

## The Impact of Mobile Technology on Economic Growth amongst 'Survivalists' in the Informal Sector in the Johannesburg CBD, South Africa

**Nathalie Hyde-Clarke, PhD**

Associate Professor

Head of the School of Communication

Faculty of Humanities

University of Johannesburg

South Africa

### Abstract

*At a time where the international system is largely affected by a global economic crisis, cellular/mobile technology offers those previously disempowered by lack of access to previously computer-based communication technologies, capitalist neoliberal market forces, and limited education opportunities, a potentially enhanced means of entering and operating in the marketplace. Several studies have shown mobile technology to have the most rapid deployment in international society of all available communication technologies and this is certainly supported by statistics that show that in 2011, more than two thirds of South African households had access to a mobile phone (Statistics South Africa, 2012) making it the most used Information Communication Technology (ICT) in the country. Through its use in a business setting, individuals are able to benefit financially, including those who operate on a self-sustainability basis. Mobile technology therefore offers an exciting field of investigation for communication researchers and economists. This research project explores mobile phone practices amongst 'survivalists' in the informal business sector in Johannesburg, South Africa. It relies on in-depth interviews with select individuals (such as street vendors, casual labourers and self-employed sole traders) in order to identify and examine emerging trends. From this research, it is evident that mobile phones have become a vital component of everyday economic welfare amongst those operating small market enterprises in the city centre of Johannesburg.*

**Key Words:** mobile phones; informal economy; survivalist; small market enterprises; South Africa

### Introduction

Telecommunications infrastructure, particularly mobile technology, affects national development and economic growth (Rashid & Elder 2009; Sridhar & Sridhar 2009). During a period of global economic recession and rising unemployment, mobile technology may offer those previously disempowered by existing communication technologies, capitalist neoliberal market forces, and limited education opportunities, a means of establishing business, improving commercial and banking practices, establishing contact with a broader base of partners and clientele, thereby improving their socio-economic wellbeing. Numerous studies agree that there has been a rapid increase in mobile technology usage (Geser, 2004; Meso, Musa & Mbarika 2005; Gray, 2006; Castells, Fernanadez-Ardevol & Sey, 2007; Kreutzer, 2009; De Bruijn, Nyamnjoh & Brinkman, 2009), and this is certainly the case in South Africa where 75.5% of all South African households had access to a mobile phone in 2011 (Statistics South Africa, 2012), and this had increased to 84% in 2012 (de Lanerolle, 2012). It is important to note that while mobile access increased, internet access was still only available to 12.3 million people (roughly one third of the population). However, of those who go online, 71% do so via their mobile phones (de Lanerolle, 2012). When one considers that the demographics of users is now predominantly black, and that 40% earn less than \$150 per month (de Lanerolle, 2012), then it is possible to view the mobile phone as an instrument of both social and economic development (Sparks, 2008; Kreutzer, 2009). However, relatively little literature considers that impact in developing countries, specifically in economic terms (Donner, 2008). Those that do consider this topic, tend to favour its promise of 'leapfrogging' previous technologies in the region (Hyde-Clarke & Van Tonder, 2011).

In South Africa, there is a correlated rise in the use of mobile phones and its application for business purposes. This may point to previously economically marginalised individuals being in a position to better benefit from self-sustainability practices and projects given the new, mediated environment. What may be even more intriguing in South Africa are the unique methods that are being developed to cater to a diverse population still plagued by a high rate of illiteracy (18% - Statistics South Africa, 2012). It is entirely possible that given the ranging needs in the local context due to the previous historical marginalisation of the majority, South Africans are using mobile phones in ways not even considered by Western users or institutions. For example, those who still fall outside the formalised banking sector in South Africa have the option to use text messaging (SMS) on their mobile phones to transfer funds from one branch of a local shopping chain, to someone anywhere in the country who may then go to their local shop's branch, provide the cashier with the SMS message and code, and draw the relevant cash from the till (FNB, 2011; Shoprite, 2011).

This research explores new mobile practices in the informal financial sector in Johannesburg, South Africa, through the examination of indepth interviews with relevant individuals working in the CBD in order to identify and examine existing and new emerging practices. Few studies have been conducted in Africa to investigate the exact nature of these evolving patterns (Rashid & Elder, 2009; Sridhar & Sridhar, 2009), and those that have tend to focus more on agriculture (Rashid & Elder, 2009, see studies mentioned in Donner, 2013). This study therefore intends to contribute to the field by contemplating a different part of the informal sector by focussing on street vendors.

### ***Mobile Phone Usage in the Informal Economic Sector***

Economists have suggested that mobile telephony may overcome several barriers that have previously excluded large tracts of the population in developing countries (particularly in rural areas), allowing for new benefits and ultimately an impact on development. In 2005, Waverman, Meschi and Fuss (as cited in Sridhar & Sridhar, 2009, p. 95) found that "mobile telephony has a positive and significant impact on economic growth, which is twice as large in developing countries when compared to that in developed countries". That year, it was estimated that an increase of 10 mobile phones per 100 people created a 6% growth in GDP (Bhavnani et al, 2008, p. 12). This is a significant increase from Roller and Wasserman's 2001 study that found that a 10% increase in penetration resulted in increased economic growth of 1.5% (as cited in Aker & Mbiti, 2010, p. 24). In a more recent study, Sridhar & Sridhar (2009) were able to quantitatively prove that for every 1% increase in mobile phone penetration, national output could be expected to increase by 0.01%. As the demand for mobile phones was likely to remain higher than for fixed line services, they deemed this finding "small, but positive and significant" (Sridhar & Sridhar, 2009, p.108). The question they then ask is how can mobile technology be used to support poverty alleviation?

Mobile technology has great potential as a means of introducing and sustaining economic well-being as it is often perceived to be affordable, both on the demand and the supply side. It is also regarded as being flexible with regards to usage, and as a result has relatively low barriers to entry (Bhavnani, Chiu, Janakiram & Silarszky, 2008, p. 5). The devices themselves are inexpensive in comparative terms, and the ability to purchase airtime either through a contract or prepaid services makes them very accessible to the poorest in society. However, it is important that caution be exercised with regards to the national figures that are available with regards to usage, due to the high prevalence of sharing devices and subscriptions (Donner, 2008). Regardless of concerns around the accuracy of government statistics, it is difficult to dispute that the availability coupled with the option of using voice or text services means that individuals with lower education levels may also have access.

The principal market and driving force for the adoption has been in the private sector. Largely facilitated by enabling legislation and regulation, and an ever expanding consumer base, multinational telecommunication corporations have been able to invest in the technology and therefore the device has evolved considerably in a reasonably short period of time in response to needs and demands (Bhavnani et al 2008, p.6). At the same time service providers have been able to design applications (apps) that cater to specific groups' needs. For example, in Ghana farmers may send a text message to acquire the daily prices of tomatoes and corn in the Accra marketplace (Aker & Mbiti, 2010, p.1). Interestingly, a study by Mano and Yamano (2009 as cited in Aker & Mbiti, 2010, p. 13) found that mobile phone coverage is related to a 10% increase for farmers in bananas, not maize, indicating that the technology may be more useful in markets with perishable goods.

In Uganda, the Collecting and Exchanging of Local Agriculture Content programme distributes tips and information via SMS to an existing list of farmers. Whereas in Kenya, farmers may interact with a voice database that answers Frequently Asked Questions (Donner, 2013). Mobile phones also offer a means of challenging monopolies. For example, Jensen (2007 as cited in Aker & Mbiti, 2010, p. 12) showed how the expansion of mobile coverage in Kerala, India, allowed for a better dispersion of fish prices across markets resulting in an 8% profit for the fishermen, and a 4% decline in consumer prices. This may be seen to empower individuals in the informal sector previously unable to compete with more established economic powerhouses.

According to Bhavnani et al (2008), the direct benefits of mobile phones in developing countries may include GDP growth, job generation, productivity gains and increased taxable revenue. Employment is generated both by the mobile phone industry itself as well as the private sector which provides the devices and airtime required to operate them. In South Africa, for instance, one finds a number of street vendors selling airtime or offering a recharge service as part of their goods – this will be discussed in more depth in the findings section of the paper. Mobile phones are also used increasingly by those seeking employment in urban areas (Aker & Mbiti, 2010, p. 8). Productivity gains are linked to business expansion through the ability to locate and reach more customers, the low entry costs for entrepreneurs, mobile banking and the elimination of certain agent fees and travel expenses (Bhavnani et al, 2008, p. 14). Mobile applications have also allowed for the sharing of knowledge around small business enterprises and thus facilitate the delivery of vital educational services (Aker & Mbiti, 2010, p. 8). Finally, even though small business owners may not necessarily declare their income to revenue services, the major service providers themselves contribute on average 26% of total income in taxes (Bhavnani et al, 2008, p. 14). Thus, mobile phones may have a multi-dimensional positive impact on economic development, particularly in the informal sector.

### ***SMEs in SA***

In 2002, it was estimated that 25% of capital generated in South Africa was done so by small and medium enterprises (Berry et al, 2002 as cited in Esselaar, Stork, Ndiwalana & Deen-Swarray, 2007, p. 97). Small and medium enterprises (SME) are therefore seen to play an important role in economic development in lower to middle income countries, and are often supported by government policies, incentives and programmes. For the purposes of this paper, SMEs under investigation are those often referred to as ‘survivalists’ (Esselaar et al, 2007). These are informal traders who tend to generate income on a day-to-day basis. They rarely separate personal from business income, do not keep records, do not pay taxes and may not necessarily be registered with local or corporate entities. It is important to note that this community is fragmented in terms of the variety of goods and services offered (Donner, 2013). Individuals in this category are also generally thought to be less educated than their peers in larger and more established organisations, and so if any technology is to be used, it must require limited training and literacy skills. It is therefore not surprising that amongst this group mobile phones are the most likely, and possibly the only, information communication technology available and in use (Esselaar et al, 2007, p. 93). The phones are used to stay in contact with customers and suppliers. There is often more focus on the selling stage of small businesses, rather than on business growth (Manobi as cited by Rashid & Elder, 2009). The challenge though is to determine the direct impact on economic well-being, as personal and business matters are frequently too enmeshed to be distinguishable in terms of productivity gains (Chowdhury, 2006 as cited in Donner, 2008).

There are a number of factors that influence mobile technologies impact on economic development in the informal sector in South Africa. The first is related to the widespread coverage available to users, and the very nature of their roaming services. The second is that the technology has proved to be accessible by even the least educated and resourced, who often use ‘beeping’ or missed calls to communicate (Rashid & Elder, 2009), combined with the introduction of applications (apps) that facilitate business activities in more advanced phones. The third is that users are able to charge the devices without necessarily having to have access to electricity points, such as via generators and car batteries.

Given expected low levels of literacy, it may be perplexing to some to learn that in many instances it is SMS or other text based apps that are used most frequently by SMEs. This is largely cost driven, and also facilitated by service providers offering ‘call me’ notifications for free as part of a package. It is also an interesting fact that those from low income households spend a comparatively large amount of their money on airtime and mobile phones, often foregoing other basic essential items to stay connected (Rashid & Elder, 2009).

In a study by Duncan (2009, as cited in Wasserman 2011, p. 4) it was discovered that in 2009, “informal settlement dwellers in a South African town spent 27.5% of their income on communications costs, using money set aside for essential items such as food to buy airtime”.

It has been proposed that mobile technology could have the greatest measurable impact in SMEs (Donner, 2013) by changing business processes and market relationships, through the acquisition and injection of additional information, as well as through the loss of the middleman in business transactions. However, studies thus far have found more evidence to support “evolutionary ways... than revolutionary ways” (Donner, 2013, p. 52). In other words, whereas productivity may increase, the entities themselves do not transform fundamentally, and existing marketplace processes and relationships may not necessarily be replaced. They are merely altered and more mediated (Donner, 2013, p. 53). This paper explores the current usage patterns amongst select survivalists, and whether their economic status has in any way been improved or affected by the introduction of mobile technology.

### ***Evolutionary or Revolutionary?***

This exploratory research relies on in-depth, qualitative interviews that were conducted in early 2013 in the Johannesburg CBD. It has been funded as part of a National Research Foundation Grant for Mobile Usage in South Africa. In order to ensure reliability and consistency of data collected, a structured guide informed the interviews and as such all participants were asked the same questions. The focus was on the use of mobile phones for business purposes in order to determine trends. Participants were asked to discuss the nature and history of their business, how the mobile phone facilitated that business, and whether it enhanced the individual’s ability to grow their customer base. All participants were informed of the purpose of the study and were required to sign an informed consent form. Anonymity of participants has been assured. As mentioned previously, the sample was purposive. Participants were selected based purely on their economic status of being survivalists operating in the Johannesburg CBD. The defining criteria of this category of SMEs was discussed in the previous section and applied in the selection of all participants.

In total, interviews were conducted with eighteen participants: seventeen were Black African; and one Indian. Three identified themselves as foreigners (two Nigerian and one Moroccan) and five volunteered the information that they were originally from rural areas and had relocated to the CBD seeking work. There was a wide range in ages: eight in their 20s; six in their 30s; and two over 50 years of age. From a gender perspective, six were female and twelve male. All the businesses relied on customers and involved sales. Four identified themselves as ‘street vendors’ and sold sweets, fruit and cold drinks to passers-by from stalls set up on the pavement. One ran a car wash in a local township close to the CBD. Two relied completely on commission from the sales of Avon cosmetic products out of backpacks. Three sold clothes (new and used) from stalls near taxi ranks, and another sold linen out of a bag carried through the streets. There were also two hairdressers operating out of makeshift shelters located near busy corners. The remaining two participants sold hair weaves and mobile phones from tables set up on the pavement. This meant that very few took a day off during the week, as they knew it would have a direct impact on earnings, and many were very aware that they are operating in a competitive market and expressed fear at not being available for their customers.

I’ll be honest *ne*<sup>1</sup> – our business runs like this, whenever there is a customer, whichever day it is, you just go, like there is basically no off days (#1).

Well, my business is an ‘on demand’ business, so I never know when I’m going to make business, it’s something I wait for, so I cannot have off days and stuff like that (#5)

All eighteen had a presence on the street, and did not occupy formal office or rented space. Those occupying spaces on the street were also aware that others would take their space if they did not appear daily.

Yeah, there’s lots of competitors you see, around you see, there’s lots of people here, so there’s lots of people here doing the same kind of business (#6).

A large amount of emphasis was placed on territory and physical placement.

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<sup>1</sup>Afrikaans slang: ‘hey’

Even the participants who sold items out of bags worked within specific confines of the city, and would walk up and down the same streets during the day. Only five worked as part of a team, with most of the participants working for themselves and operating as sole merchants. Those who were part of a team shared the same space, so none were working in networks where members of the team may be dispersed across the city. Instead, team members either worked shifts (as in the car wash), or partnered up on stalls.

More than half had been in their chosen trade for approximately four years, with two participants being new entries of less than six months, and one participant having worked as a tailor and seamstress for more than 39 years. Their monthly income varied greatly, with the lowest being ZAR1000<sup>2</sup> a month (street vendor selling sweets and cold drinks) to the highest amount of ZAR20 000 (clothing salesman). Most claimed to average around ZAR3 000-6 000. All admitted that they did not keep official records of their finances, and so their figures were estimates based on more good days than bad. Two participants kept very simple running balance sheets in small notebooks hidden on their bodies in order to keep some tally. However, most were unsure of exact financial flows, as demonstrated when participant #1 was asked whether he and his friend managed their money, he replied: “not really, we just blow it”.

All owned a mobile phone. Only three of these were not smartphones. Most of the participants preferred to use Blackberry or Nokia. The inexpensive packages that allow for instant messaging and online connections make Blackberry the most used smartphone in South Africa at the time of writing this paper, with 51% of the market in 2012 (Spillane, 2013). All spent between ZAR60 to ZAR600 on airtime each month – usually in ZAR29 daily increments on a prepaid package. Only one participant was on a contract. Notably, the cost of the contract averaged at a lower amount than most of those on prepaid: ZAR400. This is quite an interesting trend and raises some questions. Do individuals in the informal sector rely on prepaid due to concerns around scarcity of cash on a day-to-day basis, or are they not fully informed as to the additional cost of that option? A few admitted that they just bought when they needed the airtime, and had to think about the total of the expenditure over a month. They simply may not have realised the amount that accumulated over a month and the large portion appropriated by the use of the phone itself.

Nearly all of the participants were using their phones in order to start-up or maintain their business with existing clients. Phones were mostly used to remind people of appointments or to inform them of new prices or available goods. Although, vendors did prefer and encourage customers to contact them due to the airtime costs involved.

I'll be honest, you know that with business the main aim is like to spend less and make more, if you don't have a smart phone, hey, you are going to waste a lot of airtime. Because like for those customers you can BBM or Whatsapp them and for those one that don't have a smart phone, imagine like how much time is chowed in that call (#1).

My customers communicate with me (#4).

In one case, although the desire was to stay in contact with clients, the means were not always available and opportunities were maximised when made possible:

When I recharge, I gain more points and get free airtime, then I call my clients (#14).

The expense of airtime meant that in terms of maintaining business contacts, participants relied more on text based services, particularly those that were deemed ‘free to use’, such as WhatsApp, Twitter and BBM.

I use Whatsapp for my female customers, mostly to update them and to maintain our relationship (#3)

I try to maintain good relationships with my customers by checking up on them on Whatsapp (#4).

But some argued that it was more important to stay in contact with their suppliers than their clients:

Not really hey, I mostly use Whatsapp to communicate with my gents (team) and our suppliers. It is very rare for me to Whatsapp my customers (#8)

I use it each and every day to call my supplier (#2)

I use my phone to order stock, and my supplier calls me to tell me if stock is available. I do not take any orders (#12).

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<sup>2</sup> At the time of this paper, the following exchange rate applied: \$1 = ZAR9; €1 = ZAR14; and £1 = ZAR16.

Again, one has to question whether the participants using the apps were aware that the ‘free to use’ apps are not actually ‘free’ in a broader sense. Blackberry charges users ZAR50 a month to use BBM. They may then do so as often as they like, but there is an initial cost so it is not ‘free’. Similarly, you need airtime to operate WhatsApp – you may not pay fees for posts, but the phone must have airtime to be able to operate to send the text. There are data costs to uploading and downloading messages. Facebook was seen more as a site to advertise their services than as a place to contact people directly, and generally used by younger participants or in one case, the participant’s daughter.

My daughter is young. She uses my phone to advertise my business on Facebook. I don’t know how she does it, but it works because she puts up pictures of what I do (#18).

Notably, only three used SMS. This is a significant discrepancy given previous findings of studies in Africa mentioned in an earlier section of this paper. It seems apparent that new apps and social media networks have become the preferred means of communication.

Even if they were not using the device frequently to grow their business, all agreed that the loss of the phone did have a tremendous impact on their ability to conduct business due to their ‘survivalist’ model.

Via social networks I do use my phone a lot, if I don’t have my phone then there is nothing I can actually do (#5)

Ja<sup>3</sup>, you know, the phone is very very important in this business...the phone is essential not very important but very very essential (#6)

One participant had been mugged and stated that the loss of the phone meant that they were: “broke for the week” (#1). Another stated that “my clients got angry. They couldn’t find me. So they went somewhere else” (#12). Realising the affect it would have #13 used up their “emergency money” to buy another one – even though this was a tremendous expense at the time and had massive implications for the welfare of their family unit. While others may not have experienced those exact critical financial choices, all had taken steps to get access to a phone within a relatively short period of time of losing it, often using friends’ or family’s devices as an interim measure.

When asked about the necessity of owning a smartphone, the participants were more divided in their response. The message apps were deemed to be a cost-effective means of communicating with clients and were also identified as being the preferred method of communication by clients themselves. But as the majority were less active in contacting customers and tended more to use the phone to call suppliers, the overall decision was that as long as there were basic communication facilities available to them, such as SMS and direct calling, the model of the phone was not that important. It was not surprising that variation in confidence in responses to this question could be sorted according to age, the younger the respondent the more likely they were to first insist that only a smartphone would be acceptable for business purposes, they would then grudgingly admit that perhaps older models would also work in dire circumstances. Older participants adopted a much more practical stance from the start. For them, all that mattered was their ability to do business.

It can be any phone as long as you have network and the reception is fine (#14).

### ***Concluding remarks***

It is apparent from the data collected that mobile phones have had an impact on the way survivalists conduct their day to day operations in the Johannesburg CBD. In some instances, this impact relates purely to convenience. Traders are able to contact suppliers, and to a lesser extent, customers without travelling large distances or incurring huge costs, and so are able to meet demands within shorter periods of time. However, it would be foolhardy to suggest that improved access to ICTs – in this case, the smartphone – has negated barriers created by the costs of access, as participants are definitely limiting their range of business transactions due to ongoing costs of communication. Phone calls, for example, are definitely viewed as a luxury and rarely used.

It is interesting that SMS is no longer the preferred mode of communication, with more emphasis being placed on apps and social media networks. This too is related to cost, even if apps are not as ‘free’ as believed, they are considerably cheaper than SMS, and so there are signs that the sector has migrated to a more affordable means of communication.

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<sup>3</sup> Afrikaans: ‘yes’

The instantaneous nature of the apps, and the ability to see that the message has indeed been delivered (and in some cases, read) also makes it a more attractive choice. This is a significant change from the findings of previous studies in Africa, and a worthy contribution to the field of enquiry.

The emphasis of street vendors on the importance of “their spot” on the pavement or travelling a specific and set route in the city could be interpreted in three ways. The first is that some may not realise that mobile phone allows for greater movement and that they could travel to prospective customers, so instead they tend to rely on a more traditional location-specific business model. Alternatively, they know that customers tend to be creatures of habit and will frequent a store as it is on their usual route or in a familiar place. It was not surprising that those vendors who had lost their phone were more likely to be insistent about staying in one spot and more territorial, as customers could find them regardless. Of course, it was also widely accepted that it is costly to initiate communication and stay in contact with customers, and so better for them to come to the vendor than vice versa. Arguably, more competitive rates may increase contact with clients in the future, but as these survivalists depend exclusively on pedestrian traffic it is hard to predict. So, in regards to vendor mobility and growth of new business by physically entering new areas of the market, mobile phones have not really affected business routines. .

Basically then, at this stage the phones merely maintain or sustain existing business relationships. With the exception of one participant advertising their services on Facebook via the mobile, there is very little effort to grow clientele due to the envisaged costs of that interaction. That said, one of the main limitations of this study is the lack of day labourers in the sample, such as gardeners or maids who operate on a piece work basis. One would expect to find more efforts to use the phone to grow economic activity among that specific group due to referrals and the seeking of new employment. Yet, there is still potential emanating from the supply side. Increased contact with suppliers may boost business due to faster acquisition of goods, and the possible expansion of the selection of goods available. In the past, traders may have contacted or visited their suppliers less frequently, possibly on a weekly or monthly basis. Whereas by using the mobile phone, the contact is daily, and in some cases several times a day. In this way, mobile technology could facilitate an excellent demand and supply relationship. Also, one could imagine that if an informal trader were acting as part of a group, they could phone others in the network to locate a specific item for a customer, in much the same way as shopping chains. However, as all the participants in this research were sole traders, this potential could not be explored or determined in this study.

Have the phones contributed to economic development in this group? This is quite a challenging question to consider. To all participants, there was no doubt that the loss of the phone meant a loss in earnings, and so any theft of the phone was dealt with as an emergency and the device was replaced almost immediately. However, only three were prepared to agree that the phone actually helped them increase their income. Most seemed to accept that at best it helped sustain their income. Of course, the fact that none kept financial records does make it difficult to determine any positive influence on money earned, and if one were to really want to discern impact then the sample would need to include participants who would be able to demonstrate earnings prior to receiving a phone and then after receiving one. One other point that bears analysis is that without those records of daily income and expenditure, participants may be ignorant of the actual cost of using the device. Even if the phone assists with growing their business, the daily unfettered cost of airtime may consume that profit. As such, one can really only ask survivalists what they think has happened, and from those participating in this study, the answer seems that the phone’s loss is deemed of more importance than its presence. Of course, given the ubiquity of mobile technology this understanding does make sense. One may only realise the significance of the ICT and its influence in day-to-day activities once it is removed.

In the end, this exploratory study reinforces the notion that these SMEs , all of whom were survivalists, are evolving due to the accessibility and availability of mobile technology, but there is insufficient evidence to suggest complete transformation or significant economic development at this stage. It is clear that the potential has been recognised by the participants, but it has yet to be fully utilised. There is certainly room for growth. Arguably, support organisations and government agencies should devote more time to educating informal traders of the costs involved in using mobile devices and how best to maximise contact with the marketplace without accumulating unnecessary expenditure. One also cannot underestimate the importance of encouraging survivalists to keep financial records in the form of a basic balance sheet so that they may make better informed decisions, and maximise the positive impact of the mobile phone on their socio-economic status.

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