EXPLORING MOBILE INTERNET USE AMONG MARGINALISED YOUNG PEOPLE IN POST-CONFLICT SIERRA LEONE

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ABSTRACT

Although the use of mobile internet is emerging as a new area of exploration for accessing the impact of mobile telephony on people in developing countries, study on how it is adopted and utilised in post-conflict context is rare. This paper draws upon domestication theory and ethnographic approach to explore the adoption, popularity and use of mobile internet by marginalised young people in post-conflict Sierra Leone. It argues that such an inquiry is important for understanding how the behavioural patterns of marginalised young people are shaped by the technology that is available to them, and equally how they shape technology to respond to their needs. While the findings reveal an increasing popularity and usage of mobile internet among marginalised young people to build communication networks, access information and entertainment content; some of the users are confronted with multiple impediments that mitigate their capabilities to access and use mobile internet productively. Notable examples of such barriers include high cost of internet enabled mobile phone, low level ICT and literacy skills and limited knowledge in the productive use of mobile internet. The paper concludes that if the potential of mobile internet is to be exploited for productive livelihood improvement, then, there is a need to respond appropriately to these challenges by providing cheaper and durable internet enabled mobile phones, create awareness and facilitate training to improve on the literacy and ICT skills of the users.

1. INTRODUCTION

Mobile internet is gradually emerging as a new area of exploration for understanding the importance of mobile telephony in ameliorating the problems of people living in developing countries, in particular Africa. Understanding how it is adopted and utilised by marginalised young people in Sierra Leone is the central focus of this paper. As defined by Chae and Kim (2003), mobile internet is a means of "wireless access to the digitised contents of the internet via mobile phones"(Chae & Kim, 2003, p. 240). In using mobile internet, information is communicated via internet browser and a web server, which makes it different from SMS (Chigona et al., 2009).

Following the failure of early attempt to reach remote communities in developing countries, in particular Africa with Internet service via Telecenters (Chigona & Mbhele, 2008; Soriano, 2007), the advent of mobile internet is assumed to give a new hope for productive livelihoods (Donner et al., 2011). It is believed that mobile internet is emerging as a new wave of breakthrough in technological barrier in developing countries (Donner & Gitau, 2009). Recent data obtained from the International Telecommunication Union (ITU) indicates that global mobile internet penetration is expected to reach 2.3 billion subscribers by the end of 2014, and developing country will account for about 50% of these subscriptions (ITU, 2014). However, while this report claims an increasing trends in mobile internet penetration in developing countries, studies from the Mobile phone for Development (M4D) community are yet to fully account for how it is used and its implications on the livelihood options of socio-economic disadvantaged people (Donner et al., 2011). Thus, in addition to few studies that have begun exploring mobile internet use in developing countries (Chigona et al., 2009; Donner & Gitau, 2009; Donner et al., 2011; Gitau et al., 2010; Rangaswamy &

Cutrell, 2012), this paper explores the uses of mobile internet among a group of marginalised young people in Sierra Leone. The paper explores the adoption and popularity of mobile internet among marginalised young people, the reasons responsible for such popularity and how it is being put into use to bring about certain behavioural patterns that are relevant for shaping and transforming their lives.

Notably, the researcher approaches this paper with the key objective of contributing to the missing gap in literature on mobile phone study in African post-conflict countries, in particular Sierra Leone. Generally, Africa is known for conflicts and most post-conflict countries are faced with considerable development, communication and information infrastructural challenges. While this posits an interesting area of investigation, unfortunately it has not been thoroughly reflected in literature that focuses on the use of mobile telephony in African countries that are emerging from conflict (Best & Thakur, 2009). Apart from a few studies on mobile phone use in Rwanda (Donner, 2006), Liberia (Best et al., 2010) and Guinea (Kaba et al., 2006); there is no knowledge of such study at the time of this research in Sierra Leone. Therefore, this study is timely and it presents an opportunity to respond to such paucity in literature by exploring marginalised young people's experiences of mobile internet use.

In doing this, the paper puts much emphasis on individuals as self-actualising agents in process of understanding how mobile internet is integrated into their everyday routines. This is strongly reflected in the choice of both the research approach and theory. Methodologically, the researcher draws upon anthropology driven approaches within the mobile phone research (Horst & Miller, 2006; Rangaswamy & Cutrell, 2012) to frame the research Approach. Data were collected over six months period using an ethnographic approach based on participant observation, 50 individual interviews, 22 key informant interviews and 5 five focus group discussion in two rural and urban remote communities in Sierra Leone. In terms of theory, the researcher chooses domestication theory as a dialectical lens in order to capture the nuance understanding of how mobile internet shape and is shaped by users to provide certain behavioural patterns in their socio-cultural milieu.

The rest of the paper is structured as follows: The next section provides the background context with focus on the meaning of marginalised young people and the status of research on mobile telephony in Sierra Leone. The subsequent section outlines the concept of domestication theory as a useful framework for understanding mobile internet use. This section is followed by the description of ethnographic approach and research results. And the last two sections discuss the results and conclusion.

2. BACKGROUND

2.1 Definition of Youth

Sierra Leone is a former British colony; it attained independence on the 24th April, 1964. Since independence, the country has experienced extreme poverty and corruption emanating largely from years of bad governance, weak social and economic structure, attitudinal problems and ten years debilitating conflict that claimed thousands of lives and properties. A relatively small country situated on the West coast of Africa and bordering Liberia and Guinea, Sierra Leone has a population of about six million, and the youths constitute about 34 per cent of this population (Peeters et al., 2009). The definition of youth in Sierra Leone is broad compared to the United Nations and World Bank's definition of youth. While both organisations define youth as anyone aged 15 and 24 years, in Sierra Leone, youth is referred to as anyone aged between 15 and 35 years (Peeters et al., 2009). This study adopts the Sierra Leone's definition of youth; it focuses on young people aged between 18 and 35 years (TRC, 2004). This category includes a homogenous group of matured young people who are illiterate, school dropouts, unemployed or engaged in the informal sector.

2.2 Youth Marginalisation

The concept of *marginalisation* is elusive, and its definition varies depending on the context and perspective in which it is used. In general, the term "marginalisation is used to describe individuals driven or drawn towards the margins or dark sides of society" (Heggen, 2000, p. 47). In youth studies, the definition of youth marginalisation is often focused on the exclusion of young people from the labour market (ibid, 2000). However, such definition is not only limited, but also tends to omit important sociocultural and political aspects of marginalised young people in resource constrained environments. In this respect, this study draws on Heggen's (2000) view on youth marginalisation to understand the concept of marginalisation of young people in Sierra Leone. Heggen argues that youths are considered to be marginalised only when their position in the society is weak and "limit their access to economic, social and political resources" (2000, p. 48). Based on this view, this study refers to marginalised young people in Sierra Leone as those who lack opportunities to access basic needs such as education, employment, political participation and other social benefits.

The cause(s) of youth marginalisation in Sierra Leone involves a broad spectrum of issues including the state, community, family and the individual themselves. General, it is believed that youth marginalisation in Sierra Leone is exacerbated by the civil conflict, decline in the country's economy and consistent neglect by the state to cater for the political and socio-economic needs of young people (Naycom and Myes, 2012). However, evidence obtained during the course of this study suggests that the causes of marginalisation of young people in the country also involve community and family neglect to cater for the need of young people, and also the inability of young people to discern their problems and able to take action. On this note, this study defines marginalised young people in Sierra Leone as anyone aged 18-35 that lacks or has limited access to political, social and economic opportunities either as a result of the state, community and family neglect or individual agency deficiency.

2.3 Mobile Telephony and Young People in Sierra Leone

The arrival of mobile phone technology in Sierra Leone coincided with the official declaration of the end of the decade-long conflict in 2002. Since the arrival of mobile telephony in Sierra Leone, it has penetrated in almost every corner of the country. Data obtained from the National Telecommunication regulatory bodies (Natcom) indicate that more than half of the population (3.5 million) has access to mobile phones, and more than 80% of the country is within coverage area (Natcom, 2014). Like other African countries, the phenomenal penetration of mobile telephony in Sierra Leone is linked to deregulation of the telecommunication industry and most importantly, the lack of landline telecommunication infrastructure that was almost completely destroyed during the conflict. Mobile phone industry in Sierra Leone is highly competitive; there are currently four active private mobile companies (Africell, Comium, Smart and Airtel) competing against the national landline and mobile phone service provider, SierraTel.

It is believed that the arrival of mobile phone in Sierra Leone has brought some normalcy to the 'war-weary people' (Sesay, 2004); however, research on the adoption and uses of mobile phones and its related technologies (e.g. mobile internet) in Sierra Leone is extremely rare. That said, anecdotal evidence suggests that the mobile phone is being used as a communication tool to connect street and war affected children and youth to life-changing opportunities (SLBS, 2012). On a similar note, the IRCS partnership with the telecom providers is assumed to reach out to 3600 people including adults and youths within an hour with disaster (fires, floods and disease outbreaks) warning information through a SMS location system (IFRC, 2013). While such evidences are anecdotal and largely based on organisational use of mobile phones to facilitate well-being development, they do not provide

an overall picture of how marginalised young people appropriate the technology to suit their own livelihood needs. It is this gap that this study seeks to address, with a particular reference to mobile internet.

3. DOMESTICATION AND APPROPRIATION OF MOBILE TELEPHONY

Most pertinent to the purpose of this paper is the integration of internet facility on a mobile phone device, which is gradually emerging as future innovative and easy way of connecting the unconnected in African countries. In general, despite the ubiquity of mobile phone in the developing world, its uses have been largely restricted to creating and maintaining internal ties with immediate family members and traditional social networks (Slater & Kwami, 2005). Conversely, the access and use of PC internet[1] as a communication platform to connect remote communities to the global information stage is being impeded by multiple factors including connectivity infrastructural challenges, knowledge and ICT skills and low income level (Oyelaran-Oyeyinka & Nyaki Adeya, 2004). Until recently, access to mobile internet is emerging as new fora for enhancing user's capability to leapfrog some of these impediments. Arguably, the advent of mobile internet is set to leverage a unique opportunity to people in remote communities to better relate to each other and people outside the periphery of their social class, economic status, communities and national borders to access better livelihood opportunities.

In the past few years, couple of studies have begun exploring the evidence of such opportunities in India (Rangaswamy & Cutrell, 2012) and South Africa (Chigona et al., 2009; Donner & Gitau, 2009; Donner et al., 2011; Kreutzer, 2009). Using an ethnographic action research based on a sample frame of eight women, Donner et al. (2011) explore the barriers and use of mobile only internet use. They found that mobile internet is mainly used for utility, entertainment and connections. In addition to this, they also found that users are limited by cost and the difficulty to use the mobile internet technology. In a similar study in the same country, Kreutzer's (2009) found mobile internet as a useful communication tool among low-income school children in Cape Town. Outside Africa, Rangaswamy and Cutrell (2012) draw on ethnographic approach to study the entertainment use of mobile internet among youth in urban slum in India. These authors discovered that entertainment use such as downloading games and viewing audio-visual are critical areas of technology infusion among teenagers (p.92).

Apart from these studies, evidence on the adoption, uses and meaning of mobile internet for people with low economic status in most part of Africa is still rare. Frame within the M4D research field, this paper contributes to this gap by drawing on domestication theory to understand why and how mobile internet is adopted and utilised by marginalised young people in two remote communities in Sierra Leone. Domestication theory is used to capture the dialectic process involves in human interaction with technology. A process that explains how mobile internet shapes or is shaped by users to bring about certain behavioural patterns that are vital for understanding the relationship between mobile internet consumption and its meaning for human development.

According to Silverstone et al. (1994), the concept of domestication theory is built on the notion of the moral economy of the household. This involves the description of how an individual acquire technology from the public space, adopt, appropriate and integrate the technology into his/her daily routines. However, in spite of its household's connotative meaning, domestication theory is also understood as a micro-level and pragmatic approach that can be used in mobile phone study to bridge the gap between research frames of the

[1] This study is limited only to the Mobile internet use. For detailed studies on PC internet use in developing countries see the following: Sonaike (2004); Oyelaran-Oyeyinka and Nyaki Adeya (2004) & Soriano (2007).

ICT4D community and the technology and society community (Donner et al., 2011). Based on this understanding, domestication theory has been employed as an analytical lens to capture the process and complex relationship between mobile phone technology use and its symbolic and socio-economic meaning for people at the bottom of the pyramid (see for example Hahn and Kibora (2008) and Donner et al, 2011). Lessons learned from these studies suggest that domestication theory assumes mobile phone as an object capable of shaping or transforming the social and cultural milieu in which it is used. And a focal point of this understanding is that domestication theory requires us to question "how mobile technology enables and enhances human action; and how it derives its meaning as an object from the cultural practice" (Hijazi-Omari & Ribak, 2008). Thus, from this vantage point, it can be argued that domestication approach is suitable for this study, since it puts much emphasis on usage and the context in which the technology is utilised by the users (Hahn and Kibora, 2008). In particular, the theory is not only useful for shedding light on the spirit of mobile internet adoption among users, but it provides a theoretical framework to explore beyond adoption and bring to light the complexities of mobile internet use in the context of Sierra Leone.

4. METHOD

As mentioned above, this study employs an ethnographic approach to engage with research participants in formal and informal discussion, observing and listening to them while they go about their everyday lives (Machin, 2002). Generally, doing ethnography in qualitative research is based on two important logics: (i) applying triangulation approach (including observation) to holistically gather ethnographic information (Saule, 2002) and (ii) using this information to recreate the field scenarios and experiences through the means of 'thick description' (Geertz, 1975) "…rather than writing in dry fashion that merely conveys facts and figures" (Saule, 2002). This study embraces these two logics by 1) using multiple data collection methods such as participant observation, interviews and focus group discussion, and 2) integrating thematic analytical logic with Geertz's thick description approach to translate the story of marginalised young people's experiences of mobile internet use into "knowledge that is comprehensible to those who have not experienced it" (Bow, 2002, p. 267).

Similar to Miller and Horst (2006), data were collected from an urban and rural community (Wellington and Tombo communities) in order to ensure depth investigation and produce rich ethnographic account by spending more time in each community. Tombo[2] and Wellington[3] communities were chosen as potential field settings because of their geographical proximity to Freetown central administrative offices, access to mobile phone network, significant presence of research participants and representativeness of other communities.

The study was conducted in two phases. The first phase lasted for one month (March, 2013). It was a preliminary and general gathering stage primarily used to inform the research questions, the selection of research settings and locating and acquiring initial knowledge on

[2] Tombo is a small marginalised rural fishing community with a population of about 25, 000, and it is located on the peninsula highway about 49km from the east of the capital city Freetown. Its socio-economic activity is largely driven by a small scaled domestic fishing industry.

[3] Wellington on the other hand is a highly populated and remote urban community located in the east of Freetown. It has a small health centre, couple of secondary schools, and limited facility of water and electricity supply. Its socio-economic activity is dissimilar to Tombo in that the economic and social activities of the people are based on multiple and netlike economies. Peoples' livelihood is anchored on interconnected economic activities involving the formal and informal sector.

participants' experiences of mobile phone use. During this initial phase, the researcher employed a holistic approach involving an informal interviews, focus group discussions, observation and document analysis. Indeed, information gathered from this phase was not only useful, but also contributed to refining the research problems, informing the framing of the research questions, selecting the research communities and identifying specific group of marginalised young people as potential research participants.

The second phase lasted for about five months (February to June 2014). This phase involved participant observation in both open and close settings, in-depth interview with 50 participants, 22 key informant interviews and 5 focused group discussion, each comprising of 3-8 participants (Barbour, 2011; Boeren, 1992). Research participants were chosen by means of purposive sampling based on the participant selection criteria[4] involving five different forms of subaltern groups: (i) Wharf youth (ii) Park youth (iii) Ghetto youth (iv) Petty traders-informal business or runners (v) Menial jobs/labourers. These groups were identified based on their area of interest, skills, economic needs and level of their understanding in the two research sites during the general observation stage of the data collection process. The group categorisation is an extension of early categories of marginalised young people in Sierra Leone (see TRC, 2004)

Data collection process during this phase was integrated with data analysis using an iterative-inductive approach based on three stages: exploratory, focus and selective stages (Spradley, 1980). At the end of each stage, all data collected were sorted out (by developing codes, categories and themes) and analysed. The outcome of this analysis was used to review research questions, existing literature and refined research instruments. This process continued until the needed data to answer the research questions is gathered. At the end of the fieldwork, a formal analytical process employed followed similar iterative-inductive pattern, but this time around the researcher navigated between field data, the informal analytical notes and research problem to tell a holistic story. All the names used in this study were given pseudonyms in order to protect the privacy and security of the research respondents.

5. RESULTS

5.1 Popularity of Mobile Internet

Although there are no official statistics to confirm the percentage of young people's use of mobile internet at country level, out of the 50 interviews conducted, over 40 of the users were aware about mobile phone internet, and about 30 of them were active users of mobile internet. The data shows that a majority of these users were 'mobile-only internet users' while a small proportion of the respondents were exposed to PC-based internet (Donner & Gitau, 2009). Similar to other studies in South Africa, none of the respondents in the two research communities own a PC (Donner & Gitau, 2009; Kreutzer, 2009). However, in spite of this, accessing the internet through mobile phones was still popular among respondents. It was found that the awareness of mobile internet and its perceived benefits influenced even the decision making process in acquiring mobile phones and subscribing for service. Many respondents point to internet enabled mobile phones, in particular mobile phones with social media applications, as criteria for acquiring a handset. This information was obtained through

[4] To ensure that all groups are represented, overall criteria were set in accordance with the objective of this study (Evers & de Boer, 2012), and it involves participants whose composition comprised of the following:

- Must be a young person aged between 18 and 35 years and belong to one of the categories identified above
- Have experienced or at the risk of experiencing marginalisation or socio-economic hardship
- School dropouts and those who have never been to school
- Unemployed or employed in the informal sector
- Live within mobile phone coverage area in the research community

a popular question asked for participants to reflect on the kind of mobile phone they would like to possess.

> I need a phone that is somehow advanced… I mean phone with internet facility …that has some programs like Facebook and WhatsApp to communicate with different people in the world (Unisa, Male, 29, unemployed youth).

Access to mobile internet service in Sierra Leone is provided by two of the main telecommunication service providers (Airtel and Africel) through a third generation (3G) mobile phone technology. However, although many participants are aware about mobile internet, not all of them have internet enabled mobile phones due to the cost and inability to customise and use it. For some, it was seen as a major obstacle militating against their capability to explore livelihood opportunities through this channel.

> The current mobile phone that I use does not have internet facility, which means I will not be able to mingle with other people in the world…And it reduces the possibility of my progress…because through this you can meet and communicate with different people in the world…so that you can feel among; you see! (Ibid)

Equally, findings negate the common understanding that only expensive and high end smart phones with high data functionalities are capable of using the internet (Gitau et al., 2010). The study found that most of the mobile phones used by the respondents were either Chinese made smart mobile phones or popular feature mobile phones equipped with GPRS, WAP2.0, XTML and Opera mini functionalities bought as low as $15 per handset (for a used mobile phone). The ubiquity and low cost of these mobile phones also acted as a catalyst for appropriating mobile internet for those who can afford it. According to the data gathered, another factor that contributed largely to the increasing popularity of mobile phone internet among these groups of marginalised young people is the low cost for data and the possibility to acquire it on both prepaid and credit. Umu (female, 27, Unemployed) provided the researcher with these before and after messages from her mobile phone on the data transaction from Airtel*:* Before*: Dear subscriber, 5MB Data Package has successfully been provided to you. Total debt including fee is 30 units* (Received from +1600 at 09:00:57 on the 24/06/2014). After: *Dear subscriber your debt is fully covered. You may now apply for more Data package in Credit. Airtel feel free* (Received from +1600 at 20:26:09 on the 25/06/2014).

Findings illustrated here about the increasing penetration of mobile internet conform to early prediction in India and South Africa that more people are likely to access internet on their mobile phones than PC in the developing world (cited in Donner and Gitau, 2009). The findings also echo ITU prediction that by the end of 2014, "55% of all mobile-broadband subscriptions are expected to be in the developing world, compared with only 20% in 2008" (ITU, 2014, p. 2).

5.2 Reasons for Accessing the Mobile Internet

In general, the use of mobile internet requires at least some minimum amount of literacy skills to be able to operationalise it. However, illiteracy does not limit some of the respondents' capabilities to access and use mobile internet. At the time of the research, perceived benefits surrounding mobile internet motivated some users to use their literate family members or friends to get them on the internet through their mobile phones.

> Initially, I knew there is something called Facebook on mobile phone. I have heard that people are using it to make friends abroad, but because I cannot read I was unable to use it… by myself … my younger brother explained it to me and he has been helping me to use Facebook…its being really hard for me. Because anytime I wanted to use it, I had to ask him or someone else to do it for me. Even though I now have friends here and in many countries, I can still not tell them anything private or secret without other people knowing about it…this is really not good.(Amina, Female, 28, Petty trader)

In a study in South Africa on mobile internet, Donner and Gitau (2009) reported similar result. They found that respondents used trusted people to get them online. Although in the South Africa case the choice of trusted people was based on their level of knowledge and skill in operationalising mobile internet, in Sierra Leone, it was driven by the low educational level and also the motivation to explore the technology to their advantage.

Further, studies on technology use have established that high education level positively influences individual's capability to adopt and utilise technology (Alavi, 1994; Piccoli, Ahmad, & Ives, 2001). On the contrary, it was revealed that the importance and perceived usefulness of mobile internet motivated some of the respondents in Sierra Leone to engage in an informal education in order to be able to use the internet. As this respondent explains,

> I know how important the internet is for people to make friends and browse for information… so, I enrolled for private classes in order to be able to read and write… I thank God now with the little knowledge that I have acquired, I can use Facebook, join groups on WhatsApp, and also listen to music.(Hawa, Female, 29, Petty trader).

It was also revealed in this study that part of the educational and ICT skills required to operationalise mobile internet was either self-taught by the respondents (Chigona et al, 2009), or by people who have the knowledge and skills to configure internet enabled handset (Donner and Gitau, 2009). Thus, this finding is consistent with Meso et al.'s (2005) study on mobile phone use in Kenya and Nigeria. According to these authors, while individual perception about the reliability of mobile phone significantly influences its use, it was found that education level had no effect on mobile phone usage.

In addition, at the group level in Sierra Leone the use of mobile internet was strongly evident among the ghetto youth, park youth, and petty traders. This was not surprising. Poor condition of their socio-economic status, financial insecurity, hope to live a better future and building social relationship could be linked to the some of the reasons why mobile internet was very popular among these groups. For instance, it was found that evidence of successful marriage relationships through the use of social media platform motivated many to adopt and use mobile internet. Equally, another motivation that has continued to make mobile internet popular among these group of people was the popular online betting, which according to them has contributed greatly to improving their financial status. In sum, the study found that perceived benefit and successful evidence of mobile internet use in enhancing livelihood opportunities are some of the motivating factors for adopting and using mobile internet. In addition, other respondents saw mobile internet as a valuable channel to acquire information, showcase their cultural practices and ease and maintain constant communication among peers, friends and family members at a very reasonable cost.

5.3 Uses of Mobile Internet

In the previous sections, the researcher has explored the popularity and motivation for adopting mobile internet. This section provides detailed description of how the mobile internet is utilised by focusing on two main uses of mobile internet: web browsing and social media use. In general, internet use at individual level could extend beyond social media and web browsing to include emails, ecommerce, job searching and e-governance. However, this does not reflect in the case of this study. The reason for this could be linked to multiple factors: The first factor involves low level of awareness and accessibility among the respondents (Chigona et al., 2009; Foley, 2004). Secondly, there are currently no existing infrastructures for any of these uses of internet in the country. For example, all business transactions are still done through the traditional bricks and mortar approaches. And Job searching is still carried out through advertisement made on newspapers, radio, TV, or personal contact, though there are few emerging job websites (e.g. www.careers.sl); the awareness of this is very minimal among the research participants. Thirdly, at the time of the research there was no e-government platform to facilitate citizen's participation in politics and governance issues. And finally, there was no evidence of the research respondents demonstrating their knowledge of email use.

5.3.1 Web Browsing through Mobile Internet

The web browsing activity by the respondents deals with the informational use of mobile internet to search for information on events that happen nationally and international. Popular information sought for are sport updates and online betting results. In addition, accessing entertainment contents such as music, videos and games also stand out as part of the web browsing related activity carried out by the respondents.

Similar findings on mobile internet use for sports also alluded in Donner and Gitau's (2009) study in South Africa. These authors reported that checking scores and football updates were popular practices of mobile internet use by respondents. In Sierra Leone, Sports, in particular football is popular among especially male respondents. This is catapulted by the globalisation of the western style of football across the border of even the poorest communities in the developing world. Like South Africa, there was strong evidence of mobile internet use to browse for football updates, scores and news in the two research communities. For example, in Tombo, a high school dropout, now working as a volunteer sport presenter at the community radio station, explains to the researcher that he uses mobile internet as a source to give daily updates on all sports activities. At the Ataya Base in Wellington, the owner often read aloud all updated scores on ongoing soccer match to those who were unable to watch live matches. Further, a young man the researcher invited to watch a live soccer match with him at a nearby Video Centre shared his experience on how mobile internet has change the ways he access information on Sports: *"Before it was very difficult" to access information on updates and scores*; *you can either get the scores through friends, on the newspapers, or you listen to BBC radio; but now I get all the scores and updates right in my palm using my mobile phone*" (Francis, Male, 23, unemployed youth).

Further, as information unfolded during fieldwork, it was difficult to distinguish between checking sport updates and online betting result for some respondents. Information obtained suggests that online betting brings more users to the internet irrespective of their social economic backgrounds and level of education. This is done through the country's only online betting and lottery company, Mercury International. Customers do not play the online betting directly from their mobile phones; they play it via the company's strong 850 retailers using a handheld vending machine connected to the internet[5]. However, since the betting is

[5] http://news.sl/drwebsite/publish/article_200524795.shtml, access 3/09/2014

based on the outcome of sport results, mobile internet is used by the respondents to check for these results and also exploit other opportunities to inform future betting. The importance of this game as a source of livelihood was emphasised in a way that the respondents gave high priority of their mobile phone use to it. For example, while doing an observation in a ghetto, a young man said to the researcher: *"I have three mobile phones; one is for Mercury only and the other two phones are for my personal use"*(Joe, Male 22, unemployed). Similarly, during an observation at an Ataya Base in wellington a young man declared using a special mobile phone for gambling only. This excerpt is from the field note based on the observation:

> …I have three phones, and two of my phones are allocated only for Mercury International. I don't joke with Mercury, because that is where my future lies. I believed that one day I will win big money that will take care of my future (Author's field note, 05/05/2014)

Ataya Base in Wellington: A prominent hangout for unemployed youth. Source: Author, 2014

Additionally, apart from high priority given to mobile internet use for sport and online betting by the respondents, there was evidence of mobile internet uptake for entertainment purpose, but it was not euphoria among participants. This is not surprising, as Wei (2008) had earlier on explained that the use of mobile phone for news and entertainment is common, but it is only a small fraction of the overall mobile phone use. It was found in Sierra Leone that the respondents access entertainment content such as videos, music and games online either by personally downloading it on their phones or accessing it through sharing by intermediaries. However, personal downloading was not popular; most respondents revealed that they rely on intermediaries to access online entertainment contents. In both research communities, there are many mobile telephony services and retail booths ran by young people with at least some knowledge in mobile internet. These booths serve as a social space where interested users garner information about anything related to mobile phones including mobile internet and accessing entertainment contents. This finding is consistent to an outcome of a study that focuses on the entertainment use of mobile internet by young people in an urban slum in India (Rangaswamy & Cutrell, 2012). These authors found that young people access and learn about mobile internet and online entertainment contents by interacting with each other through two popular hubs. These hub "functions as an advisory body suggesting which mobile phone to buy, at what prices, internet plans and the latest deals going around" (p.89).

In line with the uses of entertainment contents, respondents in Sierra Leone note that entertainment is instrument to their everyday mobile phone usage experiences. In their understanding, mobile phone entertainment is part of youth culture; it helps them to forget about the stresses and the problems that they encounter in their everyday complex world around them. *"Listening to music or playing game on my mobile phone makes me forget many things…em …idleness, no job, financial problem and so forth…"*(Francis, Male, 23, unemployed youth). Further, when the rate of entertainment use of mobile phone was compared among the five categories of marginalised group, it was found that ghetto group use mobile phone for entertainment more than the other groups. Given that a good number of members of the ghetto group were not engage in any employment related activity, mobile phone was seen as a space to pass time. This finding is consistent with Wei's finding. Wei notes that the more respondents recognise mobile phone as a habitual tool to pass times, the more it is use for entertainment (Wei, 2008). Similar comparison was also done for respondents with internet enabled mobile phones and those without. It was found that, not much difference exists among the two groups in terms of the frequency of mobile phone use for entertainment purposes. A good number of the respondents could still access entertainment contents without using the internet. *"…even though I don't have an internet on my mobile phone, I can still access and listen to music and sometimes play game through my 4 gig memory card"(Marie, Female, 20, Hair dresser).* However, those who have internet enabled mobile phone are able to access more entertainment contents by either downloading directly to their mobile phones, through sharing using on memory cards, or accessing third party music websites.

5.3.2 Social Media Use

5.3.2.1 Reuniting Family Members

In 2002, Sierra Leone emerged from a decade-long conflict that not only destroyed lives and properties, but also displaced tens of thousands of Sierra Leoneans and pushed many to the diasporas. Undoubtedly, this led to the separation of many people (both young and old) from their families, friends and loved ones. It was revealed in this study that, for many years, most of these people have been in search of their missing families and also establishing new relationships for those who were aware about the loss of their family members. A majority of the respondents testified that mobile internet has helped in this search to re-unite them with their family members or established new relationship.

> …Somebody that I have not been in contact or talk to her for long …through Facebook, I was able to get in touch with her. She saw me on Facebook and added me… She is a very important person in my life. She is my step mother, and it has taken a while I have not contacted her because I don't know her whereabouts…, but through Facebook I was able to get in touch with her (Samuel, Male, 32, Commercial bike ride)

While this reconnection is important by giving them sense of belonging and perhaps hope for a better future, some of the respondents interviewed strongly acknowledged that it would have been impossible without social media; a particular reference was given to Facebook. As this participant notes,

> …During the war, I was separated from my aunty who was my foster parent, but one day I was just searching for her name on Facebook when I realized that she is now living in England. I sent a message to her and she replied. Since then she has been a

> great support for me. Honestly, without Facebook it would have been impossible to connect with her again (Osman, Male, 24, unemployed park youth)

When asked what kind of support he received from her aunty, he responded saying that "*my aunty is now responsible for my feeding, accommodation, and even things to wear…in fact she has promised to help me learn a trade, and I am really happy for that" (Ibid).*

Osman is not alone; many young people that the researcher interacted with either through formal interviews or during observations shared similar sentiments about the use of mobile internet. In fact, there was a consensus among participants that mobile internet, in particular social media, has strengthened family relationship by maintaining constant communication and information flow among family members. Participants confirmed that most of the communication and informational use of mobile internet are done through instant messages and voice call via social media platforms. This was noted as the cheapest option compared to regular call using mobile phones. Notably, part of the information and communication process of mobile internet also involves photo sharing. It was evident that sharing of photos on social media was a common practice demonstrated by some of the respondents. Photo sharing was used by some as a way of demonstrating love, connectivity and nurturing strong ties. For some, sharing photo was another way of bringing the family together. This is however reasonable given that many families were separated from each other during the conflict. A young lady the researcher met at the main park selling cosmetics echoes that it is only through this means that she can remove loneliness and have the feeling of togetherness with her family members. *"Whenever I see the photos of my family on Facebook or WhatsApp, I feel like everybody is around me"* (Hawa, Female, 22, Petty Trader). Similar experience was also shared by a young man at the Ataya Base in Wellington: *"having mobile phone is not as important as having social media applications on it,… so that I will be able to take photos of myself and my home town and share it with families who have left the country for many years*" (Gibril, Male, 25, unemployed). According to him this recreates a memory of their togetherness and also reminds family members of their origin. The findings illustrate that either one is chatting, calling, or sharing photos; social media seems to have opened new ways of understanding how family members at distance engage with each other to maintain constant communication and information flow, strengthen family ties and remove loneliness.

5.3.2.2 Creating Friendship and Long Term Relationship

Using mobile phone to establish and maintain friendship is not a new phenomenon in M4D research. It is being considered as one of the important contributions of mobile phone usage in resource constraints environment in developing country. It is believed that mobile phones create "user's network of communication partners" (Donner, 2006) that comprise of existing as well as new members located at distance. However, while the establishment of these partners was originally based on exchange of numbers between people that you are already acquainted with, mobile internet has reinforced this practice by opening more avenues for exploration for users. Finding suggests that Mobile internet has increased connectivity internally and externally by building the culture of interconnected web of relationships with familiar as well as unfamiliar faces. It was revealed that Mobile internet has put powers into the hands of marginalised young people in remote communities in a way that their networks of communication partners now include people outside the periphery of their communities, national borders, social class and economic status. Most importantly, this form of partnership established through the use of social media communicates new ways of experiencing mobile phone use by marginalised young people at the periphery of the society in Sierra Leone.

> Mobile phone has done an important thing for us in terms of the internet access, it has enabled us to meet with other people and make friends on Facebook, Twitter and others… I think that is…important thing for us (Fatumata, Female, 21, unemployed)

The specific goals of these networks of communication partners established through mobile internet are diverse—they include building long term relationship, economy, fun, educative and exchanging ideas and sharing cultural artefacts. For example, a school dropout now a hand cart rider shares his experience with me along this line, *"I use Facebook to look for female friends abroad for marriage, so that I will stop this difficult job and become a productive and better person for my family*"(Ibrahim, Male,28, Handcart rider). Further, right in the middle of an informal discussion about the everyday living of young people in Sierra Leone at the Ataya Base in Wellington, a young man known for his antisocial behaviour in the community remarks that "*Facebook and WhatsApp are good ways to make fun and make money if you are smart"* (Alie, Male, 29, unemployed ghetto youth). This comment drew the researcher's attention to join the discussion by asking a general question: how many of you have made money through Facebook or WhatsApp? Mixed responses were received but the most notable answers were linked to making money through online friendship building and what many of them call 419 scams[6]. However not every one of them agreed using social media to exploit people; some believe using it as way to utilise their minimum skills that they have acquired by connecting with people who would create job opportunity for them. For example, this ambitious young man that has just benefited from an informal NGO sponsored driving course explained:

> We have some program that we talk about like Facebook and WhatsApp to communicate with different people in the world. Through this Facebook and WhatsApp, you can create friendships …you know…through it job opportunity might come (Junior, Male, 25, trained driver).

Equally, others also confirmed using social media to create awareness, improve on their literacy skills, increase their knowledge on positive socialisation skills and learn about good manner through online friends. According to the respondents, this has enabled them to live as productive and peaceful citizens in their society. In an interview with Abu aged 25, a former child soldier now working as a mobile phone repairer, he acknowledged that through WhatsApp he was able to create many friends and join multiple online groups. In these groups, they create awareness and educate each other on emerging livelihood issues in the country and beyond. And most importantly, they develop their knowledge on how they should better relate to each other and their communities. As he explains,

> I joined different groups on WhatsApp…like Intelligent Lovers, Explicity, Tumac and Academy something …in these groups we try to highlight each other about what is happening in the country and beyond…like that kind of stuff. In other group like Academy something…is more of education and counselling…and the advice you get through these groups allow one to focus… (Abu aged 25, a former child soldier)

Further, right in the middle of a very busy and noisy market in Wellington, where I usually do my evening observation, I met Amina aged 30, a former RUF fighter. Amina was

[6] "419 scams" is a common term used to describe scammers who use sophisticated tricks to rip off money from people either through online or offline. The term originated from Nigeria and it has become popular in Sierra Leone and many part of the world.

captured and recruited in the RUF when she was in the 10th grade of her senior secondary school education in the late 1990s. Now, she is known as a popular hair dresser in her area. Amina shares her experience with me on how she uses Facebook to showcase their cultural artefacts to friends that she has established online.

> Whenever I travel to the village during Christmas holiday, I will always take photos of our different cultural practices…like for example traditional mask dancing and share it with my friends on Facebook.

The importance of sharing cultural artefacts is not only limited to Amina. A gentleman (by the name of Ibrahim, a 9th grade school dropout) also shared similar experience with the researcher. He claimed that dealing with different people every day in his business drove him to establish many friends on WhatsApp and Facebook. Beyond this, Ibrahim explained that he loved sharing cultural related materials on social media with his friends online.

6. DISCUSSION

6.1 Pathway to Adoption and Building Network of Communication Partners

Mobile internet is an extension of mobile phone's functionalities beyond ordinary text messaging and voice call to facilitate the access to diverse digitised contents online anywhere and anytime (Chae & Kim, 2003). Therefore, depending on the context and how it is adopted, appropriated and adapted into the everyday lives of its users, mobile internet is an innovation that leverages the possibility to contribute to users' experiences and, hopefully makes significant differences in their lives. In this respect, the findings illustrated some of the many ways marginalised young people are ingeniously using mobile internet in Sierra Leone. Notably, the findings have direct relationship with the socio-economic status of the users. In other words, because of the low socio-economic status of the users, the motivation to adopt and appropriate mobile internet was largely based on perceived benefits and the expectation to secure better economic opportunities either by connecting with family, making friends, scamming or engaging in an online betting. Nonetheless, while these characteristics are typical of the behavioural pattern of people at the margin of the society, they thus reflect strongly the principle of domestication theory, which suggests that individual appropriate, incorporate and adapt a technology into their daily routines based on their desire and expected outcome (Silverstone et al., 1994). According to domestication theory, if such expectations are not met, there is a likelihood of the users rejecting the technology in the domestication process (Haddon, 2006). However, rejection was certainly not an option for this people. Given that many of the users saw mobile internet as an opportunity for cheap communication, information access, entertainment and overcoming their social and economic status; its appropriation and adaption into their everyday routines was inevitable for them.

In general, the findings follow the trajectories of similar studies carried out on mobile phone technology in developing countries with some similarities and differences in terms of context and usage patterns. For instance, research carried out on mobile phone technology in an urban slum in India (Rangaswamy & Cutrell, 2012), among Favela population in Brazil (e Silva et al., 2011), in Jamaican communities (Horst & Miller, 2006), Uzbekistan (Wei & Kolko, 2005), and different African countries such as Liberia (Best et al., 2010), Ghana (Sey, 2011; Slater & Kwami, 2005), Burkina Faso (Hahn & Kibora, 2008), South Africa (Donner & Gitau, 2009; Donner et al., 2011) and Malawi (Porter et al., 2012) share these similarities and differing patterns in the manner in which people adopt, interact and incorporate mobile phone technology into their everyday livelihood. To start with, although these studies may vary in contexts and approaches, common to them is the uptake of mobile phone technology

as critical element of communication, socialisation and livelihood instrument for coping with the harsh reality of life in developing countries. Notably, it is these important elements that share similar characteristics with outcome of the uptake of mobile internet in Sierra Leone among marginalised young people. As illustrated in the analysis, mobile internet is enormously important for users to 'link-up' (Horst & Miller, 2006) and build networks of communication partners with friends, love ones and family members who were separated during the conflict. Given that we are now living in era where networking through digital devices has apparently become an important tool for building relationship and facilitating livelihood opportunities, the important of building communication networks cannot be overemphasised. Ultimately, considering the context of marginalised young people in Sierra Leone, building such network through the use of mobile internet could possibly have some potential impact on the harsh condition of their socio-economic status. However, understanding how such form of usage patterns have brought normalcy to their lives and contribute positively to the development of their socio-economic status is beyond the scope of this study.

Additionally, in relation to differing patterns of appropriation, the most striking difference was noticed in Brazil where the *favela* residents appropriate mobile phones to engage in illegal activities such as 'diretao' (defrauding service providers) and 'cloning' (see e Silva et al., 2011). Bar et al. (2007, p. 34) refer to this form of appropriation as 'cannibalistic appropriation'. In Sierra Leone, apart from some evidence of criminal use of mobile internet such as scamming (e.g. 419er) and thievery, there was no evidence of such practices where users subvert service providers or other users to access mobile internet service illegally. This is perhaps either the users are unaware about it or they may not have the necessary technological skills to engage in such activities. However, the most notable form of appropriation that marginalised young people in Sierra Leone engaged in largely involved a complex web of interconnected social, economic, family and personal related activities (Horst & Miller, 2006).

Further, given that the aim of this study is to understand the adoption, appropriation and the meaning users make from mobile internet in their everyday lives, the informational and entertainment use of mobile internet also presented interesting findings. But the relevant of such form of usages had been early on questioned by Obijiofor (2011) that it is 'mundane and disempowering'; therefore it may not necessarily have important and positive consequence on the livelihood options of this kind of people. In his study in Ghana and Nigeria, Obijiofor notes that young people who use mobile phone, internet and Facebook "to meet and interact with different people, to make new friends, to relax and to keep busy" are empowered than those who use it to fulfil their needs for private communication, entertainment purpose and access special information (2011, p. 216). In this respect, it may be true that in conventional sense the entertainment use of technology is not relevant for empowerment and developmental purpose; however, this study does not completely agree with Obijiofor because the decision to use the technology for informational and entertainment purposes is part of the user's agency and consequently plays a strong role in integrating and infusing the technology in their everyday routines (Rangaswamy & Cutrell, 2012). Implicitly, "these patterns of use represent the choices people make about what is important to them and how they will use technology to meet those needs"(Rangaswamy & Cutrell, 2012, p. 91). For Alsop and Heinsohn (2005) this kind of agency is 'empowering' because it defines people's capability to discern their needs and make choices to use mobile internet with the clear intention of fulfilling those needs. Clearly, it also defines the principle embedded in the domestication process of technology, wherein users define and continue to define the reason that underpins the adoption, appropriation and incorporation of mobile internet in their everyday routines. For example, Hawa's awareness and assessment about the important of

mobile internet in her lives led her to engage in an informal education so that she could adopt and use the technology to her advantage.

> I know how important the internet is for people to make friends and browse for information… so, I enrolled for private classes in order to be able to read and write… I thank God now with the little knowledge that I have acquired, I can use Facebook, join groups on WhatsApp, and also listen to music.(Hawa, Female, 29, Petty trader).

6.2 Inhibiting Factors Limiting Users' Capability

Like other studies that have examined mobile phone and internet use in developing countries, in particular Africa (see Gitau et al., 2010; Oyelaran-Oyeyinka & Nyaki Adeya, 2004), some of the respondents in Sierra Leone were confronted with multiple challenges that limit their capability to gain access to and use mobile internet. These challenges varied and involved a wide array of issues emanating from infrastructural and technologically challenges to human capability. Notably, some of the respondents were unable to acquire internet enabled mobile phones or use it effectively to their advantage either because of the cost or low level of ICT and literacy skills. Therefore, this suggests the need for cheaper and durable internet enabled mobile phones and facilitation of training to improve on the skills and users' capabilities.

Further, limitation also extended to those who have access to and use mobile internet. An example of such limitation includes low level of knowledge and awareness about other opportunities that the mobile internet may offer. Kleine (2010) notes that the awareness about the existence of opportunities (e.g. email and online chat) that a particular technology offers to the users has strong link to their educational resources including ICT skills. Most importantly, she reinforces that this knowledge is vital in determining the use or non-use of the technology. As she points out, "for any piece of research focused on a technology which is new to the respondents, the dimension of sense of choice will play a significant role, since they have to imagine use/non-use" (2010, p. 680). In this respect, since mobile internet is a new technology for marginalised younger users in Sierra Leone, the study revealed that a majority of them failed to prove that they have knowledge in or aware about other potential opportunities that it can offer, apart from the existing usages mentioned. As a consequence, the researcher argues that they were more likely to have underutilised the technology to their advantage. Indeed, as evident in the analysis, the respondents do not find mobile internet useful for email communication and to search for employment; neither do they find it beneficial to generate income through mobile internet business; nor do they find it significant for completely eradicating their marginal position in the society. As mentioned above, most of the beneficial use of mobile internet was grounded on either direct benefit (gambling and extortion of money by criminal means) or indirect (through establishing friendship or connecting with family members). However, this does not mean that the respondents did not use mobile internet productively. What this study has shown is that young people are enthusiastic about the uptake of mobile internet, but their capability to use it productively is limited and largely constrained by the aforementioned challenges. This means that if the potential of mobile internet is to be exploited for productive livelihood improvement, then, there is a need for stakeholders to work further in order to appropriately respond to these challenges

7. CONCLUSION

According to the recent ITU (2014) report, the penetration of mobile internet in developing countries, in particular Africa is near ubiquity. This paper sought to explore the extent to which mobile internet has gained popularity, reason for such popularity and how it has been utilised among marginalised young people in Sierra Leone. While doing this the author argues that such an inquiry is important to provide new scholarly knowledge by understanding how the behavioural patterns of marginalised young people in the context of post-conflict Sierra Leone are shaped by the appropriation of technology that is available to them, and equally how they shape technology to respond to their needs. The analysis revealed that a majority of marginalised young people are aware and enthusiastic about adopting and integrating mobile internet into their everyday routines. The underline reason(s) is contextual, and it is largely driven by perceived benefits. The key here is that the respondents were optimistic that the appropriation of mobile internet could contribute to creating better livelihood opportunities for them. As such, the technology was largely used to build networks of communication partners with lost family members, friends and affluent people outside the periphery of their socio-economic class, community and national borders. Additionally, it was also used as an important avenue for facilitating private communication, socialisation on social media platforms, entertainment purpose and accessing important information on events (e.g. online gambling, news and sport updates) that matters to them.

Further, although mobile internet was popular among the respondents, it is worth noting that not everyone was able to gain access to internet enabled mobile phone or use it productively to their advantage. Some respondents were confronted with certain impediments that limit their capability to adopt and use the technology productively. These barriers were diverse and dependent upon individual status and needs. For example, while illiteracy and low ICT skills were important impediments for some, others reported about the high cost involves in acquiring and maintaining internet enabled mobile phone. However, as discussed above, the most notable limitation that the researcher found is the lack of awareness and knowledge about the potentials (job searching, m-commerce and emails etc.) that mobile internet can offer for livelihood improvement.

Additionally, while this study has generated interesting findings, it is limited to a particular set of marginalised young people. Therefore, it does not cater for the overall use of mobile internet across the country. In this regards, these findings cannot be generalised, but it however, serves as a base to inform future study that may attempt to understand the complex relationship between technology appropriation and human development in post-conflict Sierra Leone. More importantly, given that there is not enough room to examine the impact of mobile internet on the livelihood options of marginalised young people, it suggests an important gap for future exploration on mobile phone usage in Sierra Leone.

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