# Table of Contents

## International Journal of Information Communication Technologies and Human Development

### Research Articles

# The Impact of Mobile Phone Uses in the Developing World:
## Giving Voice to the Rural Poor in the Congo

Sylvain K. Cibangu, Loughborough University, School of Business and Economics, Centre for Information Management, Loughborough, United Kingdom

Mark Hepworth, Loughborough University, School of Business and Economics, Centre for Information Management, Loughborough, United Kingdom

Donna Champion, Cranfield University, School of Management, Cranfield, United Kingdom

## ABSTRACT

In recent years, the rise of information and communication technologies (ICTs) contrasted with the dire living conditions of the world's poorest has been the subject of debate among industry and academia. However, despite the amount of writings produced on mobile phones, Western bias is surprisingly unbridledly prevailing alongside the *fêted* dissemination of mobile phones. Expansive literature tends to present the rapid adoption of mobile phones among rural individuals, with little to no indication of how local values and voices are respected or promoted. We undertook semi-structured interviews with 16 rural chiefs to inquire into ways in which mobile phones enabled socio-economic development in the rural Congo. Rather than using quantitative, large-scale, or top-down data, we sought to give voice to chiefs themselves about the role of mobile phones. We found that Western bias dominates the literature and deployment of mobile phones more than usually acknowledged. We suggested some paths forward, while bringing the African communal *Utu* or *Ubuntu* culture to the center stage.

## KEYWORDS

## INTRODUCTION

This paper is a multidisciplinary research since ICTs tend to cross-cut and resist disciplinary boundaries. The first recorded commercial use and production of handheld mobile phones trace as far back as the early 1980s while their ancestry can be extended to the invention of radio in 1894 by Marconi (Siapera, 2012). But mobile phones have not gripped academic researchers until around the mid-2000s. Indeed, by the end of the 2000s onward, mobile phones have gained prominence in developing countries faster than any ICT known in human history (ITU [International Telecommunication Union], 2013). At the same time, it bears noting that since their inception, mobile phones have drawn criticism as to their developmental effects among rural communities and individuals. One potent criticism was, for

example, about the conceptual framework or more exactly the manner in which mobile phones were being transplanted from the West to the rest of the world, especially the poor. As Gough (2005) warned:

*It seemed extraordinary that a technology that has clearly taken the world by storm had attracted so little rigorous research… We wanted the work to be able to survive the scrutiny of a potentially skeptical audience… Most important is the fact that the ways in which mobiles are used, valued and owned in the developing world are **very different from the developed countries** [emphasis added]… The value of communications in the developing world is also different. (p. 1)*

However, due to the mounting popularity of mobile phones the criticism raised has escaped and still does the attention of mobile phone researchers and designers. Perhaps not surprisingly, Gough's (2005) remark is one of the least cited and known accounts of the Vodafone research program (Waverman, Meschi, & Fuss, 2005) that is now widely accepted as the landmark research into the developmental effects of mobile phones in developing countries, particularly in Africa. In other words, the Vodafone series study is known more for the rising adoption of mobile phones than for the warnings made against biased or lax research into mobile phones. As a result, the idea of bias as regards mobile phone research is hardly addressed in relevant ICT literature.

To add to the conundrum, a large number of critics continue to lament the consequences of Western bias around the world. For example, Sen (1999) wrote:

*The contemporary world is dominated by the West, and even though the imperial authority of the erstwhile rulers of the world has declined, the dominance of the West remains as strong as ever – in some ways stronger than before, especially in cultural matters. The sun does not set on the empires of Coca-Cola or MTV. (p. 240)*

As can be seen, this is the context in which new technologies such as mobile phones are being produced and disseminated. As Ojo (2013) reminded us, "questions and issues underpinning the ICTs [as well as mobile phones] for development are not merely economic ones" (pp. 94-95). In this study, development is not characterized as a mere economic process.

Among some of the things that give a paper its gravitas are references to seasoned, seminal authors. These authors might seem that old, and yet they bear historical relevance. In order to yield knowledge of an in-depth, thick, or sedimented nature as that being sought in this paper (details below in methodology section), research ought to bear historical relevance, link(s), or space(s) within the concerned body of literature (Babbie, 2016; Bryman, 2016). Historical links or spaces can be seen in arguments or statements hearkening back to founding or pioneering author(s). These links or spaces give rise to trends or positions, on the grounds whereof a given body of literature takes root. As Hansen and Machin (2013) indicated, "we [ICT researchers as well] need to place our topic in historical context" (p. 58). The key idea for a literature review is not just to amass names or authors, but to unravel spaces of patterns or trends within a field's research or history. Indeed, attempts toward and concerns over mobile phone research emerged in the mid-2000s (Aminuzzaman, Baldersheim, & Jamil, 2003; Coyle, 2005, 2007; Donner, 2006; Gough, 2005; Singhal, Svenkerud, Malaviya, Rogers, & Krishna, 2005; Jensen, 2007; Waverman, Meschi, & Fuss, 2005; Williams, 2005). Since then exposés of mobile phone work ballooned into trends-traversed and development-sensitive subjects, with information systems for development alongside mobile phones or ICTs being one of the most prevailing subjects (Aker & Blumenstock, 2015; Alderete, 2017; Asongu, 2015a, 2015b; Asongu, Boateng, & Akamavic, 2016; Asongu & Nwachukwu, 2016a, 2016b; Chéneau-Loquay, 2010; Donner,

2008, 2015; Donou-Adonsou, Lim, & Mathey, 2016; Duncombe, 2016; James, 2014, 2015, 2016; James & Versteeg, 2007; Ojo, 2013; Porter, 2015; Reyes, 2016; Sam, 2017; Steele et al., 2017; Yan, 2015). One deep-seated shortcoming of mobile phone research invariably pointed out across most literature is that of anecdotal, melodramatic, loose, spurious, insufficient, or unsupported claims about development. As James (2016) noted:

*The literature on the impact of mobile phones on the poor is surprisingly scant… What literature there is, for example, is fragmented… It also tends to be dissociated from the technology and development literature and the economics of technical change. (p. 1)*

As is evident from the above remark, the paucity and fragmentation associated with mobile phone body of knowledge has caused many analysts to rethink and question the research being done on mobile phones and the ways in which mobile phones are being disseminated and implemented. Another ground for concern about mobile phone literatures is that of massive reliance on large-scale quantitative research. Such a limitation further increases the positivistic agendas known to be fueling most quantitative research-driven accounts of mobile phone penetration. As Asongu (2015b) rightly argued, "the few existing empirical works [done on mobile phone uses] hinge on country-specific and micro-level data mostly collected from surveys" (p. 707). The country-based studies might be helpful in certain circumstances, but not in those of this paper's participants.

In addition, owing to the positivistic principle of quantification (details below), particular attention has been paid to the concept income as part of the analysis needed to understand mobile phone penetration in developing countries. For example, in an effort to justify the purpose of his study on mobile phones, Asongu (2015b) understandably wrote, "the aim of this paper is to complement theoretical literature with empirical evidence on the income-redistributive effect of mobile phone penetration" (p. 707). Yet, not only do rural populations have nothing to do with income distribution, they have no clue as to what such a metric stands for. The present paper addressed the research questions as follows:

1. Do mobile phones generate development among chiefs in rural areas of the Congo?
2. Do mobile phones improve the everyday living conditions of chiefs?

The paper stated the aims of the study as follows:

1. Inquire into ways in which mobile phones generate development in rural areas of the Congo from the lenses of chiefs;
2. Give voice to chiefs to relay their own lived experiences about and testimonies *vis-à-vis* mobile phone uses and development.

The research questions and aims adopted in this paper go a long way toward ensuring and unraveling context- and people-centric processes of both mobile phone uses and development practices. The reason being, as Sam (2017) reminded us, that despite the seemingly obsessive hype on the wonders of mobile phones, "there are still concerns that the relationship between mobile phones and socio-economic development remains unclearly established… in developing countries" (p. 359). Indeed, rural populations tend to be inhibited or supplanted by big-data representations, pointers, and simulations of what local real world realities among the world's poorest might be like. The present paper hinges on six themes: (1) problem statement, (2) literature review, (3) method, (4) findings, (5) discussion, (6) limitations. A conclusion is provided.

## PROBLEM STATEMENT

One of the most basic principles taught in research methods indicates that any research – regardless of whether it is quantitative or qualitative -- is in danger of being affected if not altered by a researcher's bias (Bryman, 2016; Tracy, 2010). The potential of a researcher's bias has been known since Antiquity. Indeed, "that this is so has been known for a long time," wrote Popper (1956/1983), "Parmenides [philosopher of ancient Greece] speaks of delusive opinions uncritically held by 'the mortals'" (p. 14). Perhaps more interestingly, what mobile phones have done is not only to increase the communication between humans and their societies, but also to bring into greater light the manner in which they are being propagated in a given area or community. Part of what is coming to light is that both the idea of development and mobile phones are ideas imported from the West. One reason for this is the belief or relief that mobile phones enable people to dispense with physical, spatial constraints. It also becomes apparent that, with globalization now largely relayed by social media or mobile media, spaces and localities are being homogenized or virtualized. It should not surprise that mobiles phones are being mass-produced and marketed, to borrow a pertinent description of Servaes (2014), "as a value-free and politically [and culturally] *neutral asset* [emphasis added] that can be used in every society and historical context as a driving force of social change" (p. xiv). The mobile social change comes under different disguises or names, such as mobile banking, micro-credit, market efficiency, transaction or travel cost, e-commerce, etc. The relevance of this paper is to propose to craft ways in which the communication infrastructure, mainly, mobile phones and related organizations and practices best cohere with the local, cultural views, specifics, beliefs, needs, or realities of concerned rural participants.

## LITERATURE REVIEW

Just as mobile phone is a cross-disciplinary topic so too its literature review is not limited to one particular field or journal. This, of course, comes with challenges and promises. We say challenges because reviews of mobile phone literature and attendant research tend to be unconnected or scattered. There are also promises in that mobile phone research is not tethered to a given journal or discipline. In effect, since coalescing into an articulate body of literature around the mid-2000s onward, the concept mobile phone has enjoyed a number of informative, synoptic accounts of produced literature (Aker & Blumenstock, 2015; Alderete, 2017; Asongu, 2015a, 2015b; Asongu, Boateng, & Akamavic, 2016; Asongu & Nwachukwu, 2016a, 2016b; Chéneau-Loquay, 2010; Donner, 2008, 2015; Donner & Escobari, 2010; Donou-Adonsou, Lim, & Mathey, 2016; Duncombe, 2009a, 2009b, 2011, 2012, 2016; Duncombe & Boateng, 2009; James, 2014, 2015, 2016; James & Versteeg, 2007; Ojo, 2013; Porter, 2012, 2015; Reyes, 2016; Sam, 2017; Steele et al., 2017; Yan, 2015). Meanwhile, it bears noting that with their booming combination with or transformation into specific services and applications (i.e., Internet, banking, ICTs, music, social media, etc.) mobile phones tend not be a stand-alone variable or concept, resisting any rigid, objectivist itemization. In this paper, we pinpointed the most recurrent missing pieces of mobile phone research, from the perspectives of investigated participants. Thus, ICT literature is seen to be traversed by eight major trends of mobile phone presentation or interpretation; (1) micro-loans or credits, (2) small enterprises, (3) social mobility or networks, (4) market price(s), (5) m-banking, (6) GDP and related metrics, (7) health informatics, and (8) policy or regulations.

### Eight Major Trends of Mobile Phone Presentation

First, micro-loans or credits trend presents mobile phones as the tool of micro-credit production in rural areas. The classical illustration here is the case of rural women in Bangladesh (Aminuzzaman, Baldersheim, & Jamil, 2003) who with a small loan received from Grameen Bank were able to earn micro-credits via the sale of mobile phones and services. Second, small enterprises trend capitalizes on mobile phones to allow individuals to create small or medium enterprises (Donner, 2006; Ilahiane

& Sherry, 2012) centered on specific goods, such as clothes, potatoes, grains, etc. Third, social mobility or networks trend (Molony, 2008; Smith, Spence, & Rashid, 2011) propels the idea that mobile phones are designed or used for social interaction, network, or communication. Fourth, market price(s) or market efficiency trend (Aker, 2010) is premised on the belief that mobile phones allow individuals to avoid transaction and travel costs by contacting traders (via mobile phones) about specific transactions. Fifth, m-banking trend (Shaikh & Karjaluoto, 2015) is the trend that enables the sending and receiving of money and related transaction through mobile phones. One of the most popular m-bankings to be cited in mobile phone literature is that of M-PESA in Kenya. Sixth, GDP and related metrics trend (Waverman, Meschi, & Fuss, 2005) teaches that mobile phone dissemination is significantly correlated with economic growth in a shorter span of time than landline communication was correlated to development in Western Europe. Seventh, health informatics trend (Kahn, Yang, & Kahn, 2010) advocates that mobile phones can be leveraged for health purposes. Eighth and lastly, policy or regulations trend (Mohamad, 2014) holds that better regulations or better policies lead to a society's development. The eight trends sketched above give a picture on the overarching attempts – by no means all -- made by authors in literature to tap into the potentials mobile phones have for development. What is strikingly common to these trends of mobile phone inquiry is that while they have highlighted diverse mobile phone benefits, they are each a model copied and pasted from the West.

To be clear, this is not saying that mobile phones are nothing but the manifestation of Western imperialism (details below), but rather that the context in which mobile phones are propagated might need sustained attention as to how concerned populations can best handle and receive these technologies. As Olssen, Codd, and O'Neill (2004) argued, "at a cultural level, globalization involves the expansion of Western (especially American and British) culture to all corners of the globe, promoting *particular values that are supportive of consumerism and capital accumulation* [emphasis added]" (p. 6, see also Cole & Symes, 2014a, 2014b; Jenco, 2015; Manning, 2015). More precisely, what this means is that the consumerism of mobile phones and the accumulation of the capital or revenues derived from them might be something that needs a researcher's attention one way or the other.

Just like in any discipline, the idea of themes or patterns embedded in mobile phone literature is an ongoing debate since the inception of mobile phone scholarships in the mid-2000s. At the same time, however, it is imperative to resist the prominent temptation in ICT research of presenting trends or recipes of ICTs "seen as 'silver bullets' for development" (Walsham, 2014, p. 14). Indeed, several studies have proposed trends of mobile phones or ICTs along the lines of this paper, meaning not as positivistic absolute truths, but as qualitative, interpretive research or as tentative spaces of discussions (Aker & Blumenstock, 2015; Asongu, 2015a, 2015b; Asongu, Boateng, & Akamavic, 2016; Asongu & Nwachukwu, 2016a, 2016b; Chéneau-Loquay, 2010; Chipchase, 2009; Duncombe, 2016; Donner, 2008, 2015; Donou-Adonsou, Lim, & Mathey, 2016; James, 2014, 2015, 2016; Ojo, 2013; Porter, 2015; Reyes, 2016; Sam, 2017; Steele et al., 2017; Yan, 2015). It cannot be stressed enough that research is context-specific. In other words, it is neither the role of scientific work, nor the definition of a literature review, nor the promotion of human freedom to provide absolute, immutable, complete trends or positions transferrable across situated contexts. Because of this tendency, Popper (1963/2002) persisted, "all laws, all theories, remain essentially tentative, or conjectural, or hypothetical" (p. 68). He went on to say, "*the criterion of the scientific status of a theory is its falsifiability, or refutability, or testability* [emphasis in original]" (Popper, 1963/2002, p. 48). What context does is to keep researchers tentative, responsive, open, and flexible.

By definition any given literature (Babbie, 2016; Bryman, 2016; Hansen & Machin, 2013) embodies positions taken or trends subscribed to, around which a field tends to take shape. This sets scientific writings apart from newspaper articles. One cogent reason for this is that:

*The human mind finds patterns almost intuitively. It needs no how-to-advice. But patterns don't just happen; we construct them from our observations of reoccurring phenomena. The most important*

*thing is to be able to (a) see added evidence of the same pattern and (b) remain open to disconfirming evidence when it appears. (Miles, Huberman, & Saldaña, 2014, p. 278)*

As clarified in the above statement, since this paper is one of qualitative research the most important thing is to be able to accommodate disproving evidence, and not to present trends as absolute and exhaustive formulas. Equally essential to be borne in mind here is the idea adopted in this paper against the commodification of items and reification of human beings in the name of items listed or marketed (details below). The aim of this study was thus to give voice to selected participants, and not to produce the most comprehensive list of traditions about mobile phones, all which would have required a set of methods and tools completely different from that espoused in this paper.

## Commodification and Utilization of Humans

As is conspicuous from our findings, mobile phones are being presented with ideals of commodification and utilization of humans and their societies (details in discussion and method sections) in order to reach the widest base of mobile phone consumers. Yet, one area that needs consideration here is that of development practice and theory. Indeed, an increased awareness about the necessity of different worldviews, cultures, or spaces with which to conceptualize and implement technology has emerged among development practitioners and theorists. As Newman and Beardon (2011) noted, "organizations need to invest to broaden out participatory spaces and processes… These spaces would… be constructed from many perspectives, challenging the western or northern worldviews to dominate development thinking" (p. 16). The point being, it was thought that "the 'end' of development [and related information technologies such as mobile phones] justifies the means of getting there, however disruptive [or unsuitable] socially and ecologically the process may be" (McMichael, 2012, p. 2). Consequently, it came to the realization of a number of development researchers that while development revolves around human basic needs that are essential to human actualization or survival, "the course taken by development is subject to the *material and cultural visions of different societies* [emphasis added]" (Peet & Hartwick, 2015, p. 1). However, this understanding does not reverberate in discussions, systems, and organizations of mobile phones and the methods employed. One key reason for this might be the euphoria that comes with mobile phones.

Sure enough, the innovations brought by mobile phones tend to appeal to authors of ICTs and information systems research. As Traxler (2009) put it, "the diffusion of innovations perspective should teach us in the ISD [information systems for development] community to be very conscious of local values, local resources, local affordances if a 'development' or 'innovation' is to be a valued and successful change" (p. 330). Thus, mobile phone innovations become the new name of consumerism that renders our markets vibrant and our interactions profitable.

Pointing to a need, if anything, for a type of ICTs and information systems research more culturally sensitive and locally grounded, Traxler (2009) insisted:

*The information systems perspective should teach us in the ISD community to be very cautious about the role of any "soft' (organisational, culture, social, procedural) component of systems, about the available portfolio of technologies, and about the tacit and unrecognised (western) epistemology that underpins IS [information systems] as an academic and professional activity. (p. 331)*

The statement above implies that the spread of mobile phones, for example, needs to dovetail with the values and realities of concerned populations. This becomes all the more difficult if one takes into account the virtual mobility of mobile phones. As Duguid (1996) claimed:

*Freedom of information, once a citizen's right to gain access to information, by a sleight of argument becomes the right of information to move freely, free of material impediment. This is not to deny the*

*important First Amendment [freedom of expression]… But for a variety of reasons, the language of personal freedom is being attached to information, which as a result is given autonomous desires and an independent existence and evolution. Technological futurology occasionally transfers autonomy and rationality from people and societies to machines… Information is endowed with human attributes and simultaneously a certain independence from human control. (p. 74)*

It is tempting for authors reliant on the view of information flow seen in the statement above to bypass the necessities or conditions of concerned local populations. One reason that authors tend to be wedded to a view of ICT independent of space and time lies in the properties ascribed to new digital media or mobile phones (see details in discussion).

## Time-Free Mobility of ICTs

Perhaps one compelling reason why space- and time-free mobility of ICTs was co-opted by scores of authors comes from the dominance, or to use a variant expression, the positivistic background of quantitative research. While ICT research has displayed an expanding number of mixed methods, namely quantitative and qualitative research, allegiance to quantitative research has intensified apace, resulting in a shallow notion of qualitative research and its specifics. This is mainly because, as communication methodologists Hansen and Machin (2013) warned, "never should research start by choosing a method before considering what research questions to ask and *what theoretical frameworks to draw on* [emphasis added]" (p. 6). One eminent specific of qualitative research is its sensitivity and proclivity to providing an in-depth account of the cultural, local, and human particularities. As Patton (2015) explained, an important contribution of a research with a theoretical framework grounded in qualitative methods lies in "capturing stories to understand people's perspectives and experiences" (p. 12). It also needs to be borne in mind that although quantitative research has been proved to provide information on people's attitudes and experiences (see Bryman, 2016), "the particular niche and contribution of qualitative methods in uncovering unanticipated consequences comes from the openness of inquiry: asking open-ended interview questions, doing fieldwork in a way that is open to whatever turns up" (Patton, 2015, p. 11). This needed openness to the real world is something that equips ICT research with greater insights into and familiarity with the particularities of a given population.

The goal of research is thus not to manipulate the real world, but to be responsive to it and its complexities. To be precise, discussions undertaken on theoretical frameworks or foundations of research have taken place in ICT research with varying and at times limited or unproductive results. Of note here are, for example, communication studies and information systems with an array of studies embroiled in discussions of theoretical frameworks and in how these discussions affect any research (Fitzgerald & Howcroft, 2015; Hansen & Machin, 2013; Myers et al., 2015; Tracy, 2012; Williams & Tsang, 2015). In this sense, one key idea pointed out was that of "paradigmatic domination" (Williams & Tsang, 2015, p. 151), leading to entrenched exclusivity among researchers. These and similar discussions have yet to seep through ICT case studies. More particularly, an invaluable ICT research worth recalling here is that of Burrell and Toyama (2009) when they lamented that "due to its breadth as well as its range of research activity, ICTD is richly multidisciplinary, and therefore there are challenges of communication and a *lack of a shared foundation of concepts and terms* [emphasis added]" (p. 84). As is clear from expansive ICT outlets, Burrell's and Toyama's (2009) article has not met with earnest follow-up, and mistakes in dealing with real-world local issues have taken root in ICT research practice. The same can be stated about information science and computer science where studies have yet to challenge or reverse, to borrow a suggestive phrase of De Fina and Johnstone (2015), "the methodological hegemony of quantitative research paradigm" (p. 160). As Cole (2013) pertinently observed, "information science in general and information behaviour research in particular has not had much effect on the computer science-dominated paradigm" (para 4). Nor does information science have a subspecialty devoted to development, either – unlike communication studies (Quarry

& Ramírez, 2009; Servaes, 2008, 2013), information systems (Alderete, 2017; Avgerou, 2008; Ellway & Walsham, 2014; Faik & Walsham, 2013; Qureshi, 2011; 2015; Walsham, 2012, 2013, 2014, 2017; Traxler, 2009; Xiong & Qureshi, 2013), and computer science (acmdev.org/) that each have one. This paper was not proposing a specific set of concepts to be shared by ICT researchers, but rather raise awareness about how theoretical toolkits can impair or enhance a researcher's engagement with cultural or local particularities. Certainly, theoretical or methodological foundations are the first aid kit from which researchers draw prescriptions to be applied to the world, place, phenomenon, or topic dealt with. It needs to be said that beyond ICT or information-related research, several authors have stood up against the snowballing dominance of positivistic, quantitative research paradigm (McDonald, Gan, Fraser, Oke, & Anderson, 2015; Sparkes, 2015; Wells, Kolek, Williams, & Saunders, 2015).

## Western Bias or Imperialism

Not surprisingly, most critics have come to the realization that:

*The roots of this Western bias in development research and practice lie in historical precedence. The… questions remain as relatable today as they have been over 60 years ago… in an effort to reduce poverty in parts of the world other than the West. This was also a time when Western nations created international organizations and interventions to ensure that the economic crisis of the 1930s would never happen again. (Qureshi, 2015, pp. 512-513)*

The above statement showcases the settings in which development as well as ICTs are being produced and disseminated. The idea reechoes the prevailing criticism that digital technologies-driven modernity reproduces the structures of domination seen in the old world (Banks, 2015; Banks & Milestone, 2011; Eikhof & Warhurst, 2013; Oakley & O'Connor, 2015). In the midst of fast-growing and irresistibly addictive digital technologies, Qureshi (2015) remarked, 'we [ICT or information researchers] no longer need to transport our theories and technologies created in the West to countries in the Southern hemisphere" (p. 515). Thus, the daunting responsibility rests with ICT and information researchers to craft research rather yielding emancipatory or transformational effects among concerned populations than serving the mass production of capitalism-centric items. Along similar lines, a stream of research termed information systems for development (Alderete, 2017; Ellway & Walsham, 2014; Faik & Walsham, 2013; Qureshi, 2011, 2015; Walsham, 2012, 2013, 2014, 2017; Xiong & Qureshi, 2013) has been propelled to burnish the reputation of information systems research among analysts conversant in matters of developing countries.

An important clarification needs mention when it comes to the discourse being made about Western bias or imperialism. For focus purposes, two most common notions are part of the clarification. The first notion closely related to the discourse made on Western bias is one of binaries or dichotomies readily found in most development and ICTs literature to villainize the West, namely: evil and good, with the West being evil and the rest being good. In other words, the idea is, to borrow a widespread phrase of Easterly (2006), the subtitle of his book: "*How the West's efforts to aid the rest have done so much ill and so little good*". It follows that development tends to be described as the liberation of the world from the West. However, the same as and in fact worse than Easterly's (2006) remark was stated about African nations and leaders, for example, by Africans at a conference held on African independences. Evidently, half a century after African independences, Harsch (2010) poignantly wrote:

*Too many babies still die in infancy… too few children find places in school, too many farmers cannot get their crops to market and too many factories lie idle for lack of spare parts, skills or investment… **So little has changed… they [African leaders] have done more harm than good** … Africans still are not even able to freely choose their leaders. **Too many countries are still at the mercy of satraps whose sole aim is to remain in power for life.** [emphasis added]*

As is apparent in the statements above, it is an understatement to argue that African societies are worst off after the widely-proclaimed independences and attendant sovereignties. For the purposes of this discussion, it bears recalling that this paper's participants had no clue or proof of what independence did/does for them, much less the government. Therefore, this paper was not about the villainization of the West or idolization of the rest. Nor was, as pointed out earlier, the paper seeking binaries such as West vs local, internal vs "external forces," (Ojo, 2013, p. 94), etc. The idea being, everyone involved ought to be *sensitive to* and *accountable for* the things that preclude the fuller and better flourishing of the world's poorest.

The second notion of the discourse related to Western bias regards the notion of multiple modernities (Mouzelis, 1999; Trakulhun & Weber, 2015). While development and the deployment of related technologies were, and can be understood as Western development or modernity, they have become a program of multiple modernities or paths. To explain, "Western modernity is simply one modernity among others" (Mouzelis, 1999, p. 143). Still, it bears underscoring that modernity entails specific sets of broad-based social transformations or industrializations, namely: education, health, housing, water supply, transportation, electricity, food supply, clothing, etc. institutionalized in a given society, with ordinary individuals and their communities integrated into and given full sovereignty over the state entity. One characteristic dimension of this broad-based social transformation is that local and private individuals are given unrestricted sovereignty over the political order – through critical and rational discussion over matters of general interest. More importantly, these all-encompassing social transformations were completely institutionalized in Western Europe in the 18th and 19th centuries. Put differently, these transformations "although fully institutionalized in the West, have a more universal character" (Mouzelis, 1999, p. 142). This means that "no society can advance or even survive in the present world without acquiring the broad economic, political, cultural, and social modern features" (Mouzelis, 1999, p. 151). This enables researchers to criticize any violation of human basic freedoms or rights. Examples of the kind of violations -- frequently seen nowadays in a number of African nations or, to use a term cherished by politicians, African sovereignties -- include, but not limited to: political order monopolized by a regime, cheated and contested elections, monopolized state media, repressive use of military and police force, constitutions modified after an individual, cult of personality, lack of alternate, democratic governance, and undemocratic exercise of power. It becomes increasingly apparent from these and similar examples that the notion of sovereignty employed about Africa has nothing to do with the idea of modernity wherein ordinary and simple citizens are *institutionally* given unrestricted, sovereign control over the political order in their land. The idea is to, as Castells (2015) noted, "acknowledge the principles that ushered in *the freedom revolutions of the Enlightenment*, while pinpointing the continuous betrayal of these principles, starting with the original *denial of full citizenship* [emphasis added]" (p. 316). In sum, the discourse of Western bias made in this paper aims to defend the broader capabilities of concerned rural populations in order for these populations to live fuller and better lives. Therefore, the goal of this study was to give voice to concerned rural populations.

## METHOD

The paper endeavored to ensure people's full participation to collect in-depth, sedimented knowledge (Husserl, 1913/2002) by fostering a safe space or home-like environment called naturalistic settings, to use the language of qualitative research methodology (Babbie, 2016; Bryman, 2016; Denzin & Lincoln, 2018; Patton, 2015; Saldaña, 2016; Silverman, 2016; Tracy, 2013), in which participants went about their usual businesses without an iota of threat.

### Ecological Sampling

One method of this paper was that of ecological sampling (Manly & Navarro, 2015; Navarro & Díaz-Gamboa, 2015), a nascent qualitative method since quantitative research was not practical. To

explain, since participants were illiterate questionnaires or surveys were inappropriate. Further, written documents or sheets of paper were seen as a threat because in prior mass killings and genocides individuals were being executed based on circulated lists of individuals and of communities. Equally, for the safety of participants and their communities, videos and tapes were not allowed during in-depth interviews and related discussions. Nor were names of participants and of their communities and locations asked, identified, or collected -- lest participants were pursued, arrested, mistreated, or executed after the research. According to Human Rights Watch (https://www.hrw.org), freedoms of individuals were/are far from better in the Congo. Since participants were illiterate, consent was orally made that their privacy was to be protected, let alone videos, tapes, and photographs were not allowed. Notes were taken by researchers as inconspicuously as possible to avert any intrusiveness in the selected natural setting.

One idea proper to ecological sampling is the ability to gain a higher inclusion of those concerned in the investigated area of study. This causes the researchers to be as sensitive to the reality and locale being investigated as possible. The method is a method borrowed from the field of ecology wherein, for example, a line is used to ensure the identification or inclusion of concerned species of plants or animals in a given area. As ecologists Navarro and Díaz-Gamboa (2015) explained:

*Line transect sampling is intended not only for the estimation of the abundance per unit area of rare, mobile, difficult-to-detect animals but also is of value for the study of rare, difficult-to-detect plants, intertidal organisms, and so on… With line transect sampling, the basic idea is that an observer moves along a line through a study area, looking to the left and right for the animal or plant of interest. Line transects are walked, flown, or otherwise traversed, and the perpendicular distances to all detected items of interest are recorded… This is one of the specialized ways that ecologists can use to estimate the density or the total number of animals or plants in a study area when it is not possible to simply count all the individuals and **the standard sampling methods… are for some reason not practical** [emphasis added]. (p. 47)*

The statement above indicates how in a usually unknown or remote area, with no roads, post office, numbered/decent houses, etc., a researcher can capture the selected items or individuals that cannot otherwise be identified in traditional sampling method of quantitative research.

It is ecological sampling, a method employed in this study, that enabled this study's researchers to stumble upon chiefs. This is because ecological sampling (Manly & Navarro, 2015; Navarro & Díaz-Gamboa, 2015) causes the researcher to be sensitive to or inclusive of the units, species, or individuals present in the investigated area. Since the aim of this study was to give voice to selected participants and since the description sought was an in-depth, *sedimented* description (Husserl, 1913/2002) of the topic being probed, it came as no surprise that this paper endeavored to relay *to the fullest* the voices and experiences of chiefs. Also worth explaining here is the fact that the number 16 chiefs was reached by way of saturation, a process in which the researcher discontinues the search or recruitment process as soon as the information received begins to become repetitive or redundant ((details below). Of central interest is the fact that because the nature of the research conducted was one of qualitative research, where n=1 is completely valid, doable (Babbie, 2016; Bryman, 2016; Denzin & Lincoln, 2018; Patton, 2015; Saldaña, 2016; Silverman, 2016; Tracy, 2013), the size or number of interviewed participants was outweighed by or inconsequential to the thick, *sedimented* knowledge garnered (details below). In other words, it is not so much the number of participants that adds to the depth of a qualitative research description as it is the information received (hence open-ended questions) during the interviews undertaken. Chiefs were neither the initial target of this study nor the requirement thereof. However, the information collected from chiefs provides in-depth, *sedimented* knowledge about the topic and location being researched. A good example of why the number of selected participants can be irrelevant is with fishing. Imagine that a fisher happens to catch lobsters while looking for fish (fish here is like mobile phone); lobsters have nothing to do

with representing or speaking for fish nor with the requirement of fishing. However, the information gained about lobsters gives an in-depth understanding of the capabilities or lives of fish in that location, information that could not be obtained otherwise, not even from fish. The same is true of chiefs in this study.

Another clarification to be made here is that because the study sought to give voice to chiefs in order to avoid the widespread representation of the other by others prevalent in ICT body of literatures, coding the voices of long-silenced participants such as those dealt with in this paper was neither fair nor appropriate. This is because we are no longer in the era of one narrative, voice, speaking for and supplanting the other (Denzin & Lincoln, 2018). Owing perhaps to something of an explosive vogue for coding, Saldaña (2016), a well-rounded coding methodologist, warned:

*Coding is just **one** way of analyzing qualitative data, it is not **the way** [emphasis in original]. Be cautious of those who demonize the [qualitative] method outright. And be equally cautious of those who swear unyielding affinity to codes or what has been colloquially labeled "coding fetishism. (p. 3)*

The above warning underlines the fact that this study's methods: namely in-depth, *sedimented* description along with the fuller actualization (by no means *thingification* or commodification) or *capabilization* of selected participants demonstrated little point in choosing coding or similar method such as grounded theory.

## Qualitative Research

Worth noting also is this paper's choice of qualitative research. It is no exaggeration to state that "despite the gradual acceptance of qualitative *methods* [emphasis in original] most reviewers and editors still expect grounded, interpretive, or iterative research articles to proceed in roughly the same format as quantitative and postpositive empirical analyses" (Tracy, 2012, p. 112). Perhaps even worse, more than three years after Tracy's (2012) remarks, increasing empirical evidence has emerged across disciplines showing, to borrow a poignant description of McDonald, Gan, Fraser, Oke, & Anderson (2015), "the dominance of quantitative methods" (p. 303), or, as De Fina and Johnstone (2015) noted, the "hegemony of quantitative research" (p. 160). Consequently, because the present paper departed from a quantitative research philosophy, it should not nor its participants (chiefs) be evaluated or interpreted per the criteria and agendas of quantitative research. One valid explanation being, as Tracy (2013) insisted, "qualitative research is about immersing oneself in a scene and trying to make sense of it" (p. 2). As can now be imagined, this paper sought to immerse itself in the universe or world of mobile phones and chiefs. To be clear, because this paper was not one of quantitative research nor an agenda thereof, chiefs were not selected -- and indeed should not be seen -- as a sample representing or pointing to the larger population being investigated. Nor were they the requirement of this study. In fact, chiefs were spotted as a result of ecological sampling (Manly & Navarro, 2015; Navarro & Díaz-Gamboa, 2015), a method as explained earlier noted for its sensitivity to and inquisitiveness about the local context of the selected location.

Since the aim of this study was to give voice to chiefs about their experiences of development and mobile phones, their ability to represent the community was irrelevant. This study's focus was on chiefs, and on no one else (such as gatekeepers), as human beings that deserve boarder capabilities to live fuller and better lives. An important contribution that bears mention here is that unlike most ICT or mobile research (Aker & Blumenstock, 2015; Alderete, 2017; Asongu, 2015a, 2015b; Asongu, Boateng, & Akamavic, 2016; Asongu & Nwachukwu, 2016a, 2016b; Chéneau-Loquay, 2010; Donner, 2008, 2015; Donou-Adonsou, Lim, & Mathey, 2016; Duncombe, 2016; James, 2014, 2015, 2016; James & Versteeg, 2007; Ojo, 2013; Porter, 2015; Reyes, 2016; Steele et al., 2017; Yan, 2015) that tends to relay or rely on a simulation, representation of the other by others, this paper *gave voice* to chiefs themselves to bring to the forefront their own lived experiences of mobile phones. Such a research perspective causes the researcher to relay or hear "rather many; not one 'voice' … to inform

our sense of lifeways, to extend our understandings of the Other" (Lincoln & Denzin, 2003, p. 1060). In fact, qualitative research is a research that is sensitive to and reflective of individuals' voices and experiences (Denzin & Lincoln, 2018; Patton, 2015; Silverman, 2016).

Qualitative research requires that contexts be respected and promoted. Denzin and Lincoln (2018) showed that resistances to qualitative research are many. Part of the reason is that, as Lindlof and Taylor (2011) noted, "the influence of positivism has been powerful… it has never been total or simple… This is partly because 'positivism' is itself a conglomeration of multiple and conflicting traditions" (p. 6). The role of qualitative, interpretive research as explained earlier is rather to provide in-depth, *sedimented* knowledge or description of a situated, context-centric, people-focused phenomenon or topic such as mobile phone uses and development, than to be representative of or comprehensive about all examples of interpretive research. The temptation among many positivistic-indoctrinated researchers is to come up with prescriptions universally transferrable and applicable across spaces and times.

Another important thing to be emphasized as regards this paper's methodological choices is that the paper did not adopt comparative method. It was in large part comparative method -- quite influential in much of development literature (see Azarian, 2011) -- that motivated authors to outline universal steps of development by comparing different countries, irrespective of context-specific particularities. One powerful justification as to why comparative method was not followed in this paper was the arbitrariness characterizing comparison and more correctly the dilemma of "establishing equivalent measures [of comparison]" (Smelser, 2013, p. 2). Comparative method disregards one core material of this paper, that is the nuanced, detailed particularities needed to build in-depth, sedimented knowledge. The central goal of interpretivism or qualitative research, on which this study was built, is to abstain from the misrepresentation of the other by others. As Azarian (2011) cautioned:

*Crucial questions to be addressed seriously are: in what respect and to what extent these given units are really comparable; what conditions are required to make any comparison among them meaningful; how we are to safeguard ourselves against* **the pitfalls in comparing incomparable units belonging to different contexts** *[emphasis added]. (p. 121)*

As is clear from the above statement, if the strength of interpretive research is to highlight or enhance to the fullest the particularities involved in contexts studied, comparative method belies such a vital role. Further, what needs to be avoided the most is "the abuse of 'other' cases in order to show the particularity of the main [handpicked] case" (Azarian, 2011, p. 123). For example, while there are tons of interpretive case studies done about mobile phones in Africa (Adera, Waema, May, Mascarenhas, & Diga, 2014) or around the world (Alderete, 2017; Steele et al., 2017), it is tempting for researchers to make comparisons or seek alternatives by assuming somehow one study to be the (best) canon of research.

## Capability Approach

The other method was that of capability approach (Sen, 1999, 2009, 2012) to enable the researcher to narrow down the research on basic needs or capabilities, and to provide selected participants with broader capabilities to live fuller and better lives. Part of capability approach Sen (1988, 1999, 2009) characterized development not as theoretical outcomes but rather as the quality of life and the capabilities thereof that individuals enjoy in their daily activities. As Sen (2013) elicited, "the understanding of development can be fruitfully seen in this perspective; that is, through understanding the process of development as one of *enhancement of human freedom and capability* [emphasis added]" (p. 11). Traditional development is believed to reflect specific metrics (i.e., incomes, GDP, GNP, etc.). Put another way, a developed nation is a nation that displays the needed metrics of

development. However, people's development does not always consist in the mere reproduction of these metrics. One powerful illustration demonstrated by Sen (2009) is with the US, which performs by far better than most countries in terms of the so-called development metrics, such as GDP, GNP, incomes, Internet adoption, etc. Notwithstanding, the US is home to unyielding inequalities and to one of the most corrosive systems of health care. In addition, Sen (2009) mentioned South Africa during apartheid as a cogent example of how development resists abstract metrics or parameters. In other words, South Africa displayed better metrics of development than most European countries, but at the same time South Africa was and still is plagued by alarming inequalities.

## Saturation, Crystallization, and Sedimented Description

Furthermore, three techniques were employed in this study: (1) saturation, (2) crystallization alternatively termed triangulation, and (3) *sedimented* or in-depth description. As explained above, a technique is a procedure whereby a specific task is performed during a given research.

First, saturation, also called informational redundancy or simply redundancy (Patton, 2015; Saumure & Given, 2008), is a technique at the point of which the researcher is no longer finding newer information in the search or data process. This indicates that saturation is reached when the information collected starts becoming repetitive. Second, crystallization (Denzin & Lincoln, 2011, 2018) is a technique wherein multiple prisms or perspectives, much like the word crystal, are brought into play to shed greater light on the topic or phenomenon being researched. This allows researchers to enhance the depth of the information collected. Third and last, a sedimented knowledge or description (Husserl, 1913/2002) is a description that involve more than layers or thickness by enabling the researcher to dig deeper into the sediments, traces, deposits, bundles, etc. which undergird the investigated phenomenon. Husserl (1913/2002) expounded widely the idea of sedimentation, borrowing it from civil engineering and archeological disciplines wherein sediments ensure the stability of a terrain, mountain, road, building, bridge, river, etc. Evidently, this study employed capability approach (Sen, 1999, 2009, 2012, 2013) because development was viewed not as a mere layer of metrics (i.e., GDP, GNP, incomes, etc.), but rather as the wider spectrum of capabilities that people had or have regarding human basic needs (i.e., shelter, housing, cloth, health, and food). This framework allows rather for a thick, sedimented description of development centered around broader freedoms or capabilities of people than a description of development that consists in merely reproducing abstract metrics (details below).

## FINDINGS

This section outlines the findings drawn from the interviews of 16 chiefs regarding the uses of mobile phones and people's development. The section aims to bring to light the experiences that chiefs in rural societies in remote areas of the Congo have of people's development and of mobile dissemination in their daily lives. Chiefs are one of the most common social classes of rural populations. The word chief might be misleading since it usually implies absolute authority and subjugated individuals. Chiefs in this rural area are more of an icon of cohesion within the community than an authority to whom people are subordinated. Chiefs were chosen via ecological method (details above) since with urbanization -- and now globalization and mobile social media -- they tend to be wiped out along with their communities and values.

Chiefs do not have a clearly defined job description. Chiefs do not have absolute power upon people in the sense of the word for example, army, police, radio, TV, etc. Chiefs are also members of the community just like any others. They have families, they raise crops, seek firewood, make water reserves, etc. (see Figure 1, categories of chiefs emerging from data).

So, the chief's family, for example, wife, siblings, children, etc. has the responsibility of taking care of the chief and his needs. Consequently, chiefs do not exact tribute nor require money or gifts from people. One chief said:

**Figure 1. Characteristics of chiefs**
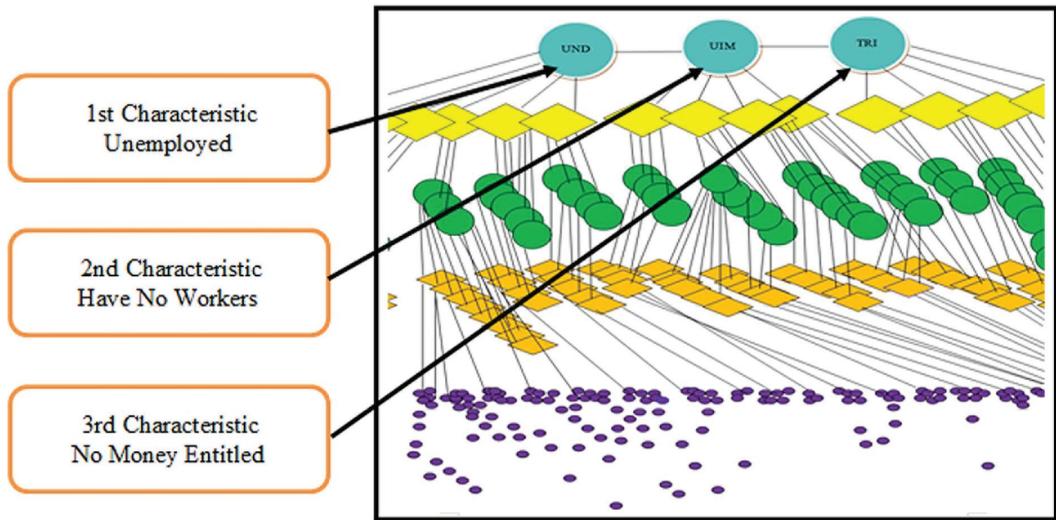


*Although I am the community's chief, I am just a member of the community as any member. (Chief VIII)*

As Chief XIV pointed out:

*The chief is a member of the close and larger family of the community. As such it is inappropriate and unimaginable for a chief to ask or require items from your own brothers and sisters.*

Chiefs privilege the natural bond which ties the members of the community with one another. As Chief XII stated:

*I find the natural bond with the community's members to be much more effective and lasting than mobile phone communication or any information technology. In case of an emergency, I can use a mobile phone or someone can use a mobile phone to contact me. But, again the direct contact with the concerned remains the priority.*

Another chief declared:

*Communicating on a mobile is only valuable when it serves the needs and members of the community. (Chief XI)*

Communication can be conveyed through mobile phones when the market is being held because batteries, chargers, and mobile devices alongside several other tools or technologies can be made available on market days. It is sort of a moving or mobile supermall brought to the village or community on certain days to build the communities and to enhance people's capabilities or wellbeing:

*With a lot of success, we use markets to convey our important messages to the community. Mobile phones have been used here and there, but with limited coverage in comparison to markets. We learn*

*much about the community and its members when we come to the market. People share information about their family and works when they come to the market. (Chief I)*

As another delineated:

*Market day is par excellence the time of renewal for the community and its individuals. It is a time that individuals are or can be offered broader opportunities to respond to human basic needs for themselves and for the village or community. Technicians related to basic needs such as agronomists, nurses, physicians, housebuilders, computer geeks, traders, nutritionists, etc. can make themselves available to provide needed advice or technology. (Chief III)*

As one chief declared:

*A service of crews with particular supplies, such as mobile phones, gardening, kitchenware, construction, fishing, crop, health, etc. is one of the most needed services in our areas before all the claims of mobile phones were even made. (Chief XII)*

Mobile phones can also enhance people's rights in the community. As one chief reported:

*We hear a lot about the spectacular advances of mobile phones on the radio, but nothing is said about the spectacular advances of people's legal rights. (Chief III)*

Another chief stated:

*A community with rights is like a community with food. Mobile phones can also augment the capabilities of people concerning the different rights. (Chief XIII)*

As can be seen, mobile phones were viewed as tools of great interest in wide-ranging areas of human life among rural populations (see Figure 2).

## DISCUSSION

Discussion section is a section that principally purveys the key contributions arrived at in a study. Capability approach (Sen, 1999, 2009, 2012, 2013) is an approach that depicts development not as a manifestation of statistical, abstract, and context-independent metrics such as GDP, GNP, income, currency, etc., but rather as the extent of capabilities or opportunities that people enjoy with regard to human basic needs (e.g., shelter, health, cloth, food, water, etc.) in order to live fuller and better lives. The point is not so much about the things held, owned, or possessed (e.g., mobile phone, money, bank account, etc.) and the commodities, facilities, or utilities associated with or derived from those things (e.g., mobility or movability at distance), but about the spectrum of actual capabilities that people have in real world life *vis-à-vis* human basic needs. As Sen (2009) wrote:

*The capability approach focuses on human life, and not just on some detached objects of convenience, such as incomes or **commodities** [emphasis added] that a person may possess, which are often taken, especially in economic analysis, to be the main criteria of human success. Indeed, it proposes a **serious** [emphasis added] departure from concentrating on the means of living to the **actual opportunities** [emphasis in original] of living. This also helps to bring about a change from means-oriented evaluative approaches. (p. 233)*

**Figure 2. Chiefs' model of mobile phone services**



As is clear in the explanations above, the possession of a mobile phone and the convenience and commodity thereof represent nothing but a fraction of if not a diversion from what the world's poorest are faced with on a day-to-day basis. Thus, the spectrum of capabilities *vis-à-vis* specific human basic needs is the best indicator of how developed a society's members are.

The term convenience or commodity was, among others, extensively analyzed by Marx (1867/1977), to the reflections whereof Sen's (2009) "capability [approach] … has important similarities" (p. 411). The original Germ word used by Marx was *Warenfetischismus*, rendered as *commodity fetishism,* to which the concepts fetishization and commodification hearken back, with the underlying meaning of a thing being considered as good and valuable in and of itself. The second original German word of Marx is *Versachlichung der Personen*, generally translated in English as thingification (from the English word thing) or reification (from the Latin word *res*, meaning thing) of people. This is a process wherein humans are used as means or things. In effect, Marx (1867/1977) criticized at length the commodification and fetishization of new technologies and users thereof seen in the 18th and 19th centuries in rapidly industrialized Western Europe. To be precise, Marx proposed rather the fuller actualization of humans as the endeavor to ensure the development of societies that the rapid industrialization and bureaucratization. In this sense, capability approach is an approach that proposes a move away from commodity or fetish to the fuller actualization or realization of humans (Sen, 2009, 2012). This paper was applying this move to mobile phone research (details below).

It is the commodification of Western themes such as ownership and the individualistic satisfaction thereof that separates most ICT or mobile phone literature (Aker & Blumenstock, 2015; Alderete, 2017; Asongu, 2015a, 2015b; Asongu, Boateng, & Akamavic, 2016; Asongu & Nwachukwu, 2016a, 2016b; Chéneau-Loquay, 2010; Donner, 2008, 2015; Donou-Adonsou, Lim, & Mathey, 2016; Duncombe, 2016; James, 2014, 2015, 2016; James & Versteeg, 2007; Ojo, 2013; Porter, 2015; Reyes, 2016; Sam, 2017; Steele et al., 2017; Yan, 2015) from local cultures and customs such as those found among this paper's investigated participants. A big part of the Westernization of mobile phone research lies in quantitative methods, which are still dominant in this stream of research. While quantitative methods can definitely be beneficial, they are known or designed to be conjured up in labs and big data, for example, "using aggregate data from mobile operators" (Steele et al., 2017, p.

1), far away from realities as locally fine-grained and taken-for-granted as those of chiefs. This paper made one significant contribution to mobile phone research by rather giving voice to investigated individuals, meaning in this case chiefs themselves than gushing about aggregate data owned and sold by mobile operators or experts in the name of mobile phone users and of their context-specific cultures. Moreover, this paper's finding of in-depth, sedimented knowledge about mobile phones and development is confirmed by May, Dutton, and Munyakazi (2014) finding that "changes in economic output at the national level are not necessarily linked to changes in the well-being of individuals and households" (p. 50).

This is largely because, "there is a sense that ICT4D research is based primarily on Western discourse with concepts and theories developed in the West being transported to people in far way countries" (Qureshi, 2015, p. 512). It bears underlining that technology and science are neither value- nor theory- free in ways in which they are acquired. As Lindlof and Taylor (2011) cautioned, "these forces [of capitalistic mass production] have powerfully shaped human existence in liberal Western societies and fueled their imposition of values such as consumerism and privatization on other developing societies" (p. 11). In other words, the all too often sugar-coated fetishization and commodification of mobile phones should not escape scientific rigor, if ICTs are to be catalysts of a better world.

Perhaps most interestingly, by applying the core of capability approach (Sen, 1999, 2009, 2012, 2013), this paper made a resounding contribution to past literature produced on mobile phones. The paper did so by suggesting a passage away from the commodification and fetishization of ownership and mobility and users thereof to the wider spectrum of actual capabilities surrounding human basic needs. To illustrate, imagine that a person owns a house (which is a human basic need among others). The range of capabilities or opportunities available to the house's owner in the event of, for example, losing the house, due to say earthquake, flooding, fire, terrorist attack, etc. is a powerful indication or measure of how developed the person is. It might be that the person does not even have the capability to buy a brand-new house, nor repair, donate, renovate, enlarge, etc. the house she has. The more capabilities the person has concerning the house owned, more precisely human basic needs, the more that person is developed. This is also how development can be measured, meaning that the spectrum or expansion of people's capabilities with regard to human basic needs tells us how developed a nation's or society's members are.

Another point worth clarifying here is that per capability approach, not everything that is claimed to be capability in most ICT literature is capability. In other words, capability entails the real world opportunities that allow people to live fuller and better lives (Sen, 2012, 2013). This shows that by definition a capability is *comprehensive* (not exclusive or selective) of and conducive to broader capabilities regarding human basic needs. There is not such a thing as an exhaustive list (hence commodity list) of capabilities, but rather there is a space of continual discussion about as many human basic needs as there emerge in any given context. Human basic needs revolve around basic infrastructural transformations across all spheres and groups of society such those seen in Western Europe in the 18th and 19th centuries, for example: houses, power plants, hospitals, water supplies, schools, railroads, roads, bridges, warehouses, etc. These *large-scale* transformations took place across the board and provided average, poor citizens with broader capabilities that allowed people to live better and fuller lives. However, as shown above with the eight traditions seen in the literature, under labels such as micro-projects, small businesses, markets, m-banking, small enterprises, etc., ICT or mobile phone literature tends to present and hence commodify or fetishize a fraction or fractions of mobile services as development in and of itself. With such a perspective, mobile phone researchers cannot help but reify mobile phone users. As Sen (2009) suggested, "we have to see the *person's overall capability* [emphasis added] in terms of combined achievements that are open to her" (p. 233) in relation to human basic needs.

The whole point is to enable a person to live fuller and better life, as opposed to enjoying a given commodity or fetish. This is in part because, as Sen (2012) emphasized, "this alternative

approach [capability] … has to take a direct interest in the lives that people are actually able to lead" (pp. 102-103). As is now clear, the contribution of this paper is to shift from the space that commodifies or fetishizes mobility, mobile phone usability, mobile apps, market information, etc. to the space of broader capabilities in order for people to actually (be able to) live fuller and better lives. Communication infrastructure ought to best cohere with local realities because the research question posed in the study was about improving the living conditions of concerned participants. To this effect, participants suggested market day as a plaza wherein broader capabilities could be made available to the community's members as they came to meet or interact with one another.

For example, the difference of the present paper with that of Krauss (2012) an interpretive fieldwork-based research, is that unlike Krauss' paper, this paper was not about community engagement nor ICT training nor community gatekeepers, but rather about *giving voice* to selected participants themselves and let them talk about their lived experiences with mobile phones and development. This is because as said earlier we are no longer in the era of one voice, but that of "multivocality" (Tracy, 2010, p. 844) so that other people are able to speak for themselves. However, Krauss' (2012) finding about "the typical *people-orientatedness* [emphasis added] of South African rural communities" corroborates the African communal culture seen with this paper's participants, a culture taken to be the bedrock of development practice and people's capabilities.

One of the concepts that stand to mind in perusing mobile phone bodies of knowledge is the notion that with mobile phones "we now have access to all kinds of *information, anywhere and anytime* [emphasis added]" (Vorderer, 2016, p. 5). It is not clear how this notion is being celebrated as the lynchpin of mobile phones -- although it is not uncommon for anecdotal, unchecked report to surface in a review and scrutiny of mobile phone literature. As Vorderer (2016) elaborated:

*In the new world of social media, we are assured that we never have to be alone anymore, no matter where we are. Of course, long before electronic media was even being thought of, we had already found ways to satisfy these needs and to fight our fears. But what is new today is that we can do this now, again, **anytime and anywhere, whereas in the past we were always constrained to certain times and places** [emphasis added]. (pp. 2-3)*

With the statement noted above, it is particularly and in fact understandably tempting for authors to be lured by the freedom from space and time and thus dismiss what humans are faced with or bound to in space and time. What has galvanized mobile phone authors into such rapture about mobile phone mobility is the instantaneous communication of mobiles. However, it needs to be said that early criticism has been levelled against the said spatial and temporal freedom of ICTs. For example, earlier on as mobile phone literature was firming up, Schroeder (2010) rightly cautioned, "one might simply argue that mobile phones free us from the constraints of place… But this position is doubly wrong. To be sure, mobiles increase choice, but they also constrain choice" (p. 83). Although neglected in subsequent literature, this remark resonates well with long-standing philosophical discussions held on the effects of spatial and temporal dimensions of humans and their knowledge and being.

One best illustration of this discussion is the phenomenology of corporeity, propounded by Merleau-Ponty (1945/2014), which teaches that "we are in the world through our bodies and… we perceive the world through our bodies" (p. 213). It is thus unrealistic to discount the physicality of humans as a way to develop a society. No society has become developed by simply foregoing the physical constraints of humans anywhere and anytime. In other words, no country is claimed to be developed virtually, fictitiously, or unreally. On the contrary, development or the flourishing of humans entails a sustained and broad-based improvement or modernization of human physicality anywhere and anytime. As can be anticipated from above explanations, discussions of mobile phone literature in relation to spatial and temporal constraints are troublingly lacking grounding(s) in relevant scholarly exposés. The main reason for this might be that, as noted earlier, mobile phone literature is a young discipline.

For the purpose of this paper, we mentioned literary or linguistic materials. Indeed, literary scholarships teem with genres exclusively designed to provide an escape or emancipation from the spatial, temporal, or corporeal grips in order for humans to not only run away from real life but rather to gain a *sterner/wiser* view of life and accompanying responsibilities/commitments. Examples of emancipatory and fulfilling genres (Forest, 1996; Yolen, 1986) across cultures include, among others: poetry, fiction, play, drama, dance, game, storytelling, music, art, painting, and sculpture. What these genres do is to drag or drift humans away from their daily or routine pressures and then equip them with a firmer, laxer, and/or cleverer attitude about *real-world* life. Even more distinctly, these genres can reenact or replay within minutes, an hour or so past tragedy, victory, or undertaking – that took place during weeks, months, decades, or centuries. In other words, a given genre can withdraw selected participants from their daily pressures or constraints and reenact, for example, the French Revolution or the Rwandan Genocide in an hour or more and instill into participants a heightened, liberating, and liberated conscience about past, current, and future life -- something mobile phones can neither do nor supplant. The overemphasis of mobile phone literature on the utopia of or delight in the emancipation from physical constraints of time and space provided by mobile phones has motivated Donner (2015) to recently make a strident observation, saying:

*I suggest these two kinds of interactions are possible across all gradations of mobile Internet experiences… The paradoxical partners of place(less)ness and place(full)ness are amplified by mobile links to Internet servers and services, and each has specific influences on macrolevel factors of interest to ICT4D. Examples include location-based services, or participatory citizen journalism, or augmented reality on the move. (p. 76)*

As is clear from the statement showed above, being on the move does not mean hallucination or wholesale withdrawal from real world, but rather a deeper and busier sense of civic engagement. To make slightly the same point, in his updated study on mobile phone-driven social movements around the world, Castells (2015) insisted that networked social movements endeavored "to connect with the *real concerns* of *real people* in the *real human experience* that had been reclaimed [emphasis added]" (p. 2).

Another concept after mobile phone mobility is that of market efficiency claimed to be driven by mobile phones (Aker, 2010). By and large, Aker and Blumenstock (2015) did a terrific job in highlighting the discrepancies embedded in the widespread claims linking market efficiency with mobile phones in Africa. For example, the benefits of price reduction were/are by no means guaranteed for the rural poorest. Even more alarmingly, the literature produced on market efficiency and mobile phones (Aker, 2010) proved to be unconnected with and/or uninformed about African markets, a market that is not just about money, but rather achieves the African communal culture called *Utu* or *Ubuntu* (details below). As Fafchamps (2004) remarked:

*The importance of markets in Africa should therefore not be underestimated… Perhaps the best measure of our lack of knowledge is our propensity to call "informal" everything that is not of Western inspiration. The truth is that market activity in Africa is not without form. (p. 4)*

As noted above, market has its *own* form in Africa. Indeed, beyond the mere pursuit/purview of money and profit (see findings), market (hence the idea of market day) constitutes a vibrant activity across the African continent, an activity integral to local cultures of ongoing reunion where people connect and reconnect with one another. Market day is the day to build and affirm local community or neighborhood, and not to run away from it in search of other markets with lower prices and higher revenues/moneys.

Therefore, it was proposed that on market day people be given broader capabilities surrounding human basic needs, namely: water, food, shelter, cloth, and health. Broader capabilities imply not just the provision of commodities such as goods and related services, but rather the spectrum of choices or opportunities in order for individuals to be better able to deal with human basic needs when these needs are missing or sought. It was suggested that on market day or technology day opportunities of technicians, experts, merchants, or advisors be offered so that individuals can receive counseling, advice, technical help, medical assistance, guidance, etc. in relation to the needs expressed or encountered. Furthermore, largely owing to the engagement of authors with emancipatory mobility of mobile phones, dimensions of mobile phone uses found among this paper's participants, contrasting with Western patterns, proved to be anchored on three key points: (1) shared ownership, (2) connected households, and (3) collective solidarities. First, mobile phones were showed to be shared (see also James & Versteeg, 2007) and communally taken care of. This is how illiterate and/or old individuals were able to use mobiles. Second, households are not seen as a "bounded and discrete unit" (Randall & Coast, 2015, p. 165) to fit the positivistic measurements of international donors. Rather, households interconnect thoroughly within the fabric of family, village, or culture. Third and last, collective solidarities are activities wherein people help one another within the larger village or community. To illustrate, a person eats at her sister's house, leaves in her brother's house, shares her neighbor's mobile, harvests in grandma's crop, etc. This confirms the communal culture that characterizes the African continent. As Wiredu (2005) wrote, "African societies are, famously, communalistic" (p. 1745). While the concept *Ntu* rose to fame in the 1990s under the Zulu (South African) term *Ubuntu* (Kithaka, 2015, p. 103; Oppenheim, 2012, p. 369), with South African President Nelson Mandela using it, it was widely explained by Congolese philosopher Tshiamalenga (1975, 1985). Variant words in Swahili include: *Utu, Umtu, Umutu* (humanity, humanness), *Ujamaa* (family-hood), *Binadamu* (living being), etc., or *Bumuntu, Bwenamuntu* (humanness, humankind) in Ciluba (Congo).

The notion implied by the *Ntu*-related terms listed above is that of a person's rapports with self, others, things, and the world. The Swahili term *Utu* was preferred as it covers a wider African audience. One glaring indication of *Utu* African communal culture is with a renowned African proverb which stipulates that:

*'it takes a whole village to raise a child.' This proverb exists in different forms in many African languages. The basic meaning is that child upbringing is a communal effort. The responsibility for raising a child is shared with the larger family… Even the wider community gets involved such as neighbors and friends. (Albert, 2013, pp. 1-2)*

As is apparent from the statements above, African *Utu* culture teaches that a child is a gift to and responsibility for all, and that raising a child benefits the whole community or village, beyond the child's biological parents. So too it takes a whole village to use a mobile phone, meaning that mobile phone ought to benefit the whole village, not just a clique of individuals and their business -- as seen in most mobile phone literature – like fishermen (Jensen, 2007), grain traders (Aker, 2010), mobile phone owners/users (Blumenstock & Eagle, 2012), etc. A similar example is with airplane technology in developed countries, which develops and benefits the wider society, not just pilots, jet owners/ users, plane designers, flight attendants, and airport workers. Our findings clearly show that chiefs, infused by African communal *Utu* culture, wanted mobile phone and associated infrastructure – and indeed any technology -- in rural areas to be a tool of development more precisely an expansion of capabilities for the wider community and their members and activities or markets. The local realities outlined above are realities that call into question the dominance of positivism seen to be shaping or leaving ICT research aslant. In order to be better able to speak to local realities, it was suggested that ICT researchers be self-reflexive about their biases when entering rural or non-Western areas to deploy ICTs and related digital devices.

For the most part neo-liberalism is somehow a general line of economic scholarship extensively criticized by Sen in matters not related to this paper and does not directly target – though arguments can still be made -- African or any local cultures (see Pressman & Summerfield, 2009). The same holds true of globalization, a phenomenon that may or may not squarely feature discussions of local cultures. Most pertinent here is the neologism *glocalization* coined by Wellman (2002) to indicate the synergies of both local and global components of modern day world. For the purposes of focus, however, this paper's discussion and area fit in within the discussions of Sen (1999, 2009, 2012, 2013) about the concept development, with a view to maximizing people's capabilities. In this respect, village market also market day, or technology day were mentioned by chiefs as a forum or plaza wherein broader capabilities surrounding human basic needs were to be made available to a village's members. The idea was to capitalize on the practice(s) of market day culturally held at given times and days during the week or month from village to village. Mobile phone literature tends to dismiss the practice of market (Aker & Blumenstock, 2015) as impoverishing or cost-inefficient by favoring mobile phone calls between traders or farmers for example with the goal to avoid the costs of trips to the market. And yet, market is central to local cultures and people's wellbeing among rural populations. In stark opposition to the commonly overwhelmingly monetary or profit-driven view of market propounded by mobile phone authors (Aker, 2010; Aker & Blumenstock, 2015), market is the building-block that achieves the communal culture and the wellbeing of individuals in the investigated location. Market is part of and key to African culture. Dispensation from such a foundational local reality for the purposes of cheap prices or money-saving business behind the façade of mobile phones is rather consumerist, short-sighted, and counterproductive.

The main challenges shown in this paper are to be found in the contributions it made. For example, the paper proposed the passage away from the commodification of convenience and commodity derived from mobile phone uses to that of broader capabilities that people have *vis-à-vis* human basic needs to live better and fuller lives. To this effect, market was described not as an individualistic money-making industry of the West but rather as key to the stability and wellbeing of participants and their communal culture.

## LIMITATIONS

One major limitation to be reckoned with has to do with the conversion of the doctoral work into a paper format, which might have pruned crucial pieces of research or data. The bulk of findings was significantly reduced in order for the paper to fit in with the 6,000-9,000 range of words set for the journal. The balance between unwarranted doctoral verbiage and needed details was at times difficult to strike as we have become accustomed to the data and their internal logic. The other limitation stems from the concept mobile phone, which with its sprawling posture across disciplines lacks a well-known and well-defined body of knowledge. Despite these limitations, however, the awareness raised in this paper and accompanying key discussions have the potential to advance existing ICT research.

## CONCLUSION

Rather than relying exclusively on pre-established data about development and mobile phones, the present paper inquired into the lived experiences that chiefs in the rural Congo had of mobile phones and development. The paper did so by giving voice to chiefs themselves. It was clear from the findings that the all too powerfully publicized proliferation of mobile phone machines in developing countries represent by no means a dispensation or license from critical, scientific rigor required for scholarly work. Just as information technologies helped implement broad-based real world transformations to modernize the lives of average, poor citizens of Western Europe across the board in the 18th and 19th centuries, so too mobile phone technologies should enable rather broad-based infrastructural transformations of all spheres of social reality (i.e., hospitals, roads, bridges, houses, power plants,

banks, water supplies, etc.) than the increasingly fetishized commodification of mobile services and ensuing reification of individuals. Unlike most mobile phone research that tends to commodify mobility and thus reify users, advanced societies have not become developed by, for example, dispensing themselves from the real-world construction of roads and related facilities. Chiefs showed that they needed a broader spectrum of capabilities surrounding basic needs to live better and fuller lives. They mentioned the village market or market day as the forum in which a village's members can be supplied with the needed broader range of capabilities or services. In addition, Western bias is a phenomenon that most observant analysts of ICT literature are aware of. Notwithstanding, while repeated calls have been made to alert mobile phone authors to the promotion of context-centric customs and practices, the money-driven or things-owned (e.g., mobile phone) perspective persists in mobile phone research outlets. Market is essential to African culture and stability thereof. The greed of money seen in most mobile phone literature about market is detrimental to the African communal culture. This paper called for a focus on people's broader capabilities. African communal culture reminds us the idea that it takes the whole village to implement development, meaning that the *whole village across the board* has to be able to live fuller and better life; *not just a clique* of mobile phone researchers or users that is enamored with the commodification of their small businesses, commercial markets, and m-banking while mobile phone-driven virtual mobility has numbed their reason or capacity to think about broad-based basic infrastructural transformations.

# REFERENCES

Adera, O. E., Waema, M. T., May, J., Mascarenhas, O., & Diga, K. (2014). *ICT pathways to poverty reduction: Empirical evidence from East and Southern Africa*. Ottawa, Canada: IDRC. doi:10.3362/9781780448152

Aker, C. J. (2010). Information from markets near and far: The impact of mobile phones on grain markets in Niger. *American Economic Journal. Applied Economics*, *2*(3), 46–59. doi:10.1257/app.2.3.46 PMID:23946866

Aker, C. J., & Blumenstock, E. J. (2015). The economic impacts of new technologies in Africa. In C. Monga & J.Y. Lin (Eds.), The Oxford handbook of Africa and economics (Vol. 2) (pp. 354-371). New York, NY: Oxford University Press.

Albert, P. (2013). *African proverbs and their interpreted meaning: "As they say in Africa*. Kindle Book.

Alderete, V. M. (2017). Examining the ICT access effect on socioeconomic development: The moderating role of ICT use and skills. *Information Technology for Development*, 1–17. doi:10.1080/02681102.2016.1238807

Aminuzzaman, S., Baldersheim, H., & Jamil, I. (2003). Talking back! Empowerment and mobile phones in rural Bangladesh: A study of the village phone scheme of Grameen Bank. *Contemporary South Asia*, *12*(3), 327–348. doi:10.1080/0958493032000175879

Asongu, A.S. (2015a). Conditional determinants of mobile phones penetration and mobile banking in Sub-Saharan Africa. *Journal of the Knowledge Economy.* DOI: 10.1007/s13132-015-0322-z

Asongu, A. S. (2015b). The impact of mobile phone penetration on African inequality. *International Journal of Social Economics*, *42*(8), 706–716. doi:10.1108/IJSE-11-2012-0228

Asongu, A. S., Boateng, A., & Akamavic, R. (2016). Mobile phone innovation and inclusive human development: Evidence from Sub-Saharan Africa. *African Governance and Development Institute [AGDI] Working Paper WP/16/027.*

Asongu, A. S., & Nwachukwu, C. J. (2016a). The role of governance in mobile phones for inclusive human development in Sub-Saharan Africa. *Technovation*, *55-56*, 1–13. doi:10.1016/j.technovation.2016.04.002

Asongu, A. S., & Nwachukwu, C. J. (2016b). Mobile phones in the diffusion of knowledge and persistence in inclusive human development in Sub-Saharan Africa. *Information Development.* doi:10.1177/0266666916655189

Avgerou, C. (2008). Information systems in developing countries: A critical research review. *Journal of Information Technology*, *23*(3), 133–146. doi:10.1057/palgrave.jit.2000136

Azarian, R. (2011). Potentials and limitations of comparative method in social science. *International Journal of Humanities and Social Science*, *1*(4), 113–125.

Babbie, R. E. (2016). *The practice of social research* (14th ed.). Boston, MA: Cengage Learning.

Banks, M. (2015). Valuing cultural industries. In K. Oakley & J. O'Connor (Eds.), *The Routledge companion to the cultural industries* (pp. 35–44). London, UK: Routledge.

Banks, M., & Milestone, K. (2011). Individualization, gender and cultural work organization. *Gender, Work and Organization*, *18*(1), 73–89. doi:10.1111/j.1468-0432.2010.00535.x

Blumenstock, E. J., & Eagle, N. (2012). Divided we call: Disparities in access and use of mobile phones in Rwanda. *Information Technologies and International Development*, *8*(2), 1–16.

Bryman, A. (2016). *Social research methods* (5th ed.). New York, NY: Oxford University Press.

Burrell, J., & Toyama, K. (2009). What constitutes good ICTD research? *Information Technologies & International Development*, *5*(3), 82–94.

Castells, M. (Ed.). (2015). *Networks of outrage and hope: Social movements in the Internet age* (2nd ed.). Malden, MA: Polity Press.

Chéneau-Loquay, A. (2010). *Innovative ways of appropriating mobile telephony in Africa*. Geneva, Switzerland: ITU.

Chipchase, J. (2009). *Mobile phone practices & the design of mobile money services for emerging markets.* Retrieved from http://www.janchipchase.org/fp/wp-content/uploads/presentations/JanChipchase_DesigningMobileMoneyServices_vFinal.pdf

Cole, C. (2013). [Review of the book Theory in information behaviour research, edited by T.D. Wilson]. Information Research, 18(3).

Cole, J., & Symes, C. (2014a). *Western civilizations: Their history & their culture* (18th ed., Vol. 1). New York, NY: W.W. Norton.

Cole, J., & Symes, C. (2014b). *Western civilizations: Their history & their culture* (18th ed., Vol. 2). New York, NY: W.W. Norton.

Coyle, D. (2005). Overview. *Africa: The impact of mobile phones. The Vodafone Policy Paper Series, 3, 3-9.*

Coyle, D. (2007). Overview. *The transformational potential of m-transactions. The Vodafone Policy Paper Series, 6, 2-5.*

De Fina, A., & Johnstone, B. (2015). Discourse analysis and narrative. In D. Tannen, H. E. Hamilton, & D. Schiffrin (Eds.), *The handbook of discourse analysis* (2nd ed., pp. 152–167). Malden, MA: Blackwell.

Denzin, K. N., & Lincoln, S. Y. (2018). Introduction: The discipline and practice of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The landscape of qualitative research* (5th ed., pp. 1–26). Thousand Oaks, CA: Sage.

Donner, J. (2006). The use of mobile phones by microentrepreneurs in Kigali: Changes to social and business networks. *Information Technologies and International Development*, *3*(2), 3–19. doi:10.1162/itid.2007.3.2.3

Donner, J. (2008). Research approaches to mobile phone use in the developing world: A review of literature. *The Information Society*, *24*(3), 140–159. doi:10.1080/01972240802019970

Donner, J. (2015). *After access: Inclusion, development, and a more mobile Internet.* Cambridge, MA: MIT.

Donner, J., & Escobari, X. M. (2010). A review of evidence on mobile use by micro and small enterprises in developing countries. *Journal of International Development*, *22*(5), 641–658. doi:10.1002/jid.1717

Donou-Adonsou, F., Lim, S., & Mathey, A. S. (2016). Technological progress and economic growth in Sub-Saharan Africa: Evidence from telecommunications infrastructure. *International Advances in Economic Research*, *22*(1), 65–75. doi:10.1007/s11294-015-9559-3

Duguid, P. (1996). Material matters: Aspects of the past and the futurology of the book. In G. Nunberg (Ed.), *The future of the book* (pp. 63–102). Berkeley, CA: University of California Press.

Duncombe, R. (2009a). Impact assessment of mobile phones on development: Concepts, methods and lessons for practice. *IDPM Development Informatics Working Paper no. 39.* Retrieved from http://www.sed.manchester.ac.uk/idpm/research/publications/wp/di/index.htm

Duncombe, R. (2009b). Assessing the potential for mobile payments in Africa: Approaches and evidence from Uganda. *IDPM Development Informatics Working Paper no. 41.* Retrieved from http://www.sed.manchester.ac.uk/idpm/research/publications/wp/di/index.htm

Duncombe, R. (2011). Researching impact of mobile phones for development: Concepts, methods and lessons for practice. *Information Technology for Development*, *17*(4), 268–288. doi:10.1080/02681102.2011.561279

Duncombe, R. (2012). Understanding mobile phone impact on livelihoods in developing countries: A new research framework. *IDPM Development Informatics Working Paper no. 48.* Retrieved from http://www.sed.manchester.ac.uk/idpm/research/publications/wp/di/index.htm

Duncombe, R. (2016). Mobile phones for agricultural and rural development: A literature review and suggestions for future research. *European Journal of Development Research*, *28*(2), 213–235. doi:10.1057/ejdr.2014.60

Duncombe, R., & Boateng, R. (2009). Mobile phones and financial services in developing countries: A review of concepts, methods, issues, evidence and future research directions. *IDPM Development Informatics Working Paper no. 37.* Retrieved from http://www.sed.manchester.ac.uk/idpm/research/publications/wp/di/index.htm

Easterly, W. (2006). *The white man's burden: How the West's efforts to aid the rest have done so much ill and so little good*. New York, NY: Penguin.

Eikhof, R. D., & Warhurst, C. (2013). The promised land? Why social inequalities are systemic in the creative industries. *Employee Relations*, *35*(5), 495–508. doi:10.1108/ER-08-2012-0061

Ellway, B. P. W., & Walsham, G. (2014). A doxa-informed practice analysis: Reflexivity and representations, technology and action. *Information Systems Journal*, *25*(2), 133–160. doi:10.1111/isj.12041

Fafchamps, M. (2004). *Market institutions in Sub-Saharan Africa: Theory and evidence*. Cambridge, MA: MIT.

Faik, I., & Walsham, G. (2013). Modernisation through ICTs: Towards a network ontology of technological change. *Information Systems Journal*, *23*(4), 351–370. doi:10.1111/isj.12001

Fitzgerald, B., & Howcroft, D. (2015). Towards dissolution of the IS research debate: From polarization to polarity. In L. P. Willcocks, C. Sauer, & M. C. Lacity (Eds.), *Formulating research methods for information systems* (Vol. 1, pp. 66–93). New York, NY: Palgrave Macmillan. doi:10.1057/9781137509857_4

Forest, H. (1996). *Wisdom tales from around the world*. Atlanta, GA: August House.

Gough, N. (2005). Introduction. Africa: The impact of mobile phones. *The Vodafone Policy Paper Series, 3, 1-2.*

Hansen, A., & Machin, D. (2013). *Media and communication research methods*. New York, NY: Palgrave Macmillan. doi:10.1007/978-1-137-27225-6

Harsch, E. (2010). Weighing a half century of independence: Beyond 'heady days' and sobering reality lies great untapped potential. *Africa Renewal site*. Retrieved from http://www.un.org/africarenewal/magazine/august-2010/weighing-half-century-independence

Husserl, E. (2002). Die Idee des Phänomenologie und phänomenologischen Philosophie. Aller Teile: Allgemeine Einführung in die reine Phänomenologie (6 Aufl., unveränd. Nachdr. der 2. Aufl. 1922). Tübingen, Germany: Max Niemeyer. (Original work published 1913)

Ilahiane, H., & Sherry, W. J. (2012). The problematics of the "bottom of the pyramid" approach to international development: The case of micro-entrepreneurs' use of mobile phone use in Morocco. *Information Technologies and International Development*, *8*(1), 13–26.

ITU. (2013). *The world in 2013: ICT facts and figures.* Geneva, Switzerland: ITU. Retrieved from http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2013-e.pdf

James, J. (2014). Product use and welfare: The case of mobile phones in Africa. *Telematics and Informatics*, *31*(3), 356–363. doi:10.1016/j.tele.2013.08.007

James, J. (2015). Mobile phones and safety in developing countries: Evidence from Sub-Saharan Africa. *Geoforum*, *62*, 47–50. doi:10.1016/j.geoforum.2015.03.020

James, J. (2016). Introduction. In J. James (Ed.), *The impact of mobile phones on poverty and inequality in developing countries* (pp. 1–6). New York, NY: Springer. doi:10.1007/978-3-319-27368-6_1

James, J., & Versteeg, M. (2007). Mobile phones in Africa: How much do we really know? *Social Indicators Research*, *84*(1), 117–126. doi:10.1007/s11205-006-9079-x PMID:20076776

Jenco, L. (2015). *Changing referents: learning across space and time in China and the West*. New York, NY: Oxford University Press. doi:10.1093/acprof:oso/9780190263812.001.0001

Jensen, R. (2007). The digital provide: Information (technology), market performance, and welfare in the South Indian fisheries sector. *The Quarterly Journal of Economics*, *122*(3), 879–924. doi:10.1162/qjec.122.3.879

Kahn, G. J., Yang, S. J., & Kahn, S. J. (2010). Mobile health needs and opportunities in developing countries. *Health Affairs*, *29*(2), 254–261. doi:10.1377/hlthaff.2009.0965 PMID:20348069

Kithaka, W. M. (2015). Ubuntu: Linguistic explorations. *International Journal of Scientific Research and Innovative Technology*, *2*(1), 103–115.

Krauss, K. (2012). Towards self-emancipation in ICT for development research: narratives about respect, traditional leadership and building networks of friendships in rural South Africa. *The African Journal of information systems, 4*(2), 1.

Lincoln, S. Y., & Denzin, K. N. (2003). The seventh moment: Out of the past. In N. K. Denzin & Y. S. Lincoln (Eds.), *Collecting and interpreting qualitative research materials* (2nd ed., pp. 1047–1065). Thousand Oaks, CA: Sage.

Lindlof, R. T., & Taylor, C. B. (2011). *Qualitative communication research methods* (3rd ed.). Thousand Oaks, CA: Sage.

Manly, F. J. B., & Navarro, A. A. J. (2015). Introduction. In B. F. J. Manly & J. A. A. Navarro (Eds.), *Introduction to ecological sampling* (pp. 1–5). Boca Raton, FL: CRC Press.

Manning, B. R. (2016). *War and peace in the Western political imagination: From classical antiquity to the age of reason*. New York, NY: Bloomsbury.

Marx, K. (1977). *Capital: A critique of political economy* (B. Fowkes, Trans.). New York, NY: Vintage Books. (Original work published 1867)

May, J., Dutton, V., & Munyakazi, L. (2014). Information and communication technologies as a pathway from poverty: Evidence from East Africa. In E. O. Adera, T. M. Waema, J. May, O. Mascarenhas, & K. Diga (Eds.), *ICT pathways to poverty reduction: Empirical evidence from East and Southern Africa* (pp. 33–52). Ottawa, Canada: IDRC. doi:10.3362/9781780448152.002

McDonald, S., Gan, C. B., Fraser, S. S., Oke, A., & Anderson, R. A. (2015). A review of research methods in entrepreneurship 1985-2013. *International Journal of Entrepreneurial Behavior & Research*, *21*(3), 291–315. doi:10.1108/IJEBR-02-2014-0021

McMichael, P. (2012). *Development and social change: A global perspective* (5th ed.). Thousand Oaks, CA: Sage.

Merleau-Ponty, M. (2014). Phenomenology of perception (Foreword by T. Carman, D.A. Landes, Trans.). New York, NY: Routledge. (Original work published 1945)

Miles, B. M., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Thousand Oaks, CA: Sage.

Mohamad, N. (2014). Telecommunications reform and efficiency performance: Do good institutions matter? *Telecommunications Policy*, *38*(1), 49–65. doi:10.1016/j.telpol.2013.04.006

Molony, T. (2008). Non-developmental uses of mobile communication in Tanzania. In J. E. Katz (Ed.), *Handbook of mobile communication studies* (pp. 339–352). Cambridge, MA: MIT. doi:10.7551/mitpress/9780262113120.003.0025

Mouzelis, N. (1999). Modernity: A non-European conceptualization. *The British Journal of Sociology*, *50*(1), 141–159. doi:10.1080/000713199358851 PMID:15266678

Myers, D. M., Lee, S. A., Galliers, D. R., Nandhakumar, J., Scarbrough, H., Germonprez, M., & Sharma, R. (2015). Commentaries on methodological practice. In L. P. Willcocks, C. Sauer, & M. C. Lacity (Eds.), *Formulating research methods for information systems* (Vol. 1, pp. 112–148). New York, NY: Palgrave Macmillan.

Navarro, A. A. J., & Díaz-Gamboa, R. (2015). Line transect sampling. In B. F. J. Manly & J. A. A. Navarro (Eds.), *Introduction to ecological sampling* (pp. 47–61). Boca Raton, FL: CRC Press.

Newman, K., & Beardon, H. (2011). Overview: How wide are the ripples? From local participation to international development. In K. Newman & H. Beardon (Eds.), *Participatory and learning action 63: How wide are the ripples? From local participation to international development* (pp. 5–18). London, UK: IIED.

Oakley, K., & O'Connor, J. (2015). The cultural industries: An introduction. In K. Oakley & J. O'Connor (Eds.), *The Routledge companion to the cultural industries* (pp. 1–32). London, UK: Routledge.

Ojo, T. (2013). ICTs and mobile phones for development in Sub-Saharan African region. In J. Servaes (Ed.), *Sustainability, participation and culture in communication: Theory and praxis* (pp. 83–100). Chicago, IL: Intellect.

Olssen, M., Codd, A. J., & O'Neill, A.-M. (2004). *Education policy: Globalization, citizenship and democracy*. Thousand Oaks, CA: Sage.

Oppenheim, E. C. (2012). Nelson Mandela and the power of Ubuntu. *Religions*, *3*(4), 369–388. doi:10.3390/rel3020369

Patton, Q. M. (2015). *Qualitative research and evaluation methods; Integrating theory and practice* (4th ed.). Thousand Oaks, CA: Sage.

Peet, R., & Hartwick, E. (2015). *Theories of development: Contentions, arguments, alternatives* (3rd ed.). New York, NY: The Guilford Press.

Popper, R. K. (1983). *Realism and the aim of science*. Totowa, NJ: Rowman and Littlefield. (Original work published 1956)

Popper, R. K. (2002). *Conjectures and refutations: The growth of scientific knowledge*. New York, NY: Routledge. (Original work published 1963)

Porter, G. (2012). Mobile phones, livelihoods and the poor in Sub-Saharan Africa: Review and prospect. *Geography Compass*, *6*(5), 241–259. doi:10.1111/j.1749-8198.2012.00484.x

Porter, G. (2015). Mobile phones, mobility practices, and transport organization in Sub-Saharan Africa. *Mobility in History*, *6*(1), 81–88. doi:10.3167/mih.2015.060109

Pressman, S., & Summerfield, G. (2009). The economic contributions of Amartya Sen. In S. Pressman (Ed.), *Leading contemporary economists: Economists at the cutting edge* (pp. 66–98). New York, NY: Routledge.

Quarry, W., & Ramírez, R. (2009). *Communication for another development: Listening before telling*. London, UK: Zed.

Qureshi, S. (2011). Globalization in development: Do information and communication technologies really matter? *Information Technology for Development*, *17*(4), 249–252. doi:10.1080/02681102.2011.610142

Qureshi, S. (2015). Are we making a better world with information and communication technology for development (ICT4D) research? Findings from the field and theory building. *Information Technology for Development*, *21*(4), 511–522. doi:10.1080/02681102.2015.1080428

Randall, S., & Coast, E. (2015). Poverty in African households: The limits of survey and census representations. *The Journal of Development Studies*, *51*(2), 162–177. doi:10.1080/00220388.2014.968135

Saldaña, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). Thousand Oaks, CA: Sage.

Sam, S. (2017). Towards an empowerment framework for evaluating mobile phone use and impact in developing countries. *Telematics and Informatics*, *34*(1), 359–369. doi:10.1016/j.tele.2016.06.003

Schroeder, R. (2010). Mobile phones and the inexorable advance of multimodal connectedness. *New Media & Society*, *12*(1), 75–90. doi:10.1177/1461444809355114

Sen, K. A. (1999). *Development as freedom*. New York, NY: Random House.

Sen, K. A. (2009). *The idea of justice*. Cambridge, MA: Harvard University Press.

Sen, K. A. (2012). Values and justice. *Journal of Economic Methodology*, *19*(2), 101–108. doi:10.1080/1350178X.2012.683601

Sen, K. A. (2013). The ends and means of sustainability. *Journal of Human Development and Capabilities*, *14*(1), 6–20. doi:10.1080/19452829.2012.747492

Servaes, J. (2008). *Communication for development and social change*. Thousand Oaks, CA: Sage. doi:10.4135/9788132108474

Servaes, J. (2013). Communication for sustainable social change is possible, but not inevitable. In J. Servaes (Ed.), *Sustainability, participation and culture in communication: Theory and praxis* (pp. 367–388). Chicago, IL: Intellect.

Servaes, J. (2014). Introduction to the 3 A's: Technology is great!? In J. Servaes (Ed.), *Technological determinism and social change: Communication in a tech-mad world* (pp. xiii–xxiii). New York, NY: Lexington Books.

Shaikh, A. A., & Karjaluoto, H. (2015). Mobile banking adoption: A literature review. *Telematics and Informatics*, *32*(1), 129–142. doi:10.1016/j.tele.2014.05.003

Siapera, E. (2012). *Understanding new media*. Thousand Oaks, CA: Sage.

Silverman, D. (2016). Introducing qualitative research. In D. Silverman (Ed.), *Qualitative research* (4th ed., pp. 3–14). Thousand Oaks, CA: Sage.

Singhal, A., Svenkerud, J. P., Malaviya, P., Rogers, M. E., & Krishna, V. (2005). Bridging digital divides: Lessons learned from the IT initiatives of the Grameen Bank in Bangladesh. In O. Hemer & T. Tufte (Eds.), *Media and glocal change: Rethinking communication for development* (pp. 427–433). Göteborg, Sweden: NORDICOM.

Smelser, J. N. (2013). *Comparative methods in the social sciences*. New Orleans, LA: Quid Pro Books.

Smith, L. M., Spence, R., & Rashid, T. A. (2011). Mobile phones and expanding human capabilities. *Information Technologies and International Development*, *7*(3), 77–88.

Sparkes, C. A. (2015). Developing mixed methods research in sport and exercise psychology: Critical reflections on five points of controversy. *Psychology of Sport and Exercise*, *16*(3), 49–59. doi:10.1016/j.psychsport.2014.08.014

Steele, E. J., Sundsøy, R. P., Pezzulo, C., Alegana, A. V., Bird, J. T., Blumenstock, J., & Bengtsson, L. et al. (2017). Mapping poverty using mobile phone and satellite data. *Journal of the Royal Society, Interface*, *14*(127), 1–10. doi:10.1098/rsif.2016.0690 PMID:28148765

Tracy, J. S. (2010). Qualitative quality: Eight Big-Tent criteria for excellent qualitative research. *Qualitative Inquiry*, *16*(10), 837–851. doi:10.1177/1077800410383121

Tracy, J. S. (2012). The toxic and mythical combination of a deductive writing logic for inductive qualitative research. *Qualitative Communication Research*, *1*(1), 109–141.

Tracy, J. S. (2013). *Qualitative research methods: Collecting evidence, crafting analysis, and communicating impact*. Malden, MA: Wiley-Blackwell.

Trakulhun, S., & Weber, R. (2015). Modernities: Editors' introduction. In S. Trakulhun & R. Weber (Eds.), Delimiting modernities: Conceptual challenges and regional responses (pp. ix-xxiv). Lanham, MD: Lexington Books.

Traxler, J. (2009). IS4DEV: IS development and development issues. In C. Barry, K. Conboy, M. Lang, G. Wojtkowski, & W. Wojtkowski (Eds.), *Information systems development: Challenges in practice, theory, and education* (Vol. 1, pp. 327–338). New York, NY: Springer. doi:10.1007/978-0-387-68772-8_25

Tshiamalenga, N. (1975). La vision 'ntu' de l'homme: Essaie de la philosophie linguistique et anthropologique. In A. J. Smet (Ed.), *Philosophie Africaine* (pp. 157–180). Kinshasa, Congo: Presses Universitaires du Zaire.

Tshiamalenga, N. (1985). Language et socialité: Primat de la "bisoité" sur l'intersubjectivité. *Actes de la 9ème Semaine Philosophique de Kinshasa, Facultés Catholiques de Kinshasa du 1er au 7 Décembre 1985, pp. 55-81.*

Vorderer, P. (2016). Communication and the good life: Why and how our discipline should make a difference. *Journal of Communication*, *66*(1), 1–12. doi:10.1111/jcom.12194

Walsham, G. (2012). Are we making a better world with ICTs? Reflections on a future agenda for the IS field. *Journal of Information Technology*, *27*(2), 87–93. doi:10.1057/jit.2012.4

Walsham, G. (2013). Development informatics in a changing world: Reflections from ICTD 2010/2012. *Information Technologies and International Development*, *9*(1), 49–54.

Walsham, G. (2014). Empiricism in interpretive IS research: A response to Stahl. *European Journal of Information Systems*, *23*(1), 12–16. doi:10.1057/ejis.2012.57

Walsham, G. (2017). ICT4D research: Reflections on history and future agenda. *Information Technology for Development*, 1–24. doi:10.1080/02681102.2016.1246406

Waverman, L., Meschi, M., & Fuss, M. (2005). The impact of telecoms on economic growth in developing nations. Africa: The impact of mobile phones. *The Vodafone Policy Paper Series, 3, 10-23.*

Wellman, B. (2002). Little boxes, glocalization, and networked individualism. In M. Tanabe, P. van den Besselaar, & T. Ishida (Eds.), *Digital cities II: Computational and sociological approaches* (pp. 10–25). New York, NY: Springer. doi:10.1007/3-540-45636-8_2

Wells, S. R., Kolek, A. E., Williams, A. E., & Saunders, B. D. (2015). How we know what we know: A systematic comparison of research methods employed in higher education Journals, 1996−2000 v. 2006−2010. *The Journal of Higher Education*, *86*(2), 171–198. doi:10.1353/jhe.2015.0006

Williams, M. (2005). Mobile networks and foreign direct investment in developing countries. *The Vodafone Policy Paper Series, 3, 24-40.*

Williams, N. J., & Tsang, W. K. E. (2015). Classifying generalization: Paradigm war or abuse of terminology? In L. P. Willcocks, C. Sauer, & M. C. Lacity (Eds.), *Formulating research methods for information systems* (Vol. 1, pp. 151–178). New York, NY: Palgrave Macmillan. doi:10.1057/9781137509857_7

Wiredu, K. (2005). Personhood in African thought. In M. C. Horowitz (Ed.), *New dictionary of the history of ideas* (Vol. 4, pp. 1743–1745). New York, NY: Thomson Gale.

Xiong, J., & Qureshi, S. (2013, January 7 - 10). A model of ICTs adoption for sustainable development: An investigation of small business in the United States and China. *Proceedings of the 46th Hawaii International Conference on System Sciences (HICSS 2013)*, Wailea, Maui, HI, USA. doi:10.1109/HICSS.2013.632

Yan, Z. (2015). Preface. In Z. Yan (Ed.), *Encyclopedia of mobile phone behavior* (pp. xxxix–xliii). Hershey, PA: Information Science Reference. doi:10.4018/978-1-4666-8239-9

Yolen, J. (1986). *Favorite folktales from around the world*. New York, NY: Pantheon.

*Dr Sylvain K. Cibangu earned his PhD in 2016 in the Centre for Information Management in the School of Business and Economics, Loughborough University, UK. His research interests involve race and ethnicity, research methods, qualitative research, identity of communication studies, theories of information science, information, communication technologies, and international development, and Black populations. He was advised by the late Dr Mark Hepworth. He can be contacted at: fscib@uw.edu or S.Cibangu@lboro.ac.uk.*

*The late Dr Mark Hepworth was professor in the Centre for Information Management, in the School of Business and Economics, at Loughborough University, UK. Mark's research reflects this interest and includes: developing theoretical frameworks and applied methodologies in information literacy; e-literacy; information needs analysis; people's information seeking and use behavior; learning and pedagogy; people-centered design; participative design; community engagement and monitoring and evaluation.*

*Dr Donna Champion is a Reader in Information Systems, in the School of Management, at Cranfield University, Cranfield, UK. She had previously worked at the School of Business and Economics, Loughborough University for fifteen years, where she had been Director of the MBA programmes. Her research interests include information systems design and infrastructure systems (such as Water, Energy and Food), new business models and local communities. She is widely published with articles in the Journal of Information Technology, Information Systems Journal, the International Journal of Production Economics and Journal of the Operational Research Society. She can be contacted at: Donna.Champion@cranfield.ac.uk.*

# Call for Articles

## International Journal of Information Communication Technologies and Human Development

## MISSION

The mission of the **International Journal of Information Communication Technologies and Human Development (IJICTHD)** is to bring improvement in governance including the socio-economic political environment of society. IJICTHD identifies potential processes, tools, techniques, and applications for the development of human beings and provides insightful analysis about those factors (also contextual and institutional ones) that affect ICTs for human development initiatives. Proposing strategies to both governance and international cooperation organizations for moving forward, this journal also addresses future challenges.

## COVERAGE AND MAJOR TOPICS

**The topics of interest in this journal include, but are not limited to:**

ICTs and citizen participation • ICTs and commerce • ICTs and culture • ICTs and education • ICTs and ethics • ICTs and gender equality • ICTs and governance • ICTs and health • ICTs and human empowerment • ICTs and human rights • ICTs and international cooperation • ICTs and political development • ICTs and poverty alleviation • ICTs and rural development • ICTs and social change • ICTs and social media • ICTs and social networks • ICTs and socio-economic development • ICTs and the environment • ICTs and urban development • Knowledge for human development • Policy making with regard to ICTs for development

**ALL INQUIRIES REGARDING IJICTHD SHOULD BE DIRECTED TO THE ATTENTION OF:**

Hakikur Rahman, Editor-in-Chief • IJICTHD@igi-global.com

**ALL MANUSCRIPT SUBMISSIONS TO IJICTHD SHOULD BE SENT THROUGH THE ONLINE SUBMISSION SYSTEM:**

http://www.igi-global.com/authorseditors/titlesubmission/newproject.aspx

**IDEAS FOR SPECIAL THEME ISSUES MAY BE SUBMITTED TO THE EDITOR(S)-IN-CHIEF**

**PLEASE RECOMMEND THIS PUBLICATION TO YOUR LIBRARIAN**

For a convenient easy-to-use library recommendation form, please visit:
http://www.igi-global.com/IJICTHD