Aslib Journal of Information Management

Mobile Phones for Development: An Information Case Study of Mobile Phone Kiosk Vendors in the Congo

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Journal:	*Aslib Journal of Information Management*
Manuscript ID	AJIM-09-2016-0151.R2
Manuscript Type:	Research Paper
Keywords:	mobile phone, impact, development, information science for development, capability, prepaid card

Aslib Journal of Information Management
Volume 69, Issue 3, pp294-3015. DOI:10.1108/AJIM-09-2016-0151

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Abstract

Purpose – The paper relays an important line of Mark Hepworth's work, which engages with information technologies and development. The paper aims to suggest a subfield of Library and Information Science (LIS) for development to reclaim the role of information services and systems for social change in rural areas. The paper looks at the extent of development gained with the advent of mobile phones.

Design/methodology/approach – Rather than undertaking traditional large-scale, quantitative, context-independent and survey-type research, the paper employs a capability approach and semi-structured interviews to ascertain the experiences that mobile phone kiosk vendors in the rural Congo have of mobile phones.

Findings – It was found that (1) mobile phones should be geared towards the liberation, and not utilization or commodification of humans and their needs, and (2) mobile phones are not a catalyst of human basic capabilities.

Practical implications – The paper provides empirical evidence as to how an important group of mobile phone users could harness development with their mobiles.

Research limitations/implications – Since the method employed is an in-depth qualitative analysis of mobile phone kiosk vendors, obtained results can be used to enrich or inform mobile phone experiences in other settings and groups.

Originality/value – Most LIS literature has presented mobile phones along the lines of information freedom or access, mass subscription, adoption rates, technological and entrepreneurial innovation, micro-credits, etc. However, this paper places development at the heart of LIS debates.

Article classification – Research paper

Keywords: mobile phones, impact, development, information science for development, capability, prepaid card, Library and Information Science (LIS)

Introduction

Mark Hepworth (Hepworth and Duvigneau, 2012) worked with a variety of disadvantaged groups and communities and in different settings across the globe. Hepworth consecrated much work in promoting an information science's sensitivity to and engagement with development in developing countries particularly in Africa, with participatory method being his underlying method. Therefore, development of, for and by the poorest has been Hepworth's central theme. This includes everything from hospices or healthcare units, university learning systems, information literacies, environment to agriculture. This paper is a testimony to and recognition of this work. The paper is part of a doctoral work that Hepworth spearheaded to allow for development among illiterate mobile phone users in rural areas of the Congo. Sure enough, the topic mobile phones for development is gaining prominence in developing countries even as mobile phones are becoming the information technologies of the poor.

The research questions were as follows:

1. Do mobile phones produce development among kiosk vendors in rural areas of the Congo?
2. Do mobile phones improve the living conditions of kiosk vendors?

The aims of the study were:

1. To inquire into ways in which mobile phones produce development in rural areas of the Congo from the perspectives of kiosk vendors.
2. To give voice to kiosk vendors to capture their own accounts or lived experiences of mobile phone uses and development.

However, despite their popularity and their increasingly PC-like and Internet properties, mobile phones and their link to development or wellbeing are often taken to be unsuited for library and information science (LIS) research and journals. This sharply contrasts with the role that libraries, information services and systems have played in human history. For example, information technologies were key in modernizing all spheres of social life in Western Europe in the 18th and 19th centuries (Habermas, 1992, 2002). One reason for this shortcoming is that LIS is still suffering from the limitations and legacies of Shannon's (1948) information theory, which presents information as a function of the information channel and its content. Another reason why development is shunned by information studies might be that "many studies have considered information in the sense of a product" (Starasts, 2015, p. 157). This causes authors to pursue new information products and their innovations, leaving aside the discussions on the actual capabilities of humans to be fully actualized or developed regardless of the possessions, technologies, or mobile phones being held.

As a result, despite strident remarks that LIS has been unconcerned with the contexts in which the information channel and its content are embedded, LIS remains preoccupied with the management and functionality of the channel and the seeking of the channel content, without paying heed to the wellbeing of society and its members. This has motivated Savolainen (2016) to recently lament LIS status, saying,

> Despite the growing number of people using the Internet for information seeking, there continue to be socio-economic gaps in use of networked information between majority and minority populations, such as lower income African Americans... Economic barriers combined with physical disabilities or spatial barriers can be particularly compelling because they effectively block access to sources of information... Barriers due to the lack of social and economic capital are typically characterized by poor contact networks and insufficient economic resources. (p. 56)

As is clear from the above statements, access to information or to the channel content and the research into it are no doubt insufficient to ensure a better or fairer society. Society and its members are irrevocably the best indication of how information science research leads to human flourishing. This is also exacerbated by the fact that while mobile phones have been shown to be linked to the Arab Spring (Castells, 2015), for example, the development of Arab nations is still lagging behind. More particularly, the evidence that mobile phones create development in

developing nations is lacking (Aker and Blumenstock, 2015; Chéneau-Loquay, 2010). Hence, this paper was reclaiming the social engagement of LIS research. Pertinently, Ferguson (2016) insisted, "indeed, *knowledge is at the heart of development practice and debate*; the *development sector* can, therefore, be characterized as *knowledge-intensive*, involving heterogeneous and often dispersed stakeholders who rely on one another" (p. 5, emphasis added). It is worth noting that efforts were made in the social sciences to rethink and revamp the process of development around the world. A brief background of the debates related to development is helpful.

The rethinking of development was needed in order to debunk the merely economic programmes of development or economic growth, hence a variant word also used by authors was *socio-economic* development and more recently *sustainable* development (Servaes, 2013). The main reason was that since the late 19th century onwards, authors have raised concerns over the increasing disconnect between information technologies and social change, the kind of social change that radically transformed and modernized Western Europe in the 18th and 19th centuries. Part of the criticism was that through their popularity, information technologies were simply injecting the commodification (Marx, 1867/1977) or mass deception (Adorno and Horkheimer, 1944/2002) of humans. Consequently, Habermas (1992, 2002) claimed that information technologies must regain their socially transformative role to radically change the lives of ordinary citizens around the world as they did in the 18th and 19th centuries in Western Europe. This paper is filling this gap by looking at how mobile phones can crate development among rural populations. Beyond doubt, Fidel (2012) propounded, "we [information scientists] cannot significantly improve human lives without changing the material conditions and the economic system that shape them" (p. xi). Just as information pervades all spheres of human existence, information science literature is marked by a wide-ranging variety of topics (Bawden and Robinson, 2012; Case, 2012; Hjørland, 2014). Therefore, the concept development should not be an exception. More specifically, as Chowdhury (2012) explained, "the importance of information has been ignored or downplayed in key policy documents on sustainable development, and within mainstream information science (IS) the issue of sustainable information has not been discussed or researched well" (p. 634). It is problematic that a field as specialized in information as information science might be less involved in reflections on ways in which the information age achieves and ensures people's development.

Problem statement

On the one hand, due to increasing inequality within and between nations, the concept development has become one of the most pressing topics among social science researchers. On the other hand, with its fast growing adoption, mobile phones have come to be one of the most individually handled information technologies of modern day societies. Nonetheless, neither development nor mobile phones have undergone a systematic inquiry within information science. It follows that the problematic linkage between development and mobile phones (Aker and Blumenstock, 2015; Aker and Mbiti, 2010; Chéneau-Loquay, 2010) has not been researched in information science. This has also repercussions on how new information technologies are being researched or conceptualized. In the meantime, as seen in contemporary societies, "the gap between rich and poor has widened in most... countries over the past 30 years. *This occurred when countries were going through a sustained period of economic growth*" (OECD, 2011, p. 1, emphasis added). Therefore, the impact of mobile phones upon rural individuals such as this paper's participants warrants sustained research. In effect,

> Many developing country governments and development agencies are focusing on extending telecommunications services into rural areas, as they seek to encourage growth, alleviate poverty and overcome a perceived "digital divide". Mobile technologies are playing a major role in this effort. However, relatively little is known about how rural communities and small businesses use mobile technologies, and what impacts they are having. (Samuel, Shah and Hadingham, 2005, p. 44)

The present paper inquired into ways in which mobile phones produced development among rural kiosk vendors in the Congo, not according to what is said or preconceived about them in New York or London, but rather according to the perspectives, narratives or experiences of kiosk vendors themselves. Obviously, "it does not make sense to exclude from development debate the local interest groups at the heart of aid efforts" (Ferguson, 2016, p. 5). This paper advocated a subfield or discourse of information science for development to drill deeper into how information and/or information technologies enable the development or human flourishing of those concerned.

Clarification of terminology

Although development is one of the most daunting phenomena of present day societies, it evokes different connotations for different people. The English term development derives from the French term *développer*, which is composed of two particles *des-velop*, meaning to unfold, unwrap, unroll, expand, spread out, etc. Social science materials display five major tracks of meanings attached to development: (1) psychological, which designates the unfolding of human personality (Lerner, 2011), (2) philanthropic, the most commonly used in information science and related fields, which includes humanitarian or small-scale managerial works undertaken primarily in rural areas of developing nations (Foster and Heeks, 2010; Kleine, 2013; Unwin, 2009), (3) infrastructural, which indicates facilities, houses, transportation structures, energy/water supply, etc. (Adams and Tiesdell, 2012), (4) economic, which conveys specific metrics, such as GDP, GNP, labour, capital, currency, health insurance, etc. (Weil, 2012) and (5) journalistic, which signifies event, story, fact, account, etc. (*The Oxford American Dictionary,* 1999). Notwithstanding, expansive literature tends to conceive of economic development as a holistic endeavour (Sen, 1999). This paper took development to indicate an integrated process to unpack and ensure the wellbeing of people and their societies. The paper employed the terms prosperity, human flourishing, development and wellbeing interchangeably. To this effect, the paper envisaged development beyond fixated economic metrics (e.g., GDP, GNP, income, etc.). Also, for clarity purposes, this paper uses the word development in lieu of economic development, social change, social impact, sustainable development or socio-economic development. Furthermore, the paper employed LIS, information studies and information science interchangeably, as these phrases tend to point to the same scholarship. Technique was understood to represent a procedure in which one undertakes a specific task in the research process. After the introduction, the paper revolves around five points: (1) literature review, (2) method, (3) findings, (4) discussion and (5) limitations. A conclusion is given.

Literature review

To be clear, the crux of a literature review (Babbie, 2016; Bryman, 2016) is not so much about a reservoir of names and published works, but a researcher's capacity to unravel the trends

entrenched in works previously done so as to bridge the discrepancies unveiled and craft some breakthroughs. As shown earlier, the information science literature has not kept pace with the discussions of development studies to inquire into the actualization of human beings. In this respect, information science cannot compare with its sister disciplines. Sure enough, the last few decades, a whole host of areas of social science research with earnest engagement in the topic of development have arisen, such as communication development (Servaes, 2008; Servaes and Lie, 2015), anthropology development (Mosse, 2013), geography development (Silvey and Rankin, 2011), sociology development (Webster, 1997), information systems for development [IS4Dev] (Traxler, 2009), information and communications technologies for development [ICT4D] (Kleine, 2013; Unwin, 2009), knowledge management for development [KM4Dev] (Ferguson, 2016), etc. Even more interestingly, computer science whose influence is steady in information science (Hjørland, 2014) has spawned the subfield of computing for development aka ACM DEV [Association for Computing Machinery and Development] (http://acmdev.org/), with a view to eradicating poverty around the world.

One of the first studies that drew the attention of academics to mobile phone-led development was the one spearheaded by then London School of Economics professor Waverman. Essentially, Waverman, Meschi and Fuss (2005) wrote, "we find that mobile telephony has a positive and significant impact on economic growth, *and this impact may be twice as large in developing countries compared to developed countries*"(p. 11, emphasis in original). Along similar lines, Columbia University professor Sachs (2008) wrote an article claiming that "mobile phones spur economic development" in developing countries. Recently, the director of the International Telecommunication Union (ITU) (2013) stated,

Let us all celebrate this mobile miracle that I have no doubt will hasten our pace towards sustainable development... In 2013, there are almost as many mobile-cellular subscriptions as people in the world... Mobile-cellular penetration rates stand at 96% globally; 128% in developed countries; and 89% in developing countries. (para 1, 1st page)

Several studies have followed suit to proclaim the developmental effects of mobile phones in developing countries (Duncombe, 2012). To a great extent, two global institutions have set the stage for a discourse on mobile phone-linked development. On the one hand, two world-wide symposiums (World Summit, 2003) were held on the Information Society, in Geneva in 2003 and in Tunis in 2005, with the goal to promote information access to all people around the world. On the other hand, the UN proclaimed *The Millennium Development Goals* (2000) as a plan to eradicate poverty around the world. Such an environment, in one form or another, precipitated a euphoric dissemination and funding of information technologies, more specifically mobile phones in rural areas. Also worth noting here is the Village Phone, which was the first development project to draw the world's attention to the developmental effects of mobile phones among the poor in developing countries (Aminuzzaman, Baldersheim and Jamil, 2003). To recap, the project Village Phone was created in 1981 in Bangladesh to allow rural women to earn credits by providing them with a business of mobile phone services. Perhaps troublingly, information research literature (Bawden and Robinson, 2012) does not resonate with the concerns listed above, more precisely with *The Millennium Development Goals* (2000), nor engage with the debates as regards the link claimed to exist between development and mobile phones. Access to and creation of information supplant the need to look into and improve the

living conditions of those claimed to be the beneficiaries of information systems. As pointed out earlier, the view of poverty or inequality as a deficiency of needed information has had an immense impact on information scientists and their posture towards poverty and its forces around the globe.

It is apparent that most literature published on mobile phones feeds on the commodity of financial, entrepreneurial, market, or corporate gains (Aker and Blumenstock, 2015; Chéneau-Loquay, 2010; Chipchase, 2009; Donner, 2004, 2006) and the utility/usability of connectedness, access, content creation, or social interaction (Chipchase, 2009; Sagl and Resch, 2015). While these research focuses can very well be beneficial they are only a fraction of, if not diversion from a fuller human actualization. In this respect, Sen proposed a serious demarcation from commodity and utility. As Sen (2009) expounded,

> The capability approach focuses on human life, and not just on some detached objects of convenience, such as incomes or commodities 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)

As remarked in the above statements, the mass commodification and utilization of humans in the name of new digital technologies and their technical and social dominance cannot supplant the rigour proper to scholarly inquiry.

Method

The first method of this study was a relatively new qualitative method called ecological sampling or ecological method (Navarro and Díaz-Gamboa, 2015). Quantitative research was found to be impractical in this study's investigated rural areas. Undoubtedly, surveys or questionnaires were not appropriate as concerned participants were illiterate. More particularly, since the mass killings or genocides, which took place not long ago on a number of occasions and not too far away from the investigated areas, were being undertaken based on circulated lists with names of individuals and communities, sheets of paper and written documents were associated with summary executions and tortures. In the same way, to ensure the safety and needed collaboration of concerned participants and their communities, videos and tapes were avoided during in-depth interviews and related discussions since these materials could be used after the research as evidence to mistreat, pursue, arrest, or execute identified individuals. Also, for participants' peace of mind, names of locations, individuals and communities were not asked, identified, or collected. Reports of Human Rights Watch (https://www.hrw.org) show the freedoms and safety of individuals to be alarming in the Congo.

Ecological sampling is a method borrowed from ecological sciences to enable the researcher to collect a higher number of concerned participants in a selected area otherwise inaccessible by standard quantitative research. The method uses a line or line transect to achieve the identification and inclusion of species of animals or plants relevant to the study. Thus with ecological method, the researcher is as close and sensitive to local realities and individuals as possible. As ecologists Navarro and Díaz-Gamboa (2015) indicated,

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*. (p. 47, emphasis added)

The explanation given above sheds light on how in a remote area such as the one dealt with in this study, which lacks roads, post office and numbered/decent houses, researchers are able to detect items and individuals that cannot be identified in traditional quantitative research method. The second method of this study was capability approach, with the goal to narrow down the research to human basic needs or capabilities to best probe the concept development on the one hand, and to equip concerned participants with a broader spectrum of capabilities in order to live fuller and better lives, on the other (Sen, 1999, 2009, 2012). More than usually acknowledged, capability approach is a qualitative, interpretive approach that seeks a fuller and better actualization of humans. Accordingly, the concept development embraces not just a set of outcomes or metrics, but rather the broader spectrum of human flourishing (i.e., wellbeing, prosperity, fulfillment, etc.).

Another important point to clarify about this paper's choice of qualitative research regards research method as seen today in transdisciplinary or social science research in general. To say the least, "despite the gradual acceptance of qualitative *methods* 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, emphasis in original). To illustrate, some well-established authors still believe that qualitative work "overclaims the findings" (Kow, Nardi and Shah, 2015, personal communication). Perhaps not unexpectedly, three years after Tracy's (2012) remarks, there is increasing empirical evidence across disciplines that shows, to use a pertinent phrase of McDonald *et al*. (2015), "the dominance of quantitative methods" (p. 303), or, as De Fina and Johnstone (2015) described, the "hegemony of quantitative research" (p. 160). So this paper was not of a quantitative research philosophy. Nor should it and its participants be judged using the metrics and criteria of quantitative research. As Tracy (2013) specified, "qualitative research is about immersing oneself in a scene and trying to make sense of it" (p. 2). As can be anticipated, this paper aimed to immerse itself in the scene of mobile phones and make sense of mobile phones among kiosk vendors.

Because of the kind of situation seen with this paper's participants, Patton (2015) justifiably insisted, "qualitative inquiry includes *studying the meaning making* associated with things" (p. 5, emphasis added), such as mobile phones among kiosk vendors in the Congo, or as Merriam and Tisdell (2016) stated, "qualitative inquiry, which *focuses on meaning in context*, requires a data collection instrument that is sensitive to underlying meaning when gathering and interpreting data" (p. 2, emphasis added). To clarify, mobile phones *have a meaning* for kiosk vendors in the

Congo, just as they do for any traditional or mainstream population around the world. More precisely, with qualitative inquiry "the stress is on the understanding of the social world [of mobile phones] through an examination of the interpretation of that world by its participants" (Bryman, 2016, p. 375). This meaning/interpretation of kiosk vendors and related experiences merit scholarly attention. In fact, while qualitative research has been applied in mobile phone studies, it still remains thin (Duncombe, 2012). Therefore, more in-depth qualitative research is needed. In addition, qualitative research done in mobile phone studies is buried in combinations with or accounts of quantitative research (Porter *et al*., 2015). This paper sought to focus on kiosk vendors, and thus provide their narratives/nuances on mobile phones. As Patton (2015) put it so well, unlike quantitative accounts, "the advantages of qualitative portrayals... are that greater attention can be given to nuance" (p. 68) among marginalized populations. It follows that this study aimed not to represent kiosk vendors' population much less the literature produced on them, but rather to unearth, as case study expert Yin (2014) had it, "the lessons learned from" (p. 40) kiosk vendors' experiences in order to advance existing knowledge in mobile phone and information studies research.

The research questions and the aims stated in this study warranted an inquiry with *sedimented* or in-depth knowledge (details below). The research questions were posed to look into ways in which mobile phones generate development and thus improve the living conditions of kiosk vendors whereas the aims set forth in the study helped capture the perspectives of kiosk vendors by giving voice to kiosk vendors. To this effect, a series of in-depth interviews and discussions with participants were conducted. The study undertook three techniques: (1) saturation, (2) crystallization previously called triangulation, and (3) *sedimented* or in-depth description. As explained earlier, a technique was taken to mean a procedure with which a specific task was performed during the research process. First, saturation, variedly called redundancy or informational redundancy (Patton, 2015; Saumure and Given, 2008), is a technique where there is no further/newer information found in the search process. So information is saturated when the researcher notes a repetition of the information gathered. Second, crystallization (Denzin and Lincoln, 2011) is a technique that employs multiple prisms just like a crystal to shed greater light on the phenomenon being investigated and thus increase the depth of the information gained. Third and lastly, *sedimented* description (Husserl, 2008) also called in-depth description is a description that unearths the sediments, bundles, deposits and layers upon which the phenomenon under study rests.

Since the method used in this study was one of *sedimented* knowledge, as described above, interview questions were asked deep into as many levels as possible. Three levels were distinguished -- by way of saturation. First, the concept characteristic was taken to mean a mark, nature, sign or property that defines that which is under study. Second, context – which traces back to the Latin verb *con-texere* (Lewis and Short, 1879), meaning weave with, braid with, etc. -- represents the environment or milieu in which the phenomenon investigated is rooted. Experience -- which comes from the Latin gerund *ex-periens*, meaning feeling, enjoying, underdoing or trying from, etc. -- indicates the things shown, lived from within, namely: the perceptions, feelings, affections, emotions, etc. in relation to a given phenomenon. Third and lastly, interpretation, which derives from the French verb *inter-prêter*, meaning: to share, loan, show, etc. between or within – entails the meanings, reflections, lessons learned, worldviews or

perspectives regarding a specific topic or phenomenon. As Yin (2014) noted, a case study is characterized by in-depth information produced on a specific phenomenon.

While capability approach is generally known for the concept capability, it is one of the most misunderstood methods of the social sciences. In fact, the fundamental contributions of capability approach to the social sciences tends to escape most authors concerned with capability approach. One of the best ways of understanding capability approach is with the idea of positivism. The reason that the rapports of capability approach with positivism have fallen beneath the radar of social science analysts resides in the fact that capability approach has gained popularity as a contribution or corrective to the notion of development. For better or worse, the Nobel Prize awarded to Sen (1999) has diverted the attention of researchers from the actual capability approach and its tenets by highlighting the notion of development as the expansion of capabilities *vs* the notion of development as the implementation of GDP, GNP, and the like. Yet, capability approach is an approach that seeks to defeat as it does the core principles of positivism, which indeed are the real *raison d'être* for the novel view of development proposed by Sen (1988, 1999, 2009).

One important thing that Sen (1988, 1999, 2009) did was to characterize development not in terms of abstract outcomes but in terms of the quality of life, more precisely the capabilities that people have reason to value in their daily lives. As Sen (2013) explained, "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*" (p. 11, emphasis added). Traditional development is defined as the rate or number of specific, measurable metrics attained in a given nation or society, such as incomes, GDP, GNP, etc. In other words, a developed society is one that displays greater rates of incomes, cars, TV sets, houses, etc. than those of another society. But, the reality is not always as straightforward and informative as the rates of these metrics imply. In fact, Sen (2009) pointed to South Africa during apartheid as a compelling illustration of how development can be misread and misleading. Evidently, South Africa had a GDP higher than that of most European nations, and yet South Africa was and still is fraught with troubling inequalities, with the world's poorest living side by side with some of the world's richest. Another example proposed by Sen (2009) is with the US, a nation rated to be the richest in the world by several standards, meaning that a nation that displays best rates of GDP, GNP, incomes, Internet adoption, etc. But, at the same time, the US is plagued by persistent inequalities and by one of the most corrosive health systems seen in the world.

Therefore, Sen (2009, 2012, 2013) suggested that development be reckoned rather with the actual extent of capabilities that people have to live better and fuller lives than with the abstract outcomes or numbers. Such a depiction of development is nothing but a continuation of Sen 's (2009, 2013) long held rejection of and attack against positivism. Positivism is one of the most influential methods that describes research as one that is free from value, context, and people's feelings and experiences. This is because in the social sciences in general and information-based research in particular, "the influence of positivism has been powerful" (Lindlof and Taylor, 2011, p. 6). Positivism seeks research that is universally transferable and applicable to all contexts and humans across time and space, with people being passive agents. Positivism centres around the "*presumption of "facts" generated independently of theory, values, or terminology* (Lindlof and Taylor, 2011, p. 6, emphasis in original). One way in which one can see capability

approach as an interpretive, and not positivistic method is with the concept capabilities, which is par excellence context- and people-specific, with a view to expanding the freedoms of concerned participants. This is largely because "context includes attention to and understanding of important nuances... *Sensitivity to context is central in qualitative inquiry and analysis*" (Patton, 2015, p. 9, emphasis in original). This perspective is essential because it opens up a novel direction of scientific knowledge, that is no longer dictated by rigour, objectivity or universality, but rather by testability or refutability. As Popper (1963/2002) contended, "*the criterion of the scientific status of a theory is its falsifiability, or refutability, or testability*" (p. 48, emphasis in original). Refutability or testability is something proper to and embedded in context.

One helpful way in which ecological sampling (Navarro and Díaz-Gamboa, 2015) can be best understood is with the experience or example of site seeing for tourists. Tourists usually do ecological sampling more than they realize. What this means is that when tourists browse a site, they do so by following specific places (e.g., trails, rivers, trees, mountains, routes, etc.). These places constitute or serve as a cutting, limiting, or transect line in ecological sampling. One does not have to trace a real line, but to situate the movements along a recognizable place or item. The goal is for tourists to get to visit as many units as possible within the available period of time and within the selected location. Tourists (just like fieldwork researchers) use different things to remember the places visited, for example: compass, chalk, stick, rock, hew, paint, wire, thread, etc. In qualitative research, it is important to use less intrusive or conspicuous signs just so that selected participants do not feel invaded or intruded in their locales (Merriam and Tisdell, 2016; Patton, 2015; Tracy, 2013). One very common way in which tourists know that they have enough visited a spot is through repetition or redundancy in the sense that places start to cease providing newer information. This is called saturation, the technical jargon of the social science methods textbooks, used in this paper (Patton, 2015; Saumure and Given, 2008). Saturation is a technique as noted above that caused this paper's researchers (to decide) to end up with 18 kiosk vendors in the selected location; meaning that when visited kiosk vendors started to show that they were already visited or that they had no newer information to offer, it was time for the collection of kiosk vendors to be concluded.

It bears noting that in qualitative research the number of investigated participants is not the goal of the research being done nor the requirement of it (Merriam and Tisdell, 2016; Patton, 2015; Tracy, 2013). Indeed, whether it is 10 or less participants does not make any difference to the study being undertaken since the most important thing of qualitative research is the in-depth knowledge gained from the research accomplished. As Patton (2015) insisted,

> The logic and power of qualitative purposeful sampling derives from the *emphasis on in-depth understanding* [emphasis added] of specific cases: *information-rich cases*. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry, thus the term *purposeful sampling* [emphasis in original]. (p. 53)

The goal was thus to gain thick or *sedimented* knowledge from the study, not the size of the selected participants nor the justification of the size encountered in that location. Moreover, the size reached had nothing to do with the research questions posed and aims looked at. The key reason is that "purposeful sampling is based on the assumption that the investigator wants to

discover, understand, and gain insight and therefore must *select a sample from which the most can be learned*" (Merriam and Tisdell, 2016, p. 96, emphasis added). Thus, this case study was not so much interested in how many kiosk vendors there were in the located area of research as it was about *sedimented* knowledge that could be most garnered from and within the selected locale.

Findings

It needs to be borne in mind that in this study kiosk vendors are taken to mean individuals who sell prepaid cards of mobile phones, which is different from other kiosk vendors or users such as barbers, cobblers, voters, etc. Kiosk vendors are one of the least researched groups of information age that researchers of LIS are invited to be aware of if we want to make the world a better place. Semi-structured interviews were conducted with 18 kiosk vendors (see Appendix I). As mentioned earlier, for security reasons, identities and locations of participants were withheld and anonymized. Prepaid cards are usually sold in ad-hoc kiosks at market places, intersections of roads, alongside stores and/or under a tree. Prepaid cards are cards with credits on them to allow people in rural areas – who cannot afford a monthly subscription – to access mobile phones. Hence, prepaid cards allow individuals to use a mobile phone on a pay-as-you-go basis. Also to be clear, the number of categories and their components provided below was determined by virtue of saturation (Lincoln and Guba, 1985), a technique, as explained above, of collection that stops when there is no newer information gained. For ease of communication, the findings were divided in four major levels describing kiosk vendors' experiences: (1) characteristics, (2) contexts, (3) interpretations and (4) recommendations.

Characteristics

Four major characteristics were found to distinguish mobile phone kiosk vendors (see Table 1). The first characteristic seen with kiosk vendors was that their activities were commercial in that kiosk vendors were to make money for mobile phone carriers. As one kiosk vendor declared,

The prepaid cards are commercial products of mobile phone carriers as the subscription system will not be reliable and productive for them. (Kiosk Vendor I)

Without prepaid cards, individuals in rural areas cannot have access to information on mobiles and to new updated applications. The second characteristic of kiosk vendors is youth. All interviewed kiosk vendors were juvenile. The reason for this might be that the commerce of prepaid cards is not nearly as lucrative as one would need in order to make a living. Put differently, kiosk vending is not a salaried job. Therefore, individuals with large family responsibilities are less interested in the activity of kiosk vendors. The third characteristic of kiosk vendors is that they tend to complement the vending of prepaid cards with the trade of other items such as cooking oil, soap, sugar, salt, etc. As one kiosk vendor stated,

Kiosk is not just for prepaid cards, I sell other items. In fact, kiosks were here before the mobile phone era to see things such as oil, mats, pots, etc. (Kiosk Vendor II)

The fourth and last characteristic of kiosk vendors, related to the third, is the lack of decent/urban planning or infrastructural organization. One kiosk vendor argued,

> *I would foul myself if I were to expect the mobile company to build facilities in rural areas for the sale of prepaid cards. Kiosks have nothing to do with the infrastructure. The place in which kiosks are placed is lively, but crowded and unhealthy.* (Kiosk Vendor XVIII)

Some kiosk vendors simply use an umbrella, tent, or the shade of a tree or of an existing compound or fence.

Contexts

Three contexts were identified. The first context in which kiosk vendors use mobile phones is the trade of prepaid cards. In other words, kiosk vendors use mobiles to add credits to the mobiles of customers who purchase the prepaid cards. The reason might be that the prepaid card system is a temporary, not a lasting solution/option for mobile carriers. The hope is that someday all mobile customers can subscribe to mobile services. The second context is one in which kiosk vendors calculate the remainders of prepaid cards to make some income, although minimal. As Kiosk Vendor XI related,

> *When the mobile says that the customer cannot make a call or send text, the prepaid card might have fractions of units, that if added up, can amount to 1 or 2 minute of conversation.*

One kiosk vendor affirmed,

> *With prepaid cards I cannot make an income in the full sense of the word. I can rely on the leftovers when clients use their credits, which in fact is very small.* (Kiosk Vendor XVII)

The benefits made on a prepaid card are derived from the remainders of credits. In other words, one cannot make a call with a balance of less than a dollar on the prepaid card. So if a kiosk vendor has 10 customers with less than a dollar, he can use those remainders, which amount to US $ 2 to 5. The third and last context is the low productivity of prepaid cards. Thus, development is particularly questionable in that the range of opportunities that kiosk vendors have is tenuous. An important point to mention here is that the capability approach, espoused in this study, defines development as the spectrum and expansion of opportunities that people have. As Kiosk Vendor III lamented,

> *Development simply means a better life a better village a better community a better neighbourhood a better market day, etc. This is how I see mobile phone this is how I see the activities of a kiosk vendor. A kiosk vendor with many possibilities or opportunities found in the village, with the village and for the village to live better.*

The job of kiosk vendor is being defined as part of opportunities or capabilities made available to individuals, opportunities that are comprehensive as they involve different aspects of the community: neighbourhood, village, life, market day, etc.

Interpretations

Kiosk vendors distinguished three main interpretations of mobile phones. The first interpretation that kiosk vendors have of mobile phones is that of limited capabilities. As one kiosk vendor emphasized,

Yes, I am very busy with supplying the prepaid cards. These cards sell quickly. And I have to make sure I do not run out of prepaid cards. It is fun running back and forth. However, they don't pay much, the returns are small, considering the trips to supply them. (Kiosk Vendor IX)

The second experience is that kiosks do not lead to significant infrastructural development in rural societies. This means that infrastructure is one of the least concerns of mobile phone companies. Indeed, the idea of kiosk does not lend itself to a society's development or modernization. As Kiosk Vendor VIII reported,

I can see that mobile phone carriers have opened stores to sell mobile devices and accessories in crowed places of the city, nothing more concerning construction. As a kiosk vendor I use a table or the back of a container to put out my merchandises.

One kiosk vendor argued,

I would foul myself if I were to expect the mobile company to build facilities in rural areas for the sale of prepaid cards. Kiosks have nothing to do with the infrastructure. (Kiosk Vendor XVIII)

Not surprisingly, the third and last interpretation of kiosk vendors is that the role of kiosk vendors involves limited communication with mobile phone carriers. As Kiosk Vendor XVII indicated,

I sell the prepaid cards, and I am on my own. Mobile phone carriers don't even know where I live, whether I have a house, where I sleep. The tiny leftovers of credits, if there are left of course, are your profit or salary, I would say.

The statement seen above implies that communication between kiosk vendors and mobile phone providers is primarily about the trade of prepaid cards.

Recommendations

Four main recommendations were collected from kiosk vendors' responses in order to improve the work of vending mobile phone services and goods. The first recommendation is to see a link between local, rural infrastructure and the implementation and gains of mobile phone services and goods. As Kiosk Vendor III remarked,

One would not see an improvement of the infrastructure go alongside the sale of prepaid cards. They just do not go together. Prepaid cards are there to give people access to new mobile applications. Kiosks tend to be set alongside huts, slums, puddles, mud filled with mosquitoes, piles of rubbish, etc.

Updated mobile applications have become the sole focus of mobile phone dissemination and access to the information they provide. The second recommendation closely related to the first is that there be decent facilities or shops were to deliver or sell mobile phone goods and services. As Kiosk Vendor XII affirmed,

> *A tree, big umbrella, or tent would be just fine in order to help interested individuals with sufficient credits on their mobiles.*

Mobile phones and their access are being seen as a commodity or fetish in and of itself, regardless of how, why and where they are being distributed. During inclement weather, for instance, using a tree or simple shade to sell mobile phones as seen earlier can be detrimental to both the vendors, customers and involved populations. The third recommendation is to make the work of vending prepaid cards or mobile phone services and goods a full-blown job that do not necessitate a complementary activity as seen with most kiosk vendors. As one kiosk vendor testified,

> *However fast and busy one can get in selling the prepaid cards, one cannot make a living out of them. Nor can the community be built on them.* (Kiosk Vendor IX)

The fourth and last recommendation is one of policy to protect the youth and mobile phone companies. The reason being, as it stands from our findings, the trade of prepaid cards is no different from the recruitment of the youth in the army, terrorist groups, or human trafficking. Only clear policies and collaboration between mobile phone carriers and local populations can eradicate this modern form of human trafficking. In sum, kiosk vendors wanted sustainable, planned, well-regulated and full-blown mobile phone services and goods that would generate more opportunities for the community (see Table 2).

	Mobiles	Infrastructure	Productivity	Age
Status	Reduced services	Reckless Ad hoc	Low	Juvenile 12 to 17 years
Replacement	Complete services	Planned Organized	Sustainable	Adult 18 years and on

Table 2: Kiosk Vendors' Model

Discussion

As Merriam and Tisdell (2016) rightly asserted,

> In the discussion the researcher points out what the study contributes to the knowledge base of the field by showing how the study's findings extend, modify, or contradict previous work. In this discussion the researcher situates the findings of the study within the literature base on the topic, pointing out what new insights have been found, what aspects of theory have been challenged, and so on. (p. 92)

Another point worth recalling in the discussion of qualitative research is that the research questions asked were not those of yes *vs* no or right *vs* wrong in order to assess the discussion section as a reflection of a homework done based on the accuracy of the responses provided. As Patton (2015) clarified,

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... to discover patterns that are hidden in the details, and observing with open eyes and an open mind. (p. 11)

As is apparent from the above comments, it bears stressing that as noted earlier the present case study was one of *sedimented* knowledge (Husserl, 2008) revolves around the extent to which selected participants had/have capabilities *vis-à-vis* human basic needs. Sure enough, findings markedly reveal that selected participants did not enjoy broader capabilities in order to live better and fuller lives. Instead, capabilities of selected participants were limited by significant barriers such as lack of electricity and of basic infrastructures, lack of technologies (such as chargers and batteries), lack of decent full-fledged jobs, etc. In other words, this study was not seeking so much the accuracy of the answers to fixed questions (something particular to quantitative research yet this study was one of qualitative research) as it was the in-depth, *sedimented* knowledge (Husserl, 2008) surrounding human basic needs in order to unearth the patterns hidden beneath that knowledge. The more sediments were found the more patterns could be unmasked. The patterns here had to do with not how many things, properties, mobile phones, or moneys, but with how much spectrum/extent of capabilities people have regarding human basic needs. The move proposed in order to address the research questions posed and achieve the aims stated was one from the things held or possessed to the extent of capabilities that people enjoy daily (details below) *vis-à-vis* human basic needs (Sen, 1999, 2009, 2012). To explain, *sedimented* knowledge is borrowed from construction studies with the idea that like a building or terrain ought its stability and strength to the sediments on which it rests, knowledge entails not just layers, but bundles, traces, curves, spots, dots, etc.

The phrase new digital applications and access to or skills about them have become a required, unquestionable commodity or fetish of humans more than ever before even among researchers of LIS. The reason behind the focus on the commercial or commodity aspect of mobile phones might come from the belief inherited from the Enlightenment era and Bacon's (1597/1857) idea that "*nam et ipsa scientia potestas est* [and *indeed* knowledge itself is power]" (p. 241, emphasis added). So, it was thought that information access was an access of people to power. Another reason why information access was emphasized might lie in Aristotle's (1933) idea that "πάντες ανθρωποι τον είδεναι όρεγοί ται φνσει [all humans by nature yearn for the act of knowing (concrete knowledge or information)]" (*Metaphysics*, 980a 22). Thus, information was seen as a hallmark of humans. The information age along with the rapid expansion of online information forums have brought this view of information into greater focus, giving rise to the popularity of concepts such as social networks, email, e-learning, e-journal, e-book, e-governance, blog, chat, profile, data, virtual reality, etc. Concurrently, powerful new information systems now relayed spectacularly by mobile phones have come to pervade social reality and grip the attention of information researchers.

Perhaps most alarmingly, although "mobile phones are becoming the most ubiquitous technology in human history" (Yan, 2015, p. xxxix), they have met with sparse attention in information science literature. Mentions of mobile phone and related topics are tethered to discussions of updated applications and/or information needs, with little to no contribution made to the theories of information science and to the effects of these theories on humans and their societies. As Tan and Goh (2015) noted, "there has also been little work done to understand *mobile information seeking*, particularly where there are differences in an individual's collaborative activities with their immediate social contacts and strangers during the search process" (p. 2032, emphasis added). As a result, "existing studies have tended to focus *overwhelmingly* on access to information" (Potnis, 2015, p. 83, emphasis added). In addition, the focus on information as an economic catalyst inherited from the idea of information as power was illustrated with the idea of "information superhighway" (Röller and Waverman, 2001, p. 909). The reason being, it was widely believed that "telecommunications infrastructure investment can lead to economic growth in several ways" (Röller and Waverman, 2001, p. 909). Nevertheless, Potnis recently cautioned that "access to information by itself is of limited value" (2015, p. 83). Interestingly, although information science discussions have been extended past the focuses placed on information systems and their technicalities to include everyday social contexts of information, they are still versed in topics of tasks, literacy or cognition. To remedy this, Savolainen (2016) declared,

> Since economic resources are not distributed equally across the population, disadvantaged people are more likely to face economic barriers to information seeking... As the Internet has become integral to the way in which people access information, those who cannot afford Internet connections will be doubly disadvantaged. (p. 56)

As shown in the statements above, social inequalities have to be addressed by LIS researchers. Without engagement with society and its social ills, information seeking and related cognitive topics have little in the way of research that changes society. The cognitive paradigm is still corroding information research. The cognitive paradigm is often complemented with a channel- or device-focused information research. Thus the cognitive, behaviouristic or mentalistic commodification of information research has to be replaced by studies with impacts on human flourishing in society. This paper was advocating for a field of LIS for development alternatively called information studies for development.

For example, Hjørland (2010) noted, "research on user groups has to be based on a social rather than on a cognitive theory" (p. 223). As the concept mobile phone continues to lack sustained inquiry of information studies, the few studies of information studies that focus on mobile phone-related topics cannot help but replicate behavioural and cognitive paradigms of information. To illustrate, Tan and Goh (2015) argued, "mobile applications should support the seeking, sharing, confirming, and validating of information systematically to help users complete their tasks and fulfill their information needs" (p. 2031). It follows that information and its new digital products such as mobile phones are taken to be a commodity, utility, or fetish of task-centric behaviours and systems (Ilahiane and Sherry, 2008; Lugo and Sampson, 2008). Humans are thus commodified, trafficked, or reified to ensure the mass functionality of information behaviours and of information systems and their new products. As explained earlier, the commodification of humans in the name of technology or media was extensively criticized in the

19th century by Marx (1867/1977). To challenge this, Dillon (2012) wrote, "if nothing else, there is a call to arms here for better, serious, theoretically strong scholarship on information and its role in the world" (p. xix). This study sought to fill this gap by deconstructing the role of mobile phones among kiosk vendors.

Thus, the shift proposed in this study was the one of going past the *commodification* or multiplication of information access or networks and *fetishization* of connectedness between people or social interaction to the fuller *capabilization* or actualization of human beings. One of the best ways to know that a passage was made from commodity and utility to capability was, for example, with the question or reflection on *what if* (a person does not have). The idea being, the main point of capability approach was not *only* on the things held, owned, or gained such as mobile phones -- although made more available or more abundant than ever before --, but "the *actual opportunities* [or abilities] a person has" (Sen, 2009, p. 253, emphasis in original) with regard to human basic needs (i.e., water, health, food, house and cloth). It was found in this study that mobile phones did not enhance the capabilities of kiosk vendors with regard to human basic needs. The characteristic of capability approach described earlier tends to escape researchers that have applied capability approach in ICT4D (Kleine, 2013). The most important thing is to start a discussion on how many capabilities with regard to human basic needs people have in using mobile phones.

Meanwhile, although development has been claimed on the account of mobile phones, it has met with scathing criticisms from the beginning of mobile phone literature in the early 2000s onwards. It is worth remembering that none of these criticisms – yet made against an information technology as popular as mobile phone -- has gripped the attention of information science researchers. A fundamental criticism to note here is one that disproves the tendency of econometric measures -- in the aftermath of Waverman's, Meschi's and Fuss' (2005) study -with which mobile phone uses or rates are being conceptualized in order to identify the concept development. As Sen (1988) poignantly argued,

The GNP [just like other economic metrics] captures only those means of well-being that happen to be transacted in the market, and this leaves out benefits and costs that do not have a price-tag attached to them... In assessing what kind of a life that person has successes in living, we have to take a more *integral* view of that person's life. (p. 14, emphasis in original)

As pointed out apropos in the statement above, development, generated in this case by mobile phones, is misleading and in fact counterproductive, if viewed as a rendition of big numbers or widespread dissemination. As Mansell (2012) warned, "diffusion studies [of mobile phones], including those focusing on the 'bottom-of-the-pyramid,' can tell us about the rise of mobile phones and some of the characteristics of use and of users, but *they cannot tell us whether access to mobiles is contributing to poverty alleviation in developing countries*" (p. 1, emphasis added). Prosperity, development, or better lives includes and requires more than the mere diffusion of a given (information) technology. The present paper filled the gap by looking into ways in which kiosk vendors in a rural area of the Congo grappled with mobile phones in order to live better and fuller lives. Claims of mobile phone-driven development have come under fire from a

variety of fronts since the early 2000s. For the purposes of this paper, three most important critics are considered.

First, in their study, Singhal *et al*. (2005) concluded that the Village Phone project (explained above) widened the gap between the poor and the rich in Bangladesh. As the Village Phone project was gaining traction among mobile phone circles it was implemented in different places around the world. Yet, a similar mobile phone project was proved to fuel disparities among individuals in Rwanda (Blumenstock and Eagle, 2012). Evidently, several studies have corroborated a link between mobile phones and disparities (Srinivasan and Burrell, 2015). These findings were confirmed by those of this paper. Second, critics have pinpointed the link needed between basic infrastructures and mobile phones (Aker and Mbiti, 2010). Development without decent infrastructures, as seen in this study's findings, is incomplete. Third and last, critics have flagged the lack of productivity associated with the spread of mobile phones (Carmody, 2012, 2013). The present paper confirmed the claim that mobile phones spark the "informationalization of poverty" (Carmody, 2012, p. 1) amid proliferating huts and puddles. Most strikingly, the fact that the sale of prepaid cards ought to be supplemented with other items – in order for kiosk vendors to best attend to their needs – is a glaring indication that mobile phones are not a catalyst of wellbeing and productivity. This finding reechoes prior work showing that "while many of the benefits of mobile phones for poverty reduction have been noted, the ways in which they may contribute to poverty production *have been largely ignored*" (Carmody, 2012, pp. 5-6, emphasis added). That does not mean that works of mobile phone design or of poverty reduction are not beneficial or are not being done around the world. But rather, the meaning/role of mobile phones for this paper's participants is unequivocally unproductive. Since mobile phones were unproductive kiosk vendors needed greater capabilities with regard to human basic needs.

Marx (1867/1977) demonstrated how technological advances and market gains spur the commodification/utilization of humans and their societies. Thus, liberation is understood in this study as the enhancement of kiosk vendors' basic capabilities such as shelter, water, cloth, health, and food. Practical aspects of liberation include five major areas where kiosk vendors (1) have a share in the vending or revenues of mobiles; (2) sell or provide other services through mobile phones such as Internet, pictures, text, translation, batteries, chargers, etc., (3) be employees of mobile phone companies, not informal vendors., (4) official facilities of mobile phone companies, not booths or stands, and (5) collaborate with mobile phone companies to see what works and what does not work. (see Table 3).

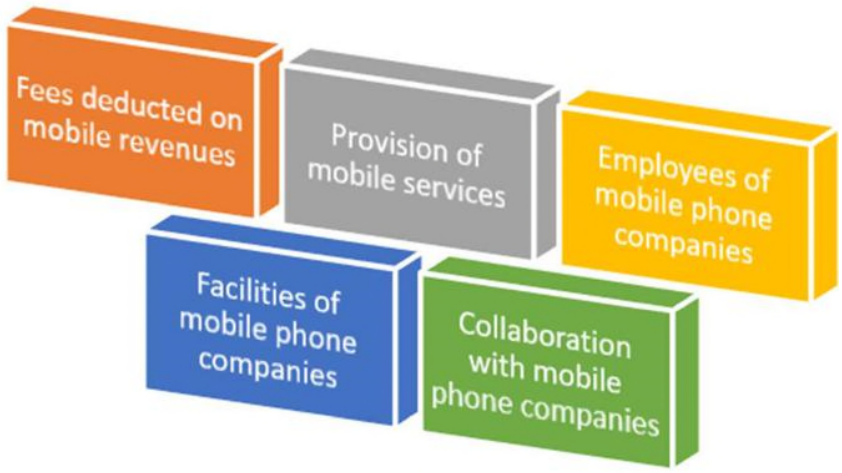

Table 3: Liberation of Kiosk Vendors

Because of the systems-centric paradigm seen in LIS (Hjørland, 2014), the field of LIS tends to cluster around the technicality and functionality of systems and related behaviours. This paper proposed a shift from the technicality and functionality of systems and digital devices to the fuller actualization of humans when they interact with new information systems and devices.

Limitations

Four major limitations can be said to plague this study. First, the endeavour to whittle down a doctoral work to a paper can leave out important details needed for a better grasp of the discussions alluded to. Second, the qualitative research adopted in this study can pose problems for researchers accustomed to traditional broad-based and generalizable research reports. Third, just like any social group, kiosk vendors represent a much bigger phenomenon than prepaid cards. Fourth and last, the paucity of information research in areas of development can obscure the discussions raised in this paper. However, these and similar limitations do not outweigh the lessons learned of this paper and their potentials to key information scientists into the pressing issues of mobile phone technology.

Conclusion

Hepworth's work holds a tremendous wealth in ways in which information science can produce development among specific communities. The paper looked at ways in which mobile phones produced development for kiosk vendors and their communities – from the perspectives of kiosk vendors themselves. Development was seen not just as management of business or organizations, but as better and fuller lives of people. Thus, kiosk vendors' narratives were perused to highlight the lessons learned. It is time for LIS researchers to look past the development of information devices and behaviours. The trafficking of humans in the name of mobile era and its broadest dissemination warrants sustained information research. The sense that this paper's participants made of mobile phones was crystal clear to them, namely that mobile phones *were not a catalyst of development*. We therefore suggested that (1) beyond information access and related new digital applications, mobile phones be a tool that expands individuals' capabilities around basic needs in rural areas, (2) the selling of prepaid cards be part of a full-fledged job, with associated benefits and rights, (3) decent facilities be built/used for the distribution of mobile phone prepaid

cards, (4) LIS researchers and policy makers go beyond the commodification or utilization of humans undertaken behind the façade of upgraded mobile applications to look into the chain of production and capture the effects of information services and systems upon involved social groups that tend to be marginalized, (5) qualitative methods be used by LIS in order for experts in this field to immerse themselves in and/or drill deep in the experiences of those concerned, (6) the continual dominance of positivistic research and philosophies in LIS be kept in check and (7) to avoid commodification, LIS authors focus on the lives of mobile phone kiosk vendors and on the contributions of mobile phones to these lives. Only then could information recorded or shared on mobile phones become information of wellbeing, and not of puddles, mosquitoes, poverty and inequality.

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Appendix I

Essence or Example of Questions
Since the interviews are semi-structured, they do not require a systematic/replicable questionnaire for all interview sessions. Different day-to-day chores/items can emerge in the conversation, and require a question. The essence of questions is indicated below:

1. How long have you being using/borrowing mobile phone(s)? (Subscription is not a factor)

2. Does mobile phone help you obtain firewood?
3. How many goats or chickens do you raise? (Equivalent of "what do you do for living?")
4. Does mobile phone help build/fix your hut? (Equivalent of house)
5. How many hours do you take to get to the water well?
6. Does mobile phone help you obtain malaria pills?
7. Does mobile phone help you obtain mosquito nets?
8. Does mobile phone help you obtain/store food?
9. Does mobile phone help you obtain bricks and cement to build a decent house?
10. Does mobile phone help you obtain/fix your thatch? (equivalent of roofing)