

**HARNESSING THE POWER
OF THE CELL PHONE BY WOMEN ENTREPRENEURS:
NEW FRONTIERS IN THE GENDER EQUATION IN KENYA**

**GRACE PROJECT RESEARCH REPORT
KENYA**

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Abstract

The purpose of this study was to examine how use of cellular phones by women facilitates their pursuit of sustainable micro-enterprises, and implications on women's empowerment. It assessed ways in which the status of women can be improved through economic empowerment, specifically through the use of mobile phones.

This project is part of a Pan-African project – Gender Research in Africa into ICTs for Empowerment (Grace) - which aims to explore the ways in which women in Africa use ICTs to empower themselves. The project seeks to explore the external, structural barriers as well as internal factors that prevent women from using ICTs to their advantage, and the strategies that women employ to overcome these impediments.

The researchers conducted a field study on micro-enterprises in Nairobi, Kenya. Data were collected using an interview guide as the principal instrument, administered to entrepreneurs in their businesses.

The study established that cell phones have increased perceptions of confidence, and assisted in increasing women's economic activities. However, patterns of gender socialisation and segregation are still being reproduced, as shown in the type of businesses women chose to engage in. They still focus on the lower skill based and lower value business options, perpetuating devaluation of women's labour and organisation. In the case of women and businesses the cell phone is seen as only addressing issues of access and infrastructure.

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1. Introduction

1.1 Context and background

Entrepreneurship has become an important component of economic development in less developed countries. Globally the character of enterprise is redefining trade and industrial development (Bygrave, 1989). In recent years the micro and small enterprises (MSEs) part of the informal sector has come to play an increasingly important role in developing countries. In Kenya MSEs have been regarded as offering the best option for economic growth, especially with the advent of economic reforms and linearisation of the economy (Ikiara, 2001).

According to the Central Bureau of Statistics Baseline Survey conducted in 1999, the numbers of men and women owning micro-enterprises in Kenya were almost equal (670 727 men, 612 848 women). Disparity is however noted in the choice of businesses and incomes generated. Most women entrepreneurs chose trade- related businesses (74.7%), while men opted for a wide choice. The survey report suggests that women may opt for the trade category because of fewer requirements to operate in this segment. In terms of income from MSEs, enterprises owned by men gave them 75% more income than those owned by women.

Secondly, a review by K-REP Holding Ltd as part of this survey indicated that more enterprises owned by women than by men closed down – 5585 vs. 4045. While lack of funds was common to both women and men, a lack of customers and too much competition accounted for 26.8% of the cases among women but only 12.5% among men. Personal reasons necessitated closure of their businesses for 33.1% of women and 20.3% of men. This study therefore highlights a significant problem – why are women not as successful as men in micro-enterprise development? They made much less profit and more of their enterprises closed, contributing to economic disparity and disempowerment of women.

Empowerment of women requires transformation of the division of labour and of society, as well as changes in prevalent ideologies about the roles and responsibilities of men and women. Empowerment helps achieve practical as well as strategic gender needs through promoting women's self-reliance and acknowledging power dynamics rooted in class, gender, age and ethnicity. For women to gain economic empowerment they have to compete in a male- dominated world. While affirmative action can be enforced in access to and provision of certain services/amenities, it cannot be extended to enhance capacity to increase sales. Women need to exploit available tools to gain business competitiveness. Anecdotal evidence suggests that cellular phones could be an important business tool

for increasing competitiveness and therefore generating greater income, resulting in economic empowerment.

Porter and Millar (1995) proposed that activities in business have a physical component as well as an information component. Competitiveness in business is directly affected by the capacity of the owners to access and use information. The Central Bureau of Statistics Baseline Survey (1999) indicated parity in access to fixed-line telephones, with 33.2% of men-owned businesses having a telephone and 30.7% of those owned by women. Today the cell phone is the most pervasive tool of information access, sharing and dissemination among micro-enterprises in Kenya, with Mureithi (2005) finding a 93.8% penetration among micro-enterprises in Nairobi. This study investigated how women entrepreneurs could exploit the cell phone to improve their micro-enterprises.

1.2 Problem Statement

Self-employment through establishment of micro-enterprises provides a great opportunity for economic empowerment through increased income. However, as illustrated in the survey cited above, women face obstacles to operating businesses with high profitability and sustainability. This study investigates how women use the cell phone as a tool to access and use information in micro-enterprise operations to improve their businesses and their lives.

1.3 Objectives of the Study

The objective of the study was to examine how use of cellular phones among women facilitated sustainable micro-enterprises and its implications on women's empowerment.

The study addressed the following specific objectives:

1. To identify the use of cell phones in MSEs and how this has changed the way of doing business;
2. To investigate the effect the use of cell phones had on the quality of women's lives; and
3. To identify challenges and barriers to achieving sustainable micro-enterprises.

1.4 Research Questions

The study sought to address the following specific questions:

How are women entrepreneurs using cell phones in their micro-enterprises; how has this changed the way women do business and what are the implications of the changes?

1. What is the effect of the use of cell phones on the quality of women's lives?

2. What are the challenges and barriers facing women’s access to/use of the cell phone in their quest to achieve sustainable micro-enterprises?

1.5 Importance of the Study

The outputs of this study will address perceptions, beliefs, and opinions and lived experiences of the use of cell phones by women entrepreneurs as a business tool in micro-enterprises. This information will be useful to ICT policy-makers, regulators and development partners, helping to understand challenges to use by women entrepreneurs and helping to define an entry-point for support. The study will also provide a perspective for cellular operators on market segmentation and targeting to serve these women better.

The study will add to the body of knowledge on women entrepreneurs’ use of cell phones and provide a framework for researchers in gender to carry out further research. Through the process of interviews and validation workshops as well as dissemination of the final report the study will sensitise women entrepreneurs to viewing the mobile phone as a tool for information sourcing and empowerment.

1.6 Scope of the Study

This study focused on:

- Women owners of micro-enterprises (enterprises with 10 or less employees) in Nairobi.
- It investigated all 11 trade segments as defined by the Ministry of Labour & Human Resource Development (responsible for the informal business sector). The researchers recognised that women concentrate around certain segments, but studied all in order to understand the context of entrepreneurship gendering. The sectors appear in Table 1.1.

Table 1.1: Micro-Enterprise Trade Segments

Type of enterprises	Details of the business	Main location
Food	Value addition, juices, packaging, extraction	Burma
Textile	Clothes and garments	Uhuru
Wood	Furniture and finishing	Jericho
Metal	Simple machines, other fabrication (e.g. metal windows)	Kamukunji
Handicraft		Kariokor
Leatherworks	Shoes, handbags	
Building	Building materials and associated machines	
Chemicals	Soaps, detergents	Kariobangi
Electric/electronic	Transformers, battery charging	River Road
Motor vehicle	Spare parts, fabrication	Ziwani
Plastic and waste recycling		Industrial Area
Personal care	Beauty	Westlands

2. Literature Review

2.1 Introduction

The status of women in the developing world is far from ideal. More than two-thirds of the world's 876 million illiterates are women, most of whom live in rural areas of developing countries (Odame *et al.*, 2002). On average women represent 50% of a given nation's populace, yet in most developing countries they represent far less than 50% of a nation's intellectual capital, skilled labour pool and economic contribution (Leahy *et al.*, 2002).

The ultimate solution to improving the status of women in the world involves a holistic approach, including economic, educational and political empowerment. The focus of this study is on how use of cellular phones among women facilitates their pursuit of sustainable micro-enterprises, and its implications on women's empowerment. The reviewed literature cover the following sub-sections: application and use of cell phones to enhance entrepreneurial success, women's empowerment and livelihood enhancement through information and communication technologies (ICTs), the context of empowerment, and barriers and challenges to access to/use of cell phones

2.2 Use of cell phones to enhance entrepreneurial success

The use of the cell phone among women in business is influenced by a number of factors that also appear to influence the benefits from and possibility of empowerment (or lack of it) of women in business.

The type of the business that women decide to undertake is gendered. Kalundo (2004) found that women's productive activities were concentrated in micro-enterprises such as hawking, retail, manufacturing, and periodic market trade. In this regard women were concentrated in enterprises that conformed to their traditional gender roles, e.g. food processing and garment making. This situation is evident in Kenya. The 1999 Central Bureau of Statistics survey found that while the numbers of enterprises owned by women and men were almost equal, women outnumbered men in services (55.7%), while men outnumbered women in manufacturing, (65.7%) and construction (91.2%). This choice also defined profitability of the enterprises. Women-owned businesses generated less revenue than those owned by men (which earned 74% more; Central Bureau of Statistics, 1999).

Skills base determines choice of business. Gakure (2004) notes that when women want or need to earn money they turn to their domestic skills to exploit in the micro-enterprises. Thus, the choice of business entered into was largely gendered in the first place. This is cognisant of the cultural bias in education and training and subsequent career choices defined by cultural setting. The choice of the business defines the information needs, which in turn define the ICT tools (Kalundo 2004).

The legal status of the business also determines information needs and ICT tools. According to Tandon (2002), small businesses usually have no option but to remain informal to avoid the challenges of the formalities of taxation, reporting and licensing, noting this during training activities in Tanzania, Lithuania, Cameroon and Mozambique. It is only when the business becomes larger that entrepreneurs consider other forms of ICTs. Thus, legal status influenced the type of business tools they needed to access information - and the cell phone was often the beginning and end of ICT investment for information access, with resulting high penetration among small businesses.

Penetration of the cell phone is high among the SMEs in Kenya; a study by Maru (2004) among 50 entrepreneurs (72% women) in Eldoret found a very high penetration of cell phones. Of ICTs used, 88% were cell phones. The respondents indicated that with by using ICTs they were able to communicate and deliver products faster. Specific benefits were faster and easier decision making, fast communications, reduced costs, faster sales, and easy access to products, to the market and to supplies. According to Maru (2004), the most important information needed was on the market and suppliers. Mureithi (2005) similarly reported high penetration of the cell phone among MSEs in an industrial cluster in Nairobi known as Kariobangi Light Industries with 450 plots, at 93.8% against penetration of the fixed line of 29.7%. Of those without a landline, 22.0% said they did not need one.

The support groups of women influence the tools used to access information. Women used close, informal support groups for their businesses - their spouses, relatives and women's groups. Hisrich and Peters (2002) noted that women consulted their spouse first on major decisions for their businesses - the opposite of men, who consulted their spouse last. By consulting informally, information flow followed this pattern, with the cell phone being defined as the most effective tool.

The needs of business and use of the information were further informed by the motivation for establishing the business in the first place. The study by Imbaya (2004) based in Eldoret, Kenya, sought to determine the extent of entrepreneurial disposition and its effect on performance among women, with a search of social factors influencing growth and development of female-operated enterprises. In this study of 175 female-operated enterprises, Imbaya (2004) found that most performed poorly, and the reason proposed for this was lack of locus of control. For most of the women (68.6%) the decision to go into business was determined by people other than themselves, including husband (24.6%), parents (27.4%) and friends (13.1%). The decision to go into business was a self-determined act preceded by a clear definition of their own situation by only 31.4% of the women. Business was therefore a necessity rather than an opportunity. In order to achieve growth they need to redefine their situation so that they see the business as a means to greater prosperity for themselves and their families. In a study of 24 successful SMEs with over 5 years' operation in Kenya, Kibas and K'Aol (2004) noted that most of the business people (comprising 29.2% women) entered business because they saw an opportunity. Owning

the decision to go to business is critical for success and defines the use and investment in information access tools.

2.2.1 Empowerment by mobile phone

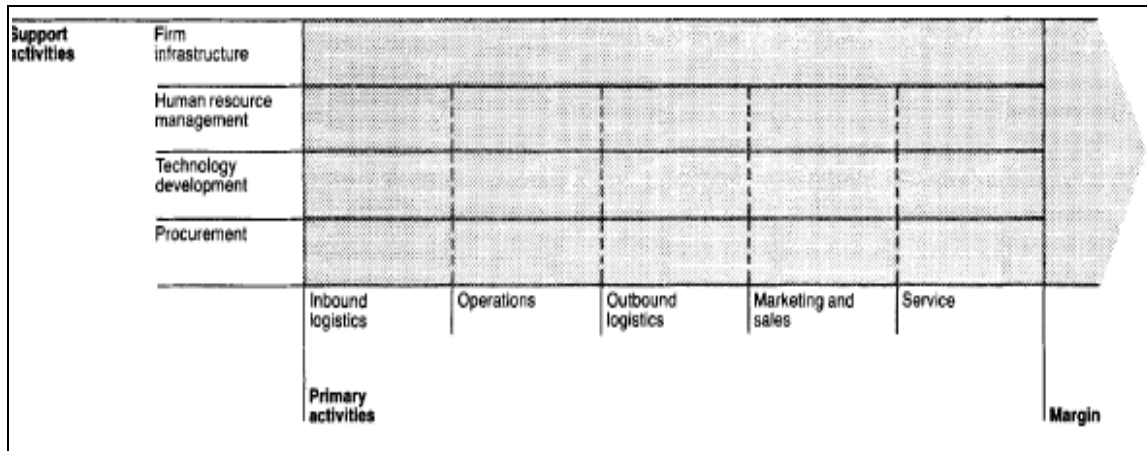
Is the mobile phone empowering? In Chennai, India, a network of women's groups established since 2001 to expand opportunities to market products using cell phones for communication reported a correlation (Joseph 2005). Through the network the women have increased their income, built confidence for the betterment of their families, and are increasingly more motivated. Consequently the project has learned that the cell phone was an empowerment tool among women (Joseph 2005). Joseph's study did not focus on gender relations, domestic impacts and power relations, and hence leaves a knowledge gap which this study will seek to address.

Other work in Africa tends to portray a different perspective. A study by the United Nations Development Fund for Women cited in Huyer *et al.* (2005) notes that in four Southern African countries women were losing out on expanding business networks by relying on cell phones rather than the Internet. By relying on the phone (fixed and cell phone) they limited their contacts to informal family networks – and thus limiting their potential for business growth. At the personal level Huyer *et al.* (2005) cite a study sponsored by the International Development and Research Centre conducted in the fourth quarter of 2004 among 6750 individuals and 380 institutions in six countries of Francophone West Africa. This found that men frequently felt that the new freedom of women to have mobile phones was destabilising their marital relationship. In many cases men monitored the cell phone and Internet use of their spouses. While the cell phone demonstrated a gain in Chennai (Joseph 2005), reliance upon it is not seen as useful in Southern Africa - and indeed it is even a cause of distress in women's relationships with men (Huyer *et al.* 2005).

Porter and Millar's model (1985) to define value chain analysis in an enterprise and helps us understand the dynamics of women's enterprises. The production of a product/service comprises a set of generic activities which progressively add value. Competitiveness or lack of it is determined at the activity level, which does not add more value compared to competitors - and hence the lack of competitiveness. Women's businesses were less profitable than those of men. Since the inputs are similar, this tool will help us understand how women use information (using the cell phone) at each valuing-adding point in the chain. (This model does not address the issue of women not choosing to enter into an enterprise.)

Porter and Millar identify primary activities as those directly related to the production of goods/services (inbound and outbound logistics, operations, marketing and sales, after-sales support) and secondary activities that support the production process (human resources management, administration, technology, procurement), as illustrated in Figure 2.1.

Figure 2.1: Value Chain illustrating generic activities in business



Source: Porter & Millar (1985)

This model helps us to systematically understand the dynamics in the women- owned businesses, and how the cell phone is applied in those areas.

2.3 Women's empowerment and livelihood enhancement through ICTs

Access to the cell phone among women has not been widely studied to provide disaggregated indicators of use in developing countries. Most of the research in Africa focuses on broad access to ICTs and its impact on improvement of the lives of women. Hafkin (2003), for example, found that indicators in the areas of access and usage, content, ICT-related employment, technical or ICT-related education, ICT/telecommunication policy, representation in telecommunication/ICT decision-making, and impact of telecommunication/ICTs on men/women are currently very limited. The one sex-disaggregated indicator found increasingly frequently is Internet usage by country and region, although figures are still not available for most developing countries. This lack of data is acknowledged by Batchelor and Nigel (2005) in a report to the Development Assistant Committee at the World Summit on the Information Society, which comments on the lack of substantial literature/research on the role of ICTs in development and poverty reduction and recommends collection of data on the impact and effectiveness of using ICTs to support pro-poor growth and delivery of pro-poor services.

Understanding of the effect of cell phone use can therefore only be deduced from the studies on ICTs in developing countries. These acknowledge the positive effect on livelihood enhancement among women, as well as advising caution. [Kutoma J. Wakunuma](#), in a study on mobile phones and women in Zambia, notes that "mobiles can reinforce existing gender relationships, further strengthening male-dominated societies and power structures" for example, when some husbands feel the need to determine how wives use their phones. While the advantages of using the phones seem to outweigh the disadvantages, cell phones do not necessarily empower women but rather continue to subject women into already gendered categories of thought and action. This reinforces the notion that technological innovation alone does not guarantee empowerment for women; neither do they address the substantial obstacles to women's social, political, and economic development.

In a study examining the current and potential impact of ICTs in Africa, focusing specifically on gender issues, Rathgeber and Ofwona (2000) underscored the need for information to be made relevant to the needs of women in the areas of health, micro-enterprise and education. The authors see ICTs as having potential to redress information imbalance and gender inequalities, but stress the importance of making information relevant to the needs of women within specific sectors. Redressing the imbalance calls for addressing the gender digital divide. According to Huyer *et al.* (2003), the 'gender digital divide' describes the existing inequalities and biases in access to and use of ICTs by women and men. When appropriately harnessed, ICTs hold great potential for women's access to information at an individual level, to better their self-esteem, increase confidence and expose them to more career opportunities, as well as improving their advocacy, lobbying and networking activities.

ICTs have potential for self-development of women. Natasha (2003) asserts that ICTs have the potential to give a major boost to the social, political and economic empowerment of women, and the promotion of gender equality. However, this potential can only be realised if the gender dimensions of the information society are properly understood and adequately addressed by all stakeholders. This assertion is given credence by a study by Sylla (2000) on 'WAP' systems in 100 Senegalese agriculture networks. Rural farmers were provided with cell phones with coded access to the Internet to get information about the daily market prices of their crops. Rural women involved in this project were mainly specialised in traditional food processing crops. The cellular phones allowed them to be in contact with a rural business people's network to get information about crops provision. These women used the information collected from the website to select the most interesting markets at which to buy the products they needed. They also used the phone for other personal purposes. The rural women farmers found the cell phone very appropriate because it could be carried around, and therefore preferred it to the computer.

With such potential, Marcelle (2002), in a report of several case studies among women, concludes that when used effectively ICTs can be a powerful tool for women's empowerment. They can create better opportunities for women to exchange information, gain access to online education and engage in e-commerce activities. As a tool for women's empowerment, Huyer *et al.* (2003) identified two approaches through ICTs, one based on individual empowerment and the other on empowerment of organised groups of women. Although these can be perceived as different, the approaches are not mutually exclusive but rather are complementary.

Huyer *et al.* (2005) go on to say that:

"Individually based empowerment is based on cases where women experience effects at the individual level although not necessarily economic benefits from ICT projects. In these instances, women emerge not only with greater knowledge but also an enhanced sense of self worth. The other approach is collective empowerment of women. The possibility of access to ICTs being more advantageous if women are organised and capable of determining the type of

information they need, the way that information is presented as well as the concrete means required for that information to be accessed and used. Thus the focus is not on women at large but rather on organised women who can use public information to input into their agenda and put it into the service of women at large”.

2.3 Context of Empowerment

The context of empowerment and whether the cell phone is an empowering tool is an issue of interest for this study. Discourses among experts give differing perspectives. Kabeer (1999) posits that women’s empowerment is about the process by which those who have been denied the ability to make strategic life choices acquire such ability. This ability to exercise choice incorporates three inter-related dimensions: resources (defined broadly to include not only access, but also future claims, to both material, human and social resources); agency (including processes of decision making, as well as less measurable manifestations of agency such as negotiation, deception and manipulation); and achievements (well-being outcomes). Kabeer (1999) argues that these three dimensions of choice are indivisible in determining the meaning of an indicator and hence its validity as a measure of empowerment. For cell phones to contribute to empowerment they have to fit within the three dimensions.

He cautions that an analyst from the outside may use a set of value judgments to define and measure empowerment, using values which may not hold any relevance at all for the women involved. He advises that political, cultural and socio-economic factors must all be examined because they influence the notions of empowerment and the way it is defined (Kabeer 1999).

Malhotra *et al.* (2002) view empowerment differently. They argue that “empowerment” has been used more often to advocate for certain types of policies and intervention strategies than to analyse them, as demonstrated by a number of documents from the United Nations (United Nations Division for the Advancement of Women (UNDAW) 2001; United Nations Children's Fund 1999), UK *Department For International Development* (2000), and other organisations. The authors also note that feminist activist writings often promote empowerment of individuals and organisations of women, but vary in the extent to which they conceptualise or discuss how to identify it, reinforcing the feeling that empowerment is a notoriously contentious concept.

One theory in development studies supports social inclusion in institutions as the key pathway to empowerment of individuals. Capitalism, top-down approaches to development and/or poverty itself are seen as sources of disempowerment that must be challenged by bringing the marginalised into the management of community and development processes. Bennett (2002) developed a framework in which “empowerment” and “social inclusion” are closely related but separate concepts. Bennett describes empowerment as “the enhancement of assets and capabilities of diverse individuals and groups to engage, influence and hold accountable the institutions, which affect them.” Social inclusion is defined as “the removal of institutional barriers and the enhancement of incentives to increase the

access of diverse individuals and groups to assets and development opportunities.” Bennett notes that both of these definitions are intended to be operational, and describe processes rather than end-points.

In the World Bank’s *Sourcebook on Empowerment and Poverty Reduction*, Narayan (2002) acknowledges that women’s empowerment encompasses unique elements. First, women are not just one group among several disempowered subsets of society (the poor, ethnic minorities, etc.) - they are a cross-cutting category of individuals overlapping with all these other groups. Second, the household and interfamilial relations are a central locus of women’s disempowerment in a way that is not true for other disadvantaged groups. This means that efforts at empowering women must be especially cognizant of the implications of broader policy action at household level. Third, women’s empowerment requires systemic transformation in not just any institutions, but fundamentally in those supporting patriarchal structures. In defining empowerment, options, choice, control, and power are most often referred to as important to women’s ability to make decisions and affect outcomes of importance to themselves and their families. Control over one’s own life and over resources is also often stressed. Thus, there is frequent reference to some variant of the ability to “affect one’s own well being,” and “make strategic life choices.”

2.4 Barriers and challenges to access to/use of cell phones

Review of the literature indicates that access (or lack of it) to the cell phones and ICTs is due to a number of differing factors. Firstly, access to ICT tools is low. Marcelle (2002) acknowledges that many women worldwide are still not fully able to benefit from using these tools due to lack of connectivity, inadequate access, illiteracy, and language and behavioural barriers, among others. A deeper understanding of these obstacles was provided by the UNDAW Expert Group Meeting (2002) held in Korea to explore ways in which the rapid diffusion of ICTs and associated growth of the ICT sector offered both opportunities and risks to women’s empowerment. The analysis identified six generic challenges (awareness, politics, access, relevancy, sustainability, and coordination) that can critically affect any ICTs for development initiative, whether at global, national, regional or local level. These challenges have to be taken into account in any effort to increase benefits from ICTs.

Such benefits are, according to Jorge (2002), affected by access to information and the existence of communication networks serving women’s needs. Women’s networks have considerable potential for the effective transfer of information, and husbands and other male kin are also identified as important sources of information. Natasha (2003) identifies social and cultural constructions of gender, illiteracy, poverty, lack of access and language barriers among the factors hindering women’s access to ICTs in developing countries.

These barriers and challenges can be overcome through a number of strategies. Huyer *et al.* (2003) propose strategies including the need for women’s groups to share experiences and knowledge to strengthen their lobbying skills, and to gain expertise in engendering the ICT policy-making and regulation process. In the area of ICT policy, Marcelle (2002) provides a comprehensive list of specific measures that can be incorporated in developing countries to facilitate gender equality (e.g. sector

liberalisation, tariff policy, regulation, licensing, e-governance). Examples of efforts to integrate a gender perspective in ICT policy are also considered, with a focus on Mozambique, Senegal, South Africa and Uganda.

The literature in this field illuminates some key challenges that need to be addressed:

- If indeed women choice of craft businesses is already culturally gendered, are the advantages brought about by the cell phone seeking to reinforce the gender divide? Will it be a tool to entrench and reinforce the disparity by empowering women to do more of what the gendered society ascribes?
- Can the cell phone help women to cross over the gender divide to the areas that are currently male-dominated? How can women use the phone to cross over the gender divide (instead of reinforcing it)
- Can the cell phone help to improve efficiency and effectiveness in their enterprises and increase revenue generation while the motivation for starting the business was determined by other persons and was not a personal decision?
- What does empowerment mean for women in business in Kenya? In the literature review “empowerment” has been used to define a wide range of concepts and describe many outcomes, but it has different meanings within various contexts. Does an action such as exercising control over decisions or resources really amount to empowerment in our particular context?
- Will it be possible to identify empowerment indicators that can be applied in our own context? There will always be situations in which a particular indicator does not signify empowerment.
- While resources like ICTs are often considered by women as critical in ensuring that they are empowered, are they sufficient? This study looked at cell phones as catalysts for empowerment or encouraging conditions under which empowerment is likely to occur
- It is important to ensure that men are also factored in as a control measure. Economic organisation of the relationship needs to be clear, since the literature review revealed that empowerment cannot only be measured by achievements, but also by women’s relationships at the micro level.

3. Methodology and Design

3.1 Research Design

The study adopted a phenomenological and exploratory design, with a qualitative mode of inquiry. According to Hancock (2002: 6), a qualitative research approach involves in-depth analysis of a single or small number of units.

3.2 Target population

The target population was women owners of micro-enterprises in Nairobi from 11 trade segments, including food, textiles, handicrafts and leatherwork, as indicated in Table 1.1. Men were included to act as a control for the results obtained from the field study and also for purposes of comparison.

3.3 Sampling and sample size

There are 11 trade segments in Nairobi city, and we purposively selected through a snowballing technique three women business owners in each trade segment, to obtain a sample of 33 women business owners in various sites in Nairobi. Eleven men-owned micro-enterprises were also included, one from each of the trade segments.

3.4 Data collection tools

The study relied mostly on primary data collected through in-depth interviews with the target respondents. An interview guide/schedule was used which contained questions covering various issues on use of cell phones by women entrepreneurs in Kenya to improve their micro-enterprises. This permitted free in-depth responses from the respondents.

Additional observations and documents were collected where available as. Two research assistants were recruited to aid in the interviewing process, and trained in the interviewing techniques. Confidentiality of responses was assured before commencement of interviews; this was necessary to encourage the respondents to give honest responses.

3.5 Data analysis

After data collection the data instruments were checked for data quality and completeness. Interview responses were coded and entered into a code book. Exploratory analysis cleaned the output and ensured that the effect of missing responses was minimal. The data were analysed using a qualitative technique involving content analysis by coding and classifying qualitative data. This is often referred to as data categorising or indexing, and was done according to similarities. This was followed by organisation of data according to study themes, from which conclusions were drawn. Nvivo and EPI Info computer software was used to facilitate data processing and analysis.

4. Data Analysis and Presentation

4.1 Introduction

The purpose of this study was to examine how use of cellular phones among women facilitated their pursuit of sustainable micro-enterprises and its implication on women's empowerment. This chapter contains an analysis of the data collected in the field, which were analysed qualitatively and are organised under the following sub-headings: business and communication issues, impact of cell phone on entrepreneurial success; and empowerment through access to mobile technology.

4.2 Business and communication issues

4.2.1 Motivation behind entrepreneurship

The entrepreneurs interviewed were motivated to start their business by several factors: the need to engage in self-employment after several years of formal employment; the desire to earn extra cash; the desire to improve living standards; motivation and support from friends; the need to educate their children; the need to establish a business as a form of social security; and self-motivation and experience in particular lines of specialisation. One female entrepreneur started her hair and beauty business out of motivation from her mother:

“I was in Canada studying to become a doctor. Then my mother called me back to start a hair salon family business so I came back to help her run it so that we could get additional income. I would have wanted to finish with the studies but mum did not have money to continue paying my university fees and I was not too sure that I could get myself a job to pay for my education and mum had called me back so I had to leave.”

Another motivator to entrepreneurship was the hard economic times in the country and the need to generate extra income. It was noted that most of the respondents were not willing to change from their current lines of operation.

The tools that the entrepreneurs normally used to communicate on business matters were identified as verbal communication, cell phone, fixed landline, electronic mail, signboards and “*Simi ya Jamii*” (a fixed landline using mobile telephone wireless technology).

4.3 Impact of cell phone on entrepreneurial success

4.3.1 Customer service

Cell phones have enabled most of the women entrepreneurs to establish close contact with their customers, who in turn found it easy to establish when the women were at their business premises. The phone has helped the women entrepreneurs most in dealing with day-to-day operations relating to their products. This has greatly supported them in areas of logistics, distribution, receiving of materials and communicating with friends and family. They are able to make orders even when not at their business premises. The phone also enables them to notify their clients to collect products when ready or of changes in purchase orders. It facilitated servicing of customers' orders and day-to-day operations:

“When some of my customers may want to see me in person my cell phone helps by them calling me and finding out my whereabouts. I use my cell phone to call clients when products are ready.”

“The phone helps me a lot in finding and serving the customers. With my clients it easy to reach them when there are any abrupt changes in work and also when my clients need to add any orders I can be reached easily due to his cell phone. My phone helps me when making orders even when I'm not around the premises.”

4.3.2 Establishing new market ventures

The mobile phone is not only used as a tool of communication but also for advertising. One respondent said this has simplified their efforts to venture into new markets. The entrepreneurs were also able to contact new customers through their phones. The cell phones also enabled them to call numbers obtained from advertisements by potential customers requiring them to tender. The phones are also used to store telephone contacts they obtain from business cards. Finally, by issuing their telephone contacts to several people they are able to extend their business networks and hence their chances of venturing into new markets:

“In advertising I put my phone number on the business cards which helps me in finding new markets. Because my cell number is with my employees I know that a lot more people than I think have my number, thus increasing new markets. My employees give my number to clients.”

4.3.3 Logistics/distribution and receiving of materials

Instead of having to go to their suppliers the phone made it easy for the entrepreneurs to just call them and request delivery of materials. This decreased the transport costs for the entrepreneur, in turn lowering production costs. The entrepreneurs are also able to communicate with their staff on logistics through their phones, which saves a lot of time. Cell phone communication also facilitated distribution and receipt of raw materials.

4.3.4 Feeling in control of business operations

The cell phone enabled them to monitor daily operations at their business premises. They were also able to monitor cash flow through their cell phones (especially when not at the business premises). Respondents said that they still felt in control when away from their business, provided they were in phone contact. The phone enables them to get information on how their businesses are running when they are away:

“I normally like to know how the business is going and whether there is anything needed and also how much cash there is at work. When I’m not around I will call them as many as 4-5 times. When I have my cell phone at hand I still feel that I’m in total control of the business. I feel confident knowing that I can be reached at any time to be informed about issues that concern products, e.g. price changes.”

4.4 Empowerment through access to mobile technology

The main use of mobile technology is to make communication easier and reliable. Most respondents felt that their relationships with friends and family didn’t change when they opened their businesses, because the mobile phone helped them to keep in touch with anybody they wanted to. One of the respondents said:

“My phone makes me feel safer and confident and I know that I am in touch. Networking with friends, business partners and customers has been helped by using my mobile phone. It also helps me to keep in touch with my household to make sure that my daughter is well, that she is being picked from school. And also to keep in touch with my mum regarding management of our saloon business.”

The findings showed that most businesses improved after the owners purchased their mobile phone. However, some respondents were quick to note that this improvement wasn't instantaneous:

“Actually not immediately. Because I did not tie my phone to the business immediately. I kept on feeling I needed to have a landline to conduct my business. I think the mobile phone has helped my business along the way rather than at the beginning because everyone is connected to a mobile network.”

Most respondents felt more effective, confident, happier, proud, able and of higher social status by having a mobile phone. They felt that the mobile phone gives them freedom to conduct their business, keep in touch with the house, network with other groups/business people, and communicate with family. Others said that the mobile phone gave them control on how much to spend:

“My phone has also given me the freedom to conduct the business, network with other groups/business people and communicate with my family members who are in different corners of this country”.

“I have control on what I spend on the phone and like on Saturday I authorised some money to be used to call clients who owed money to us and we were able to get him to pay the money back and even now I have not been to the office since then but I have been able to get feedback on debt collection.”

Most of the respondents said that having a mobile phone enable them to access other services, apart from those dealing with their business, such as following up with family members' group meetings, the hairdresser, doctor, clothes designer, getting the latest news because of lack of time to read newspapers or watch television, and calling Kenya Power when there was a problem with electricity supply, among others. Most respondents admitted that the mobile phone hasn't enabled them to address issues of interest to women in business. The respondents said they were more interested in expanding their business and attaining financial sustainability than dealing with gender issues, which were not a priority to them.

Respondents said they did notice a difference between when they didn't have phone and now. They said that with the phone came efficiency, wider accessibility and easier communication. As one put it: “Having a mobile phone makes me have the knowledge of everything without my physical presence.”

4.5 Challenges and Barriers to access to/use of mobile phones

The respondents identified various barriers to access to and use of mobile technology, which included: costs of calls, technology (how to use the phone), and quality of service. Most identified the cost of use of mobile technology as the major setback. They cited some tariffs as more expensive than others, and international calls as very expensive. Some said they were initially on Celtel but changed to Safaricom to enjoy per second billing, while others on Safaricom who were formerly on Taifa Tariff changed to Sema Tariff. However, most respondents were hopeful that the costs would soon drop. One said: "I find it very expensive to call internationally and I hope that in the immediate future this will reduce."

Some respondents cited lack/loss of privacy as a barrier to mobile phone technology. They said there were very high risks of tapping conversations over the mobile phone, making discussion of confidential information difficult. Use of the mobile phone puts the user at risk of being located by other people, especially those with the wrong motives and intentions. Other respondents cited lack of confidentiality, especially in terms of text messages, and limited social space. They said that people do not visit others for socialisation any more but instead make phone calls, with negative implications on the social lives of people. These are among the demerits of mobile technology.

On the issue of whether mobile phones were designed for men and therefore women have to conform before they use them, respondents said that mobile phones were designed for everyone irrespective of gender.

4.6 Level of entrepreneurial success

The indicator for this variable was the number of employees that the business had at the time of the study. Businesses with less than 5 employees were considered to be 'upcoming businesses', while those with more than 5 employees were considered as 'successful businesses'. The table below shows variations in responses according to these two categories.

Objective 1: Impact of cell phone on entrepreneurial success

Upcoming (< 5 employees)	Successful (> 5 employees)
<ul style="list-style-type: none"> • Increased level of perceived reliability by clients • Establishing personal contacts with customers • Distribution and receiving of materials/improved logistics • Staying in touch with friends and family • Communicating with staff • Feeling always in control of the business even when away • Finding and serving customers • Placement of purchase orders • Networking with clients and friends 	<ul style="list-style-type: none"> • When dealing with logistics • Communicating with staff • Finding and serving customers • Advertising/marketing • Decreases transport costs - close contact with suppliers • Feeling always in control of the business even when away • Establishment of new markets • Increased level of perceived reliability by clients • Convenience in handling business issues and conflicts
<p>This indicated no significant variations in the contribution of the cell phone towards entrepreneurial success in both successful and upcoming businesses.</p>	

Objective 2: Empowerment through access to mobile technology

Upcoming (< 5 employees)	Successful (> 5 employees)
<ul style="list-style-type: none"> • Improved capacity to deal with issues that address women • Access to other services, like the radio • A chance to learn about operating the phones vis-à-vis other electronic devices • Better planning of time and meetings due to features such as the calendar, clock, radio, alarms, and preset reminders • Easy communication with business clients and friends • Ability to handle business and family issues at the same time • Wider accessibility among clients and suppliers • Feeling confident and effective because business operations can run smoothly • Convenience in handling business 	<ul style="list-style-type: none"> • Improved business performance • Ability to integrate business and family issues • Ability to organise social meetings, especially for those in women’s groups, through features such as the calendar and phone reminders • Feeling of always being in control even when away from business premises • Improved networks with friends and clients • Ability to distribute/share airtime/SMS banking

issues and conflicts	
This indicates a great contribution of the cell phone towards entrepreneurial success and upcoming businesses, with the upcoming businesses' entrepreneurs having gained most from access to mobile phone technology. But has the mobile phone contributed to women's empowerment?	

Objective 3: Barriers to access

Upcoming (< 5 employees)	Successful (> 5 employees)
<ul style="list-style-type: none"> • High cost of servicing • Limited social space to use the phone • High costs of entry and continued access to the technology • Lack of privacy, especially with the feature of text messaging and tapping of calls by unauthorised persons • High cost of servicing the gadgets • Lack of adequate knowledge of use of gadgets • Service providers' tariffs charge peak rates during the day when most business-related calls are made • Limited social space to use the phones, especially in public places 	<ul style="list-style-type: none"> • Poor network reliability from the service providers • High cost of servicing • Unavailability of parts/warranty for the handsets • High costs of entry and continued access to the technology • Lack of privacy, especially with the feature of text messaging and tapping of calls by unauthorised persons • Service providers' tariffs charge peak rates during the day when most business-related calls are made
The above indicates no significant variations in barriers to accessing the technology between successful and upcoming businesses.	

5. Summary and Conclusions

5.1 Introduction

This study established that cell phones have impacted on micro-enterprises, especially those owned by women. Other major issues captured in the study are summarised below under the following sub-headings: Use of cell phone for entrepreneurial communications; empowerment and quality of life enhancements; and Barriers and challenges to access.

5.2 Use of cell phone for entrepreneurial communications

In entrepreneurial communications the cell phone has impacted on the following spheres:

- Business efficiency – the use of the extra add-ins from the phone, such as the calendar, calculator and alarm.
- Control – women entrepreneurs report a high sense of control of their business as well as in their personal and domestic life.
- Increased efficiency in the work process but not in effectiveness in addressing the gender divide.

5.3 Empowerment and quality of life enhancements

The study noted that women view the cell phone as an empowerment tool for life in terms of social growth and to address issues that concern themselves, their families and their work. However, the cell phone does not appear to address fundamental issues of gender relations. Patterns of gender socialisation and segregation are still being reproduced in their choice of businesses and their workload in terms of division of labour. Further re-emphasising the fact that technological innovation alone does not necessarily guarantee empowerment for women, neither does it address the surmounting obstacles to women's social, political and economic development. More far-reaching efforts are required towards gender equality and women's empowerment in the ICT arena.

5.4 Barriers and challenges to access

The high costs of using cell phones for day-to-day business and family/community-related issues was a major concern for most of the women, leading to frustration, especially since most of them have been sensitised enough to use the tool.

Further, with the increased space provided by the phone, there were significant concerns expressed on the denial of this space within spousal relations - where in some instances spouses sought to find out the contents of some of the communications conducted on the phone. Some of the women feel that there is a conditional benefit of this space due to the intrusion on their privacy. Unlike our literature review that suggested that the mobile phone is culturally construed as a male tool, the women entrepreneurs did not perceive the phone as such. However, the study does indicate that usage of the phone is culturally construed, with an increase in responsibilities and empowerment for one or other profession socially construed as women's work.

Another challenge and barrier is women's ability to make effective use of the cell phone technology as well as of the information and knowledge it provides. For example, most of the women mentioned using the most basic functions and services on their cell phones. If they wanted to explore other functions they depended on their spouse or a male family member for training. Few of the women interviewed had used the phone for business development, entertainment, educational purposes, or for information relating to the quality of life of either themselves or their families (such as health and nutritional information).

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Appendix One: Interview Guide

Business Variables

1. Name of business: _____
2. Plot number: _____
3. Type of business

<i>Classification</i>	<i>Details</i>	<i>Please tick relevant box</i>
Food	Value addition, juices, packaging, extraction	
Textile	Clothes and garments	
Wood	Furniture and finishing	
Metal	Simple machines, other fabrication, e.g. metal windows	
Handicrafts		
Leatherworks	Shoes, handbags	
Building	Building materials and associated machines	
Chemicals	Soaps, detergents	
Electric /electronic	Transformers, battery charging	
Motor vehicles	Spare parts, fabrication	
Plastic and waste recycling		
Hair and beauty	Hairdressing, beauty therapies	

4. No. of employees (including proprietor)

1	2	3-5	6-10	>10

Respondent Details

5. Name: _____

6. Position in the business

Proprietor	Other senior staff

7. Contact Address:

PO Box	
Landline Telephone	
Mobile phone No(s)	
Mobile Phone model (s)	
Fax	
Email	
Website	

8. Sex

Female	Male

9. Age bracket

Below 25	26-35	36-45	46-55	Over 56 years

10. Education (highest level attained)

None	Primary	Secondary	Tertiary	University

Business and Communication Issues

11. What motivated you to start this business and how did you choose this business line if anybody motivated you to this business line? Are you considering shifting to another business line in future?

12. How do you communicate on business matters and which mode/tool for communication do you use?

Application and Use to Enhance Entrepreneurial Success

13. Did you have a cell phone when you started the business? If you had a phone, what were you using it for?

In which functions/aspects of the business does the phone help you the most in business?

14. Do you use your mobile phone to communicate to staff in your business? If so what messages, how often and do you feel it gives you a sense of control?

15. Whom do you talk to the most when doing your business other than your staff? And what issues do you communicate?

16. What features do you use in mobile phone, e.g. voice, sms, and where are the features specifically applicable? Do the features give you the right contacts you need for business and what information would you want and are you able to access the information you need using these features?

17. Do you find any limitations using the phone for official communications? Are records of communications important and how do you retain official records of phone communications?

Empowerment through Access to Mobile Technology

18. Did your business improve when you purchased your phone? How did the phone contribute to this improvement?

19. What features of your mobile phone do you like the best and what is the source of information on those features? Who taught/informed you how to use them? Would you like to learn how to use other features?

Did your relationships with friends, family change because of the business? How?

20. To what extent is your mobile phone able to help you better make life choices that affect your life generally and how you feel about yourself, your home, e.g. relationship with family members, your friends and other relations, networking with friends, business partners, customers?

21. Do you feel more effective/confident/happier/proud/able/higher social status by having a mobile phone? Does the phone give you freedom to conduct your business, network with other groups/business people, and communicate with family?

22. Do you feel any different, when you had a mobile phone and when you did not have one? What is the difference and why?

23. Does having a phone enable you to access other services, apart from those that deal with your business?

24. Has the phone enabled to you address issues of interest to women in business?

Barriers and Challenges to Access

25. What factors do you find most difficult in using your phone? These factors may include cost, technology, and service among others.

26. How did you finance the purchase of your phone and how do you maintain payments/credit? Do you find the service costly and have you changed your tariff package or time of calls to reduce cost?

27. When you have a problem with the phone who is the first person to ask for help including the options of repair?

28. Is loss of privacy by using the phone an important issue in the following areas:

a. risk of tapping conversation,

b. risk of location being known to others

c. messages read by others

d. Limited social space to use the phone

e. Education and skills to use the phone and its features.

29. Do you find the mobile a tool designed for men now or in the past and therefore have to conform to men? Is it important for women to be leaders in phone sector to ensure women's issues are taken into account?
