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## **“i-Internet? Intle” (beautiful): Exploring first-time internet use via mobile phones in a South African women’s collective**

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### **Abstract**

This study reports results of an ethnographic action research study, exploring mobile-centric internet use. Over the course of 13 weeks, eight women, each a member of a livelihoods collective in urban Cape Town, South Africa, received training to make use of the data (internet) features on the phones they already owned. None of the women had previous exposure to PCs or the internet. Activities focused on social networking, entertainment, information search, and, in particular, job searches. Results of the exercise reveal both the promise of, and barriers to, mobile internet use by a potentially large community of first-time, mobile-centric users. Discussion focuses on the importance of self-expression and identity management in the refinement of online and offline presences, and considers these forces relative to issues of gender and socioeconomic status.

**Keywords:** Gender, Mobile Phones, Mobile Internet, Low-income, Technology

## Introduction<sup>1</sup>

At least 1.4 billion people access the “traditional” internet via personal computers (PCs), and there are at least 3.3 billion mobile phone subscriptions worldwide (ITU, 2009). Independently, each of these enormous numbers is a testament to a world experiencing rapid sociotechnical change. The implication of the convergence of those numbers is even more staggering: Many hope that the mobile phone will provide the first and/or best means of internet access for hundreds of millions (or more) people who currently lack it, and will be particularly valuable in closing the so-called “digital divide” in the developing world (Stone, Lynch, & Poole, 2003).

Handsets with GPRS and data capabilities are becoming less expensive and more prevalent every year; a basic GPRS enabled phone currently costs as little as \$80 USD. Data, too, is becoming accessible, particularly to prepaid customers, who form the vast majority of mobile users in the developing world. Data costs as little as 13 US cents per megabyte in South Africa. Estimates from India (Telecom Regulatory Authority of India, 2007), and South Africa (Joubert, 2008) suggest that there may already be more mobile internet connections than traditional PC internet connections operational in each country.

But what does the internet experience look like for those whose first and only exposure to the internet is via the mobile handset? Despite great hopes and clearly rapid diffusion of the mobile internet in the developing world, the “Information and Communication Technologies and Development” (ICTD) research community still knows very little about this community of new users. The persistence of these research gaps is an impediment to needed improvements in theory, policy, and hardware and software design concerning those who have not yet arrived online.

This paper reports on the second phase of a study exploring mobile-centric internet use in South Africa. In this phase, we trained eight women, each a member of a livelihoods collective in urban Cape Town, to make use of the data features on the phones they already owned. None of the women had ever touched a PC keyboard, so we were able to explore and track their experiences as first-time, “mobile only” internet users.

## Previous Work

There are, of course, numerous studies concerning the adoption and use of the mobile internet, representing a range of methodological and theoretical approaches (Pedersen & Ling, 2003). Studies have described the usability tradeoffs associated with small screens, non-QUERTY keyboards, and slower connections (Jones & Marsden, 2006). Others have examined the social implications of a more mobile, personal internet, for example, the impact of blackberry and mobile email on work-life balances (Chesley, 2005).

Most studies of North American and European users have focused on individuals already familiar with the internet, who were likely to use the mobile internet as a complement to PC-based internet

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access. The success of iMode in Japan (Ishii, 2004; Ito, Okabe, & Matsuda, 2005), as well as Cyworld in South Korea and QQ mobile in China (Yu & Tan, 2005) has demanded a second research framing, which has explored *mobile-centric* internet use, where PCs are less central (but not absent), and mobile internet access is simply the norm.

With relatively low levels of PC use but near-universal mobile ownership, South Africa is a particularly good place to explore a third research framing, in which use of mobile internet is not as much a matter of complementarity nor convenience, but rather exclusivity. Recent studies document mobile internet use (W. Chigona, Beukes, Vally, & Tanner, 2009; W. Chigona, Kamkwenda, & Saffia Manjoo, 2008; Marsden, 2007), as well as the specific use of a popular mobile instant messaging application called MXit (Bosch, 2008; Butgereit, 2007; A. Chigona & Chigona, 2009; W. Chigona, Chigona, Ngqokelela, & Mpofo, 2009). Kreutzer, (2009), finds evidence of considerable mobile internet use among low-income schoolchildren in Cape Town. In a survey of 11<sup>th</sup> grade students in low-income schools in Cape Town, 77% of respondents reported owning a handset; and a remarkable 68% reported using a mobile phone on the previous day to access the internet.

The first phase of our research drew on 39 semi-structured interviews with mobile internet users in South Africa (Donner & Gitau, 2009). We distinguish between archetypal *mobile-only* internet users and a more fluid category of *mobile-primary* internet users who also have some PC access. We highlight the role of social influence in drawing first time users (Campbell & Russo, 2003), identify the importance of MXit as a cost-savings mechanism, and portray users as seeking a mix of utility (search, remittances, news, and so on) and entertainment, connection, and expression via the mobile internet. However, phase one identified users only after they had adopted the technology. We elected to complement these interviews with observations about what happens in the earliest moments of use. During the first phase, we were also struck by how much harder it was to find adult women using the mobile internet than adult men. This discrepancy mirrors some regrettably common observations surrounding differences in the patterns of ICT adoption and the barriers to effective ICT use by women (Cockburn, 1994; Palitza, 2007; Rogers, 2003; Scott, McKemey, & Batchelor, 2004). Further probing suggested that many of the women we approached were willing to use mobile internet, but they either did not know of its existence, or found it too complicated. Others seemed to accept or reflect a social construction in which technology was “male,” and were more likely to rely on men (brothers, husbands, sons) to make use and sense of the internet for them. For phase II, we elected to focus on training women in the use of the mobile internet, in order to test the resilience of these barriers.

## Methodology

The crux of the second phase of our research was the training of eight women who had previously never used a computer, but who use mobile phones in their day-to-day activities. All the study participants<sup>2</sup> live in Khayelitsha, a low-income area in Cape Town, and work as seamstresses at Learn to Earn, a local skills development and income generation non-governmental organization (NGO). For an overview of how other residents of Khayelitsha use voice calls and mobiles as part of the complex communicative ecology of the township, see Skuse and Cousins (2008). We located the study within the

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<sup>2</sup>To protect confidentiality, all names are pseudonyms.

NGO because it had already established and developed a level of trust within the community. Our goals of exploring and promoting mobile internet use (with an eye towards empowerment and development) were in alignment with those of Learn to Earn, leading to a mutually beneficial partnership (Gitau & Marsden, 2009).

We approached the training as Ethnographic Action Research (Hearn & Foth, 2005; Tacchi, Slater, & Hearn, 2003), which combines an exploratory, evolving and collaborative intervention with a great deal of undirected listening. Following the traditions of Action Research (Avison, Lau, Myers, & Nielsen, 1999), we were deeply interested in nurturing successful mobile internet use for the participants, and in its underlying impact on their daily lives. From the ethnographic tradition, the “deep hanging out” (boyd, 2007; Renato Rosaldo quoted in Clifford, 1997) Action Research engenders works particularly well for multifaceted topics such as internet use. Over the 13 weeks of the project, one of us, the primary author (Gitau), immersed herself in the women’s environment through frequent half-day visits, and was able to gather insights about the technology in context, including social and cultural meanings which far exceeded in volume and quality those we would have gathered in a focus group or usability assessment setting.

We had initially planned to conduct interviews in 1:1 settings, but offer the training in a group setting. The individual pre-intervention benchmark interviews were received very well, as the women openly expressed themselves and outlined their expectations and hopes as to what the internet would offer. However, there was significant resistance to the group training; after the first 45 minute session, half the women wanted to drop out, explaining that they felt inadequate and less internet “savvy” than their friends. We adjusted the design, switching to individualized training sessions, and were able to coax back most of the dropouts. Similarly, instead of carrying out structured follow-up interviews, we instead integrated the questions within follow-up training interactions. In these follow-ups we gauged the women’s understanding and learning by probing them as they performed various tasks, and through the questions they asked, the experience they related, and their interactions both at home and in the workplace. This approach allowed a high degree of freedom and approachability, breaking down the teacher/student barrier.

The overall arc of the training began with cues from participants’ expectations about what the internet might do. The study introduced mobile internet as a tool for daily life, used for such things as searching for business and job opportunities; gathering local and international news; enjoying entertainment (music downloads); and sharing gossip. The protocol contained instructions on how to perform a given exercise, an example, and a practice exercise. For instance, in order to search for information, we chose a popular search engine and illustrated how to access it using WAP. As an example of employment we entered a “domestic care job” as a search inquiry, which returned several links to various job databases, which we followed to display the job descriptions.

As time passed, the group dynamic evolved on its own. We noted that the women became increasingly comfortable learning from each other and asking each other for assistance on various aspects of the internet. We acted and adjusted our methods based on this encouraging observation, and began teaching each of the women new techniques and strategies, and encouraging them to teach one

another. This peer-to-peer (P2P) learning model was advantageous to the study in three ways: First, it surmounted a language barrier: while most of the women spoke some English to communicate to us, they primarily spoke the local language, isiXhosa. Hence, while we were instructing, much of the training was lost in translation, but the peer learning resulted in a great deal of animated conversation and many questions. Second, it accelerated learning in the group, providing a context in which catching up was not perceived as a problem and in which increased enthusiasm led to new discoveries and further personal exploration not requiring our assistance. Finally, the peer learning promised to ensure, on some level, continuing, and perhaps even viral, learning even after the study had wrapped up.

The final debriefing session was also a group event, having the purpose of both acknowledging each woman's participation in the study and getting feedback on the learning process and the women's experience using the mobile internet. The group session evinced a different mood than we had experienced during the initial training – the women felt free to express themselves and to take advice from others within the group. One woman offered the isiXhosa assessment, "*i-Internet? Intle*" (beautiful), a phrase we took as the title of this paper.

## Results

Ten women initially volunteered for the study. Two dropped out after the first training session. Of the remaining eight women, five were in their twenties, two in their thirties, and one in her fifties. Four were married, four single. All but one lived in a household with three or more members; the households earned between 1300 and 8000 rand per month (\$150-\$960). Their median income of 3000 rand was above the poverty line for South Africa, but nevertheless quite resource-constrained. Most were isiXhosa speakers but could speak some English. Six of the women had moved to Khayelitsha from homes in Eastern Cape, one of the various historically disadvantaged settlements. The Eastern Cape remains, marginalized in the delivery of government services; this marginalization pertains to quality education, and consequently, exposure to digital technology. Only three of the women had completed their last year of high school, reflecting a cultural context in which women are often forced to drop out of school earlier than their male counterparts, either to go in search of employment or to take up their prescribed roles as mothers, wives, sisters or girlfriends.

Each of the women owned a phone which was internet-ready, meaning it had GPRS capability and the ability to see a WAP 2.0 page. Some had heard of the internet, but most did not know it was available on their phone. Some of the women knew that you could access the internet via WAP by pressing a hotkey on their phone; however, they did not know how to configure their handsets to enable them to connect to service providers.

Distilling each woman's unique experiences with the mobile internet into a single results section is a formidable challenge. We have elected to focus on three distinct uses of the mobile internet: job search, information search, and self-expression and personal networking. In each case we link the initial expectations with the participants' experiences once underway. There were other uses, but these three were most important to our participant group.

## Searching for a Job

The NGO is in a community confronting high levels of poverty, yet there is great prosperity visible on television, and even in neighborhoods near the participants, just a few kilometers down the road. At the same time, the participants had each already made the decision to join the collective and spend time in training (seamstressing) in search of better livelihoods. Susan, the manager of Learn to Earn, explains:

Khayelitsha has close to 90% unemployment level, what we offer here is a form of income generation, we pay them depending on the work that is available and their personal input because for many of them this is the only way to feed their families, but we hope with the skills that they acquire here they can be able to find secure employment elsewhere.

The combination of these factors meant that self-improvement and the search for a path out of poverty was a priority for the participants. Some of the women drew connections between this search and the iconic (though mysterious) power of the internet. Tindi passionately expressed this hope:

I know this life is not for me, I know I will get out, and I hear in the internet I can get information...all type of information; I know it will help me get out.

Several themes emerged having to do with the hope of improving the women's lives: the women understood that job listings were available on the internet, that they could connect with the world outside Khayelitsha, and that the internet could be a source for entertainment and personal gratification.

Ann had two children and was expecting a third. She was working at Learn to Earn while her partner undertook nursing training. Her income breakdown illustrates why she was seeking a job:

Look, here they give me R800 [~=\$90] per fortnight, and sometimes even that I am not assured as it depends on the orders that they get, there I have to buy food, pay 200 for crèche and give my husband some money to at least have something in his pocket. I still need money to go to the clinic [pre-natal care] and buy things for the baby. I just want something that will pay me more than R 2000 [~=\$240] a month, that will be enough. Do you think this internet can help? They say it can help and I am willing to try

The perceived importance of the internet in securing employment was further fuelled by the fact that many formal-sector employers in urban South Africa assume potential employees have some access to the internet. Ammy explained:

I have tried everything, absolutely everything to find a job, I need a job, like, yesterday as the money in the house is not enough. Here in the internet I know I will find people who want me. Look, I went to this place in the morning and they told me put my CV here in the web, but I do not know how to do that, they do not consider me, if I do not know how to use internet. I know it will help me get a job

After the initial training, many of the women tried to search for jobs online, and to use email to contact potential employers. Linda set out to look for employers using Google and followed URLs to various employment databases. She explained,

Here I put “job in Cape Town” and they gave me Gum Tree, I go to Gum Tree and they show me many many jobs here in Cape Town, but this one they don’t want many things so I put my email address and ask them if they can employ me and here see they replied in my email and ask for my CV...I am very excited.

As the women progressed in their search for employment, they began to combine their abilities to search for employment, browsing to various websites and emailing to get a job. Tracy, although not directly searching for employment, but rather a skills training opportunity, devised a method which combined the search engine, a browser, a notebook, and manual re-typing. She explained,

I enter “home based care training” here and the say ok, then they give many things I read them and write them here [she bought a notebook for this purpose only] and then I go here [Opera Mini] and write the www[URL] and I go and I read more and then I find their email address, and write here[note book] and then go to email and send them email to ask about the training.

Beyond web and database searches, another source of job leads was obtaining URLs and email addresses which the women shared among themselves and encouraged one another to follow up. For example, Ann obtained several email addresses for her partner from a journal that one of them had brought to work in order to share a job database URL ([www.iojobs.co.za](http://www.iojobs.co.za)). We noted a common practice of passing employment URLs was by sharing phones; for instance, Tracy and Linda discovered [gumtree.co.za](http://gumtree.co.za) (similar to Craigslist) and [careerjet.co.za](http://careerjet.co.za) (similar to Monster.com), and shared them with the others by repetition; they took the exact steps on their friend’s phone that they had taken on their own to achieve the desired outcome.

### Other Searches

Although employment seemed to be the key priority among these women in their interest in learning the internet, other forms of information needs also attracted them to the internet.

In the seamstress’s area at Learn to Earn, there was always a radio playing, and the women often sang along. We could see several MP3 files on their phones that were constantly swapped using Bluetooth transfer (see Harper, Regan, Rouncefield, Rubens & Mosawi (2007) and played during their breaks. It was clear that many of the participants were interested in accessing music through the internet. Tindi was very interested in learning more about her favorite gospel music artist; indeed, her first search was for her musical idol *lindiwe*: “See here I put lindiwe and they gave me her song ...see here this is her song and I think I can get it.” Phyllis was not overly concerned about the artists; she just wanted gospel music – any gospel music. Her initial searches were successful, although surprising: “Eiiishh I found the gospel music, but they I must have R16 to get it...”

To our surprise, the participants were uninterested in mainstream political news (even in the midst of a national election) but were quite interested in the weather. Beatrice remarked, “You see I live in a zinc house [temporary iron sheets], and here if they give me weather I can be prepared.” The need for accurate weather reports came into play late in the study when there was a storm in Cape Town affecting both Beatrice and Phyllis, whose house leaked and flooded<sup>3</sup> as a result of the rains.

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<sup>3</sup> Khayelitsha is located below the sea level on a former wetland. Hence, heavy rains cause flooding.

South Africa has one of the highest HIV/AIDS incidence levels in the world. One of the women described how someone in her family had been touched by HIV, and how she had begun to search for information about retroviral drugs, blood counts, and mother-to-child transmission. The search led her, among other sites, to the website of a local HIV-support NGO.

Information about other diseases was also of interest to the women. Two whose children had chronic ailments – one kidney disease and another a digestive system disorder – also wanted to find out more about those diseases.

One of the women who had lost her father in a mining accident believed that she could secure compensation over the internet:

You see mama has been trying to get that money for many years since 2004...but when she calls they tell her it is not ready yet...my friend told me that we can find those people on the internet and ask them.

Thus, upon learning about internet searches, the women searched for a variety of things, from health information to weather reports to government services. That said, the paths to useful content were not as clear as those to job listings or MP3 tracks. Unstructured searches and a variety of responses (a jumble of sponsored and unsponsored links) led them down sometimes less-than-helpful paths, and often to content from overseas, referring to circumstances quite different from what they were facing in Khayelitsha.

### **Chatting and Networking**

The desire to keep in touch from a distance is quite universal (Katz & Aakhus, 2002); our participants shared this desire, having been already communicating socially using conventional text messaging. Tracy, whose brother has been using MXit – a South Africa-based mobile social networking site – wanted to have it downloaded on her phone. As she explains,

My brother is already on MXit, but because he works at night shift, he never teach even when I tell him, please I want to learn this MXit so I can talk to people, see my friends are there already.

In South Africa, MXit is a considerably cheaper channel for exchanging short text messages, a fact which has led to the form of influence and persuasion on the part of friends and family we have described elsewhere (Donner & Gitau, 2009). It's easier to find your way to the mobile internet if getting there ends up saving your friends and family money.

E-mail, as we pointed out earlier, also figured prominently in the need for alternative communication. One woman wanted email to keep in touch with her grown daughter. "This email, my daughter tells me I can find business using it, but she lives far so she cannot teach me how to do it, so I need to learn it, so I can send message to ask her how she is doing."

An inquiry that took us rather by surprise came later in the study: a desire to access Facebook. Linda, who was the first to talk to us about it, asked: "I have heard about Facebook, do you know it? they say that you can exchange pictures and meet people there." On getting onto Facebook, Linda rapidly learned how to add friends and even searched and added one of us as a friend:



I went to Facebook through here [Facebook's bookmark on the Opera Mini start page] and then they ask I put email address and password and they send me code in email, I go there, then I put your email here and I say ok, did you get it?, I even went there and found Neo [the international HipHop Musician] and send him a message and I chatted with this guy from Australia.

These first time experiences with the internet were marked by a sense both of adventure and of pleasure. Nancy, who had moved from basic search to use of email and Web 2.0 services, said, **"I try Facebook several times. I think maybe I've made a mistake somewhere,"** a frustration brought about by a difference in conceptual models and a lack of familiarity with the norms of social networking. However, despite the challenges, the participants also found the experience pleasurable, and as noted earlier they referred to the internet as *"intle"* an IsiXhosa word rich in meaning, expressing something on the border between *great* and *beautiful*. The internet, they said, opened up another world to them. Some described it as an assistant "in order to solve ... persons' problems." Linda captured this sense of empowerment and excitement particularly well, saying, "Sometimes it's exciting when you learn something new. Knowledge is power, power that no one can take away from you."

## Discussion

Our time with these first-time internet users uncovered a number of implications for interface design. For example, we observed a remarkable and consistent reliance on the search function (Jones & Marsden, 2006), instead of bookmarks or links. We also noted frustration with PIN codes and passwords, and with the existence of multiple domain names (notably .com vs. .co.za). Space limitations preclude a detailed conversation of these interface-related findings here—they will be addressed in a separate paper. Instead, we will focus on the intersection between mobile internet use, development, and daily life, and stress the ways in which mobile internet use is both a product of and a potential challenge to the difficult socioeconomic contexts in which the women in our study find themselves.

### Economic Empowerment and Direct Impacts

From the beginning, it was clear that the women would seek to use the mobile internet to search, communicate and share information to improve their living standards. This directionality was a product of circumstance and of the venue (a livelihoods NGO), and indeed of our own intervention, which encouraged and validated a framing of the mobile internet as a tool for empowerment and action, not simply for entertainment or escape. The job search became the most common organizing activity for the women; they learned to navigate elements of the internet (search, websites, email) through collaboration, and could easily share experiences with one another.

Despite the initial challenges faced by the women, including inability to register an email account from their mobile device, and difficulty navigating through the numerous security settings put up by the service providers, they were all able to access, send, and receive mobile-based email. By the end of the study, two of the women had secured training opportunities that could lead to more secure job placements in less than six months, while another had gone through the first round of interviews for a job that would increase her current income threefold.

In addition to direct economic effects, there was a rise in curiosity about technology as a whole. One of the women promptly started using email to send documents to her boss through his computer, while two others enrolled in computer classes. The move to the PC after an initial use of mobile internet was also previously noted by two of us ((Donner & Gitau, 2009), when we found that the mobile internet experience seemed to attract some users to PCs.

### **Understanding the mobile internet, relative to other familiar technologies**

One dynamic which evolved naturally throughout the training was the way both trainer and trainees relied on shared understandings of existing information and communication technologies in order to make sense of the mobile internet (Pea, 2004). In the absence of the most obvious and proximate points of reference (PCs and web browsers), we struggled, at times, to explain a new dynamic of networks, cloud storage, web applications, domains, and so on. This dynamic was not just a matter of helping the women enter the correct configuration settings or purchase airtime, but rather of bringing about a more comprehensive and functional mental model (Kieras & Bovair, 1984) of the (invisible) mobile internet as something useful and under their control. As one of them put it, “This thing you tell us we don’t know, there in the Eastern Cape they never say these things.”

Email was relatively easy to explain, given its nomenclature and address metaphors. We explained how each email address was as unique as a physical address, and that one needed an email address to be able to send and receive an email. To compose an email required the same format as a conventional letter, with a sending address, a subject, and a return address. If anything, we had to focus on differentiating email from text messaging (SMS messages), with which they were familiar. Their writing crossed genres, relying on what is popularly known as “SMS talk” (Baron, 2008; Deumert & Masinyana, 2008). Also, the women, on sending an email, expected an almost instant response, as is the character of SMS messaging. It took some explaining and going back to the metaphorical physical in-box to explain how the postmaster has to locate the address and how the person on the other end has to access his or her letterbox to find the letter and read it before responding.

The internet itself was more difficult to explain. Indeed, for a communication “technology” we found our way to the metaphor of telepathy, a concept many of the women had come across due to traditional beliefs regarding medicine men who could read peoples’ minds. We were able to make strides comparing the internet to a form of telepathy, but in this case the reading was done both ways from one memory storage to another, and across many memory “heads.”

As much as the women could locate and create some information and share it over e-mail or the web 2.0 services, they still faced a challenge in understanding the concept of the internet, with a majority believing that it is an application, such as a game, “installed” in their handset. This is again a referent to their mobile phones, which had a folder for games, and for MXit, often classified as a game in the download process.

### **Online Presentation of Self**

As unique as the telepathy metaphor was, there were ways in which the behaviors displayed by the women in the study were consistent with those of other internet users. In particular, the selection and

presentation of online identities (for email addresses and Facebook) demanded familiar efforts around a conscious, selective presentation of self (Oksman & Turtiainen, 2004; Papacharissi, 2002), and a willingness to appropriate and adapt technologies for self expression also found among first-time users of the PC-based internet (Ratan et al., 2009). While in the process of registering email addresses, some of the women coined names that they wanted to be identified with other than their given names. For instance, Anne wanted to be referred to as “jojo.” Asked why, she replied, “Well I like it, it sounds nice.” Tracy wanted her email to be “ntembie.” To her, using her nickname gave her a sense of familiarity: “they use that at home to call me.” Unlike Tracy, Ammy preferred using “Kate,” which is her middle name, and when she registered a Facebook profile, she went ahead and registered herself with that same name. To her, using “KateK” distinguished her from “Ammy.”

Another aspect of identity construction was observed in the use of pictures. Linda, who did not change her name for the internet, wanted to take a special picture for her Facebook profile. She explains, “I see in Facebook you put pictures of themselves there, and I see you send your profile, I want to send my profile there too and take pictures.”

The sense of self-worth and pride in navigating the web shared by these women was expressed by Ammy, who sent us an email indicating that she had been able to get on Facebook: “I am also on Facebook, please add me, and *I found it all by myself* [italics ours].” Likewise, Tindi was excited that she had been able to send an email to a local radio station, and they read it on the air: “I send email to radio, and they read *my one*.” The fact that her email was read on the radio gave her that extra boost of self confidence: “I now can do more...”

### Offline social context

At the same time the women were beginning to craft new online identities, their new use of the mobile internet had implications for their proximate relationships with people in their lives. In this section, we address two forms of renegotiation/reinterpretation underway, with peers and with family. These observations draw on the ethnographic aspect of the ethnographic action science method; we would not have observed these dynamics without having spent considerable time with the women.

#### *In relation to peers*

As noted earlier, this study was carried out within an NGO that deals in skills development and income generation activities. The women in the study work within a larger group of between 70 and 100 women and men contracted by the organization. As the women within the study increased their ability to navigate the internet on their handsets, some achieved a kind of “star” status, both within the learning group and within the wider centre, and started becoming reference points on how to use the internet. For example: “See, I show Nancy who to go to career jet, she also wants to get a job.” This effect of standing out from the crowd has increased confidence among the women, not only in trying to find out new information about the internet, but in confidently instructing their friends as to why it is important to use the internet.

### *In relation to the family, males in particular*

From the beginning of the study, the “male” shadow in these women’s lives came into view, with a majority of them coming back with reports of how their partners reacted to their knowledge of the internet. Tindi, who had initially been reluctant to learn the internet, went home and demonstrated to her husband how to use search, and from his reaction her interest increased; she explained:

I went and told my husband see, I found internet on my phone, he tell to find his company and I put “southern wind ship”, and there I see all the people as my husband say about them, I see his boss and other people, and he is very happy and he say eeiish my wife is clever...she can find things in internet. This makes me excited—now I want to learn more—everything.

Similar sentiments were shared by Tracy, who used her evenings to browse for jobs; she explains:

My boyfriend is excited by the internet ...I was there looking in the internet and he ask me what I am doing, I say I am looking at internet, the I show him the jobs in the gumtree and he too look and see the many people who put their name there looking for petrol attendant jobs [personal advertisements/profiles] and he too wants email address so he can put his name there.

The gender inter-relation motivated these women to work towards learning more about the internet even in assisting their families; Ann, whose motivation in learning the internet included finding employment for her partner, sent out her very first email to an employment agency taking up his name. On receiving a response, her own excitement was based on how she thought her partner would react to the news: “...see the reply, he will be very happy in finding this job...”; this reply and the envisioned reaction motivated her to send other job request emails out to other employment agencies whose email addresses she had written out from the career journal.

However, unlike Ann and Tracy, Beatrice had the opposite reaction from her husband, a reaction which was a deterrent to her use of the mobile internet. Beatrice, who was at first fascinated by using MXit, had to stop using it because of her husband: “I cannot use that [MXit] anymore because my husband begun to become jealous that I am going to meet new people.” The fear of her husband had even made her reluctant to use her email account.

Many of the women said they could not spend as much time as they wanted on the internet because they had to take care of their household in addition to their work, and they could spare only a little time in the evening when everyone was fed. Tindi explains, “I am so busy when I got home, I do the other work, then I cook and things like that...but I try going and seeing if I find something there in the Google.” But despite the challenges experienced, we can conclude that access to the information available is potentially empowering. As Loretta, a trainer at Learn to Earn, put it, “Just to be able to know that you have that knowledge is empowering in itself.”

Unlike other information technologies, the mobile was something the women controlled (Scott et al., 2004). Five of the participants had televisions at home, but reported that generally it was another (male) member of the household who determined what was to be watched. Contrast this with the MP3 files stored in their phones, which showed their preference for different kinds of music than that played on the communal radio at their workplace, or with the set of MXit connections, Facebook profiles, and accumulated emails which began to mark a unique online presence. Ongoing domestic tensions

notwithstanding, participants were able to leverage the mobile internet as an extension of the mobile itself, personal and portable (Ito et al., 2005)); individual and empowering (Katz and Aakhus 2002).

## Conclusion

This paper has described how, with the help of some training and one another, eight women were able to access the internet for the first time, via their mobile phones, and how they chose to use that access. It has addressed expectations, some core/common behaviours, and uncovered some barriers and challenges. Primarily, however, it has focused on how the participants made the internet their own, and used their increasing comfort with it in both new online and traditional offline settings.

The exercise is a reminder of the deficiencies of any conception of literacy (digital or otherwise) which is focused too narrowly on the technical merits of configuration and navigation. More appropriate, perhaps, are models like that proposed by Warschauer (2003), in which the technical digital skills are only one piece of an equation which includes access to (and command over) physical, digital, human and social resources. Access to the internet, in itself, is not a panacea to poverty, economic and societal problems. But we could contrast the calculated, targeted search behaviors of the women in our study (around jobs, around weather, around health) with some of the more immediate contextually-significant search behaviors of a population using mobile search as a complement to PC-based search (Sohn, Li, Griswold, & Hollan, 2008). Similarly, in future work we could seek commonalities between the sense-making behaviors of the study participants with other categories of relatively late adopters of the internet, such as older users (Arch, 2009; Sa-nga-ngam & Kurniawan, 2006).

The discussion around the internet and the digital divide has mainly been focused on “development” purely in terms of economic development, and we did witness the effects of the internet as it was being utilized for economic activities. However, during this study, we were reminded of how mastery of a new technology, in this case the mobile internet, has the ability to affect a woman’s societal and personal perspectives, relations and roles. By looking over the women’s shoulders, and seeing the screen through their eyes, we have begun to explore how to make their experience easier and more useful. However, a second source of insight comes from looking around—rather than at—the screen, exploring mobile internet use in a distinctive social and economic context. This form of inquiry, integrating online and offline needs and behaviors, is central to understanding the role the mobile internet may come to play in the lives of many more women like the ones we worked with during this study.

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