centre of the colonial government. The region is referred to as the heartthrob of the country because of its trove of leisure and tourism sites (beaches, forts, castles and festivals). Mostly, the castles and forts attract travellers who are interested in the rich cultural heritage underpinning their erection. About 47.1% of the population is urbanised. Seven percent (7%) of population 12 years and above used the Internet facilities. Internet usage in all districts of the region was higher among males (9.3%) than females (5.0%). (GSS, 2010).

### **Upper West Region**

This is located in the northern Savana ecological zone and is one of the poorest regions and the least urbanised in the country with about 79% of the population living in rural communities (GSS, 2010). The region recorded a significantly smaller proportion of mobile phone penetration (2.5% on average) and the lowest proportions of households with computers (1.46%) (ibid) similar to a low Internet penetration level. Internet use in the Upper West region was generally low (3.1%), however, nearly 73% of the population in the Wa Municipal used an Internet facility. The proportion of females in Wa Municipal who used Internet facility was two percentage points higher than that of males.

## **RESEARCH METHODS**

This is a qualitative study which adopts a multiple case approach meant to understand the phenomenon in its real context (Yin, 2009). Eisenhardt and Graebner (2007) suggest that multiple cases unearth patterns of relationships within and across cases. Purposive sampling procedures were used to select participants for inclusion in the study. The study used both primary and secondary data sources of information. Primary data were collected using interview questionnaires, focus group discussions and observation. I also administered semi-structured interviews with managers of CICs in the study locations and carried out focus group discussions with users from beneficiary communities (see Table 1). Selection of participants involved in the study was done in such a way that participants who were involved in various economic activities such as trading, fishing, and farming and formal sector employment providing services as such teaching, and nursing in the communities. These economic activities were grouped into six categories, based on how related the activities were, with the sole aim of coding and streamlining the data. The categories were: self-employed, employed part-time, and employed full-time in each community were recorded. I carried out focus group discussions with users of the CICs. Cameron, (2005) cited in Courtney & Antoinette(2016) posited that focus group discussions are useful in terms of identifying disagreements or controversy about a particular issue. They are also a way of triangulating or confirming data gathered using other methods.

In this study, six focus groups were formed. The number of each focus group ranged from 7 to 12. Focus group discussions are means of obtaining information from people in a group. It is also referred to as “group depth discussions”, which are group-based interviews typically lasting for one and a half to three hours and are conducted with around six to eight participants (McGregor, 2006:153). Equally, some scholars assert

that the number of participants to include in focus group discussions is highly dependent on the situation and as a result, larger groups can sometimes be used.

The fieldwork took nine months, from November 2013 to July 2014. Selection was influenced by the type of information to be obtained and lessons to be learned during interviews. The questions that participants were asked ranged from access, affordability and use of internet among others in the CICs and how their investments in the use of internet had been helpful for economic, social and human activities. Barriers to the use of internet and how important were internet services in emergency situations were also explored.

Qualitative data derived from the interviews and focus group discussions were analysed using Nvivo. Data presentation involved using graphs, table and narrations. The operations include editing, coding, classifying and tabulating. All the data from the focus group discussions were analysed using Nvivo software. The themes and all the information pertinent to answering the research questions were used to create Nvivo nodes. The table 1 provides summary of stakeholders who were interviewed and participated in the focus group discussions. The selected CICs were Gwollu in the Upper West region, Acherensua in the Brong Ahafo region and Apam in the central region.

**Table 1: Summary of participants and interviews**

<b>Participants</b>	<b>Number of Interviews/surveys</b>
Managers	3
Users/Patrons of CICs	60
FGD Participants	6

## **RESULTS AND DISCUSSION**

The analysis of data is categorised according to objectives and research questions that the research sought to answer. It presents the meaning of the empirical results in the context of the study and interprets the implications of the results. It provides explanations and reasons for the results obtained. It discusses themes, situating these in the context of the literature on ICT for development. The Interpretation also involves searching for the meaning of the research findings as well as relating the findings to the literature reviewed and the objectives of the study.

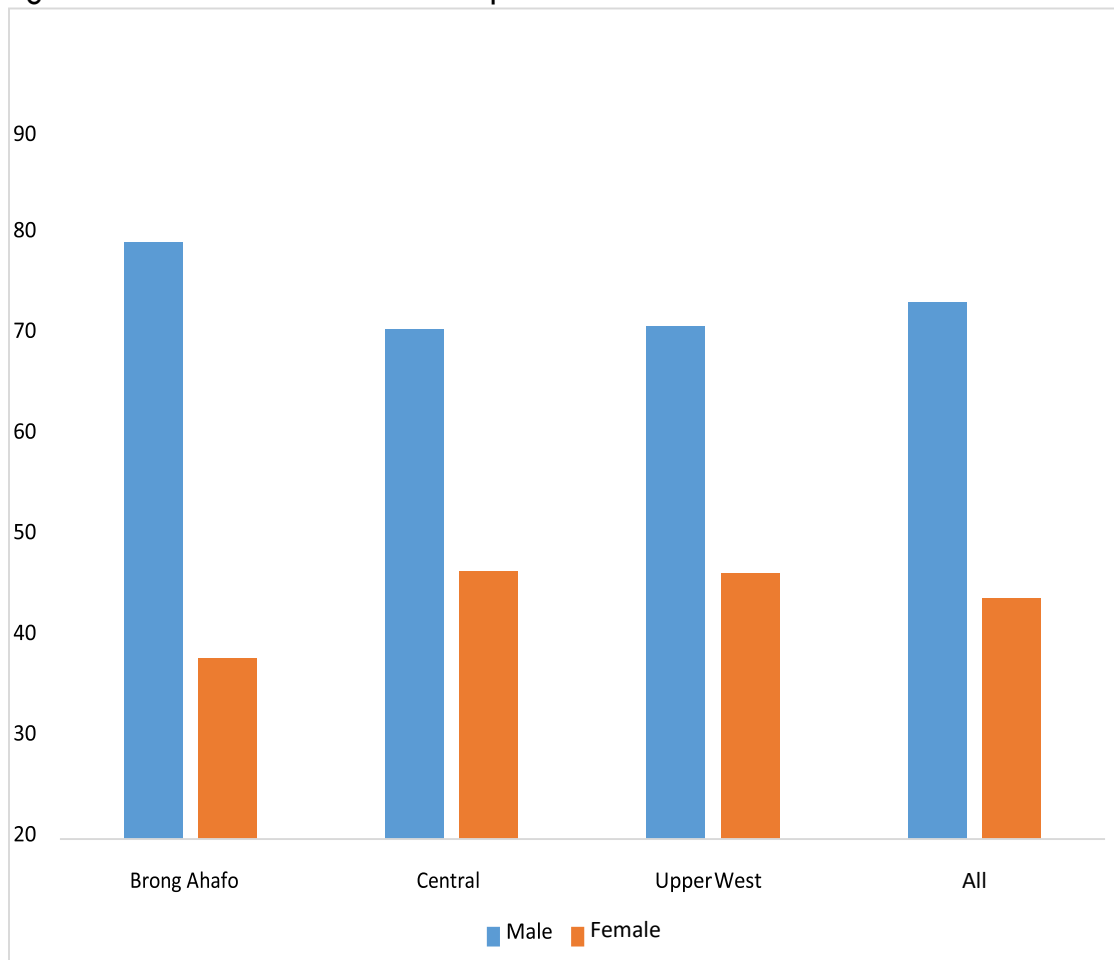
### **Gender**

The majority of users of the internet at the CICs were male compared with female as shown in figure 1.

Studies have shown significant gender differences in the use of ICTs, resulting in what can be termed the gender digital divide (Roman & Colle, 2002). The gender digital divide describes the disparities that exist between men and women in the use of CICs as shown in Figure 1. It is also evident that the social position of most women in Global South like Ghana distances them

from ICTs (UNESCO, 2003b). A study by Etta and Parvyn-Wamahiu (2003) pointed to the same trend. Fewer women than men used telecentres in all the countries covered by the literature. Etta and Parvyn-Wamahiu (2003) further reported that in Mali, Mozambique and Senegal, 77%, 63% and 70% of the users were men respectively. In another study in Tanzania, it was found that men accounted for 62 % of internet users (Mercer 2005). Arun, Heeks, and Morgan (2004) stated that the impact of ICTs in Global South is not gender neutral, necessitating an engendered approach to ICT-based projects. The findings of the present study confirm gender divisions in access to CICs in the three research communities in the three regions. Female (30%) access to CICs is ~~low~~ against ~~male~~ (69%) access, because the gender nature of the social, economic, policy and technological systems that frame opportunities for women is not being taken into consideration in most ICT initiatives (Robins, 2002). Some of the reasons for women's exclusion or the gender digital divide are cultural influences, lack of skills, illiteracy, poverty, lack of time and male-dominated corporate control. Roman & Colle (2002) said that there are hundreds of thousands of women all over the world who may be shut out of the information society because of their literacy level and gender related issue. This confirms my study as observed and narrated in relation to gender in the rural communities.

Figure 1: Gender distribution of respondents

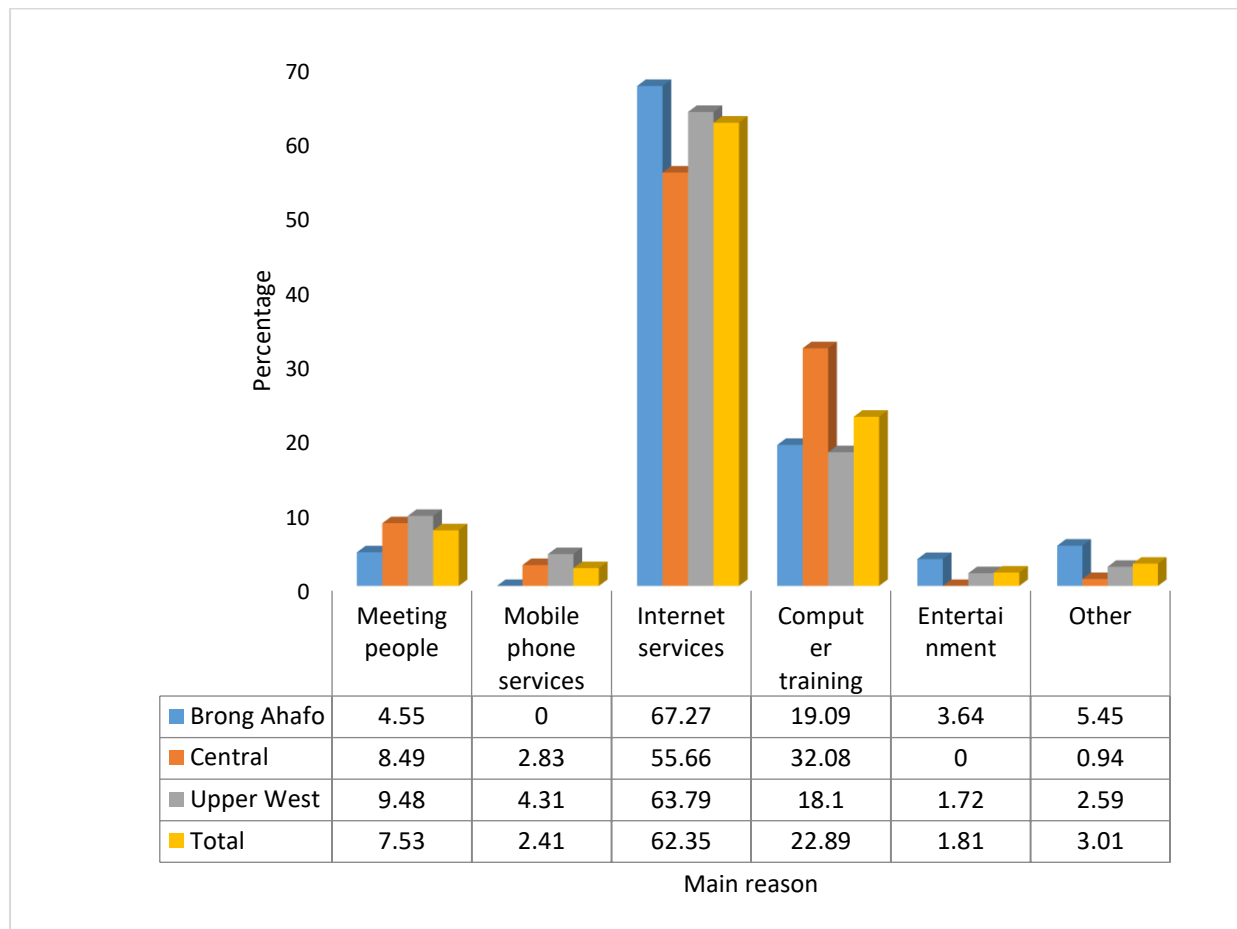


Source: fieldwork

### Main reasons for last visit to a CIC

Email was found to be the main reason why people used Internet at the CICs. They used email to communicate with friends and relatives (see figure 3) as opposed to business or knowledge acquisition. The use of email as the primary reason for accessing Internet services has been reported by various authors. In Nakaseka telecentre, Ojo (2005) discovered that the main activity of users was email both sending and receiving email from relatives and friends abroad. To these users email helped them to maintain ties with

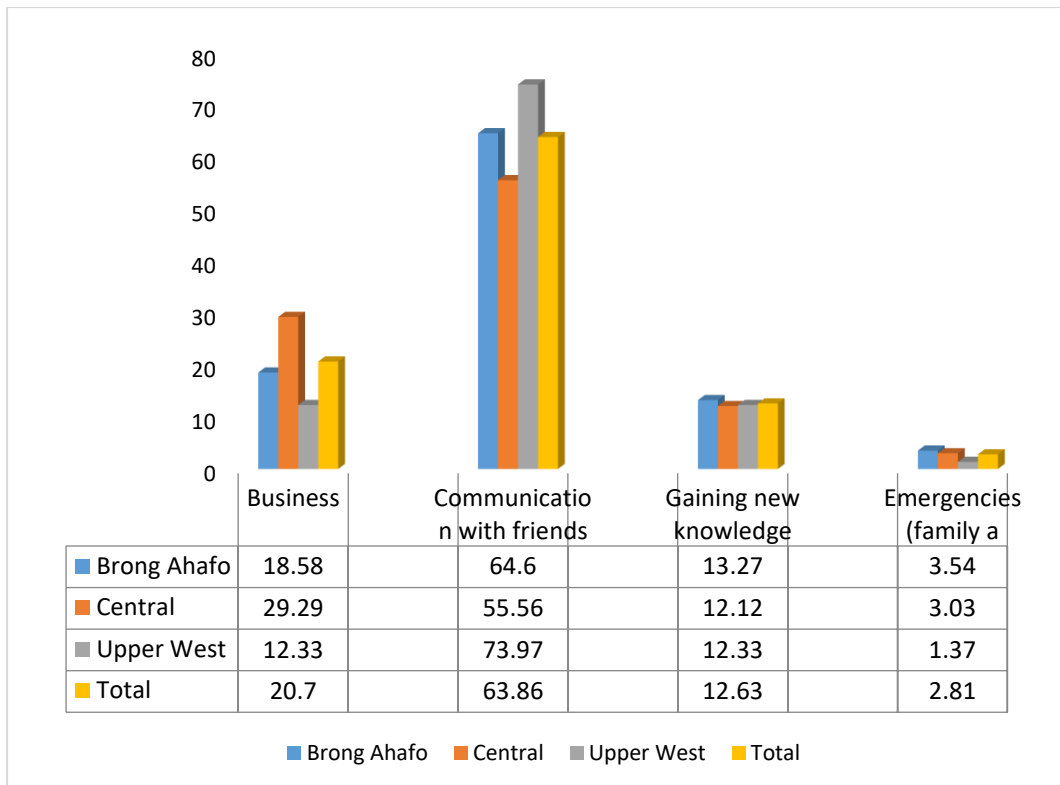
people living in remote communities. The email activity was used to apply for university admission in the United States of America and other Western countries.



**Figure 2: Main reason for last CIC visit**

**Reasons for using emails**

Etta & Parvyn-Wamahiu (2002:12) agreed that ICTs were used rather for “social activities than development-oriented action”; very few people use the Internet for development-related activities such as e-commerce, academic research or searching information for agricultural improvement and Internet were mentioned as major sources of information. Brong Ahafo 72%, Central 65% and Upper West 65% of respondents respective. Figure 3 identifies what respondents in the three regions use email for.



**Figure 3: Reasons for using emails**

### Internet Usage Challenges

In order to understand the usage patterns of the Internet by the people in these communities, respondents who said they use the Internet were asked to indicate the type of websites that they commonly visited. In this case email-based websites such as, Yahoo, Hotmail and Google - mail were named as the most-visited websites (where is the evidence?). When these results (where are the results) were compared to the results on websites commonly visited, obtained from the observation of Internet search histories, another kind of trend emerged. That is, the search histories revealed that some users, particularly the youth, use Internet for fraud. Mercer (2005) highlighted the suspicion among Tanzanians concerning the Internet -based information and the danger that the Internet poses to the “Tanzanian culture” and sexual morality. Mercer (2005) further discovered that Internet cafés have generated particularly heated debate, with public



commentators warning that Internet cafés were corrupting the nation's youth. The Internet has generated a large number of moral and legal issues that affect everyone who uses it, worldwide. The widespread availability of the Internet has stirred international moral panic, shared by governments, institutions and law-enforcing agencies (Lesame 2005). Other negative aspects are the use of the Internet as a platform for hate or racist speech and opinions, terrorism and, hacking. Managing these issues is very difficult, given the free and open nature of the Internet services. As far as CICs in Ghana are concerned, there appears to be a lack of information, resources and appropriate policy for managing access to Internet fraud. A woman at Assin Fosu in the central region pronounced that she would not use the CIC at Assin Fosu because of negative perception of community's members about CIC users. She opined:

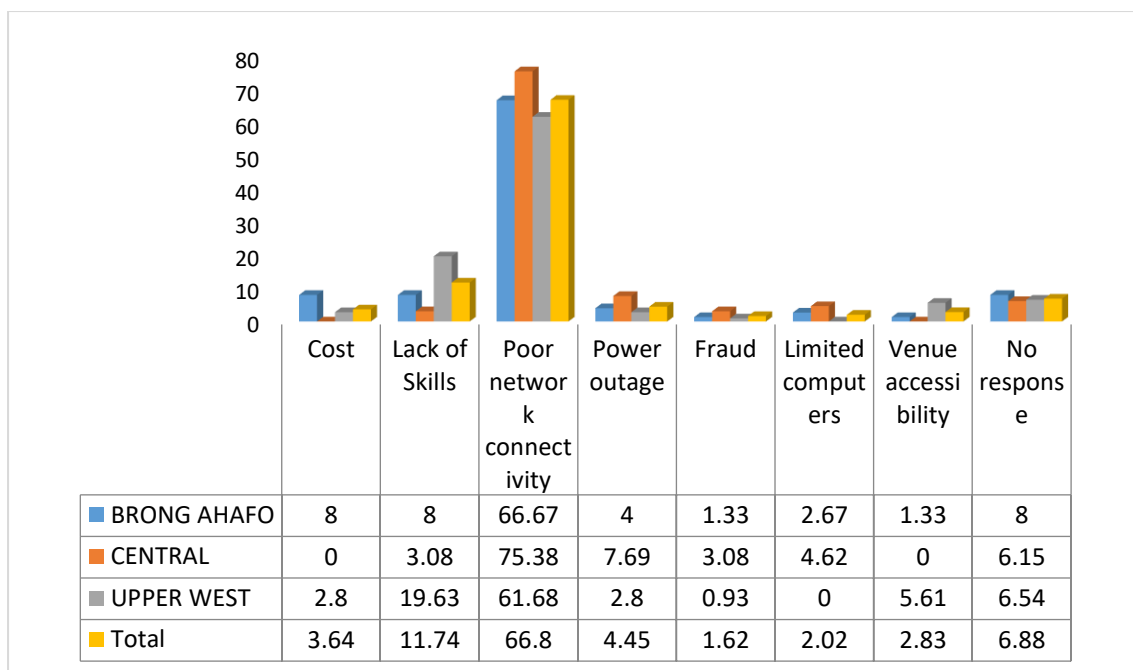
*'I will never go to the CIC to use their services neither will I allow my children to go there because the users of the CICs are perceived to be internet fraudsters'.*

Burrell (2008) opines that Internet fraud and scams, particularly the "419" scams associated with the West Africa region, are activities that raise some important new questions about the potential impact of improved connectivity on a global social order (419 is commonly referred to as the Nigerian police code for fraud. They are alternately called Advance Fee Fraud, referring to the "fees" that are collected in "advance" of the big money transfer payoff promised by scammers to their victims).

The use of Internet services at the CICs in the researched communities were associated with some challenges which impede effective use. The findings (see Figure 4) show that poor Internet connectivity, cost and lack of skills to use Internet were high among the respondents. Conspicuous among these challenges is poor Internet connectivity (66%) while fear of being duped (Internet fraud) constitutes 4%. A particularly worrying trend

across all centres was the recurring theme of poor connectivity. This consistency gives an indication of the poor infrastructure supporting the government funded facilities and the ineptitude of relevant institutions to ensure that the poor and the marginalised are given an opportunity to participate in the digital age. This consistent with other studies (Awotwi and Owusu, 2010; Jacobs and Herselman, 2004; Johansson Hedberg, 2011) that identified poor connectivity as major hindrance to sustainability of community information centres. Figure 4 illustrates the various challenges described by respondents.

Again, users were denied capabilities (improving ICT skills, accessing online materials, personal and social communications, accessing market prices, educational and research information) that ICTs offer. Another ambiguity was associated with the quality of internet service. Even though steady internet service provision accounted for the single highest factor attracting users to the CICs, all the centres reported a negative impression of service quality. Surprisingly, internet service providers were still allowed to continue providing this erratic service. This certainly was not value for money considering that the evidence available suggests that patronage of centres dwindled drastically in centres that did not have regular and reliable internet connectivity. Respondents believe that Internet provides opportunities for users to explore the potentials of the Internet and the various opportunities available for self-development, however, the were overwhelming challenges with regards to Internet usage at the CIC as shown in Figure 5



**Figure 4: Some challenges faced with the use of Internet**

In this instance, the inability of the centres to provide reliable internet service, adequate number of functioning computers had a direct influence on the level and availability of facilities for patrons to use to access the relevant information needed to improve their livelihood.

The benefits of the internet in the provision of required information for development is great but it is dependent on ICT infrastructure which is expensive to build and maintain. This is consistent with the report of De' (2009) which indicated that Telecentres closed due to irregular supply of power and erratic internet service. Constant power supply is an important requirement for internet usage. Power is required to run computers (internet) at the CICs. Without power supply from the grid, solar or any other alternative source of electricity it is very difficult to deploy and sustain meaningful ICT projects. In terms of electricity supply, many developing countries such as Ghana are characterised by unstable power supply systems, with frequent power failures in rural areas. In most rural areas, electricity is

the first major obstacle that needs to be removed to facilitate widespread adoption or utilisation of ICTs. A report by InfoDev (2008) indicated: Electricity is very relevant for wider internet development. Most of what is on the Internet is mainly in English. This could have been abridged into useful formats readily accessible to local users (Roman & Colle, 2002; Wellenius, 2008; Johansson Hedberg, 2011). Etta and Parvyn-Wamahiu (2003) suggest that the goal of linking telecentres with the growth of local economies would be fruitless unless strenuous efforts are made to address the content gap. In the context of this study, the unavailability of local content seriously affected use of Internet because of the level of illiteracy and low levels of education amongst community members made them less enthusiastic and hindered the use of Internet.

*“The internet facility use to be off and on. So I used not to be sure whether I will get internet service or not. So they should make it more regular” (YZ).*

My research findings derived from the six focussed group discussions conducted suggest that attitudinal and behavioural factors also play a substantial part in the people’s use of internet at the CICs. The level of interest, awareness, understanding and acceptance of internet usage was very low. Those who had never used the internet at the (CICs claimed that they had not done so because they were not interested and they viewed internet as a symbol of modernity, which were out of reach for a lot of them. Some farmers (70%), mostly illiterates, did not see how using internet could fit into their world and simply had no time for them. They were more focused on everyday survival and considered it a waste of precious time using internet when there was poverty and other more fundamental economic and social problems to deal with. These respondents did not see how internet at the CICs could be beneficial to their everyday struggle for survival, especially at a time where inflation was high in Ghana (rising cost of

goods and services) because of economic mismanagement. Although ICT4D advocates are propagating the benefits of technology for poor communities, yet evidence from my research through clearly demonstrates that some people in developing regions like Ghana just do not want or feel they need these technologies except mobile phones.

## **CONCLUSION AND RECOMMENDATION**

Accessing the Internet was known as an important reason why people visited the CICs and in all the CICs visited, emails were predominantly used to communicate with friends and relatives, as opposed to business or knowledge acquisition and this reinforces a study by Castells (2000) that networks have become the basic units of modern society, and society revolves around technological communication, for example emailing, texting, and social networking sites and many more. Internet fraud and scams, particularly the notorious “419” scams associated with the West African region (Burrell, 2008) are activities that raise some important new questions about the potential impact of improved connectivity on a global social order. The situation has made some genuine potential Internet users afraid of being victims of Internet fraud.

Again, understanding how ICTs and for that matter internet can be appropriated either for individual profit or communal purposes can help us to design appropriate programmes to empower poor and marginalised communities (Unwin, 2009), which this research seeks to achieve with the CICs. For socio-economic development to happen, there is a need for Internet connectivity, access to computing devices and building of people’s capacity to use them. Internet use could aid sourcing of markets online, purchases and trade among nations. Individuals could use Internet for entertainment, access to education, banking and health and eventually affect people’s livelihood outcome.

The study provides evidence for policy formulation to improve quality of Internet services at the CICs. The CICs are still important in many communities, especially in the provision of Internet services. The results show that people access Internet services and use this communication medium predominantly for social reasons. The Internet was also found to be important for information about education and available opportunities for further studies and through the Internet, people learn, devise new business ideas and expand the market for their businesses to lead lives which they value. I conclude that the use of the Internet and other CIC services in these communities is still insignificant. For some reasons, people cannot apply Internet use to other aspects of their lives, apart from emailing their friends and relatives. Though email communication is important to strengthen social capital, the CICs still need to do more to raise awareness in the communities on the possibilities provided by the Internet, besides email.

The benefits of the internet in the provision of required information for development is great but it is dependent on telecommunications infrastructure which is expensive to build and maintain. There are reports of instances where Telecentres have closed down due to infrequent supply of power and erratic internet service (Cecchini & Raina, 2004; De', 2009).

One of the most difficult, yet necessary, activities in the provision of community information is the assessment of information needs. The CICs, or other information systems developed or adopted to serve the people, must meet the needs of the people intended to be served. This can be done by conducting regular information needs assessment. In order for the CICs to have significant impact on rural communities, meeting the information needs of these communities should be made the primary objective of the CICs. This can be done by designing information services that target the various aspects of the dominant activities in the

communities.

Again, initiators of the deployment of internet technology through CICs need to be aware of the barriers that hinder the majority, especially deprived communities, traders and artisans (informal sector workers), from using CICs and other ICT services. Efforts should be made to expand the benefit of the technologies to the majority of Ghanaian population who are poor and based in rural areas. Failure to do this will mean that very few people will benefit from the ICTs and the digital divide between rural and urban areas will still widen. The management of CICs have to make sure that illiterates and poor people in the communities have the minimum functionality with computers and the internet.

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