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Gender, agency and mobile phones: urban street traders in Uganda

Thesis submitted for the degree of Doctor of Philosophy

Development Policy and Practice

Maths, Computing and Technology Faculty

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September 2012

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Abstract

Mobile phones have proliferated remarkably in developing countries. It is argued that mobile phones present enormous opportunities for achieving gender equality in the context of broader development aims. Yet, emerging literature presents a mixed picture of outcomes for gender relations, suggesting that a much more nuanced assessment is required. Thus the research asks: to what extent can mobile phones contribute to achieving gender equality through the expansion of women's agency?

The research reviews and evaluates the relationships between gender, mobile phones and development, then highlights how the relationship between mobile phones and capabilities has been conceptualised. It argues that the capability approach offers a prism to explore agency but is insufficient in capturing multiple expressions of agency. Combined with other critical theories of social and technological processes, viewing the capability approach through a feminist lens enriches an understanding of nuanced gender, agency and mobile phone relations.

This argument is made by using an interpretive theoretical framework of spaces for agency and an instrumental case study of street traders in Kampala, Uganda. A quantitative approach analyses the features of mobile phone-mediated agency of street traders to establish disparities between men and women. Qualitative methods demonstrate the opportunities and challenges for expanding women's agency. Narrative analysis illustrates the complex ways in which mobile phone practices both enable and constrain agency with contradictory results for women.

The research finds that a focus on capabilities suggests that mobile phones present opportunities that can be a first step towards greater equality. However, it is difficult for mobile phones access and use to change gendered ideologies, creating tensions between empowerment and disempowerment. Mobile phone practices are neither wholly beneficial nor wholly constrained. The tensions generated by mobile phones at multiple levels can be an important first step towards transforming unequal gender relations by challenging prevailing norms.

Acknowledgments

I am sincerely grateful to Professors Hazel Johnson and Gordon Wilson for their generosity with their time, valued guidance and untiring intellectual and material support, and to Dr Peter Robbins who stepped in during the final stages.

My thanks also go to the street traders for their wit, humour, openness and time. Thanks to Doreen Lwanga (interpreter), Millie Nabachwa (transcriber and translator) and Dr Anne Najjukka for their enthusiastic engagement with the research and additional insights and to the many Kampala-based contributors.

Thanks to Charlotte Morris and Indi Bains, my scholarly buddies, for their suggestions and companionship. Thanks also to Doctors Justine Johnson, Ming Cheng, Monica Erwér and Savita Bailur for their helpful comments drawn from their respective fields.

My gratitude goes to David Winter, my parents and siblings (Selina, George, Tori and Wafula) for their wonderful support and encouragement.

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Acronyms

CBD	Central Business District
ECA	Economic Commission for Africa
FDI	Foreign Direct Investment
FGD	Focus group discussion
GDP	Gross domestic product
GNP	Gross national product
ICT	Information and communication technology
ICT4D	Information and communication technologies for development
ITU	International Telecommunication Union
KCC	Kampala City Council
LC	Local Council
M4D	Mobiles for development
MFPED	Ministry of Finance, Planning and Economic Development
MPTM	Mobile phone text message mediated
MDG	Millennium Development Goal
MSE	Micro and small enterprises
MSME	Micro, small and medium enterprises
NAWOU	National Association of Women's Organisations in Uganda
NEMA	National Environment Management Authority
NPA	National Planning Authority
NSGE	National Strategy for Girls Education
OECD	Organisation for Economic Cooperation and Development

RIA	Research ICT Africa
ROU	Republic of Uganda
SCOT	Social construction of technology
SIDA	Swedish International Development Agency
SSA	Sub-Saharan Africa
TIER	Technology and Infrastructure for Emerging Regions
UBOS	Uganda Bureau of Statistics
UCC	Uganda Communications Commission
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
VAS	Value added services

1. Introduction

Introduction and overview of the chapter

Mobile phone-driven development (Duncombe, 2011) is a recognised economic growth and poverty alleviation strategy by many developing country governments and donor organisations (UNDP, 2012; World Bank, 2008; SIDA 2005; OECD, 2003). Much promise is held regarding the potential of this development strategy for enabling developing countries and particularly the poor and disadvantaged to lever themselves onto a sustainable economic footing and to participate more fully in the global economy. Women specifically are seen as key beneficiaries. Yet the evidence for this remains at best uncertain or mixed and at worst a worsening of their situation. Studies to date indicate that mobile phones have complex and contradictory effects on women's empowerment (Chib and Chen, 2011; Wallis, 2011; Buskens and Webb, 2009), even when some of these studies set out to document only the positive impacts.

This research explores gendered mobile phone use, practices and experiences in Uganda to analyse the gendered contextual forces that shape agency mediated by mobile phones for women. It is concerned with the interplay between gender, agency and mobile phones in women's lives. Women's capabilities for agency are manifested through choices and actions influenced by a number of contextual factors and processes which

frame the conditions under which spaces for expanding their agency are opened or foreclosed. This study aims to identify some of these factors and processes.

The main focus of the research is the context of urban street traders in Uganda. Uganda was chosen as an exemplar of rapid urbanisation and expansion of mobile phone subscriptions. It is an apt country to explore mobile technology-enabled agency insofar as it was the first African country where mobile phones subscriptions exceeded fixed line subscriptions in 1999 (Hellstrom, 2010; Business in Africa, 2004 cited by Castells *et al*, 2007:23). As early adopters of mobile phones, their importance as a case study is also underscored by their formidable size within the Ugandan economy. It is estimated that micro, small and medium enterprises (MSMEs) account for 75% of GDP in Uganda (Ministry of Finance, Planning and Economic Development (MFPED), 2011a:4) and that up to 87% of MSMEs are informal (Muwonge *et al*, 2007:1). Women own 52.6% of MSMEs (MFPED, 2011a:4). It is estimated that the informal sector accounts for 60% of urban employment and 90% of all new urban jobs in Africa (Skinner, 2008:7). The latest data from the ILO (2002) notes that street vending has been estimated to account for the largest share of these jobs after homeworking, globally. In Uganda, 'over 50% of informal workers are market and street vendors' (Stevenson and St-Onge, 2005:xviii).

Data on the personal impacts of mobile phones from a mixed gender survey and in-depth studies of six female street traders was collected throughout 2010-2012, but concentrated fieldwork took place over two periods (October-November 2010 and March-April 2011) with a brief follow-up in March 2012. This research adopts a gender lens to investigate the data using both capability and critical social theory perspectives. These are discussed in more detail in chapter 2. This chapter outlines the motivations

and rationale that influenced the research, the research questions and methods, thesis argument, contributions to theory, policy and the study of mobiles for development (M4D) and thesis structure.

1.1 Research motivation, rationale and approach

The motivation for this research was threefold: (i) the observed mobile phone phenomenon across developing countries and anecdotal stories about mobile phones in Uganda that required empirical investigation; (ii) the observance of agency in everyday practices; (iii) my longstanding personal interest in gender relations and how greater gender equality is achieved.

1.1.1 The mobile phone phenomenon

The expansion of mobile phones in developing countries has been remarkable in terms of speed of adoption and spatial penetration (Porter, 2012). For example, by 2011 Africa had an estimated 433 million mobile phone subscribers, compared with 87 million in 2005 (ITU, 2011:1). While mobile phone penetration rates are relatively lower than those for the rest of the world (ITU, 2009), mobile phone subscriptions in Africa continues to grow steadily. Euromonitor (2011) suggest mobile phone penetration in Africa rose from 12.3% in 2005 to 42.1% in 2010. In Uganda, mobile phone subscriptions increased from 4.6 per 100 peoples in 2005 to 38.4 in 2010 (World Bank and ITU, 2012:219). Ultra low cost mobile phones, competitive pricing, pre-paid models of access and new applications and

value added services such as mobile phone banking have expanded the poor's access to mobile phones and services. Many poor Africans now regard mobile phones as a necessity, object of desire and a symbol of success (Porter, 2012; Diga, 2008). Mobile phones have quietly provided people at the bottom of the income pyramid access to electronically mediated communication, often for the first time (Ling and Horst, 2011).

Mobile phones are often conflated with other information and communication technologies (ICTs) in research analyses (for example, Kenny, 2002; Ganis and Clemes, 2006; Buskens and Webb, 2009, Mascarenhas, 2010), but there are some differences in access and connectivity between mobile phones and other ICTs such as traditional computers. Mobile phones are more widespread in poorer countries while computer use is more limited to a smaller wealthier and more educated group of individuals. However, all ICTs have some commonalities insofar as they can be regarded as technologies, sharing particular characteristics, which is why Schroeder (2010) suggests that mobile phone uses cannot be easily separated from those of other ICTs. In my thesis I focus on mobile phones empirically, but draw on broader ICT perspectives to develop my key arguments about mobile phones.

ICTs are defined as technologies that provide information through telecommunication. ICT is an umbrella term for communication devices, applications and apparatus that include radio, television, mobile phones, computers and satellite systems. Mobile phones differ from some of the other ICTs in terms of portability, but in terms of functionality, there are overlaps (Schroeder, 2010). As Sife *et al* (2010:1) explain, as a single device, mobile phones 'can now receive, process, store and display text, image and sound together'.

Advances in cellular technologies have facilitated a convergence in many ICTs (Singh and Raja, 2009) so that today smart mobile phones function as a radio, telephone, computer and provide access to the Internet as well as TV programmes. New applications and business models now allow mobile users in developing countries to retrieve information, conduct transactions, and access multiple services using simple low cost handsets that replicate the functionalities of more expensive internet connectivity of computers (Galperin, 2010). Such convergences have contributed to what Floridi and Savulescu (2006) refer to as ICT-augmented forms of human agency. As noted by Katz (2006:171), 'technology is steered by agency'.

Whilst exploring internet use in Uganda in December 2006, stories were emerging of life changing opportunities presented by mobile phones in relation to improved business practices and social relationships, afforded by easier and personalised communication. Such stories were repeated across developing countries, but for a long time anecdotes remained unsubstantiated and empirical research into mobile phones limited (Geser, 2004). It became increasingly apparent that mobile telephony is iconic of a larger socio-technological shift towards a new 'personal communication society' (Campbell and Park, 2008). This shift is a consequence of mobile phones' symbolic meanings, new forms of coordination and social networking, personalisation of public space and emergent mobile phone cultures and practices (*ibid*).

Three key characteristics of mobile phones make them a particularly important phenomenon for investigation, their: symbolisation of modernity and development;

ubiquity and compatibility with local practices; transformatory potential for poor and disadvantaged groups.

Mobile phones are an immensely notable economic and socio-cultural phenomenon that has come to symbolise development, modernity and globalisation at macro and micro levels in a number of ways. Development is imbued with diverse meanings, but generally refers to change[1] (Sumner and Tribe, 2010). Latour (1991) asserts that modernity is a false and inaccurate invention. However, modernity as a concept is widely used in the social sciences and is defended by Habermas (1992) and Heidegger (1993), for example. It typically refers to a move from traditional to modern systems. I regard modernisation as the uptake of the values, technologies and instutions consistent with modernity. Despite its various connotations, modernisation refers to processes of social transformation modelled after Western societies. Underdeveloped countries move along similar trajectories[2] to developed countries, politically, economically and socially, as part of processes of globalisation. While it is acknowledged that globalisation is a problematic concept in that it has little explanatory value (Held and McGrew, 2002; Hirst and Thompson, 2002), here it is taken to refer to a trend and process, namely the growth of transplanetary connections between people, intimately linked to shifts in patterns of knowledge, production, governance and identity (Scholte, 2005). ICTs (including mobile phones) are symbols because they offer the most powerful networking platform for communication, information, education, democracy, culture, and business that is unrestricted by borders. As aspects of globalisation, ICTs impact on mobility and

[1] Sumner and Tribe (2010) argue that definitions of development typically fall within three categories: (a) a long term historical process of change; (b) a measure of progressive change that is largely policy oriented, with short-to-medium term horizons evaluated through indicators; (c) a dominant discourse of western modernity re-posited by post-modernists offering alternative conceptions of change.

[2] Broadly similar, but also divergent in some ways, in reflecting localised practices, culture and history.

communication and cause social, cultural, political, and other changes around the world (Zembylas and Vrasidas, 2005).

Mobile phone access is now deemed a measure of human development (UNDP, 2010), a part of a capability set (Zheng and Stahl, 2011; Birdsall, 2010) and a fundamental social security human right (Annan, 1999 cited by Fuchs and Horak, 2008). At a national level, mobile phones are regarded as an indicator of development and a key factor in attracting foreign direct investment (Gholami *et al*, 2006; Williams, 2005a; Gani and Sharma, 2003). The presence of modern information and communication infrastructures such as mobile phone technological systems is seen to represent progress and modernity.

Mobile ICTs are also regarded as a marker and success of neo-liberal capitalist globalisation, insofar as their rapid spread has also been closely associated with the expansion of neo-liberal ideas and globalisation processes through the rise of neo-liberal consumer subjectivity (Junka-Aikio, 2010; Zembylas & Vrasidas, 2005), although a structuralist perspective would also emphasise their revolutionary potential. Rizzo (2008) provides a good example of how mobile phones were used in a Philippines protest that resulted in the resignation of the President. Boughelaf (2011) also notes their role in the London riots and discusses their role in the Arab Spring.

Neo-liberal capitalist globalisation emphasises the spread of political economic ideas of economic freedoms that liberalise economic institutions and norms that facilitate the growth of telecom markets. Liberalisation and deregulation of the telecoms industry, associated with neo-liberalism and globalisation, have sped up the expansion of mobile phone technologies in developing countries. As Gray (2006:3) notes, 'a high degree of

liberalisation and competition in the mobile phone sector has also contributed to expanding mobile services, by bringing down prices and making operators more service-oriented'. Thompson (2002), like many globalisation analysts, argues that the expansion of ICTs and globalisation has been mutually reinforcing and concurrent. It is also widely accepted by sociologists and political scientists that the growth of liberalism has rested on material developments such as advanced communications (transportation and information and communication technologies) as well as urbanisation (Gat, 2005; Thompson 2002; Castells, 2000).

Postmodernists reject the existence of a single hierarchy or organizing principle (Skinner, 2008), so would explore different interpretations to the mobile phone phenomenon. Mixed results (ITU, 2007; UNCTAD, 2006; Fink *et al*, 2003) such as the continued gaps in access between rural and urban areas and men and women (GSMA, 2010; Gillwald *et al*, 2010), advances other interpretations. Arguably, since technology adoption within developing countries has tended to fail or delay (Best, 2010; Berdugo *et al*, 2005), there may be other contending socio-cultural explanations that offer equally, if not stronger explanations such as theories of cultural fit. As Castells *et al* (2007:127) contend, 'all technologies diffuse only to the extent that they resonate with pre-existing social structures and cultural values'. This compatability with local contexts is described by Kishore and McLean (2007) as the 'degree to which an innovation is perceived as consistent with existing values, past experiences and needs of potential adopters'. Mobile phone use has been subject to functional expansion as users gradually change their habits and apply mobile phones to a growing variety of purposes (Geser, 2004). McBride (2003:269) notes that, 'as people take a positive view of a communications technology, they begin to use it as part of their work and everyday lives and they

recommend it to friends', while Jho (2007:126) states that 'the choice of a particular technology reflects a close interaction between social and technical elements and stakeholders who have different and sometimes competing interests'. Developing countries' absorptive capacity, the ability to learn and implement technologies and associated practices of developed countries (Sauter and Watson, 2008), for mobile phone technologies has been remarkable.

At the level of individuals, mobile phones are also increasingly associated with individual agency and autonomy directed towards development objectives (Chib and Chen, 2011) and construction of modern identities (Ling, 2004) that contribute to social transformations. Non-access to a mobile phone can be perceived as an acute deprivation and disadvantage in a context where mobile phones are increasingly regarded as an essential asset (Porter, 2012; Alampay, 2006a). The successful adoption of mobile phone technologies is evidenced by their ubiquity. Subscription to mobile phone services has surpassed that of landlines in developing countries (ITU, 2003). Explanations for this successful adoption are attributed to lower set up costs and pre-paid phone charging and supply of ultra-low cost handsets. The ease of deployment, operation and management of mobile phone infrastructure and technological systems, little or no language or literacy barriers in relation to usage, and flexible and creative forms of power supply are other factors (Gray, 2006).

Development scholars' and practitioners' attention has turned to mobile phones in developing countries (Molony, 2012) because of the promise of economic and social transformation of poor countries and individuals in areas such as governance, health, education, livelihoods and gender equality. Investments in mobiles for development (m-

development) are an increasingly important part of development in these countries (Duncombe, 2011). The promise has generated much debate about the opportunities for advancement and risks of exclusion that mobile phones present for poor and disadvantaged groups, with some cautioning against the potential for increased information, knowledge and digital divides.

The mobile phone field is rapidly moving[3] (Schroeder, 2010). The literature on mobile phones for development (M4D), more specifically, and information and communication technologies for development (ICT4D), more broadly has mushroomed as mobile phones have become more ubiquitous (Porter, 2012; Donner and Escobari, 2010; Donner, 2008). Positive assessments have illustrated how mobile phones help alleviate poverty, improve wellbeing and facilitate claims to rights (Goggin and Clark, 2009; Castells *et al*; 2007; Urbach, 2007; Horst and Miller, 2006; Huyer *et al*, 2005; Parreñas, 2005; Vodafone, 2005; Banks and Burge, 2004; Rafael, 2003) through the enhancement of individuals' and institutions' capabilities.

Critical assessments of mobile phones have cautioned that transformational capacities of mobile phones might be exaggerated (McGuigan, 2005), have shown how they generate conflict (Archambault, 2011) and perpetuate or introduce new forms of inequalities and divides (Castells *et al*, 2007). Initially, these divides were perceived in terms of disparities in access, but more recently in terms of knowledge and capability gaps in relation to information and innovation for development purposes (Best, 2010; Alampay, 2006a; Ekdahl and Trojer, 2002).

[3] The application of mobile phone technologies is also moving rapidly making it difficult to reflect all these changes at the time of writing this thesis.

Such debates echo earlier and wider concerns, raised about ICTs and technology, concerns that reflect people's capabilities to access and make 'effective use' of technologies. There has been a tendency towards an unquestioned belief that investing in ICTs leads to social and economic development, yet the lessons tend to suggest that technologies do not always serve this purpose (Zheng, 2009). Querishi (2011) cautions against regarding ICTs as an end to development efforts, but should be seen as enabling sets of behaviours.

Two contending discourses continue to prevail in relation to the outcomes of mobile phones for human development. First, 'an empowering' hegemonic discourse that emphasises mobile phones as enhancing users' capability sets through the changing of their positions in relation to development resources (Smith *et al*, 2011; Kalil, 2008). Second, 'a reality' or 'critical' counter discourse that highlights emergent mobile phone patterns, behaviours and practices that restrict capabilities (McGuigan, 2005; Castells, 2004; 1998).

A more nuanced understanding of technologies (Wallis, 2011; Galperin, 2010; Johnson and Wilson, 2009; Wilson and Heeks, 2001) has previously shown that determining the extent to which mobile phones make a considerable impact on development and people's lives depends on the extent to which these technologies are amenable to the particular local socio-economic, political and cultural context in which such ICTs are inserted. Accounts of mobile phones role in daily life are likely to reveal tensions and contradictions of their socio-technical outcomes (Arnold, 2003).

Despite the ubiquity of mobile phones, gaps remain in understanding how poor and disadvantaged groups lever them for development purposes and the socio-technical processes involved. In particular, theoretical and empirical research is needed to better understand the opportunities and barriers around mobile phones use and individuals' capabilities to harness the opportunities presented by mobile phones. One such avenue is the theoretical and empirical exploration of individuals' agency in relation to mobile phones. My motivation for its pursuit is explained in the following subsection.

1.1.2 'Everyday life' and agency

The conceptual focus of this research was inspired by De Certeau's (1988) work on everyday practices as a site through which researchers can observe individuals' exercise of differing forms of agency. This led to further exploration of the notions of agency as conceptualised within the capability approach in development studies, broader sociological perspectives and social studies of technology (expounded in chapter2) as well as the gender dimensions.

The increasing centrality of mobile phones for economic growth, livelihood expansion, human security and lived experiences in developing countries has become ever more evident as increasing numbers of people acquire mobile phones and embed them more deeply into their daily activities. The 'everyday' presents a site for investigating this integration and embedding, yet, as a term it has been subject to much debate and scrutiny (Boothroyd, 2004; Felski, 2000; Highmore, 2002a; 2002b). Felski's (2000) exploration of contrasting definitions of everyday life highlights the term's conflicting

meanings and embedded assumptions. Highmore's (2002a; 2002b) tracing of its use also serves to illustrate its multiple meanings and thus the need to define its use in this thesis.

Everyday life is a key concept in cultural studies and feminism (Felski, 2000) and an important reference point in other fields with an interest in micro-analysis such as development studies. 'Everyday life can both hide and make vivid a range of social differences' (Highmore, 2002b:2). Social theorists of resistance (Bourdieu, 2001, Bourdieu and Wacquant, 1992; De Certeau 1988) have demonstrated the importance of studying 'everyday practices' that form the backdrop of social change. Social theorists of technology have also emphasised the role of empirical studies of everyday life and the consumption of technologies in aggregating these micro studies to explain macro-level issues (Schroeder, 2002). One particular reason for focusing on everyday uses of mobile phones is that they are claimed to facilitate access to anyone, anywhere which implies they enable social change (Schroeder, 2010).

In this research, the 'everyday' refers to its literal meaning, what happens every day in our lives, but has a reductionist meaning of what happens typically in our lives. It is explored through economic, political and social spheres that are common distinctions within development studies. I reconcile the conceptual ambiguities of the everyday concept by exploring the different spheres of lived experience. My research is concerned with the interplay between individual agency and structures and how women navigate the opportunities and constraints for agency mediated by mobile phones in ways that redress gender inequalities. It is within these spheres of the everyday that 'gender hierarchy is reproduced, invisibly, pervasively and over time' (Felski, 2000:30).

1.1.3 Agency achievements for gender equality

My personal motivations for this research stem from work on gender and development issues as a researcher, academic and consultant. The field of gender and development is concerned with inequalities between men and women and gender inequality can be regarded as the disparities in life outcomes between individuals arising from social constructions of femininity and masculinity that disadvantage men and women.

Equality between women and men has been an international legal principle since the 1948 Universal Declaration of Human Rights, enjoys popular support in many countries (Connell, 2011) and is a key global initiative as evidenced by the Millennium Development Goal (MDG) 3. Achieving gender equality has underpinned much of the gender work in the development field. However, not all advocates share the same understanding of gender or the same vision of how or whether gender equality can be achieved. While there are some commonalities, gender is conceptualised and operationalised with differing analytical weight attached to roles, power relations, institutions, performances[4] and performativity[5]. These different emphases translate into two broad approaches to addressing inequalities that are of interest to my research: (1) 'undoing' or 'disrupting' gender through discursive arrangements such as dress, language and performativity (Butler, 1990), and (2) empowerment of women in political, economic and social spheres of their lives (Kabeer, 1999), where women are perceived collectively as the less powerful

[4] Denote the presentation of the self in everyday life (Goffman, 1959) that conform to what is socially acceptable for a man or woman in a given context.
[5] Gender performativity refers to reiterated acting that normalises and regulates gender (Butler, 1990).

and more disadvantaged group than men although it is recognised that not all men are powerful and privileged (Cornwall *et al*, 2011; Connell, 2011).

Empowerment in this thesis is taken to mean the enhancement of women's agency and capabilities (Molyneux, 2008; Ibrahim and Alkire, 2007) and has multi-dimensional forms (Alkire, 2008; Narayan, 2005; Kabeer, 1999). These enhancements are often classified into economic, social, political, psychological, cultural, interpersonal, familial and organisational dimensions (Oakley and Clayton, 2000, Malhotra *et al*, 2002) and are achieved materially, relationally and subjectively (Sumner, 2010). When the term empowerment is used, the emphasis is on ongoing processes leading to broader development outcomes, rather than as a product as there is no final goal and no-one can arrive at the state of being empowered in the absolute sense (Smyth, 2007).

Women's empowerment is the key policy approach to addressing gender inequality in development work, and mobile phones are posited as a tool for social change enhancing gender equality through women's empowerment (for example, World Bank, 2006) insofar as they 'increase the range of alternative actions available to individuals and social groups' (Geser, 2004:15). Typical arenas through which inequalities are explored include the personal (the self), family and community, the state and the market (Connell, 2011; Kabeer and Subrahmanian, 1999; 1996). As a term, empowerment is conceptually messy, but has been a useful advocacy tool for many gender advocates, as Kabeer (2003) establishes. Its conceptual fuzziness unites people from diverse and often conflicting perspectives. Indeed as an academic, I have been inclined to critically interrogate the term, and as a practitioner I have found it to be politically and operationally expedient.

In policy and practitioner circles, mobile phones are regarded as empowering for women (UNDP, 2012). However, other earlier literature on landlines in developed countries suggested that phone usage tended to reflect and reproduce unequal gendered roles (Fischer, 1992; 1988; Rakow, 1992) as it became more widespread, an issue also observed for mobile phones (Wajcman *et al,* 2008; Lemish and Cohen, 2005; Nordil and Sørensen, 2003). For instance, the Australian study by Wajcman *et al,* (2008) showed that most women used them to maintain connections with their family and friends, reflecting gendered predispositions. Research on mobile phones in developing countries has also indicated that mobile phones impacts are gendered (Wei and Lo, 2006) reinforcing inequalities. For example, female users tended to use mobile phones to express affection to their families and male users for efficiency and practical purposes such as information seeking (*ibid*). Yet, policy discourses of mobile phones tend to exaggerate the social transformatory outcomes for women, often based on anecdotes and the experiences of female mobile phone sellers.

These experiences have left me with many questions and few answers which compelled me to explore a more theoretical and empirical understanding of agency achievements for gender equality ends enabled by mobile phones.

1.2 Research questions

Taking into account these motivations, my research aims to explore the extent to which mobile phones contribute to achieving gender equality. The overarching research question is framed as follows:

- To what extent can mobile phones contribute to gender equality through the expansion of women's agency? (discussed in chapter 7)

This main question is researched through the following sub-questions:

1. What spaces and capabilities do mobile phones open for the expansion of women's agency and what are the features of this agency (addressed in chapter 5)?
2. How is women's agency enabled and restricted by mobile phone use, practices and representations, and why (explored in chapter 6)?
3. What situational factors enable or inhibit the empowerment, emancipative and transformatory potential of mobile phones in relation to how gender equality is perceived (discussed in chapter 6)?

In addressing these questions the thesis applies the strategy and methods briefly outlined in the following section.

1.3 Overview of research methods

The research used a sequential mixed methods approach (quantitative to qualitative) so that interviews complement, develop and expand the survey findings. The initial quantitative part of the study establishes contextual issues such as socio-economic and demographic data of the participants and explores key features of agency enabled by

mobile phones through proxy indicators. It also investigates differences between men and women to inform the more detailed exploration of issues in the in-depth interviews. The subsequent qualitative part of the research investigates subjective gendered experiences of using mobile phones and sense-making of gendered outcomes to establish how agency is enabled and constrained.

Narrative and thematic analysis was applied to the data to help elaborate upon the statistical findings by way of explaining the lived lives and experiences of the research participants. Narrative is a form where individuals provide stories about their lives (Creswell, 2003), has a distinctly 'interpretive' character (Colombo, 2003) and is arguably the 'best way of representing and understanding experience' (Clandinin and Connelly, 2000:18). Narrative helps explain why people think and behave in the way they do (Polkinghorne, 1988 cited by Clandinin and Connelly, 2000:15). This is important for establishing agency actions that might signal shifts in gender relations.

In considering my positionality, my place in the research process, as a Ugandan Briton I had both an insider and outsider stance, both privileging and distancing with complex implications. My unique mix of class, gender, ethnicity, nationality and other social identifiers positioned me culturally as similar to the research participants and gave me some understanding of the research context. However, my appearance, behaviour and education and the fact that I now reside in the UK also distanced me, flagged up axes of difference and raised issues of representation. At the outset, I was aware of the impact of positionality on the direction of my research (choice of methods, conduct of fieldwork and data interpretation) and the importance of considering this. I note my considerations of power, reflexivity and subjectivities in discussing my research design and choice of

mixed methods in chapter 3 and acknowledge here that knowledge produced in my thesis is situated in the complex social locations of me and my research participants.

1.4 Thesis argument

The thesis responds to over-optimistic assessments of what mobile phones can do for women's empowerment. Broadly, two discourses have dominated thinking around gender and mobile phones. A policy discourse situates mobile phones as a panacea or silver bullet to development challenges as noted by Wade (2002) and Aker and Mbiti (2010) respectively. The discourse is mainly framed in terms of economic empowerment and liberation leading to women's emancipation (Gill *et al*, 2010). A counter discourse challenges such assumptions and locates mobile phones as 'reality reproducing', excluding some groups (Ureta, 2008) and unable to leapfrog familiar development challenges, such as transforming unequal social relations of gender that perpetuate inequitable access to development resources. Schech (2002) notes that those who enthusiastically embrace ICTs tend to operate from a modernisation discourse, while sceptics are influenced by dependency and postcolonial discourses of development.

Research into gendered dimensions of mobile phone use in developing countries has revealed a complex and nuanced picture of access, use and impacts for women and men. Some research has revealed that some women have benefited economically from mobile phone ownership, using their phones to aid their businesses (Jagun *et al*, 2008) and enhance capabilities to achieve other 'functionings' (Sen, 2010). Other research has

pointed to the gender disparities in access (Scott *et al*, 2004; Gillwald *et al*, 2010), women's exclusion from mobile-enabled networks and services (Burrell, 2010) and worsening gender inequalities (Wakunuma, 2007).

In light of these contrasting viewpoints, mobiles for development (M4D) researchers have argued that there is still a need for more empirical research into mobile phone use and practices and the socio-cultural contexts in which these interactions are embedded to better understand this nuanced picture (Donner, 2008). Ling and Horst (2011:371), for example, explicitly state the need for more research into the broader factors at play in shaping mobile phone use, such as gender, culture and power differentials. This research seeks to contribute to this nuanced research on the gendered socio-cultural shaping of mobile phones and their use in human development.

The thesis argues that agency provides a useful conceptual lens to investigate processes and practices around mobile phones because, put simply, agency focuses on what people can and cannot do (Sen, 2010). However, the concept of agency is not simple and has been defined variously across and within disciplines, influencing how it has been applied to development studies. In explaining agency, its pre-conditions, influencing factors, manifestations, expressions and interplay with structures, different facets of agency are distinguished.

In light of numerous interpretations of agency, the thesis proposes a theoretical framework for exploring mobile phone-mediated agency, drawing on the capability approach infused with critical social theories and technological perspectives. It takes into consideration the following features in relation to mobile phones: agency context or

situational factors; agency capabilities; agency forms; and agency achievements. Agency situational factors refer to influences on mobile-phone mediated agency such as the material and human capital context, social relations, values, ideologies, culture and internal psychological resources such as motivations. Agency capabilities refer to those enhanced capabilities (entrepreneurial, functional, operational and networks) that provide the pathways for realising goals through mobile phone use and practices. Agency forms relate to manifestations of agency or agency freedoms that include a sense of control, autonomy and power to act; feelings of selfhood, consciousness and reflexivity; acts of decision-making, voice, participation, resistance and subversion that give rise to people's ability to act on what matters to them, their valued goals (Alkire, 2005). The agency achievements in the context of this thesis relate to those that support gender empowerment and greater equality manifested in multi-dimensional ways – material, relational and subjective – in economic, social and political spheres.

Thus, in the context of poor female street traders in Kampala, Uganda, the thesis argues that, whereas some mobile phone users negotiate greater gender equality in some areas of their lives, many are unable to extend their agency capabilities in key strategic aspects with regard to their businesses and political life. Many tend to use their phones for practical, social and operational functions rather than strategic functions. Women are also caught up in gendered ideologies that make it difficult to transform unequal gender relations and conflicting discourses of gender that pull them in different directions.

The thesis therefore concludes that agency mediated by mobile phones is constrained by unequal gender relations. While contemporary agency practices are perceived as fluid and diverse, involving freedom of choice, available choices are constrained by normative

gendered expectations and material circumstances. There needs to be more critical exploration of what agency means in the context of women's lives and deeper engagement with the contextual factors that influence how agency is expanded and constrained in order to understand better how mobile phones might contribute to achieving gender equality.

1.5 Contributions to knowledge, theory and policy

The thesis makes four specific contributions. First, its exploration of gender-agency-mobile phone relations adds weight to the body of knowledge regarding nuanced outcomes of M4D and ICT4D. It is argued that mobile phones empower women (Buskens and Webb, 2009), that is expand agency contributing to gender equality. Yet, the literature does not sufficiently engage with what this mobile phone mediated agency is, how it is played out and the contextual factors that influence it. Some literature has begun to explore these issues (*ibid*), but does not systemically consider the deeper meanings of agency and how different expressions or dimensions of agency are enabled and constrained. Agency is treated cursorily, uncritically and is not explained or defined.

Second, the thesis' theoretical contribution is the development of a broad theoretical framework within which gender-agency-mobile phone relations can be analysed. In drawing on feminist perspectives, the capability approach and broader sociological theories, this thesis provides fresh theoretical insights into the broad influences on agency that contribute to the complexities and tensions in its expansion. It illuminates

these through a taxonomical exploration of agency and the reconceptualisation of agency for gender equality objectives as a capability set, a subject positioning and involving a web of relations in which both men and women are complicit to show that agency is nuanced, temporal and situated. The case has been made for further theorisation in M4D and ICT4D literature (Andersson *et al*, 2012).

Third, methodologically, the thesis develops a method of analysis that combines narrative with discourse as an interpretive lens to explore systematically, interrogate and uncover hidden values and gendered ideologies that are 'black-boxed' into agency and mobile phone practices and representations that explain the gender differences reported in a survey. It has been argued that research is much needed that combines survey techniques that demonstrate gender differences in mobile phone use and practices with qualitative techniques that map out the conditions that generate these differences as well as their consequences (Burrell, 2010).

Finally, from a policy and practice perspective this thesis seeks to inform mobile phone driven development interventions targeted at women of the factors at play that explain women's limited or non-use of mobile phone services. The Uganda Communications Commission (UCC) has initiated several programmes to expand access to mobile services to women. However, these have failed in their intended objectives to reach out to women (Madanda *et al*, 2009). Non-governmental organisations (NGOs) such as the Grameen Foundation have successfully supported female entrepreneurship through mobile phone sellers in Uganda, but have found it challenging to persuade women to take up other m-applications they are developing. More generally, economic interventions directed towards women's economic empowerment can benefit from a more holistic

understanding of agency processes and the factors at play that the thesis explores. Having found little impact of mobile phones on the growth of women's micro-enterprises for example, Chew *et al* (2011) argue that further research is needed that pays greater attention to the specific factors that mediate the impact of mobile phones on the growth of small businesses. The policy implications of this research discussed in section 7.2.3 can inform such economic interventions and other programmes linked to Uganda's commitments to MDG3 to promote gender equality and empower women. The rationale is that not paying attention to gender inequalities excludes around half of the population from Uganda's development.

1.6 Thesis structure

Chapter 2 reviews perspectives on gender and mobile phones relevant to the study, arguing that insufficient attention is paid to the meaning of the expansion of agency in the context of mobile phone outcomes for women. It suggests that concepts and interpretive analytical frameworks from the fields of technology, development, sociology and gender can contribute to deeper understanding of agency processes. It evaluates the key concepts and theoretical perspectives that frame the research and outlines the theoretical framework guiding the research drawn from these perspectives.

Chapter 3 explains the research design, data collection and data analysis strategies, and the justification for their use to address the research questions detailed in chapter 2. It sets out the rationale for the overall mixed methods approach and considerations,

including the selection of data collection methods and development of research instruments. It also discusses the processes of data collection, data analysis and integration, ethical considerations guiding the study and the practical challenges encountered.

Chapter 4 introduces the socio-economic and demographic characteristics and biographies of the street traders who participated in this research and the wider social, political and economic context in which they inhabit. This chapter contextualises their lives in both their local setting and national contexts. The street traders' socio-economic characteristics, Kampala's spatial and socio-economic features and governance structures are described, and the mobile phone landscape explained and gender relations in Uganda outlined. It draws on my survey data, official statistics, personal communication and other studies on Uganda. The chapter also introduces the focus group discussants and individual interviewees.

Chapter 5 analyses the context and features of mobile phone enabled agency gleaned from the survey and focus group discussion data. It examines the social relations, material and human capital context of 102 male and female street traders, why they value mobile phones, the purposes for which they use them and what they report they achieve and benefit from mobile phones. Explanations are provided for the observed differences between women and men and the extent to which reported mobile phone uses represent material, relational and subjective dimensions of agency achievements that contribute to gender equality.

Chapter 6 argues that the spaces, identified in chapter 5, through which mobile phone mediated agency is negotiated are influenced by gendered values and relations which are played out through men and women's positioning in relation to markets, the state, self, family and community. It explores in more depth the contexts and features of mobile-phone enabled agency identified in chapter 5 applying a thematic and narrative interpretive lens to six female street traders' life stories and embedded discourses. It concludes by demonstrating how entrenched gender ideologies and fluid discourses limit the potential of mobile phones to help transform unequal gender relations.

Chapter 7 discusses the key findings and conclusions of the thesis in light of the research questions and the theoretical perspectives that informed the study. It argues that the extent to which mobile phones can help enhance women's agency is influenced by situational factors that frame the context. Values and motivations are important influences on women's mobile phone mediated agency and these are gendered. Mobile phones enhance capabilities within the confines of such situational factors and mediate different forms of agency that are both constrained and enabled by gender giving rise to complex and contradictory effects. Agency mediated by mobile phones provides important steps towards gender equality, but this depends on whether this is desired and the wider web of relations and processes that structure social life. The implications for theory, methodology, policy and practice of consequence to women's agency are also considered. The chapter also proposes further avenues for research arising from my study.

2. Researching mobile phones for gender and development objectives

Introduction and overview of the chapter

There is a well-established division between those who consider mobile phones as enabling greater gender and other social equalities and those who consider them as reinforcing inequalities with empirical evidence split both ways (Buskens and Webb, 2009; Jagun *et al*, 2008; Wakunuma, 2007). More nuanced views recognise that mobile phones can, in different contexts, be associated both with greater gender equality and entrenchment of existing inequality (Chib and Chen, 2011; Murphy and Priebe, 2011). A problem with much of the existing literature is that it often fails to unpack gender or social inequality sufficiently, focusing on specific and reductionist dimensions. In order to understand the multi-dimensional nature of gender inequality it is important to turn to other literature, such as the literature on gender empowerment and socio-technological relationships.

The main gap in literature on technologies, ICTs, mobile phones and gender, however, is that it fails to capture the dynamics of gendered power and social relations, dynamics which are driven by possibility and constraint. My thesis attempts to fill the gap by demonstrating how a capability perspective inflected with a feminist and critical social theory lens can form the basis of a deeper investigation into the dynamics of agency

processes. The dynamics can be investigated through examination of how people are able to act and behave in their use of mobile phones and how they exhibit, develop and use their capabilities and agency.

This chapter reviews and evaluates gender, capability and agency perspectives pertinent to my study of mobile phones, the key areas that inform the resultant theoretical framework. The chapter is structured as follows. The first section reviews perspectives on gender and mobile phones that elucidate gender inequality and demonstrate the importance and relevance of gender as a concept, lens and objective for development. It suggests that each perspective contributes to an understanding of gender issues, but is not sufficient on its own to explain the depths of gender inequality and the complex processes of possibilities and constraints for agency enabled by mobile phones.

The second section locates my study within a human development perspective. It notes contending economic perspectives and argues that the capability approach provides the most useful analytical space within which to explore nuanced relationships between gender and mobile phones, in the context of development objectives. It then goes on to review the literature on mobile phones and capabilities in developing countries, highlighting how the relationship between capability and mobile phones has been conceptualised, mainly through the key foci on information, knowledge, communication and networks as the proximate pathways through which mobile phones enable other capabilities and facilitate agency. It draws on broader information, knowledge, communication and network theories to illustrate how information and network capability sets are gendered.

The third section outlines how agency has been conceptualised in the capability approach. It argues that while the capability approach offers an attractive starting point for analysing agency, there are under-explored areas of relevance to this research that other conceptualisations of agency by critical social theorists can extend or deepen. It highlights these perspectives, noting the consequences of different types of agency and their forms, and the important place that emancipation, values, identity, networks and gender occupy in agency processes of relevance to gender equality objectives. It also presents the research questions of the thesis.

The fourth section, drawing on the capability approach, adds a feminist and social critical theory lens to build a theoretical framework within which my thesis seeks to investigate mobile phone mediated agency of female street traders and the possibilities and constraints presented for greater gender equality.

2.1 Gender and mobile phones

For my thesis, four key approaches are important for examining gender inequalities in the assessment of the relationship between gender and mobile phones: (1) feminist and gender perspectives that explain gender conceptually; (2) perspectives that demonstrate gendered differential mobile phone access and use patterns; (3) current empowerment perspectives that emphasize the potential of mobile phones to alter unequal power relations between men and women; and (4) socio-technological perspectives that demonstrate how gender is embedded within socio-technical processes to foreclose or open up spaces for agency. However, I argue that each of these perspectives offers

useful, but partial or incomplete insights into gendered processes of mobile phone practices.

2.1.1 Feminist and gender perspectives

It is often assumed that the application of technology is gender neutral and that the benefits of ICTs accrue equitably amongst individuals within communities (Hafkin and Huyer, 2002). Yet, gender is implicated in social processes such as mobile phone use in institutional and constructivist[6] ways. A poor understanding of gender equality and inequality has meant that gender is either overlooked in analyses of the take up of mobile phone services (m-services) (for example, Commonwealth Telecommunications Organisation and Ericsson (2008) with respect to Uganda and Kenya) or that gender analyses of mobile phone use (for example Meso *et al*, (2005) in the case of Kenya and Nigeria) are unable to fully capture or uncover hidden deeper dimensions of inequality as the subsequent perspectives on gender equality demonstrate.

The notion of gender equality has its roots in second wave feminism that politicised women's interests and contributed to the institutionalisation of gender equality (Marques-Pereira and Siim, 2002), but the meaning of gender has changed over the last thirty years. Gender as a field of enquiry is generally[7] critical in its orientation, as it engages with challenging unequal social arrangements, creating fairer ways of addressing exclusion and supporting female agency. It inevitably involves identifying how social

[6] Here I mean sharply focused on institutionalisation or construction processes relating to gendered norms, but they are not mutually exclusive.
[7] Generally, but structuralist feminists would argue that the liberal feminist perspective is not critical of structures and that their undue focus on rational choice is not unproblematic.

perceptions and institutions that perpetuate gender inequality are constituted and changed. Gender inequality in my thesis refers to socio-culturally constructed disparities between men and women that result in disadvantages in life outcomes, power, participation and resources.

Over the years, feminists and gender advocates from across disciplines have made great contributions to understanding gender, as a social construct, sociological concept, social institution, intersectional experience, performative act, discursive representation and as a political project (Butler, 2004; Fukuda-Parr, 2003; Jackson and Scott, 2002; Kabeer and Subrahmanian, 1999; Okin, 1996; Crenshaw, 1991; West and Zimmerman, 1987). Gender within specific perspectives is viewed as a construction of identity and experience in relation to family, other people, cultural practices, social class, socio-political systems, sexuality, geographic location and physical and mental abilities. As such gender is experiential, lived and experienced differently depending on one's age, class, ethnicity, nationality and sexuality and their intersections (*ibid*).

Conceived as the social institutionalization of sexual difference, gender also denotes a hierarchical division between women and men embedded in both social institutions and social practice (Jackson and Scott, 2002; Okin, 1996). It is a structural phenomenon that is produced, negotiated and sustained at the level of everyday interaction (Jackson and Scott, 2002). As such:

> 'A sociological understanding of self and identity must however go beyond merely recognizing differences and consider the social contexts in which identities are forged through interaction with others and through reflexively constructed biographies' (*ibid*:21).

Within development practice, a focus on social contexts has included social institutions and relations as a key unit of gender analysis for planning change. One broad perspective of gender views gender inequality as embedded in institutions that include the family, household, community, kinship, markets and state (Connell, 2011; Kabeer and Subrahmanian, 1999;1996) and their arrangements. In this view, gender inequality is experienced through exclusion from key development resources and processes via social relations embedded within formal and informal institutions.

Social relations are regarded as a relationship between individuals and their social world, governing men and women's resources and activities and how these are reproduced within institutions (*ibid*). Institutional approaches to gender inequality have been twofold. One approach is to try to reduce inequality within existing institutional arrangements; the other is to demand a complete overhaul to accommodate gender and social justice (Rao and Kelleher, 2003; Goetz, 1997; Razavi, 1997). These perspectives have emphasised agentic action with respect to relational and material dimensions of gender equality achievements.

A second broad perspective, associated with postmodernism, interactionism and constructivism, emphasises construction of gender difference. Butler (1990) has pointed to the need to consider gender as performative acts. Gender performativity is a term coined by Butler (1990) to signify how individuals become gendered through reiterated performances of masculinity and femininity. Normative and regulative practices and conventions establish being a woman or a man. Gender is also enacted and reproduced through discourse: 'doing gender'. Discourse is conceived 'as a set of ideas, concepts and rules about how one thinks and talks about a topic, as well as the knowledge a group,

institutions, society or culture has about that topic' (Yates, 2004:233) and 'as a system of representation' (Hall, 2004).

Gender may be regarded as a particular discourse, a set of overlapping and often contradictory cultural descriptions and prescriptions through which subjects are constituted through an on-going disciplining process (Van Zoonen, 1992). As noted by Edly (2001:191): 'In terms of gender, discourse would encompass a whole range of symbolic activities that include dress, consumption patterns and ways of talking'. Discourses also highlight 'the substantively linguistic and discursive nature of social relations of power' (Fairclough and Wodak, 2004:366) so warrant some attention. The concept of discourse also refers to certain understandings or patterns of thinking[8] which manifest themselves in discussions, documents and the media. Baxter and Montgomery (1996) have argued that social life is a process of contradictory dialogues which they refer to as relational dialectics, making discourse a viable conceptual tool for explaining the nuanced aspects of gender and mobile phones relations.

Everyday, taken-for-granted discourse helps to provide a critical understanding of how gender marks discourse and encodes power through gender ideologies. Sapsford (2006:260), drawing on its politicised sense associated with the work of Karl Marx, explains one sense of ideology, as:

> 'characterised very simply as a set of propositions that are taken as defining what life is like and how one should act within it – that describe what we take for granted about it and define how we should feel and act – that purport to define the interests of one group but in fact work in the interests of another and more powerful group'.

[8] For example, 'privileging of appearance', 'nurturing' and 'permissive' discourses (Sunderland, 2004).

As Van Dijk (2006a:115) notes, ideologies, as a basis of a social group's self-image, organise its identity, actions, aims, norms and values and resources as well as its relations with other groups, and that ideologies 'are expressed and generally reproduced in the social practices of their members, and more particularly acquired, confirmed, changed and perpetuated through discourse'.

Gender ideology refers to attitudes about the appropriate roles, rights and responsibilities of men and women (Kroska, 2007) in familial, economic, political and social domains. Constructions of gender ideology range from traditional, conservative, or anti-feminist to egalitarian, liberal, or feminist (*ibid*). Traditional gender ideologies emphasise the value of distinctive roles for women and men according to a traditional gender ideology about the family; for example, men fulfil their family roles through instrumental, breadwinning activities and women fulfil their roles through nurturing, homemaker, and parenting activities. Beliefs in separate spheres, for example, that there is some work that is men's and other that is women's are also typical gender ideologies (Davis and Greenstein, 2009). Male decision-maker ideologies where men dominate decision making in the public and private spheres are other examples. The acceptance of male privilege, through the prioritisation of boys education over that of girls, son preference, or beliefs that men make better political leaders than women, are further examples (*ibid*). Egalitarian ideologies regarding the family, by contrast, endorse and value men's and women's equal and shared breadwinning and nurturing family roles. Gender ideology also refers to widespread societal beliefs that legitimate gender inequality (Kroska, 2007). Lorber (1994:30) defines gender ideology as 'the justification of gender statuses, particularly, their differential evaluation'.

When gender is regarded as an achievement through performative acts, discourses and ideologies, it provides conceptual insights into changing gender relations as a result of mobile phones practices. West and Zimmerman (2009:114) argued that gender has an achieved rather than ascribed status 'moving masculinity and femininity from natural, essential properties of individuals to interactional, that is to say, social, properties of a system of relationships'. Thus, they conceptualised gender as an on-going situated process of 'doing' rather than 'being' that is enacted in institutional arenas (*ibid).* West and Zimmerman (1987:126-127) maintain:

> 'When we view gender as an accomplishment, an achieved property of situated conduct, our attention shifts from matters internal to the individual and focuses on interactional and, ultimately, institutional arenas. In one sense, of course, it is individuals who "do" gender. But it is a situated doing, carried out in the virtual or real presence of others who are presumed to be oriented to its production. Rather than as a property of individuals, we conceive of gender as an emergent feature of social situations: both as an outcome of and a rationale for various social arrangements and as a means of legitimating one of the most fundamental divisions of society.'

'Undoing of gender' is both Butler's (2004) and West and Zimmerman's (2009; 1987) solution to gender inequality which entails disrupting restrictive, normative conceptions of gender and emphasises relational, subjective and subversive dimensions of agency. Although Butler's conceptualisation of gender identity has been critiqued (Fraser, 1995) over concerns as to whether her meaning of performativity enables or forecloses agency, it enables the exploration of discursive agency in every-day life. And although West and Zimmerman have been critiqued for ignoring the links between social interaction and

structural change (Deutsch, 2007), the production and subversion of gender in everyday activities strongly informs my analysis.

To reconcile these diverse perspectives on inequality, Connell's (2009) model provides a theoretical framework to deepen the gender analysis of mobile phones, drawing on both institutional and constructivist perspectives. Connell's (2009; 2006) theory of gender relations maintains that society is structured according to a 'gender order'[9] that is both composed of and interacts with individual 'gender regimes'[10] which in turn interrelate and conflict with each other. Gender regimes feature from the institutional to the individual level, influencing daily gender relations with direct interactions between women and men. Everyday constructions of gender are determined by structures in social relationships, defining possibilities and consequences for action. Gender relations involve four structures: production, reproduction, socialisation, and sexuality. These structures interweave, intersect and condition each other and other structures of inequality, such as race and class. These multiple structures affect gender relations and reinforce masculinity and femininity discourses, created through historical processes (Connell, 2011) and reproduced through norms, interactions and institutions. Connell (*ibid*) argues that moving towards a gender equal society involves changes within institutions, everyday life and personal conduct.

Gender equality is a political project (UNDP, 1995 cited by Fukuda-Parr, 2003:309) in that it involves reforms in contexts where men and boys act 'as gatekeepers for gender equality' (Connell, 2011:7) and have privileged access to and control of most of the

[9] The whole societal pattern of gender relations (Connell, 2006).
[10] The configuration or pattern of gender relations that is the state of play within a particular setting or institutional site (*ibid*).

resources in developing countries. Gender equality achievements in development are realised through women's repositioning in relation to their self, family, community, the market and the state as the principle institutions through which gender inequality is enacted and produced. The following subsection reviews literature that illustrates how gender inequalities are constituted in relation to mobile phones in terms of women's informational and material disadvantage.

2.1.2 Mobile phones and inequality perspectives

The relationship between gender inequality and mobile phones has been constructed in two ways. First, approaches that seek to expose gender inequalities in access, use, practices and outcomes. Second, are perspectives that regard mobile phones as an empowering tool that redresses gender inequalities in economic, social and political spheres (discussed in subsection 2.1.3). However, robust research into gender and mobile phone practices and outcomes in developing countries is nascent. Much of the available gender disaggregated data on ICT and telecommunication access and use focuses on Organisation for Economic Co-operation and Development (OECD[11]) countries and the observed narrowing of gender gaps in these wealthier countries cannot be assumed for poorer countries (Hafkin, 2003a; 2003b). Barriers in women's access to mobile phones remain in low and middle income countries, with women 23% less likely to own a phone in Africa than a man and thus fewer prospects for benefitting from the use of mobile phones and associated services (GSMA, 2010:17).

[11] Twenty relatively wealthy countries that have signed the OECD convention to promote policies that improve the economic and social well-being of people around the world.

The observed gender differences in access and use across poor countries can be contradictory, probably because of the small size of samples used. For example, the analysis of diverse data on gendered digital divides in Africa by Huyer *et al* (2005) suggests that men have greater access to mobile phones in South Africa. In contrast, another analysis of South Africa suggests that women have more access to, and use mobile phones more than men (Samuel, *et al*, 2005), contradicting Huyer *et al* (2005).

Such analyses have been conceived largely in terms of differential access and use. Yet, the explanation of how difference translates into inequality has not always been explicit or consistent (Burrell, 2010). This is exacerbated by the tendency to portray the mobile phone as an *end*, rather than a *means* to specific social improvements, such that any lesser degree of access and use is registered as disadvantage. The tendency has been to rely on survey techniques that lean towards measures such as 'frequency of use' that are straight-forwardly attainable and amenable to comparison between men and women and cross-nationally. Alternative methodological approaches that take these measures and begin to map out the conditions that generate such differential access and use as well as their consequences (Burrell, 2010:232) are needed. It has been argued that gendered experiences of mobile phones should take into account the socio-cultural contexts of mapping difference to consequence (*ibid*) through greater use of ethnographic techniques (such as interviews and observations).

Poverty-focused research has highlighted women's informational and material disadvantages in mobile phone practices. Women's informational disadvantage and disproportionately lower technological capacities and capabilities limit the benefits that mobile phones enable. Scott *et al*'s (2004) study of gendered mobile phone use among

low income communities in Uganda highlighted technical functional (lower awareness of functionalities) and financial constraints for women. It also suggested that costs of calling other networks and a lack of understanding of how to use phones were significant barriers for women leading to a weaker intention to use mobile phones in future.

Women's informational and material disadvantages have been explained in terms of their human capital constraints relative to men. Blumenstock and Eagle's (2010) research in Rwanda found that phone owners tended to be considerably wealthier, better educated, and more predominantly male than the general population. Equally, Gillwald *et al*'s (2010:iii) study of ICT usage in 17 African countries found that gender is a factor because of socio-economic predispositions of women, such as human capital disadvantages. It explained gendered differences in mobile phone outcomes in terms of women having less access to money, employment and education, factors that increase the likelihood of ownership and access to mobile phones. Gillwald *et al* (2010) also found that although men spent more money on mobile phones in absolute terms, women tend to spend a larger proportion of their monthly income on mobile phone usage.

In addition, Hilbert's (2011) analysis of data sets from 12 Latin American and 13 African countries from 2005 to 2008 suggested that controlling for variables such as women's unfavourable conditions with respect to employment, income and education, women's use of mobile phones is actually higher than that of men. Hilbert (2011) argues that it is long-standing gender inequalities in employment, income and education that lead to gender differences in mobile phones rather than persistent counter-arguments that women are less technically savvy, more technophobic, and that technology is not built for their needs and intuition.

A study of the role of mobile phones in reducing poverty in Eastern Africa (Mascarenhas, 2010), concluded that although mobile phones had the potential to reduce many dimensions of poverty, the most important benefit was to communicate and be connected, and that mobile phones were used mainly for social purposes, calling friends and family members. Other studies also suggest that mobile phones are valued, but not used to address poverty (Murphy and Priebe, 2011). The distinction made is that some mobile phone uses might be valued, but yield little productive or emancipative benefit. Other uses might be valuable in term of development achievements, but might not necessarily be valued or appreciated by individuals.

An important finding of Mascarenhas' (2010) study is its identification of the financial and human capital capabilities that are needed for the effective use of mobile phones which raises important questions regarding the costs and risks to women associated with mobile phones where they have lower material, financial and human capital. ICTs are claimed to present opportunities for democratic participation, productivity and efficiency, creativity and intensification of voice capabilities (Gurstein, 2003). However, there is sometimes a gap in the mobile phone users' capacity to seize the opportunities that mobile phones present or to make effective use of them, particularly women in terms of their informational and material disadvantages. Gurstein (2003:3) defines effective use as 'the capacity and opportunity to successfully integrate ICTs into the accomplishment of self or collaboratively identified goals', but emphasises productivity and emancipative uses. This conceptual understanding of the term 'effective use' draws on notions of pre-conditions and readiness. Gurstein argues there is a need to move beyond access to technology to

making effective use of it for productive, wealth creating, transactional processes or the purposes that individuals might set themselves.

Financial barriers to the effective use of mobile phones remain, as mobile phone practices illustrate. Mascarenhas' (2010) study found differential mobile phone use between men and women in that beeping[12] was used more by the poor and by women. This emergent economic power dependent (Kriem, 2009) mobile phone practice reflects women's materially disadvantaged position. Castells *et al* (2007) also remarked on this distinctive gender-related practice in African countries, noting that it was generally considered improper for a man to beep a woman. Women are also more likely to be sharers of mobile phones in Rwanda (Blumenstock and Eagle, 2010) and Uganda (Burrell, 2010) where social obligations and policing of use are concretised by this shared access (*ibid*).

A focus on access obscures what people can be and do (Nussbaum, 2003; Sen, 2001) with mobile phones. Benefits from mobile phones involve far more complex processes than mere access to a technological resource. However, much of the focus on gender and mobile phones continues to focus on access linked to the empowerment potential, as the next section discusses.

2.1.3 Empowerment perspectives

Much of the literature on mobile phones and gender inequality in developing countries has been framed in terms of empowerment with access to mobile phones presented as a

[12] Beeping is a form of signalling where a person calls and hangs up to indicate messages such as call me back, I am thinking of you or pre-negotiating meanings without paying for the call (Donner, 2008).

solution to unequal gender relations. However, often the key conceptual thrusts of these analyses are rarely defined or conceptualised and empowerment processes are poorly understood. Mobile phones are purported to advance women economically by increasing their economic resources and opportunities and ability to compete in markets. This comes about through increasing their productivity, creating new entrepreneurial ventures and opening up new income generating opportunities (Gill *et al*, 2010). Women's economic advancement is seen as important as it reduces poverty and improves welfare outcomes for children, families and societies (Gill *et al*, 2010). Perceived economic benefits accrued by female mobile phone services sellers (UNDP, 2012; Aminuzzaman *et al*, 2003; Barua and Diacon, 2003), have fuelled this particular promise of mobile phone-led development. Hopes that mobile phones can solve economic and social problems such as inadequate resources, employment and the marginalisation of women have been articulated in many policy statements (Gill *et al*, 2010), and mask the real inequalities that mobile phones magnify.

While much of the literature on mobile phones and women's empowerment has focussed on economic dimensions, a few studies have explored wider issues, arguing that mobile phones empower women in numerous other ways, if impediments to access and efficient usage are isolated. Chib and Chen (2011) argue that mobile phones:

- Increase women's involvement in decision-making, particularly over personal matters enhancing their self-confidence;

- Enhance their capabilities to obtain information to fulfil tasks and make better choices which result in greater community respect;

- Entitle women to a larger share of the value chain formerly dominated by middle men, transcending limitations imposed by class structures, location and culture. The resulting economic empowerment, through a process of psychological and social structuring, strengthens women's self-esteem and weakens traditional attitudes toward women;

- Can be used to redefine traditional gender roles towards greater gender equality, not only to promote practical efficiency but, to provide a tool for strategic social transformation.

Yet, critical perspectives highlight the ways in which mobile phones do not necessarily improve women's situation and may actually worsen it. Negative outcomes of mobile phones have been observed. Diga (2008) found that in Uganda, poor households tended to sacrifice basic needs such as sanitation, travel and food to finance mobile phone use, believing that they were an investment that would improve their job and income opportunities in the long run, but did not have the capacity to materialise these aspirations. The study also found that mobile phones increased men's control over women, in particular in relation to their phone usage and that women were not able to use the phones productively. Wallis (2011) found that mobile phones were used to keep female workers under surveillance in China. Murphy and Priebe's (2011) study of gendered dimensions of phone usage of urban migrants with families in rural Western Kenya found that mobile phones served as divisive forces, aggravating inequalities; through privileging the better off and educated while disadvantaging women.

Blind-spots in assessments of mobile phone empowerment outcomes have also been highlighted. Selinger's (2008) analysis of village phone (VP) proprietors in Bangladesh illustrates the empowering and disempowering aspects of the VP programme. She contends that positive assessments of the outcomes of such programmes measure how well individual preferences are satisfied from a limited perspective and do not register several aspects of lived experience, such as whether women are at liberty to give honest answers; endure oppressive encounters to maintain borrowing and obtain income from phone businesses or achieve better social and familial standing and comparatively better quality of life at the expense of political agency. Selinger (2008:41) concedes that phones offer new opportunities for agency, but that female proprietors are unaware of the extent to which their behaviours are compromised as VP programmes instil 'simultaneous relations of independence and dependence'.

The complex, contradictory and incomplete role mobile phones play in women's empowerment processes might be better or more holistically understood through the notion of dialectical tensions: 'as a woman attempts to incorporate mobile phone benefits into daily life practices, oppositional forces act as a constraint' (Chib and Chen, 2011:490). Mobile phone users are active agents who manoeuvre social constraints to reap benefits from ICTs, but tensions result from oppositional pulls within their lives.

Not many analyses explore these tensions, but the Gender Research in Africa into ICTs for Empowerment (GRACE) research project does. Whilst seeking to focus on the positive aspects of mobile phones, project researchers found conflicting and contradictory outcomes of mobile phones. The GRACE qualitative research project, rooted in a focus on women's agency and social change, firmly placed mobile phones and other ICTs as tools

for empowerment (Buskens and Webb, 2009:ix and 4). However, its weakness was its failure to define and conceptualise agency, which might explain its contradictory findings.

Nevertheless the GRACE research project raises the question of the extent to which mobile phones mediate agency, as an expansion of power, to help achieve gender equality. Some contributors attributed mobile phones to transforming women's agency through incremental stages whilst others stated that they simply accompany or reinforce prevailing unequal economic and cultural exchanges, or introduce new forms of control of women. Other nuanced analyses in the GRACE project revealed the complexities of mobile phone outcomes on the expansion of women's agency. For example, Sane and Touré (2009) illustrated how female Senegalese fishmongers and processors in Dakar strengthened their self-sufficiency through the use of mobile phones, questioning the traditional power of men at home and transforming gender relationships. This happened through a redefinition of their traditional roles by becoming family breadwinners and challenging traditional ideologies of women as dependent. They noted, however, the tensions this caused and male resistance.

Within the same project, Munyua's (2009) study of female Kenyan entrepreneurs in Nairobi revealed how mobile phones facilitated efficiency in managing micro-enterprises and domestic responsibilities, but reproduced patterns of gender socialisation and segregation. Mobile phones provided female entrepreneurs a sense of control and improved their networks with friends and clients and access to money transfers, but blurred private spaces causing gender tensions, destabilised marital relationships and also led to men controlling women's use of phones. Munyua (2009) raised the issue of the meaning of women's empowerment where women's preferences reflect internalised

notions of what it is to be a woman in a particular cultural context, that is, the context to which they can help transgress entrenched values of self that perpetuate gender inequality.

These GRACE studies conclude that mobile phones helped to a point, but that consideration of the wider cultural context was necessary, for example, cultural norms, values and ideologies. But the research project raises questions about the definition of the expansion of agency and the need to deal with individual variability as internalised preferences and values. It also suggests that mobile phones are relevant, but insufficient, in expanding women's agency for gender equality achievements.

Interrogating the empowerment outcomes of mobile phones is complex. As Beşpinar (2010) suggests, women's empowerment is multi-dimensional and located within the intersection of the possibilities and constraints of structures and individual agency. There are multiple structures within societies that influence individuals' agency (Bourdieu, 1997 cited by Beşpinar, 2010:524). Broader analyses of women's empowerment highlight the limits of assuming substantial, wider changes in gender relations arising from specific interventions. The literature on income generating interventions for women (Haile, Bock and Folmer, 2012; Kabeer, 2005; Mayoux, 2002), girls' access to education (Aikman and Unterhalter, 2005; Stromquist, 1990) and women's employment gains (Horrell, Johnson and Mosley 2008) demonstrate that a focus on one or a few tools (micro-credit schemes, girls' access to education or employment), whilst important, is not sufficient to fully empower women. The multi-dimensionality of empowerment (Narayan, 2005; Malhotra *et al*, 2002; Rowlands, 1997) requires a multiplicity of tools, conditions and opportunity structures. Gender relations within the household and wider environment can constrain

and facilitate the processes of empowerment and the exercise of strategic agency during the execution of gender equity interventions (Johnson, 2005; Mayoux, 2002). For example, Litho's (2007) study of an ICT project in rural Uganda showed that, despite the benefits mobile phones and other ICTs afford to women, cultural issues limited the empowerment potential.

While the current empowerment focus is useful for framing my study, there are four conceptual weaknesses: (1) insufficient attention is paid to how the power relationship between mobile phones and gender are constructed through socio-technical processes; (2) there is undue focus on economic empowerment at the expense of other dimensions of human development; (3) agency is not adequately explained theoretically or holistically conceptualised; and (4) agency is narrowly defined and does not explore how power relationships are built through information, knowledge and networks. Constructed narrowly without due regard to socio-technical processes, such a focus under-explores and under-defines the role that mobile phones play in both shaping and being shaped by gender relations. The following sub-section explores the contributions that socio-technological perspectives make towards framing my study.

2.1.4 Socio-technological perspectives

Socio-technological perspectives explore social and technological processes in relation to the role of technology in society and its appropriation. Technology has been theorised in several ways which has implications for the ways mobile phones are evaluated and assessed in the context of gender and development objectives. A socio-technological reading of gender and mobile phones conceptually enriches an understanding of how

gender becomes intertwined into socio-technical processes to foreclose and open up agency around gender equality and reinforce inequality through use and associations with mobile phones. Social constructivist approaches to technology illuminate relational processes showing how gender is black-boxed[13] and inscripted[14] into mobile phone practices. Studies of gender-technology relations (Bijker and Bijsterveld, 2000; Grint and Gill, 1995; Wajcman, 1991; Cockburn, 1985; 1983) explain how technology and gender relations intertwine through meanings and uses of technology. Their key argument is that gender identity and roles mean that men and women use and benefit from technologies differently. As Lohan (2001:189) points out:

> 'Technology is a significant site of gender negotiations where both masculine and feminine identities are constructed and deconstructed. Technologies are incorporated into our gender identities in the way we negotiate them as part of our own – mine or not mine – feminine and masculine. By interpreting their usage in our lives, they become part of the gendered division of labour and, through social relations, technologies are assigned gendered symbolic values.'

Identities and subjectivities mediate access to and use of technologies through a process where power relations are negotiated (Ormrod, 1995). Subjectivities refer to individuals' interpretations of their experiences and their consciousness of the causes of their experiences. The symbiotic relationship between people, systems and technologies is evident when discursive arrangements are deconstructed. However, discourses and discursive arrangements are never clear-cut and are in constant flux, and influenced by

[13] A metaphor used in science and technology studies to refer to social and cultural practices involving science and technology and applied by researchers (e.g. Grint and Gill, 1995) to describe the mutual construction of technology and gender in its development and use.

[14] Gendered inscriptions of mobile phones and gendered discursive practices around mobile phones shape outcomes. Often unintended, mobile phones are gendered through their design, development and social uses through inscription (Shade, 2007). Gender scripts may be regarded as the representations or constructions of gender relations and identities that are inscribed into mobile phones through their domestication.

the context. Cook's and Isgro's (2005) exploration of the relationship between ICTs, agency and development stresses the importance of context in these arrangements.

Other feminist socio-constructivists explain gender inequalities as a consequence of network effects of power, tracing interests that collude to maintain gender-biased systems (Corrigan and Mills, 2011). Actors and networks to which they belong are driven by gendered interests that build toward enrolment in particular networks over time. Gender inequality is supported and maintained by both men and women through actions around mobile phones. Closely examining men and women's mobile phone activities uncovers how technological practices are socially constructed to privilege men and disadvantage women (Hunter and Swan, 2007; Singleton, 1996; Berg and Lie, 1995). Male power and female subordination are constructed in thes practices (*ibid*).

As observed by Ling (2004:22), 'relatively new technologies – such as mobile telephony – are more available for reinterpretation. The time, place, reasons for use and way they are used are, in many ways, more open than in the case of the more thoroughly established technologies'. This implies that there is potential to influence all stages of technological processes for social change (Bell 2010; Berg and Lie, 1995), including gender equality objectives. Thus, it is important to examine those formalised and less formalised processes through which gender inequality is reinforced. These processes are often hidden or assumed – or blackboxed in mobile phone use. Through analysis of men's and women's uses, practices and what mobile phones symbolise to them, it is possible to investigate the ways in which men and women become decision-makers, are given power, take on different identities and become network-builders (Singleton, 1996).

The world is relational and socio-technological perspectives provide a conceptual framework to show how those relations work. Law (2007) explains the notion of discursive stability, where actors can take on multiple modes of ordering (roles and identities) that are mini-discourses. These discourses define the conditions of possibility, making some ways of ordering 'webs of relations'[15] easier and others more difficult and or impossible. Standard ordering strategies are easy to enact because they are known by the actors (for example, gendered values and ideologies) and contributes to stability. Each discourse sets a limit to its possibilities so cannot recognise certain kinds of realities, yet these realities exist and have to be handled (Law, 2007). It is this multi-discursive ordering that frames women's empowerment opportunities and constraints in their use of mobile phones.

Problematising the meanings and application of technology sheds light on the diverse emphases researchers can place on the centrality of the mobile phone as a tool or the users' actions and rationality and processes and systems involved in mobile phone practices, and ways to assess gender and mobile phone use and practices. A mobile phone is a specific type of technology in so far as it meets the typical five analytical descriptors of technology as: objects, knowledge, activities, processes, and socio-technical systems (Faulkner, Lawson and Runde, 2010; Terry and Calvert, 1997). First, it can be regarded as an object that performs a specific function to solve a problem or meet a need, a tool for communication and conveying information. Second it exemplifies knowledge in so far as it involves some know-how behind its use that are embedded in technical and gendered values. Third, it involves activities and embodies socio-cultural practices that include gender, in what people do, their skills, methods, procedures and

[15] Webs of relations imply a complex weave of relationships and interconnectedness through networks, processes and systems.

routines. Fourth, it is a process that involves a way of organising, of which gender regimes and gender order are a part. Fifth, it is a socio-technical system that is connected to other wider processes and systems, of which gender is part.

Having considered socio-technological processes, I note that gender and technology are co-constructed with risks and costs for women with respect to development objectives. Mobile phones and gender inequality perspectives demonstrate how gender disparities can be observed through statistical commentary, and further insights gained through qualitative analyses that explain these differences that expose the risks and costs. Empowerment perspectives draw attention to power embedded in social relations and its multi-dimensional forms. A gender lens brings a sharper focus on to the gendered order and regimes that perpetuate inequality. Bearing in mind how these differing perspectives illuminate the possibilities and constraints for achieving greater gender equality, I now turn to how development perspectives frame the role of mobile phones in society.

2.2 Capability

This section explores the relationships between mobile phones and development. It argues that the capability approach provides the best possible analytical lens through which to investigate the relationship between gender and mobile phones. This is because of the evaluative space it provides to capture the complex capabilities of individuals. A key strength is the approach's flexibility and considerable degree of internal pluralism that allows researchers to develop and apply it many ways (Alkire, 2002). However, I also

argue that use of the capability approach needs to be enhanced with a deeper understanding of networks, knowledge and information.

2.2.1 The focus on economic objectives

In the ICT4D and M4D fields, mobile phones have been largely researched in terms of solutions to development challenges. Yet, development is a value-laden and contested concept, both theoretically and politically (Sumner and Tribe, 2010), which translates into different research emphases and theories of change that have implications for how its relationship with mobile phones is understood. Two interlinked objectives have dominated development: economic growth and human development. While the two objectives are inextricably linked, as Ranis and Stewart (2005) demonstrate, choices over analytical focus, theories of change and thus policy prescriptions are made by ICT4D and M4D scholars. Analytical approaches can mask or overlook complexities of change, commanding particular conceptions of change with reference to particular traditions, leading to different lines of policy advice (Preston, 1996).

Most ICT evaluations have focused too narrowly on economic and tangible measures and quantifiable benefits overlooking important non-economic values and intangible benefits such as empowerment, self-esteem and social cohesion (Gomez and Pather, 2012). ICT4D researchers focused on economic growth have emphasised productivity and economic measures such as income, expenditure and consumption (Aker and Mbiti, 2010; DeMaagd, 2008). Measures of productivity are considered in relation to how mobile phones support broader national productivity, entrepreneurship, financial inclusion and

mobile banking, price discovery and sharing best practice information (Khalil *et al*, 2009; De Maagd, 2008).

At a macro-level, studies have demonstrated positive linkages between mobile phone penetration and economic growth in developing countries, drawing parallels to how landlines generated similar growth dividends in OECD countries (Waverman *et al*, 2005) through reduced interaction costs, expanded markets and information flows. Kefela (2010) makes a similar argument, suggesting that mobile phones in Africa are playing the same economic revitalisation role that fixed telephony did for developed countries in the 1970s. There is little evidence, however, to suggest that developing economies can leapfrog familiar development challenges to achieve comparable growth trajectories with the aid of ICTs or that mobile phones increase productivity (DeMaagd, 2008; Wade, 2002). De Maagd's (2008) study found that in the short term mobile phones can actually decrease productivity in developing countries.

Macro-economic growth analyses have also explored mobile phones in relation to their impacts on gross national product (GNP), gross domestic product (GDP) and foreign direct investment (FDI). Mobile phone penetration is often measured in terms of the growth in infrastructure through teledensities, number of service providers (ISPs) and number of mobile phones per capita (UNCTAD, 2010; Khalil *et al*, 2009). A focus on infrastructure assumes that benefits will 'trickle down' and bring about change. This is highly problematic as the recent history of development initiatives has shown. Assumptions that all countries would converge along a similar path of ICT infrastructure development and adoption result in indices such as the Digital Opportunity Index, the Digital Access Index and the Network Readiness Index (Galperin, 2010).

Mobile phones are regarded as a growth industry in their own right. Much emphasis is placed on commercialism, increased consumerism and the growth of mobile phone industries (new products, applications and services) and on how mobile phones can improve productivity and competitiveness (Gani and Sharma, 2003). However, while mobile phones and internet hosts have been linked to enhanced economic growth, competitiveness and FDI investment in high income countries (*ibid*), data or evidence of such positive correlations is unavailable for African countries. There is little evidence that investments in mobile phones boost economic growth at a macro-economic level (Aker and Mbiti, 2010).

However, other analyses have linked mobile phones to bringing about financial inclusion in turn leading to economic growth. Andrainaivo and Kpodor's (2011) investigation of the impact of mobile phones suggests that there are positive links between mobile phone penetration rates and economic growth. Their regression analysis of econometric data of 44 countries infers a positive link between ICT access, financial inclusion and economic growth. However, Duncombe and Boateng's (2009:1248) review of mobile phone and financial services research suggests that research in this area tends to be too narrowly defined, with the measurement of impact either comparatively neglected or lacking in 'deep theory'.

Business productivity has been the key focus for micro-economic studies which have illustrated how mobile phones are levers of economic growth through facilitating social exchange and economic activities. Jensen's (2007) and Abraham's (2007) studies of fishermen in Kerala established that mobile phone use enabled them to respond quickly

to market demand and prevent unnecessary wastage of the catch, through improved information flows. Middle men such as merchants and transporters were also able to take advantage of the flow of price information to take advantage of under-supplied markets. Aker's (2008) study of Niger grain markets concluded that mobile phone networks helped reduce grain prices for consumers and increased profits for producers. Chew *et al* (2011), however, find that mobile phones have little impact on micro-enterprises in India. Gani and Clemis (2006) do provide some evidence for positive associations between ICTs (including mobile phones) and economic wellbeing. By using non-income indices, consistent with Sen (discussed below), they were able to demonstrate impacts on economic well-being not captured by traditional or standard measures of economic change.

2.2.2 The capability approach

An emergent field aligned with the Human Development and Capability Association (HDCA[16]) has sought to explore non-economic values and intangible benefits. These studies are linked to the second development objective and paradigm that emphasises human dimensions of socio-economic change. The capability approach is the most established, exemplified by its prominence in UNDP's human development reports. These reports, published annually since 1990, use Sen's capability approach as their conceptual framework for analysing contemporary development challenges (Fukuda-Parr, 2003). Other human development perspectives include basic needs, participatory dimensions and human security issues.

[16] HDCA is an academic body that promotes research on human development and capability approaches.

Within the capability fold, Sen (2001), Nussbaum (2005) and UNDP (1990-2007[17]) 'have argued that development, as previously conceived, based on desire fulfilment, utility or consumption measured by a proxy for income, for example, GDP per capita, does not take sufficient account of the physical condition of the individual and a person's capabilities' (Sumner and Tribe, 2010:22). Capability is conceptually associated with freedom, opportunity, choice, skills, abilities, and resource access and maximisation.

The capability approach regards the freedoms of individuals as the basic building blocks of development and having the freedom to do what one values as the appropriate evaluative space for analysing development (Sen, 2001). Particular attention is paid to 'the expansion of capabilities of persons to lead the kind of lives they value – and have reason to value' (Sen, 2001:18). Central to this normative approach is the place values and agency occupy (discussed in section 2.3). As noted by Alkire (2008:2), 'Sen argues that agency - a person's ability to act upon what he or she values and has reason to value - is intrinsically valuable, instrumentally effective in reducing poverty, and of central importance'.

Mobile phones are regarded as freedom-enhancing and positive impacts are framed in terms of the increased freedoms they afford (Sen, 2010). Sen argues that the 'important issue is what we can do with these technologies that are available' (Sen, 2010:2). Some authors have made theoretical links between mobile phones and the internet and their interaction with capability (Kleine, 2011; Smith *et al*, 2011; Alampay, 2006b). Alampay's (2006b) field surveys of access and use of mobile phones and other ICTs in the Philippines applied Sen's capability approach to explore how differences (such as age, education,

[17] These refer to UNDP Human Development Reports available at http://hdr.undp.org/en/reports/.

income and rural or urban setting) influence capability sets in accessing and making use of mobile phones. Kleine's (2011) analysis of ICTs in Chile demonstrates how choice, agency and capabilities around ICT use impact on and are impacted upon by structures (ICT availability, affordability, policies and programmes) and co-constructed. Smith *et al's* (2011) analysis illustrates the contributions mobile phones make to the expansion of human capabilities through social, economic and governance networks.

Sen's capability approach has been praised for broadening the informational base of the evaluation of development, by refocusing on people as ends in themselves, rather than treating them merely as means to economic activity (Clark, 2006). The approach recognises human heterogeneity and diversity, through differences in personal circumstances. It draws attention to group disparities such as those based on gender, race, class, caste or age (*ibid*). It embraces human agency and participation by emphasizing the role of deliberation and practical reason and in making choices. It also acknowledges that different people, cultures and societies may have different values and aspirations (*ibid*).

Feminist perspectives have pointed out that the capability approach has enormous potential for addressing feminist concerns (Nussbaum 2003; Robeyns, 2003a), as gender equity and analysis are central issues in Sen's agency-driven paradigm (Fukuda-Parr, 2003). The capability approach explains gender inequality as a consequence of unequal power relations that lead to inequalities in capabilities and freedoms and regards women as agents of change through individual and collective action (Fukuda-Parr, 2003; Robeyns, 2003a). Gender equality achievements are achieved mainly through processes of empowerment that expand capabilities that include choice. However, Sen establishes

that overt preferences or choices of women can be constructed as adaptations within traditions of privilege and subordination (Nussbaum, 2003; 2005; Sen, 1995; 1990) and thus reinforce inequalities. Evaluating preferences or choices can therefore conceal what lies behind them (Peter, 2003). As such agency directed to these adaptive preferences is situated, for example, furthering the well-being of others, respecting social or moral norms or the pursuit of values (Peter, 2003). Therefore an evaluation of women's agency should take into consideration the specific motivations and constraints under which they act, their aims, objectives, allegiances, obligations, and their conception of the 'good' (Peter, 2003).

Sen's capability approach has also been critiqued for its vagueness in operationalizing research (Rawls, 1999). However, Gasper (2007) asks, whether the vagueness of the capability approach matters, as its under-definition allows everyone to perceive space for themselves in a project. It gives considerable freedom for people of varied backgrounds to grow out from a small kernel in diverse ways, according to their interests and skills (*ibid*) as has been demonstrated by ways in which the approach has travelled and been enhanced (Grunfeld *et al,* 2011; Kleine, 2011). It is particularly attractive for my research because of its emphasis on agents and, as summed up by Gasper (2007:339):

> 'The capability approach captures the intuitively attractive idea that people should be equal with respect to effective freedom... The idea attracts because it uses a picture of persons as agents who have their own goals (including not only for themselves), make their own choices, and are not mere receptacles for resource-inputs and satisfaction; who, in Aristotelian language, live through the exercise of practical reason.'

This agent-oriented view or 'agency driven' paradigm (Fukuda-Parr, 2003) allows some conceptual flexibility to explore diverse opportunities and challenges that poor men and women people face in relation to their mobile phones uses. This is worthwhile as mobile phones and ICT research continue to be under-theorised with calls for more conceptual definition, new theories and careful modification or adaptation of old theories, measurement strategies and qualitative analyses (Gomez and Pather, 2012; Heeks, 2010; van Dijk, 2006b) to provide a deeper understanding of the outcomes. Spence and Smith (2010) argue that further exploration of the intersections of ICTs and capabilities are needed. With these considerations in mind, I now turn to how the relationship between mobile phones can be conceptualised using the capability approach.

2.2.3 Capability-mobile phones nexus

Deep engagement with Sen's capability approach is still rare in ICT4D research (Andersson *et al*, 2012), and the sparse literature on mobile phones that engages with the capability approach (Gigler, 2011; Smith *et al*, 2011; Alampay, 2006b[18]) has not explicitly addressed gender issues or sufficiently engaged with agency. Nevertheless, the capability approach offers a useful lens for conceptualising the relationship between mobile phones, gender and development.

Rather than a specified theory, Sen's capability approach is a framework of thought (Robeyns, 2005) that can be applied to establish women and men's differential capabilities and functionings. In general terms it provides an evaluative space to assess

[18] Alampay's analysis extrapolates data by gender, but as gender is only conceptualised and operationalised as male and female differences in use and access, deeper constructions of gender are not the focus of the study.

mobile phone-led development in terms of the freedom to pursue and achieve development objectives. Sen (1999) establishes that the evaluative focus of the capability approach is twofold. First, are the realised functionings, which relate to what a person is actually able to be, do or achieve with regard to what they have reason to value. Second, is capability, the alternative combinations of functionings that are feasible for an individual to achieve. The focus of development is to increase individuals' capability sets (Kleine, 2010) with degrees of empowerment linked to choice in terms of existence, sense, use and achievement of choice (Kleine, 2011).

Functionings are observed through valued achievements (Clark, 2006), that is, the valued goals that are achieved. Capabilities are real opportunities, the things a person is substantively free to do in relation to contextual opportunities and individual abilities. While functionings are more directly related to living conditions (Zheng and Stahl, 2011), capabilities are notions of freedom that entail the real opportunities an individual has (Sen 2001). In other words, functionings are considered constitutive of realised achievements and fulfilled expectations; whereas the notion of capabilities represents a person's freedom to achieve well-being and refers to effective possibilities of realising achievements and fulfilling expectations.

Mobile phones can be conceptualised as a particular type of resource or tool that serves as a means and freedom to achieve valued goals. They form part of the capability set of the individuals that enables them to take advantage of other resources towards furthering their valued goals in life (Zheng and Stahl, 2011). The actual achievement of functionings is a result of personal choice, from the capabilities available, subject to

personal preferences and other decision-making mechanisms. Individuals might have some capabilities and not choose to use them.

It is recognised that the extent to which people can generate capabilities from resources is influenced by three sets of conversion factors—personal, social, and environmental (Sen 1992). Conversion factors refer to characteristics that enable an individual to convert resources or commodities into a functioning (Robeyns, 2005). Personal conversion factors include skills and intelligence. Social conversion factors cover public policies, social norms, discriminatory practices, gender roles, societal hierarchies and power relations. Environmental factors include the climate and geographical location (*ibid*). Thus these situational factors frame the context and conditions under which individuals use mobile phones to realise functionings.

As a resource, mobile phones may be considered as constituent of capability sets. Kabeer (1999:437-8) suggests that resources and agency constitute capabilities, and that the expansion of strategic life choices (empowerment) encompasses resources (including social relationships within family, community, markets and the state reflecting norms), agency (the ability to define one's goals and act upon them) and achievements (valued ways of being and doing). However, resources are also regarded as individual agency-based capability inputs which, combined with structure-based capability inputs, are converted into capabilities (Robeyns, 2003b). Taking Kabeer's (1999) interpretation forward, mobile phone-enhanced functionings entail a conversion from having and using the phone as a resource to exercising agency through choice and actions to realise outcomes (valued ways of being and doing) within the context of structural influences.

Mobile phones make some existing capabilities easier and faster, for example, information and knowledge generation and sharing, communication and networking. These are the key pathways to enabling other capabilities such as participation in political, social and economic networks that are important for development. Sen (2010) says little about mobile phones specifically, but it would be appropriate to conclude that informational, knowledge, communication and network capabilities are central to an understanding of mobile phone outcomes for men and women, the subject of the next sub-section.

2.2.4 Network and informational capability sets

Networks, communication, information and knowledge are central concepts to understanding mobile phone enhanced capabilities, yet their linkages with gender inequality and agency are not always sufficiently problematised. Generally, scant attention is paid to what they mean in real terms for what people can actually do, be or achieve. Access to networks, information and communication does not present men and women with the same possibilities and constraints, nor does it always mean that men and women can equally use them effectively. Networks, information, knowledge and communication mediated by mobile phones are also instrumental to building other capabilities and enhancing freedoms, but rarely are the pathways from network and information resources to capability adequately conceptualised in terms of what different groups can actually do with these resources or capabilities. I cover the concepts in turn to define them and illustrate how gender inequality is constituted in relation to them.

Networks

The role of networks in development processes is well acknowledged (Meagher, 2005), as is the facilitating role that mobile phones can play in developing and maintaining social networks and ties (Palackal *et al*, 2011). Social networks are regarded as enabling status attainment, coping strategies, social capital and collective action (Meagher, 2005), but are theorised variously as nodal structures of individuals and organisations (Palackal *et al*, 2011), representations of flow of information between individuals, organisations and ICTs (Boyd and Ellison, 2008; Kossinets *et al*, 2008) or socio-economic interactions (Molony, 2006). Mobile phone augmented networks are seen as altering users' capability sets through changing their positions relative to accruing development resources in two ways (Smith *et al*, 2011:78): '(1) increased access to timely and/or relevant information, and (2) expanded possibilities for connectedness between people'.

However, much of the research on mobile phones relating to networks does not explain their conceptual significance (Smith *et* al, 2011) or focuses on the structures and core properties of mobile phones' social networks (Palackal *et al*, 2011), with little attention paid to the cultural practice embodied in networks (Fuhse, 2009) that has implications for men and women's network capabilities. It is important to examine cultural practices embodied in social interactions to better understand networks (Fuhse, 2009). Social structure is composed of the mingling of cultural expectations, identities and social groups that determine the interplay of structure and meaning. As Fuhse (2009:51) outlines:

'Networks are configurations of social relationships interwoven with meaning. Social relationships as the basic building blocks of networks are conceived of as dynamic structures of reciprocal (but not necessarily symmetric) expectations between alter and ego. Through their transactions, alter and ego construct an idiosyncratic "relationship culture" comprising symbols, narratives, and relational identities. The coupling of social relationships to networks, too, is heavily laden with meaning. The symbolic construction of persons is one instance of this coupling. Another instance is the application of social categories (like race or gender), which both map and structure social networks.'

This conceptualisation is important in that it demonstrates that categories such as gender present different opportunities that affect transactions directly, by making certain transactions likely and others unlikely. As Fuhse (2009:66) notes, 'while the overall gender composition of personal networks does not differ markedly, men's and women's personal networks are structured in different ways: women typically have more kin in their networks, men have more friends and work colleagues. Even more marked is the tendency to form friendships with members of the same sex'. These differences in the structure of men and women's networks are relevant as they influence the types and amounts of benefits generated (D'Exelle and Holvoet, 2011). D'Exelle and Holvoet (*ibid*) suggest that this is on account of gendered divisions in labour and women's time poverty (*ibid*). Murphy and Priebe's (2011) study in Kenya also found that gender impacts on the size of networks as well as the underlying intent of the connection. Women tend to have fewer contacts. Their calling patterns reflect social networks related to marriage, family and community groups while men's reflect travel for work, family and leadership in formal social affairs.

The core concern of the social network approach is in understanding how social structures facilitate and constrain opportunities, behaviours, and cognitions (Tindall & Wellman 2001, cited by Carrasco *et al*, 2008:565). Social networks can be ascribed or achieved. An ascribed status is 'assigned' to a person by society without regard for the person's unique talents or characteristics. Generally, this assignment takes place at birth and racial background, gender, and age are all considered ascribed statuses. An achieved status is attained by a person largely through his or her own effort, through for example, going to school, learning a skill and establishing friendships.

Social ties are smaller than networks and refer to connections between two or more people. Granovetter (*ibid*) defined interpersonal ties in terms of the time, emotions and reciprocity invested in a relationship, typically friendship and familial relationships. Ties are often referred to as weak or strong. Weak ties (Granovetter, 1973), refer to people's relationships with acquaintances outside their social circle and involve more limited investments in time. My thesis argues that weak ties are more important in spreading information or resources as they serve as a bridge between disconnected social groups whereas strong ties lead to less efficient information transmission because the people know each other well (Granovetter, 1973). While other network analysts have pointed out that strong ties serve as bridges, their tendency to be redundant sources of information or resources remains a widely accepted tenet of structural theory (Ruef, 2002).

In Sen's reasoning, network capabilities would relate to what people can do, be and achieve with networks. Network capabilities are important for both the resources embedded in them and as a pathway to other wider networks. Smith *et al* (2011:78)

usefully categorise these wider networks as: (1) social networks which are extremely important for well-being, survival and security purposes, particularly for the poor (2) economic networks that include those connecting citizens and financial institutions, expanding market boundaries and improving supply chains, and (3) governance networks that increase access to government services, political mobilisation, election monitoring, early warning systems and crisis management.

As discussed previously, men's and women's differential capabilities for developing and sustaining different networks and ties have implications for what they can do and be within broader social, economic and governance networks in an increasingly 'networked world' (Castells, 2006), where social interaction is increasingly organised around electronically processed information networks. Mobile phones are an additional means through which to cope with greater frequency, more diverse forms and the greater 'complexity' through which social relationships are maintained (Schroeder, 2010; 2002). Such complexity adds to freedoms, but also constrains (Schroeder, 2010). Those with mobile phones are tethered in additional ways to their relationships, but have choices in relation to its varied social, economic and political uses (*ibid).*

A holistic perspective of social networks would consider individuals' decision-making and control over such networks as 'embedded in their constraints, such as particular spatial locations, temporally constraining sets of obligations (e.g. young children or demanding jobs), individual characteristics (e.g., income and age), and social structural attributes (e.g. network size and fragmentation)' (Carrasco *et al*, 2008:563). It would also focus on the potential and possibilities for transcending constraints and explore the extent to which individual decisions or actions depend on the choices and preferences of others within or

outside those networks. It would consider how information, knowledge and communication are constituted within networks and the agency that involves.

Information, knowledge and communication

Conceptually, ICT4D researchers have demonstrated the links between information and development, but rarely is the concept of information explored in sufficient depth to understand men and women's differentiated informational capabilities and functionings in relation to mobile phones. Yet, how information is conceived has implications for understanding individuals' real capabilities, possibilities of being, doing and achieving.

In Section 2.2.1 I discussed some of the positive claims regarding mobile phones and economic development. These and other positive claims that mobile phones are critical for development contain the implicit assumption that the networked information they enable translates into enhanced capabilities. The assumption, however, raises a number of critical questions: (1) What information afforded by mobile phones translates into real capabilities and for whom? (2) Do all informational capabilities lead to effective use and transformative outcomes? (3) Under what conditions and for whom does what kind of information translate into enhanced capabilities in other areas? (4) What other factors are at play in conversion processes from information to capability?

There is the suggestion that some information is useful and other information is not. Archambault's (2011) study of young adults in Mozambique showed how mobile phones do not always necessarily convey the useful kind of information that is assumed by endorsers of the ICT4D perspective. Rather mobile phones can be used for gossip and

spreading rumours and mobile phone communications can also be misconstrued or let slip secret information that generates conflict (*ibid*). Similarly, Slater and Kwami (2005) showed that mobile phones in Ghana were used for mundane communication, rather than to access so-called useful information. Consumption versus production tensions draw attention to what capability sets are enabled by mobile phones. Informational use issues raise the questions of what is information, what is useful and what is the agent's role in its use and communication.

The concept of information has historically been regarded as:

- An encoding of the state of the world that might be devoid of any values and such information can be perceived as out there, raw data' (Bellinger *et al*, 2004);
- Having a value and utility function in maximizing opportunity through knowledge and choice (resource-based theory) – (Gomez and Pather, 2012);
- Expanding or changing the probabilities of an individual by changing their assessment of their expected value (theory of reasoned action);
- Part of a system where an individual's goals influence further engagement, reflection, learning and action (theories of information construction) – (Solomon, 2002).

These different conceptualisations imply different types of information for different purposes that are potentially operationally difficult to establish, but provide insights into how information can be converted from its primary state as pure data to other functionings of information. The first explanation regards information as manipulated by actors to serve specific ends. The latter three require some generative action by the

information receiver, as an agent who acts upon or uses the information according to their capabilities, and demonstrate the role of their agency and other factors, for example knowledge, influencing their capabilities. The interactional relationship between the agent and the information is little understood but it can be inferred from this that some form of agency is realised when information is acted upon. How information is acted upon depends on an individual's information literacy, their understanding and use of information to meet their needs, which can be a disadvantage for poor women.

Information literacy as a concept implies that people have the capability to utilise information to solve problems (McClure, 1994:118):

> 'At one level, an individual must be able to read and write--the traditional notion of literacy. At another level, the person must be technically literate, e.g., be able to operate computer, telecommunication, and related information technologies. At a third level, people need media literacy, and at yet another level they need network literacy. All of these types of literacies can be cast in the context of information problem-solving skills.'

In relating this notion of information literacy to mobile phones, it becomes apparent how an individual agent's capability and functioning might be constrained by human capital limitations in terms of basic literacy skills that are the basis for other informational capabilities and functionings. In relation to different types of information it would be important to establish what information mobile phones affords different individuals. The digital revolution has changed the development landscape, so that many new different informational capabilities are needed to be part of the new productive and cultural context (Fonseca, 2010). Digital technologies are powerful accelerators of social change and economic growth, but the intellectual, productive and creative capacities to benefit

from the capabilities that technologies make possible are not always equal for poor men and women.

Poor individual agents' information span or scope is also not always closely examined when claims are made about the potential of networked information to transform individuals' lives for development ends. Applying Sen's capability perspective to ICTs, Gigler (2011:7-8) introduces an information-centric approach that aids an understanding of mobile phone-mediated capability by illustrating how limiting or enabling an individual's circumstances can be. He identifies four interdependent components of informational capabilities as a person's capability to:

- Use ICTs in an effective manner (ICT capability);
- Find, process, evaluate and use information (information literacy);
- Effectively communicate with family members, friends, professional contacts (communication capability);
- Produce and share local content with others through the network (content capability).

My thesis argues here that a fifth component could be added to Gigler's model, which is that of critical engagement, the ability to reflect and challenge with others, rather than communicate in a technical sense or simply share (critical capability). Figure 1 below shows an adapted illustration of Gigler's model.

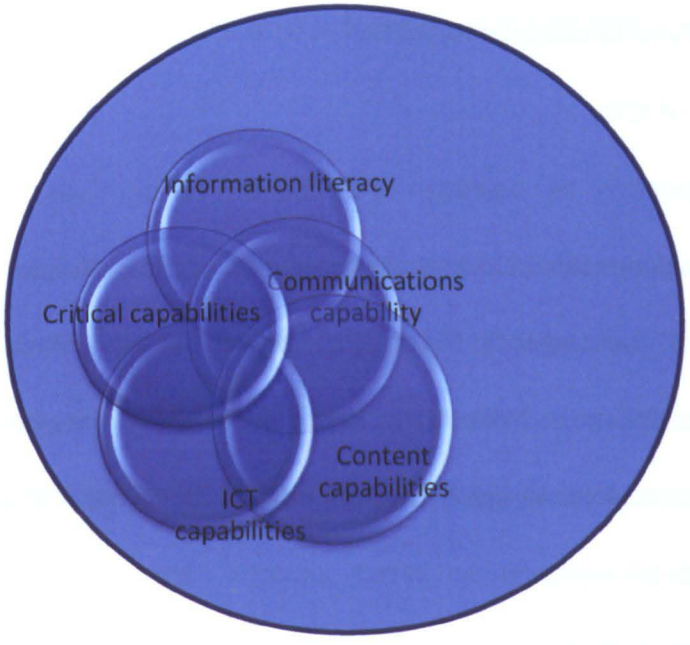


Figure 1: Informational capabilities

This illustration of informational capabilities serves to demonstrate the complex components of informational capabilities and how different factors over and beyond mobile phones, such as information capital, influence individuals' information capability sets, and the transformation of raw data into information for problem-solving and critical engagement purposes. Gigler (2011) situates agency at the centre of the transformation process from information capital to capability in relation to ICTs. He conceptualises the process as a chain that starts with access to ICTS, to the application of agency based on real opportunities that result in achieving valued doings or beings. He acknowledges the role informational capital plays which he describes as levels of:

- access to information from formal institutions such as the market, state and civil society;
- local knowledge and extent to which it is integrated into daily life;

- access to existing traditional information systems;
- use of traditional forms of ICTs.

He describes a person's informational capabilities as a combination of their informational capital, namely resources, and their agency to achieve valued beings and doings. Women's information resources are more limited than men's in contexts where women have fewer human capital resources from which to build informational capabilities to transform them into knowledge.

Within mobile phone research there has been little exploration of the conditions under which information and communication capabilities translate into knowledge and effective use, and what types of information are conveyed. Yet, knowledge gained from mobile phones use can serve instrumental and transformatory purposes. The concept of information in everyday use largely refers to knowledge communicated (Capurro and Hjørland, 2003). In reality, information processing involves different knowledge capabilities and transitions (Bellinger *et al*, 2004; Ackoff, 1989). Seen in terms of a ladder or continuum, at its very basic, information as mere data, is of limited use. As individuals use their resources and agency to transform information into knowledge by giving it meaning through relational connections and use of cognitive and analytical abilities, consciousness and philosophical probing for emancipatory transformation might occur. Knowledge, when regarded as information that men and women act upon, frames knowledge as a capability. The more that knowledge is enhanced, the more capability sets for emancipatory action are expanded, a key concern for feminists and gender advocates.

Enhanced network and informational capabilities

Essentially, mobile phones are regarded as enhancing information and network capabilities that in turn expand other capabilities in economic, social and political (governance) spheres (Spence *et al*, 2011). Increased ICT capabilities have been shown to increase transformational benefits (Grunfeld *et al*, 2011). Grunfeld *et al*'s (2011) analysis of ICTs from a capabilities approach suggests individuals' agency in connection to ICTs advances through virtuous cycles of empowerment. Valuable achievements or functionings cyclically enhance capabilities so that more advanced use of ICTS leads to even more advanced ICTs capabilities that sustain progressively higher order achievements spirally. Minimal ICT capabilities lead to new advanced ICT skills that initially sustain improved livelihoods, then eventually increased knowledge and social capital to deal with macro and meso-authorities as ICT capabilities increase (*ibid*).

Therein lies one of the key critiques of the capability approach. This circular nature of the capability approach, that fuses capabilities, conversion factors and valued functionings or achievements, presents analytical challenges which are difficult to reconcile or resolve. Binder and Coad (2011) propose one way of disentangling the circularity in Sen's capability approach through the analysis of the co-evolution of functioning achievements and resources through inter-temporal developments.

In taking forward the capability approach, I address the ambiguity of what constitutes an individual's resources, conversion factors and valued functioning in my thesis in the following ways. The resources comprise information, network and knowledge capabilities at one point in time. Agency is a key conversion factor shaped by situational

circumstances. Functionings mediated by mobile phones such as enhanced capabilities might include business, functional, operational and widened network capabilities in social, political and economic spheres. While agency may be regarded as a constituent part of capabilities (in conjunction with resources), a conversion factor and an achievement (Kabeer, 1999), my thesis applies agency in three ways. First, as agency and resources are inextricably linked, whenever the term capability is used agency is implicit. Second, as my thesis is concerned with a deeper understanding of agency processes for gender equality objectives, agency is also treated analytically in its own right. Third, as my thesis is focused on gender equality, agency achievements that contribute towards gender equality are observed. The following section presents the perspectives that illuminate my conception of agency.

2.3 Understanding, constructing and theorising agency

Sen's notion of agency, couched in terms of freedoms, provides a useful starting point for conceptualizing agency, but, as subsequent sections demonstrate there are other dimensions of agency that are useful for interrogating the outcomes of mobile phones that are not sufficiently explored. My own research takes these forward. These include the distinctions between forms of agency that have differing consequential outcomes, and the intersection of agency with emancipation, identity, values, networks and gender equality. I argue that these are important considerations.

2.3.1 Capability and agency

Agency is a key concept at the core of the capability approach. According to Sen (2009:289), agency freedoms refer to the 'freedom to advance whatever goals and values a person has reason to advance'. Unfreedom can arise either through inadequate processes or through inadequate opportunities that some people have for achieving what they minimally would like to achieve' (Sen, 2001). Agency freedom exists within constraints as individuals' choices and agency are embedded in complex social relationships connected to wider networks of social relations and institutions in which people are historically situated (Deneulin, 2011). As Sen (2001:15) argues 'inequality between women and men...severely restricts the substantive freedoms that women enjoy'. When women's substantive freedoms are understood as the 'freedom to' (achieve what is valued) and 'freedom from' (oppression and coercion), these represent empowerment. Johnson (2007) argues that when capabilities are regarded as freedom to and freedom from, they equate to empowerment insofar as they represent the power of the individual to avoid harm and pursue valued forms of functioning.

In Sen's account, agency:

- includes the agent's evaluation of it since agency is materialised with respect to the goals a person values;
- requires capability, the freedoms and opportunities to act such as good health and resources;
- includes effective power and direct control as capabilities may be present but an individual may not be able to act or choose not to act.

Agency may be regarded as having four foundational conceptions (Geels and Schot (2007). First, is rational choice in terms of actors having objectives, goals and preferences for which they make cost-benefit calculations to select optimal choices. Second, is interpretation with respect to actors being interpretive and using cognitive skills to make sense of the world. Third, power in relation to different actors and groups having conflicting goals from which change arises through power struggles, contestations, lobby, coalition building and bargaining. Fourth, deep structures that represent those 'taken for granted' values and assumptions such as symbolic acts and cultural repertoires that emerge as ideologies and legitimacy struggles.

While many theories work within one of these foundational conceptions giving undue emphasis to one facet of agency (Geels and Schot, 2007; Emirbayer and Mische, 1998), Sen's conceptualisation of agency engages with all four foundational conceptions – choice, interpretation, power and what individuals have reason to value. But, since agency is only one of many issues he tackles in his work, these foundational conceptions are not adequately specified or explained in sufficient depth, for the scope of my research. The following processes, underdeveloped in Sen, are of importance to my research: consequential outcome of different forms and types of agency in the interplay between structure and agency; emancipation; identity construction; values in terms of how they are shaped and how they construct agency; networks; and gender equality. The following subsections discuss these facets, in turn, extending and strengthening Sen's conceptualisation of agency for understanding and researching agency mediated by mobile phones.

2.3.2 Agency forms and types

Agency has been associated with a long list of terms that include selfhood, motivation, will, purposiveness, autonomy, intentionality, choice, initiative, freedom, and creativity (Lister, 2004; Emirbayer and Mische, 1998). Agency also has a long tradition posited in opposition to structures (Fraser, 1992;Marx and Engels, 1978; Bourdieu, 1977), the enabling and constraining regulative, normative and cognitive rules that are represented by social relations, culture, economic and political systems. As such agency is posited as a form of resistance to dominating and constraining structures. But, it is widely held that agency and structures mediate each other through processes of structuration (Giddens, 1984; Foucault, 1980). Structuration refers to multi-faceted and inter-related processes where structure both constrains and enables agency and agency shapes structures in mutually constitutive ways. Mediation refers to the resolution of conflicting forces presented by structure and agency freedoms that have different consequences for capabilities and functionings.

It is important to distinguish between different types of agency that have differing consequential outcomes (Lister, 2004). De Certeau (1988) distinguishes between two types of agency, tactical and strategic. While the former is exercised from a position of weakness and the latter from a locus of power, a Foucauldian analysis of power (Hoy, 1986) would emphasise the potential fluidity between tactical and strategic agency based on negotiated practices in everyday life. De Certeau (1988) takes a different view which does not allow for such fluidity. Nevertheless, as a structuralist (a perspective that emphasises the influence of structures over individuals' ability to act) and resistance theorist, he contributes to clarifying different kinds of agency and therefore

empowerment outcomes, by distinguishing between strategies and tactics. Strategies are deployed from a position of knowledge, self-awareness and power. A strategy is the:

> '...calculation (or manipulation) of power relationships that becomes possible as soon as a subject with will and power...can be isolated. It postulates a place that can be determined as its own and serve as a base from which relations with an exteriority composed of targets or threats...can be managed. As in management, every "strategic" rationalization seeks first of all to distinguish its "own" place, that is, the place of its own power and will, from an environment ' (*ibid*:35-36).

A tactic, albeit an opportunistic expression of power, is employed within specific constraints and with limited autonomy.

> 'A tactic is a calculated action determined by the absence of a proper locus. No delimitation of an exteriority, then, provides it with the condition necessary for autonomy. The space of a tactic is the space of the other' (*ibid*:36-37).

For De Certeau (1988) strategic agency would entail a more holistic autonomous transformative shift in power relations. Tactical agency would entail opportunistic isolated actions, or exercise of agency without a holistic understanding of one's situation and with restricted power to influence the direction of one's life. The practice and outcomes of agency are likely to be expressed in a multitude of ways in everyday life rendering this static distinction heuristically useful. However, Lister's (2004) conceptualisation which perceives these distinctions as a continuum, is more useful for researching agency in the context of mobile phones and development objectives.

For the purposes of my research, Lister's (2004) framing of the forms of agency, focusing on poverty, is useful in terms of its analytical and explanatory power and for taking on board and extending dimensions that are under-explored in Sen's conceptualisation. Lister (2004), drawing on Kabeer's work, states that an important dimension in her distinction of different types or forms of agency is the consequential, strategic significance for people's lives of the choices involved. Lister (2004:124) explores four aspects of the agency of people in poverty:

- 'Getting by' or everyday coping
- 'Getting (back) at' through everyday resistance
- 'Getting out' of poverty
- 'Getting organized' to effect change...[which][19] depends in part on a sense of identification as...a member of a group in poverty

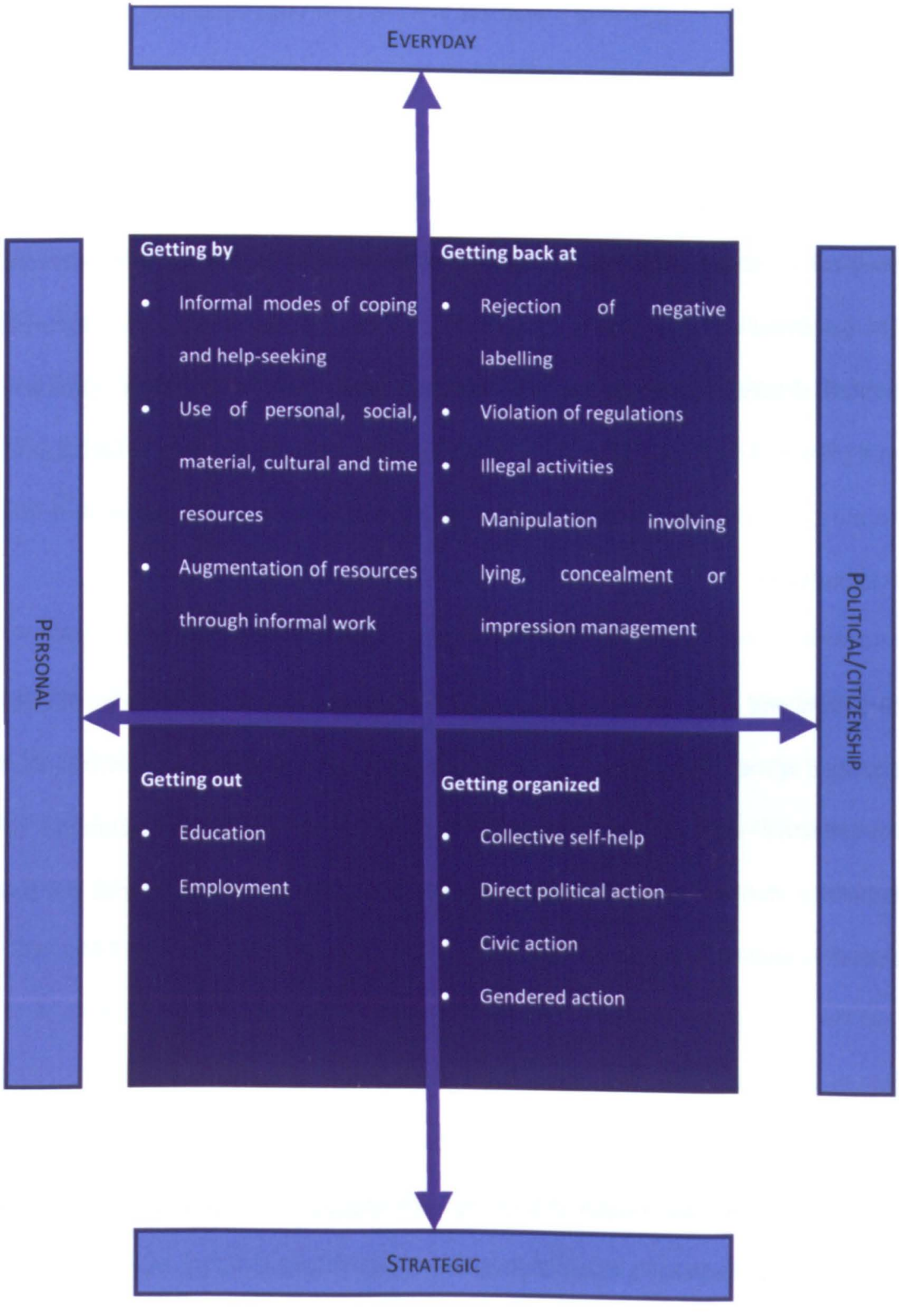
Figure 2 illustrates this poverty and agency taxonomy. Like De Certeau (1988), Lister (2004) makes the distinction between 'everyday' (tactical) and strategic forms of agency. Everyday agency is the creative agency exercised to cope with threats to personal welfare. Coping is the active process of juggling, piecing together and going without. It involves making space or creating room for manoeuvre within constraints such as material conditions and powerful economic forces. Coping involves resource augmentation, expenditure minimisation and stress management. Personal resources are those drawn on to survive which include resilience and resourcefulness. These are buttressed by social resources derived from social networks which vary between different

[19] [] denote author's additions to quote for clarity.

groups and can be weak and/or largely confined to kin, or wider to include friends, neighbours and others.

Lister (2004) also highlights resistance ('getting back at') as a form of agency as do everyday resistance theorists such as De Certeau (1988) and Scott (1985). Like De Certeau (1988) she also recognises that agency can be negative (violence, petty theft or diversionary practices in an employer's time). Scott (1985), in the context of peasants, highlighted the ordinary weapons of relatively powerless groups such as foot dragging, dissimulation, false compliance, pilfering, feigned ignorance, slander, arson and sabotage. Lister (2004) also draws on these informal, covert and symbolic practices of agency where the goal is not political, but survival and persistence. Lister (2004) highlights the rejection of labelling and notes the violation of regulations. She also highlights resistances such as manipulation that takes the form of lying, concealment or impression management, for instance feigning ignorance or a compliant attitude.

Figure 2: Lister's taxonomy of forms of agency



'Getting out' of poverty reflects mainstream models of achievement such as education and formal employment that are crucial for 'making it' (Lister, 2004). Individuals exercise strategic agency in negotiating routes out of poverty through education and employment. They can frequently move in and out of poverty, so movement out of poverty is not always sustained (*ibid).* People in poverty differ in the ways in which they are able to deploy strategic agency. Their exercise of agency reflects personal and other resources they can draw on, such as their social and cultural environment and their perception of the gendered opportunities and constraints. Where personal and other resources are limited, strategic agency is likely to be relatively weak (*ibid*). Furthermore, cultural norms and gendered rationalities can mean that, for example, mothers exercise their agency not to pursue paid employment so long as they prioritise care of children as their primary responsibility.

Structural and cultural contexts also shape the opportunities for the exercise of collective strategic agency (Lister, 2004). Strategic actions of 'getting organized' may take the form of collective self-help, direct political activities, civic action and gendered action. Collective identity – sense of self, being and belonging to a group - forms the basis of collective and political agency.

However, it also needs to be recognised that agency is a temporally embedded process, informed by its past and oriented towards the future. Emirbayer and Mische (1998) argue that the circular critique of Sen's conceptualisation, also evident in Lister's analysis, lies within the fact that a capability framing doesn't sufficiently distinguish agency from structures. They contend that in the struggle to demonstrate the interpenetration of agency and structure, many theorists fail to distinguish agency as an analytical category in

its own right, with distinctive theoretical dimensions and temporally variable social manifestations. The result, they argue, is a flat and impoverished conception of agency that loses sight of the different ways in which agency shapes social action. Emirbayer and Mische (1998) argue that theorists emphasise specific dimensions of agency losing sight of the dynamic interplay of these dimensions and manifestations. Examples are: ethnomethodologists, new institutionalists, and theorists of practice (for example, Giddens and Bourdieu) see agency as habitual, repetitive and taken for granted; rational choice theorists and phenomenologists stress goal seeking and purpose and publicity, communication; and feminist theorists emphasise deliberation and judgment. While all these are important dimensions of agency none of them captures the full complexity of agency (*ibid*).

Theoretically, Emirbayer and Mische's (1998) contribution is the reconceptualisation of human agency as a temporally embedded process of social engagement, informed by the past (in its habitual aspect), but also oriented toward the future (as a capacity to imagine alternative possibilities) and toward the present (as a capacity to contextualise past habits and future projects within the contingencies of the moment) (*ibid*). In practice, their emphasis on projective capacities and temporality elucidates the act of agency. However, their critique of the circulatory relationship between structure and agency within a capabilities framing is unhelpful as the interpenetration of agency and structure in social life is difficult to disentangle. Lister (2004) seeks to transcend the individual and structuralist dichotomy by locating agency in the context of the individual's social position in relation to wider forms of stratification and social relations of power. In so doing, she aims to focus on an individual's agency without losing sight of the ways in which it is constrained by material resources and power.

As such Sen's conceptualisation of agency, as closely tied to structures, offers, a more compelling approach to investigating agency mediated by mobile phones. It highlights crucial contextual factors, the preconditions to exert agency, process freedoms and the institutional environment that offers people the real opportunity to exert agency fruitfully. Lister's (2004) poverty and agency model serves to illustrate these connections. It can also be argued that Emirbayer and Mische (1998) fall into the same trap they accuse others of, by looking at agency in one particular way through its temporal embedded lens and dissociating it from those factors that shape and influence it. Yet, this temporal focus can strengthen Sen's conceptualisation of agency in other ways. Since agency is conceived as both a means (capability) and an end (functioning and achievement), by representing different types of agency in a timeline or chain of events, it is possible to clarify the types of agency that are a capability, functioning or achievement for a specified outcome. The temporal dimension is also useful for understanding the inter-relations between individuals' lives and social context at different stages of their lives.

While Sen's conceptualisation of agency is a useful starting point, there remain some gaps which need to be fleshed out for an investigation into agency and mobile phone relations. Robeyns (2003a) argues that, although Sen's capability approach is under-specified, it is compatible with many other theories as Sen does not defend any one particular worldview. As noted above, it does not engage sufficiently with critical social theory and its analytical constructs of emancipation, identity, values and networks and how these decrease or reproduce gender inequality and curb the transformative potential of mobile

phones. The following section goes on to highlight how these analytical constructs contribute to understanding agency in the context of my research.

2.3.3 Emancipation and agency

Sen's perspective of freedom is too vague, as Nussbaum (2003) contends. Critical social theorists in their many variants[20] (Foucault, 1990; Habermas, 1990; 1989; Gramsci, 1971) explain various dimensions of domination and ways to increase freedom as they are concerned with emancipation, which may be regarded as acquiring political rights or equality for disenfranchised or disadvantaged groups. Women's emancipation may be regarded as the achievement of economic, political and social equality (Simon, 2011) that frees them from restrictive gender norms. Such transformative aims, implicated in emancipation, invariably involve agency and its mediation (Habermas, 1989). Transformative agency implies assuming responsibility for transforming social practices (Virkkunen, 2006). Transformative agency is implicit in Sen's work in relation to his engagement with the notions of freedoms, but, it is underspecified, framed in terms of choices rather than resistances and thus underrates women's agency by overlooking subtle strategies of resistance manifested as submission (Peter, 2003).

Critical research of ICTs draws attention to restrictive and alienating conditions surrounding technological practices with the purpose of freeing people from power relations and the causes of alienation and domination through technological use (Richardson *et al*, 2006). In contrast, mobile phones have been shown to alter power

[20] They have very different conceptions of power and emancipation and come from different schools of thought. Here they are mentioned by picking up salient points they raise that are relevant to the thesis' theoretical arguments, rather than a full exposition of their diverse perspectives.

relations, for example, by empowering informal micro social networks (Gergen, 2008; Fortunati, 2006; Geser, 2005; Ling, 2004) and undermining totalitarian regimes (Katz, 2006:171). Re-readings of Foucault by critical ICT researchers illustrate how technologies enable the exercise of power (Richardson *et al*, 2006; Willcox, 2006). Power is exercised in two ways. First, instant communication enabled by material technologies, like mobile phones, makes possible the conditions for continuous control so that the information society may be regarded as the control society. Second, individuals can and do subvert the condition of their subjectivities. As such, individuals are 'increasingly positioned as the personal space where both active and passive, and regulated and resistant possibilities for human agency surface in the context of material practices' (Katz, 2001 cited by Willcox, 2006:277).

Subjectivities may be regarded as individuals' construction of facts and concepts about themselves and the world and according to Foucault (1981) are constructed through discourse (explained in section 2.1.1). Individuals are constructed through a plurality of resistances constructed within a complex network of discourses (Grimshaw, 1993). Subjectification happens in the ways in which individuals are able to recognise themselves as subjects of a particular discourse or set of practices (Foucault, 1990), such as gender discourse (discussed in section 2.1.1) and that the 'self' is the site where freedom emerges. This is because the construction of 'self' involves the creation of new modes of connecting to the self and others and new ways of experiencing.

Critical theories emphasise individual agency and people's active involvement in the construction of facts and the concepts through which they see the world. This consciousness or knowing the self is socially and individually constructed as individuals

are agents of their own subjectivities (Ramazanoğlu and Holland, 2004). An autonomous individual can use their agency to discover the truth about the world and emancipate themselves. But women's emancipation from this viewpoint overlooks the fact that strategies for emancipation can also be clouded by 'cultural conceptions of rights and duties, progress and freedom that differ in their conception of agency, inequality and oppression. To take emancipation as the outcome of decision-making by rational individuals contradicts the notion of emancipation as requiring massive social transformation of interlinked forms of oppression (including systems of production)' (Ramazanoğlu and Holland, 2004:35).

However, smaller scale transformations take place in everyday life. Women 'collude with their social positioning, for example, in efforts to be nice girls, respectable wives, good mothers, feminine workers, but they also resist in their workplaces, in their homes and in their efforts to access income and education' (Ramazanoğlu and Holland, 2004:37). They experience contradictory processes, pulling their agency and construction of 'self' in relation to mobile phones in different directions (Green and Singleton, 2007). The 'self' refers to their identity construction and how they regard their place in the world and technologies of the self – 'the active practices of self-formation' (Tamboukou, 2008:107). The self-subjectification[21] practices, or technologies of the self as Foucault calls them, take on a more active, used dimension, less geared to relations of power and discourse, more geared to bending force back on itself and so to self's work on the self (Willcox, 2006:277). Foucault denies unitary theoretical constructs and internal consistencies suggesting that individuals have multiple, shifting and often contradictory identities (Bailey, 1993).

[21] Sen also engages with subjectivities when he discusses adaptive preferences. Arguing that women's bargaining power is affected by their prioritisation of the well-being of others (Sen, 1990).

This construction of self is intensified by ideology, a term that has its roots in Marxist thinking, another critical perspective. With regard to ideology, critical theorists have demonstrated the depth and complexity of the way consciousness and common sense are organised and how this organisation preserves the sense, structure, and privileges of power (Gramsci, 1971). This raises questions as to the extent mobile phones can mediate transformative agency, the power to effect change, in the face of such structural constraints. How can the growth of capabilities be disconnected from the intensification of power relations? (Foucault, 1984, cited by Willcox, 2006:276). Transformative agency involves reflection and transformation of knowledge and social practices and other second-order work such as Bourdieu's habitus (Virkkunen, 2006). In the context of feminism as a critical stance, it would involve a reconfiguration of the self, involving agency, including in relation to identity construction. The next section discusses identity and its intersection with agency.

2.3.4 Identity and agency

Although Sen engages with issues of identity, by referring to 'valued beings' as functionings (discussed in section 2.2), he does not elaborate on social constructions of identity. Identity may be regarded as a form of self-positioning (construction of the self) and self-concept (the beliefs people have about themselves). Individuals have multiple 'selves' that include the social self they project to others, the autobiographical self, presented through stories and their embodied self that represents the unity and continuity of an individual's views and actions (Hulme and Truch, 2006; Harre, 2004). As agents, individuals discursively re-produce themselves through positioning. Adopting a

position, involves discursive practices to define relations with others, offering scope for redefining or consolidating gender identities.

As part of their domestication, mobile phones are purveyors of identity, or media through which people construct their identities. Yet, while identity construction involves agency, in terms of choices and action, identity is a relatively underexplored dimension in the capability approach to agency. Other theorists have illustrated how people construct identities which provide useful insights for researching agency and mobile phones. Goffman's (1959) concern with the construction of everyday life provides insights which help inform analysis of how people may use mobile phones to develop and maintain a façade. His work points to the front-stage and back-stage dimensions. These are metaphors for social interactions in which people have an ability to choose and act. He suggests that individuals perform in settings which are constructed as a front-stage and a back-stage where the actor chooses their stage, costume and props and audience. Through interactions with others the actor chooses how to present themselves fostering impressions that reflect well on them.

Others evoke this notion of performance through their demonstration of constructions of identities. Ling (2001) shows how the symbolic value and social meanings behind mobile phone interact with how young adults develop their gendered identities in Norway. Bell (2006) also develops the theme of identity management, illustrating how mobile phones are used to maintain individual identities in an Asian context, that is, how mobile phones are used for gendered resistances and disruptions. Baston-Savage (2007) illustrates how young Jamaicans use mobile phones to construct sexual identities. Building on Butler's work that argues that sexuality is not a passive construct, but an assumed identity,

Baston-Savage (*ibid*) demonstrates how mobile phones are incorporated into performances of sexuality. This performance relates to the phone's use as a status symbol as well as the economic imperatives that underlie mobile phone use.

At an everyday level, 'being culturally modern' is evident in the ways people construct their identities in relation to development and mobile phone technologies. As an artefact for identity-building (Ling, 2004), the mobile phone potentially enables social change and shapes emancipation. Socio-cultural studies have illustrated the identity construction attached to mobile phones: identity-affirmation or creation of new modern identities. Mobile phones come to be regarded as a mothering tool. For example, within transnational families, mobile phones enable women to re-construct their identities as mothers through transnational communication (Madianou and Miller, 2011; Parreñas, 2005). Lemish and Cohen (2005:519) refer to a view of mobile phones presenting a 'modern version of a "chastity belt" that husbands purchase for their wives to protect them from harm, and from being only an extension of the woman's private responsibilities of coordinating the family while away from home'. They suggest that while gender differences are blurred through men talking more and women using innovative technologies, mobile phones are still a site where gender identities are performed. In marked contrast, development programme evaluations highlight women's increased sense of independence arising from mobile phone use as in the case of Bangladesh (Barua and Diacon, 2003; Hermida, 2002), indicating social changes and a reconstruction of new identities.

However, modern identity constructions raise issues about the extent to which women can use their agency to construct more favourable gender identities through mobile

phone practices. Samuels (2008) illustrates how individuals use technology to assert their autonomy in his study of the multiple and innovative ways youth use digital media. Castells *et al* (2007) question how real this autonomy is and whether it alters power relations, resonates with De Certeau's analysis of different types of agency with different consequential outcomes. Mobile phones are more open to re-interpretation than most established technologies and provide useful insights into how adoption processes lead to the revision of existing values and practices and what influences the definition processes (Ling, 2004*)*. But links between mobile phones and modern cultural identity constructions also raise another key question. To what extent do mobile phones enhance the agency of women in relation to identity construction and in what ways? Creating new subject positions or 'self', linked to mobile phones, even through discourse and stories can be an agency achievement for women where restrictive gendered values are re-evaluated, but unequal gender relations can also be perpetuated in new forms.

2.3.5 Values and agency

Values are central to capability approaches 'yet the capability literature says little about where values come from and how they are shaped and change' (Deneulin, 2011:1). Values and goals underpin Sen's (1985) notion of human agency, but insufficient attention is given to the meaning and social construction of values (Deneulin and Mcgregor 2010). Yet, the notion of 'reason to value' presents tensions with implications for women's expansion of their agency since 'deep structures operate behind the backs of actors influencing their views and preferences ' (Geels, 2010:497).

The social construction of values may be regarded in two ways: intrinsicalism (reasons to value); and conditionalism (reasons why). Olson (2004) explains intrinsicalism in terms of the final value rests solely with the features intrinsic to the holder and with conditionalism, values are influenced by their conditions or contextual factors. This suggests that gendered conditionalism can be reflected in values and direct individuals motivations towards specific actions that are not in their gendered interests. This construction of values can create paradoxical tensions, where equity values might be desired at some levels but compete with other culturally embedded notions of gender that perpetuate inequality, so that individuals' agency is pulled in two ways.

Gendered values, for example, can curtail entrepreneurial agency, by making women choose or prioritise childcare over business growth, even if they value business growth. Entrepreneurial agency refers to an entrepreneur's ability to spot an opportunity and utilise it while entrepreneurial capabilities, the resources, processes and states of being through which individuals utilise positive opportunities in the market to create or grow businesses (Gries and Naudé, 2011). Thus women's entrepreneurial agency and capabilities can be shaped by gendered values corresponding to gender roles that place childcare as the responsibility of women.

Motivations are also influenced by gendered values, directing agency to particular mobile phone practices. Links between motivation, values, goals and agency are long established (Mele, 2003; Eccles and Wigfield, 2002). Motivation is fundamentally action that underpins human agency (Mele, 2003), and thus drives agency. Values are concerned with the incentives and reasons for the action (*ibid*). Values are generally considered to

be intangible and therefore difficult to measure. However, behaviours and practices connected to values can be observed and measured (Handy, 1970).

This observation can be applied taking into consideration two perspectives on values. Rokeach, (1973:5) suggests that 'a value is an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence. A value system is an enduring organisation of beliefs concerning preferable modes of conduct or end-states of existence along a continuum of relative importance'. These values are therefore more difficult to shift.

A contrasting view suggests, however, that some values do shift with circumstances. Welzel and Inglehart (2010), influenced by Maslow's (1943) hierarchy of needs theory, suggest that values that underpin agency change at different stages. Initially agency is directed at widening opportunities. In response to widened opportunities, individuals place greater agency emphasis on emancipative values. In response to greater emancipation, individuals place greater emphasis on agency goals shaping life satisfaction. In response to agency directed towards life satisfaction, higher levels of life satisfaction are achieved. Individuals' valued goals are shaped by structural inequalities and thus constrain certain forms of agency. Agency practices are shaped by values linked to existential conditions (Welzel and Inglehart, 2010), shifting needs and opportunities. However, what is less explored in Maslowian based conceptualisations of values, is how values can reflect gendered needs and cultural tendencies. Self-actualisation, implicit in life satisfaction can be at odds with cultures that emphasise collectivism rather than individualism, or gendered obligations where women put others' interest before theirs.

2.3.6 Networks and agency

Technological perspectives that regard agency as networked, interdependent and shared and located within a web of complex relations, systems and processes (Corrigan and Mills, 2011; Geels and Schot, 2007; Lasen, 2004) illuminate the complex processes that lead to agency achievement. Although my research analyses the network dimensions of agency enabled by mobile phones, actor-network approaches and multi-level perspectives present challenges in terms of capturing the complexity of macro-meso-micro relations. Rather I draw on their interpretation of agency as discursive and relational in terms of involving webs of relations that are socio-technically co-constructed.

Network analysis is a paradigm or loose federation of approaches rather than a formal unitary theory (Emirbayer and Goodwin, 1994). For example, social construction of technology perspectives construe agency associated with networks in two ways. First, networks are perceived as structurally located, shared and an interdependent achievement of actors engaged in a web of relations that explain the persistence of gender inequality and therefore empowerment (Corrigan and Mills, 2011). Second, networks are viewed in terms of the actors' construction of their own networks or the arrangements from which they derive benefits from their networks. Sen (2001) sees the former as part of the personal, social and environmental factors that frame agency and the latter as a capability, but does not engage with the categorical attributes of networks, their formation, reproduction and transformation and how these frame agency processes.

Network theory builds explanations of patterns of relations (Emirbayer and Goodwin, 1994) so has the potential to explain and investigate the constraining and enabling dimensions of patterned relationships among social actors within a system. It provides a framework through which to examine how gender relations as a pattern frame what individuals can do or be. For example, social accessibility offers a lens to observe the constraints (Carrasco *et al*, 2008) that women face in making contact with others using their mobile phones, and agency directs that lens to the ways in which women work within these constraints to achieve the goals of human contact and social interaction. Agency in relation to networks describes the tendency of people to capitalise on their circumstances and create and reproduce social order and their will to initiate events with members of their network (*ibid*).

2.3.7 Gender equality and agency

The chapter has so far shown how agency, as conceptualised within the capability perspectives, needs shoring up with critical social theories to explain gendered experiences in relation to mobile phones. The conceptual relationship between agency and gender equality also needs to be established in order to explain the theoretical framework of the research.

Agency is regarded as central to achieving gender equality, a widely stated policy goal amongst development organisations which encompass a range of entities that include multi-lateral agencies, governments and civil society organisations. Gender equality achievements have been framed and conceptualised in numerous ways. Official agencies, for example UNDP (2010), incorporate a selection of statistics, combined into a gender-

related index and gender empowerment measure. A table of countries ranked in terms of gender equality shows that most countries are not gender-equal. However, the notion of the impossibility of equal agency is acknowledged (Lazar, 2000).

Inequality indices such as those of the UNDP conceal more than they reveal as there are multiple dimensions in gender relations and the patterns of inequality in these dimensions are contextually different (Connell, 2011). The assumed models of gender equality do not also accurately represent gender relations in diverse socio-political contexts (Syed, 2010). A useful way of framing gender equality achievements is through distinguishing the material, relational and subjective dimensions along the lines of Sumner's (2010) taxonomy of agency achievements grounded in a particular cultural and socio-political context.

With respect to mobile ICTs, Cooks and Isgro (2005) consider context as the space in which technologies are introduced and operate that includes material, discursive and symbolic practices that give meaning to technologies. They argue that these spaces are fluid and dynamic and meaning is made of who uses or does not use ICTs and the consequences of such use. For the purposes of my thesis, the space for mobile phone-mediated agency is considered as the possibilities and constraints presented by situational factors that frame the context, operations of forms of agency and capabilities in relation to mobile phone practices and the gender equality achievements that are the consequences of such use.

In contexts where women are generally less powerful, less able to achieve development benefits, less able to do or be, agency that is directed towards an alteration of their

restricted material, relational or subjective states brings them closer to greater gender equality (Kabeer, 1999; Rowland, 1997). This implies material, relational and subjective achievements that involve 'a degree of autonomy' (Alkire, 2008) and undoing of the 'gender order' or 'gender regimes' (Connell, 2011; West and Zimmerman, 2009). Autonomy in this thesis is regarded as 'condition of the will that makes agency possible' (Herman, 1991, cited by Peter, 2003:25).

The space through which mobile phone mediate agency, is shaped by context, situational factors such as gendered values and identities that both enable and constrain agency. The forms of agency are also shaped by these situational factors as is the use of mobile phones and the enhanced capabilities that mobile phones enable. These processes then have a bearing on the kinds of agency achievements for greater gender equality. However, the perspectives covered in this chapter, and the specific role mobile phones have in reinforcing gender inequality or opening up spaces for agency and the renegotiation of unequal gender relations raise the following questions which form the research questions, first presented in chapter 1, for this thesis.

The overarching question is:

- To what extent can mobile phones contribute to gender equality through the expansion of women's agency (chapter 7)?

And the sub-research questions are:

1. What spaces and capabilities do mobile phones open up for the expansion of women's agency (chapter 5)?;
2. How is agency enabled and restricted by mobile phone use, practices and representations, and why (chapter 6)?; and
3. What situational factors enable or inhibit the empowerment, emancipative and transformatory potential of mobile phones in relation to how gender equality is perceived (chapter 6)?

In order to address these questions, having reviewed and evaluated different perspectives on agency in regard to capability, forms of agency, emancipation, identity, values, networks and gender equality I arrive at a framework that takes into consideration the following. Agency is a person's ability to act upon what he or she values and has reason to value. That ability is constricted and expanded by gendered identities and values which also shape agency constructed through networks. Agency takes different forms, having different consequential outcomes, including on emancipation from restrictive gendered norms. Agency achievements, where previously lacking or constrained, may contribute toward greater gender equality. Mobile phones mediate these processes of agency formation, by their insertion into people's lives, through the co-constructing of gender and mobile phones in individuals' practices. The framework is presented in the following section.

2.4 Theorising mobile phone mediated agency achievements for gender equality

This section presents the perspectives within which the study's guiding theoretical framework is conceived. A feminist and social theory critical lens to the capability approach is employed to analyse street traders' agency mediated by mobile phones. Its application extends the capability approach through the development of a theoretical model that strengthens the capability perspective to engage with different facets of agency in relation to mobile phones that cover social theories of emancipation, values, identities, networks and gender. These facets underpin the investigation into the possibilities and constraints for greater gender equality in relation to mobile phones practices.

2.4.1 Mobile phone-mediated agency

The thesis conceives mobile phone-mediated agency as bounded by the intersection of human agency and social structures where oppositional pulls and linkages between structure and agency frame the spaces for mobile phone mediated agency. The structures do not determine agency, but exert deep pressures on individuals, making some actions easier than others. They are embedded in rules governed by regulative (regulations and laws), normative (values and behavioural norms) and cognitive rules (belief systems, problems definitions and guiding principles). Individuals or actors are embedded in these rule structures that constrain or enable some actions through

legitimisation, but actors can also reproduce, change or resist them so that the agency context is dynamic and fluid.

Mobile phone mediated agency is constructed through socio-technological processes that frame what mobile phones represent, enable, what they are used for and the consequences of these practices for men and women. These processes can be observed through individuals' capabilities, the forms of agency they exercise, the emancipative outcomes, the construction of favourable identities, the values attached to goals that frame motivations for action, the nature and patterns of networks nurtured and built and the gender equality achievements arising from mobile phone practices. 'Everyday', tactical and discursive types of agency in this regard take shape in different forms such as choices or participation. Information, knowledge and networks are the proximate pathways through which agency is converted, processed or transformed in relation to mobile phones. Mobile phones enable and enhance agency and capabilities through ease of communication, channelling different types of knowledge and network expansion.

The resulting framework is comprised of the following elements of the agency space for gender equality objectives:

- Agency context formed of situational factors and processes;
- Agency capabilities which are the capabilities enhanced by mobile phones in which agency is implicit;
- Agency forms that have everyday, strategic and discursive facets;

- Agency achievements for gender equality that are material, relational and subjective that re-position women more favourably where previously disadvantaged in relation to men;
- Proximate agency pathways mediated by mobile phones that are information and networks.

Mobile phones, by their insertion into individuals', lives contract and expand this space for agency for gender equality through the interaction of these elements.

2.4.2 Theoretical framework

As illustrated in Figure 3 the mobile phone agency mediated space described above comprises agency context, forms, capabilities, achievements and pathways that impact on and are impacted upon by each other. These are the inter-related and interdependent elements that present possibilities and constraints for mobile phone mediated agency for gender equality.

(a) Agency context or situational factors

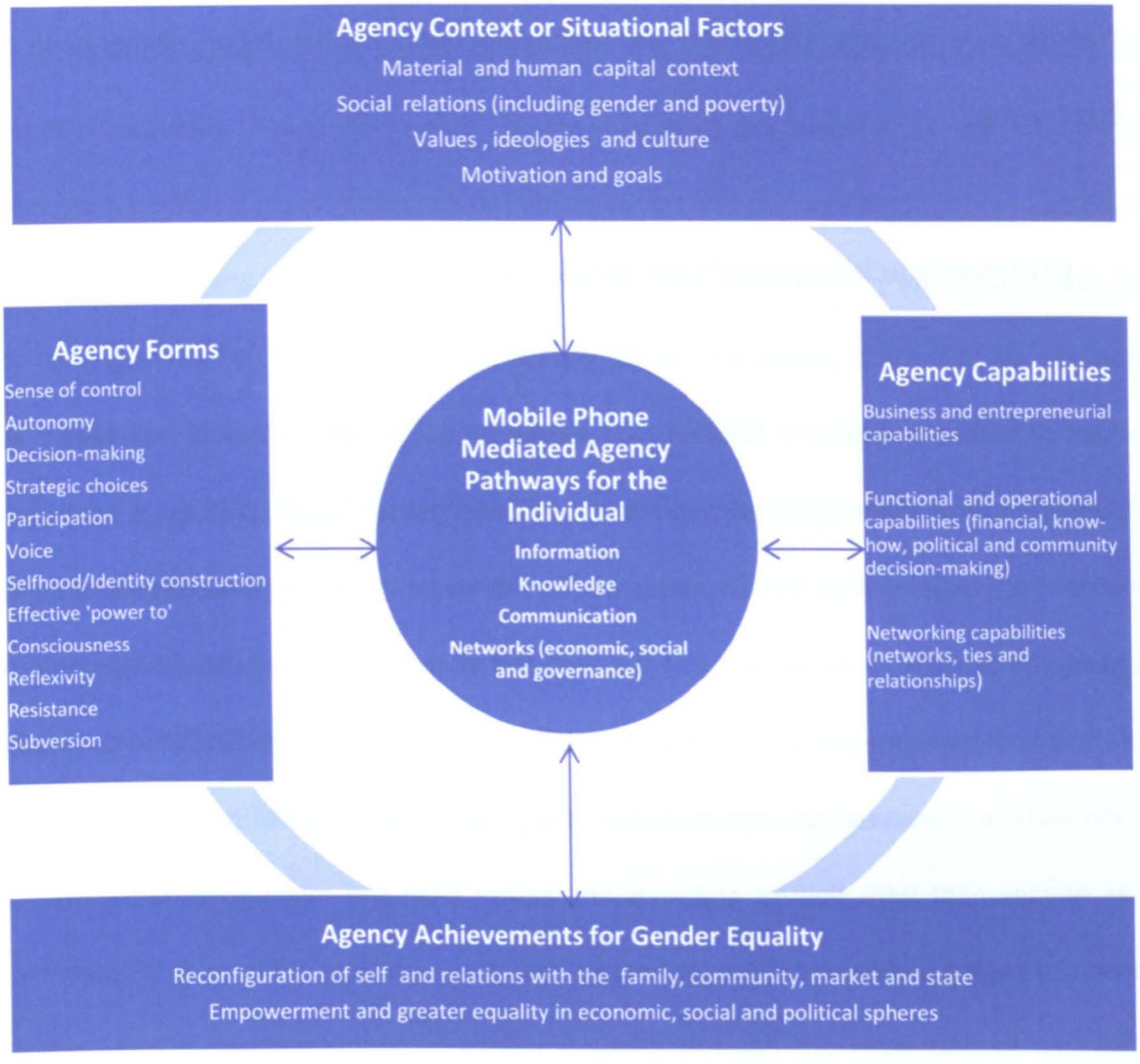
The context comprises situational factors such as material and human capital factors influence how mobile phones are used. They are operationalised as financial ability and education. Social relations, gender and culture are filters through which to understand mobile phone use and consequences and for the purposes of my research are also observed through ideologies and discourses. Gender ideologies are taken for granted

sets of propositions that define what life is like and how men and women should act within it, and are perpetuated through discourse. Discourses of gender are a system of representation of gender. Gender discourses reflect sets of ideas, concepts and rules about how one thinks of gender and cultural prescriptions through which men and women are constituted. They encompass symbolic activities that include dress, consumption patterns, ways of talking and performances. Gender discourse highlights the linguistic, discursive and material nature of social relations of power. Motivations for use are influenced by gendered values and identities and can be discerned from goals. These contextual influences frame the real opportunities for mobile phone mediated agency.

(b) Agency capabilities

The wider pathways are through agency capabilities enhanced by mobile phones which in this framework refer to those entrepreneurial, informational, functional, operational and network capabilities that mobile phones enable.

Figure 3: Mobile phone mediated agency space for gender equality



(c) Agency forms

Agency takes the form of decision-making, bargaining and negotiation, deception and manipulation, subversion and resistance, as well as more intangible, cognitive processes of reflection and analysis. Forms of agency can be observed through the taxonomical list shown in Figure 3. These are exercised strategically, tactically ('everyday') and discursively. They conform to four foundational conceptions of agency that are choice,

interpretation, power and deep structures. The freedoms that individuals have to progress whatever goals and values a person has reason to advance, are the agency freedoms, which are impact on and impacted upon by the other elements in the framework.

(d) Agency achievements for gender equality

Agency achievements in relation to gender equality are material, relational and subjective, that emancipate women from restrictive gender norms. These are achieved in economic, social and political spheres of life. Achievements for gender equality can be observed through a repositioning of the self, and women's improved standing within the family and relations with community, markets and the state. In this thesis the community and state are observed through individual and collective practices of political agency such as engagement with politics and civic life, rather than the more governance oriented understanding of community and the state.

(e) Proximate agency pathways

In relation to mobile phones the proximate pathways for agency within the space are primarily through information, knowledge, communication and networks. Information and networks are thus taken as the proxy for agency pathways, as they are the primary means or routes through which agency is enabled. They are an integral element and are implicit and subsumed in discussing the other elements in the thesis.

Conclusion

This chapter has argued that insufficient attention is paid to the different dimensions of gender inequality linked to mobile phone use and proposed that the capability perspective offers a useful approach to investigating what people can do, be and achieve with mobile phones. However, it has also argued that the capability approach needs to be strengthened by a deeper understanding of emancipation, identities, values and networks and how the interface of gender with these social constructs reproduces or decreases inequality. It has shown how the social constructs of identity intermingle with values to facilitate or limit the emancipatory potential of mobile phones and the consequential outcomes of different types of agency that are everyday, strategic and discursive. Recognising all these facets of agency the chapter presents a framework to investigate mobile phone mediated agency for gender equality objectives.

I conclude that in order to address my key research question about the extent to which mobile phones can contribute to gender equality through the expansion of women's agency, it is important to investigate the space for agency comprising the agency context, capabilities, forms, achievements and pathways. The next chapter explains how I designed and conducted my research to address my research questions and apply my theoretical framework.

3 Methodology and Methods

Introduction

The focus of the research is to establish gender, agency and mobile phone relationships. In order to address my research questions, I used a case study approach involving a quantitative survey of street traders in one district of Kampala followed by a focus group discussion and six in-depth interviews selected from those who had participated in the survey. The overall purpose of the survey was to obtain measures of socio-economic and demographic information and the research participants' opinions on forms and extent of agency mediated by mobile phones, from a gender perspective. The overall purpose of the interviews and focus group was to explain gender differences through narratives, and themes corresponding to my theoretical framework. I conducted the research in the local language, Luganda, with the assistance of an interpreter, because of my basic knowledge of Luganda. The data was transcribed and translated by a transcription service in Kampala. This approach, its justification and the issues it raised are discussed in the sections below.

This chapter sets out the key approaches to the research in section 3.1. Section 3.2 describes the research context. The key considerations in the selection of research methods, their development and use are discussed in section 3.3. Section 3.4 explains the ethical considerations that guided the study and the challenges encountered. The chapter concludes with some reflections on the research, and its limitations.

3.1 Research approach

Complex issues such as investigation of the extent to which phones can mediate agency are ideally suited to a case study approach, as it allows for the use of different methods that address the constituent who, what, where, how many and how much questions. I addressed my main research question, to what extent can mobile phones contribute to gender equality through the expansion of women's agency with mixed methods. I used quantitative methods to establish the spaces and capabilities mobile phones open for the expansion of women's agency and the features of this agency (research sub-question 1). I used qualitative methods to investigate how women's agency is enabled and restricted by mobile phone use, practices and representations, and why (research sub-question 2) and what situational factors enable and inhibit the empowerment, emancipative and transformatory potential of mobile phones in relation to how gender equality is perceived (research sub-question 3). The following sub-sections explain these approaches.

3.1.1 Case study approach

Methodologically, the purpose and nature of a case study approach is subject to debate, treated either as a method or a distinct research paradigm about how the social world should be studied (Hammersley and Gomm, 2000). My research uses a case study 'as more like a framework for investigation' (Thomas, 2007:301) rather than just a method, because it is applied as a strategy to obtain detailed information using a variety of data collection procedures (*ibid*; Creswell, 2003). When regarded solely as a method, case

study typically addresses only why and how questions (Yin, 2009; Thomas, 2007). As a framework for research, it allows for the combination of quantitative and qualitative data that addresses different types of questions (Thomas, 2007). Case studies take different forms and are applied for exploratory, explanatory and descriptive purposes (Yin, 2009). My approach was exploratory and explanatory insofar as the study sought to explore the context and features of mobile phone mediated agency and explain the gendered reasons for this.

A case study approach was chosen to place some 'boundaries around the measurement of variables' (Ragin, 1991:2) and provide an in-depth investigation (Stake, 1995) into the extent to which mobiles phones enhance female street traders' agency. Street traders were chosen as the unit of analysis for three reasons. First, they were early adopters of mobile phones, providing a reasonable time lag to establish some outcomes. Second, there are a sizable group with an estimated 60-90% of urban jobs estimated to be within the informal sector (Skinner, 2008:7) with over 50% as market and street vendors (Stevenson and St-Onge, 2005:xviii). Third, street traders are regarded as a group that demonstrates agency (Lindell, 2010a). As they were selected to understand a particular phenomenon, women's agency and mobile phones, rather than intrinsic interest, they are an 'instrumental case study' (Stake, 1995).

However, cases, 'the units of analysis' (Yin, 2009:29), were applied in two ways. First, is the holistic global case, in terms of the focus on 102 street traders in a particular geographical location (explained later in this chapter). Second, are the embedded subunits relating to the focus on six individuals who were interviewed in-depth. Yin (2009) distinguishes between holistic and embedded case studies. A holistic approach

takes a solely global approach whereas an embedded one involves more than one unit of analysis of the single case. The start and the end points are the comprehension of the case as a whole, although Sholz and Tietje (2003:2) note that 'in the course of the analysis, the case will be faceted either by different perspectives of enquiry or by several subunits'.

There were a number of options in selecting the six embedded cases. Typical criteria for selection include representing: extreme or deviant cases (unusual manifestations), intensity (manifest phenomenon intensity), maximum variation (exhibit wide variation) and typical cases (Patton, 1990). I selected the six cases for interview on the basis of manifest phenomenon intensity and typical cases. Typical case was taken to mean those who had reported mobile phones had helped them realise their goals to a large extent (70.6% of women). Only those female participants who volunteered to take part in further interviews were approached.

A limitation is that data from case studies cannot always be easily generalised, but they do have a place in constructing and explicating theories, informing policy and public action through aggregation of case studies (Schroeder, 2010; Thomas, 2007) and strengthening the social sciences through providing useful exemplars (Flyvbjerg, 2006). Cases are unique although related to the general (Scholz and Tietje, 2003) and multiple case strategies make a stronger case for generalisability (Thomas, 2007). Generalisation, however, was not the key priority for this research. Nevertheless, I strengthened the validity of the case study through a mixed methods approach which I outline next.

3.1.2 Mixed method approach

Mixed methods research denotes the use of both quantitative and qualitative research methods for a single study (Bryman, 2006; Creswell, 2003) and may be regarded as a strategy that juxtaposes or combines these methods to provide a more elaborated understanding of the phenomenon of interest, including its context, to gain greater confidence in the conclusions generated by an research study (Johnson *et al*, 2007). My rationale for mixing methods is that neither quantitative nor qualitative data in themselves were sufficient to capture the trends and details of a situation; when used together, they complement each other, allowing for a more robust analysis (Ivankova *et al*, 2006).

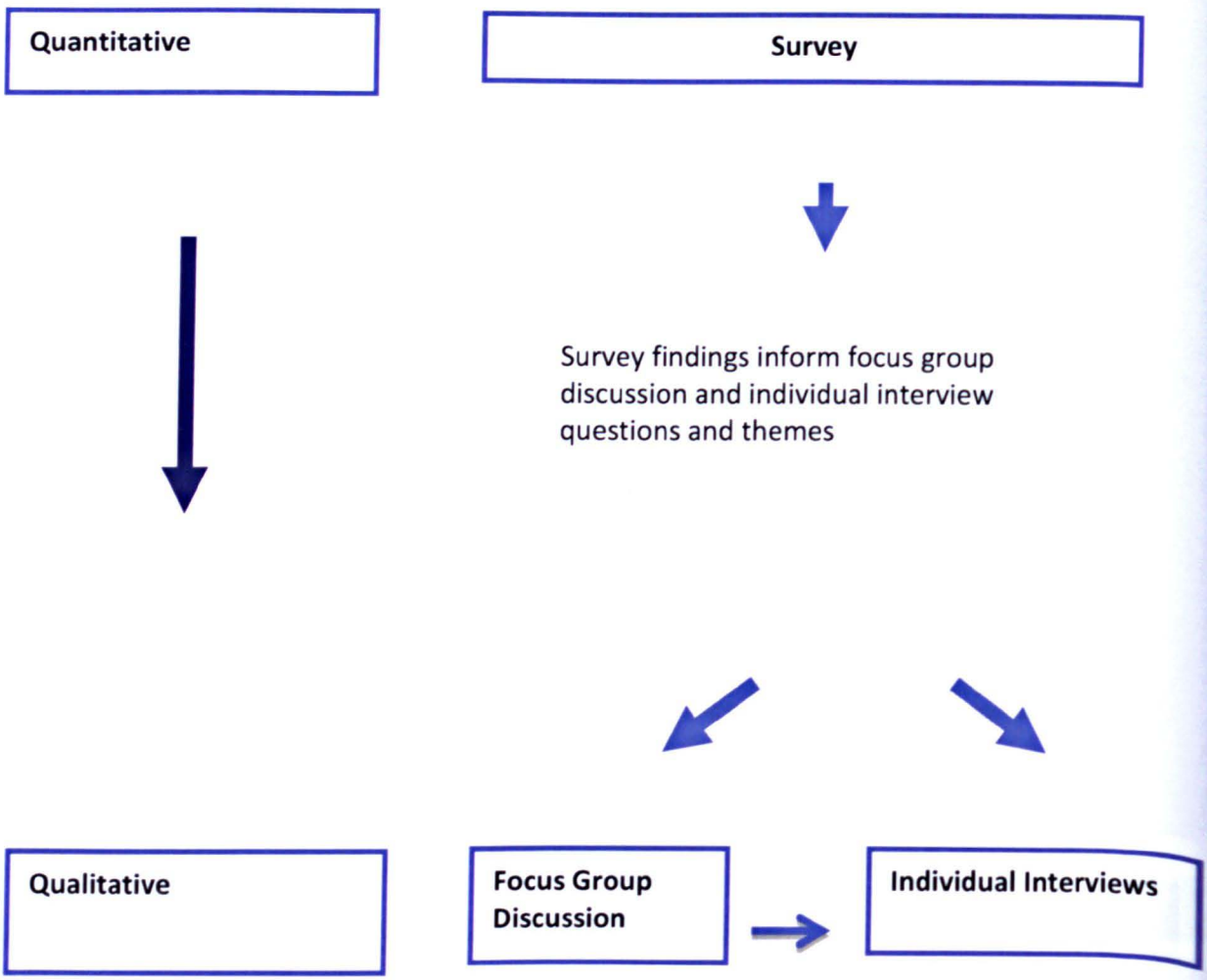
As explained in Greene *et al*'s (1989) classification schema, typical justifications for a mixed method are: triangulation (corroboration and convergence), complementarity (elaboration and illustration), development (results from one method informing the other), initiation (seeking paradox and contradiction) and expansion (extending the breadth of the investigation by applying different instruments). Deductive (quantitative) and inductive (qualitative) approaches were applied to my study principally for complementary, development and expansion purposes. My study also aimed to mitigate philosophical, epistemological and methodological limitations and weaknesses of each approach (discussed in this section) and thus provide a deeper holistic exploration of agency in its multifarious and dimensional forms.

My positionality as a Ugandan woman provided me with insights into the cultural context and issues and my visits to see family in Uganda (2005-8) prior to the core fieldwork

presented me with opportunities to discuss and continually redesign my proposed research with local academics, NGO workers and mobile phone users. A pilot study involving 6 male and 6 female street traders from Nansana and Kasubi in 2008 helped me refine the survey questions and the FGD and interview protocols and observe the strengths and weaknesses of quantitative and qualitative approaches.

As discussed by Denscombe (2007), I applied a QUAN to QUAL sequential study illustrated in Figure 4. A sequential mixed method details the order in which the different approaches were applied and their importance. The aim of this sequential mixed methods study was for the quantitative part (survey) to signal potential areas of interest to be explored in further depth through qualitative means (focus group discussion and individual interviews) so that the interviews complement, develop and expand the survey findings. All focus group discussants and the six interviewees participated in the survey, but there was no crossover or overlap between the discussants and interviewees.

Figure 4: Sequential design of research study



Quantitative approaches typically aim to investigate social phenomena through mathematical, statistical or computational techniques. Historically regarded as representing an objective truth of social reality, recent perspectives acknowledge the biases inherent in how these techniques are applied (Creswell, 2003). In my thesis I drew on post-positivist knowledge claims. Creswell (2003) refers to post-positivism as thinking that challenges traditional positivist notions of absolute truth and knowledge as

independent of a researcher's values. He argues that quantitative approaches cannot be positivist about knowledge claims when studying actions and behaviours of human beings, but can still apply the same principles. For example, post-positivism reflects the reductionist principles of positivism in that it reduces ideas to small discrete ideas such as variables to test. As method, I used a survey as its purpose is measurement (Oppenheim, 1994), to measure mobile use, representations of practices and to signal gendered differences. Surveys consist of asking a large number of people some specific questions in a questionnaire (Antonius, 2007) and statistical commentary (Oppenheim, 1994). My study could then focus in on those key areas demonstrating differences in agency capabilities and seek explanation and development through the focus group discussion and individual interviews and wider literature. The findings of the survey were also intended to help frame the relevant questions for the subsequent interview and focus group discussion and guide me whom to select to interview in greater depth.

The qualitative aspect of the study sought to investigate subjective gendered experiences of using mobile phones that illustrate agency. Qualitative research is useful for delving into complexities, processes and research where relevant variables are yet to be identified (Marshall and Rossman, 1989). It is suitable where a researcher needs to gain insights into people's opinions, feelings, emotions and experiences (Denscombe, 2007) and draws on socially constructed knowledge claims. Creswell (2003) explains these claims as being shrouded in assumptions that cover: (1) understanding (individuals seek understanding of the world in which they live and work and develop subjective meanings of their experiences); (2) multiple participant meaning (meanings are varied, multiple and complex); (3) social and historical construction (meanings are developed through interaction with others and those historical and cultural norms that operate in both the

participants and researchers' lives). Rather than starting with a theory as in post-positivism, theory or patterns of meanings are generated inductively (Creswell, 2003). However, I did use theory to provide initial guidance to my qualitative investigation and interpretation of data, and I also used an inductive approach to data analysis and interpretation in terms of identifying themes and narratives coming from the cases (the women) themselves. A weakness of qualitative approaches is that truth and knowledge can be regarded as imprecise and less objective, which is why I discuss my approach to validity in more detail in section 3.3.6.

My use of a mixed methods approach was informed by the following considerations. First, it was pragmatic and considered debates on methodology, epistemology and emancipatory research practices that highlight the challenges of investigating gender relations. Pragmatism focuses on the research problem using pluralistic approaches to derive knowledge about the problem (Creswell, 2003). Ragin (1994) argues for the use of both quantitative and qualitative approaches in sociological enquiry to obtain the richest possible dialogue between ideas and evidence (theory and data). The research drew on contingency theory of research that holds that decisions on which methods to use are dependent on situational contingencies such as the resources available and the best combination of methods to maximise the usefulness of information and evidence (Johnson *et al*, 2007). I therefore applied a pragmatic mixed methods approach through a case study focus to explore different dimensions of the study's overall research questions. Such a dimensional framework is a form of mixed methods contingency that allows for the coexistence of quantitative and qualitative research approaches and, by extension, provides a philosophical foundation for mixed methods research (McLafferty and Onwuegbuzie, 2006, cited by Johnson *et al*, 2007:127).

Second, investigating 'agency', involves 'untidy ways of finding out' (Abbott, 2007:209) and revalidation of data because agency is a fluid, continuously negotiated and context-specific process and outcome. It requires different methods to uncover hidden perceptions and values and identify context specific-shifts in power relations. As explained in chapter 2, these negotiations occur on an everyday basis and are expressed strategically, tactically or discursively (De Certeau, 1988; Butler, 1990; Lister, 2004). A single method would not uncover hidden, sensitive or conflict-laden processes and outcomes.

However in carrying out research on social phenomena, Feyerbrand (2004) suggests, that rules of procedure, however firmly grounded in epistemology, are violated at some point which is necessary for the growth of knowledge. An examination of social realities is not solely shaped in 'consciously organized ways' (Abbott, 2007:209). Therefore, research methods will often have to adapt to specific situations to reflect 'local political realities and histories' (*ibid*: 213) and sensitivities. Modifications of rules of procedure, and embracing the unforeseen and unanticipated, may yield new and surprising information and knowledge: for example, the observation of unforeseen and unexpected ways of the construction of agency that was not part of the initial research design.

In responding to hunches as the pilot fieldwork unfolded, I modified my approaches and methods. For example, during the survey I asked further unstructured questions to delve deeper and identify reasons for the responses. I observed the research participants and location on some days. I reflected upon the research participants' responses and reactions to the questions and noted these in a field notes diary to help capture the ways

in which gender relations were perceived and performed. I also conducted impromptu and unscripted interviews with passers-by, as unintended incidental informants, seeking clarification about issues and behaviours to gain a better understanding of 'meanings' behind the words and behaviours of the research participants.

The third consideration is that translation of 'knowledges among very different – and power differentiated – communities' (Haraway, 1988:580), is an important research challenge. Haraway (*ibid*:583) notes that 'critical theorizing of meanings is problematic insofar as feminist objectivity [or gender research] is predicated upon limited location and situated knowledge', and is thus a partial perspective. Social researchers have also written much about the process of fieldwork in terms of the influences of fieldwork politics, cultural and spatial issues (Datta, 2008), gender identity (Apperntik and Parpart, 2006; Momsen, 2006; Haraway, 1990) and 'otherness' (Fawcett and Hearn, 2004) on the reliability of the findings. Fieldwork requires 'a context-specific understanding of power, morality, ethics and sensitivity' (Abbott, 2007:208) and is enriched by multiple forms of evidence. The inherent personal, value-laden risks of the social research processes and interpretation also raised the issue of my own subjectivities. To minimise the influences of my personal and cultural politics and 'standpoint', based on me as a British Ugandan woman and the cultural and identity influences of those of my research participants, I aimed to use a range of research methods. By applying a mixed methods approach, different approaches mitigated some subjectivities and provided for a deeper exploration of agency, by uncovering different aspects of agency that I had not anticipated in my research design.

Fourth, complementary approaches enabled me to assure some degree of accuracy, validate my findings and expose any discrepancies that might have arisen owing to my role and identity as a researcher and that of my research participants, interpreters and gatekeepers to the communities I researched. It is worth noting that Abbott (2007) argues that the personal and subjective need not be regarded as methodologically 'incorrect', but as potentially enhancing knowledge of specific contexts.

Finally, debates on gender, methodology, epistemology and emancipatory research practices highlight the challenges of investigating gender relations. Earlier critics of the application of qualitative and quantitative methods to gender research have also highlighted male biases in practice, operation and hidden assumptions (Ramazanoğlu and Holland, 2004; Maynard and Purvis, 1994; Harding, 1991; 1987; Stanley and Wise, 1990; Flax, 1987). Hidden assumptions, however, can be deciphered from narratives as they convey events perceived as important by the narrator. Hence I adopted a narrative approach to the collection and analysis of qualitative data, which I explain in the following sub-section.

3.1.3 Narrative approach

Narrative generally means spoken or written story (Bold, 2012). Narrative is a form where individuals provide stories about their lives (Creswell, 2003), and is arguably the 'best way of representing and understanding experience' (Clandinin and Connelly, 2000:18) helping explain why people behave the way they do and think (Polkinghorne, 1988 cited by Clandinin and Connelly, 2000:15). Tamboukou (2008) suggests that

narratives function as 'technologies of the self', the active practices of self-formation. Narratives can also be applied to tell 'big stories' (Squire *et al*, 2008) which can be interpreted through discourse.

A narrative approach was chosen because of its distinctly 'interpretive' character (Colombo, 2003). I wanted to show how women's personal narratives interwoven around their daily practices around mobile phone use constructed their female 'self'. I also wanted the narrative approach to elaborate upon the statistical findings by explaining the lived experiences of the research participants. Agency actions signalling shifts in gender relations, such as strategic choices where they were lacking before, actions that might reflect an expansion of power and subversion of gender norms (Williams, 2005b; England, 2000; Kabeer, 1999) were key dimensions I wanted my research to uncover.

Narrative approaches are concerned with structural elements relating to plot (sequences of events and their causation as inferred) and meanings generated (Bold, 2012). They involve collection, collation and synthesis of data followed by critical analysis, reflection and reflexivity (Bold, 2012). The principles of a narrative research approach featured partially at two levels in my study. First, I applied it at the level of data collection in the formulation of questions for the individual interviews, informed by my theoretical framework, in positioning and beginning my enquiries and eliciting stories. I also started the interviews with soliciting the participants' autobiographical story. Second, I aimed to construct interviewees' narratives in my interview data analysis. I used theoretical frames and findings to guide the construction of interviewees' narratives in my analysis and discussion of my data, guided by my theoretical framework, but leaving open the possibility of other dimensions that I had not considered to come through in their stories.

A narrative analysis of the in-depth interviews sought to explore 'how', and the conditions under which agency, and changes in gender relations are enabled. Thus, a narrative analysis of the interviews served as a tool to access the interpretive frameworks that actors use to make sense of events (Colombo, 2003).

Bold (2012) emphasises the importance of paying attention to multi-layered meanings and the context in which the narrative is set, as context is necessary for making sense of individuals' narratives. I now turn to the participants' contextual setting in terms of location, and explain the research phases.

3.2 Research context

Uganda was chosen as an exemplar of rapid urbanisation and expansion of mobile phone subscriptions (discussed in chapter 4). Uganda is an apt country to explore mobile technology-enabled agency insofar as it was the first African country where mobile phones subscriptions exceeded fixed line subscriptions in 1999 (Hellstrom, 2010; Business in Africa, 2004 cited by Castells *et al*, 2007:23). Kampala as the capital city is the most urbanised conglomeration in Uganda with the highest concentration of street traders. Many are rural-urban migrants who come in search for work and end up working in the informal sector as a survival strategy and living in illegal unplanned slum and squatter settlements with inadequate services and infrastructure as well as environmental sanitation problems (Byamugisha *et al*, 2008).

Locating my case study in a low-income urban area of Kampala served to contribute to a better understanding of the urban poor whose livelihood strategies and vulnerabilities and food insecurities differ from those of rural inhabitants. As migrants to the city they have no recourse to land or their own food production, and in the face of employment constraints demonstrate 'getting by' agency (Lister, 2004) in setting up as informal traders who contravene trading regulations. There has been an increase in trading along highways and road junctions in Kampala (Mukwaya, 2004).

Research site selection

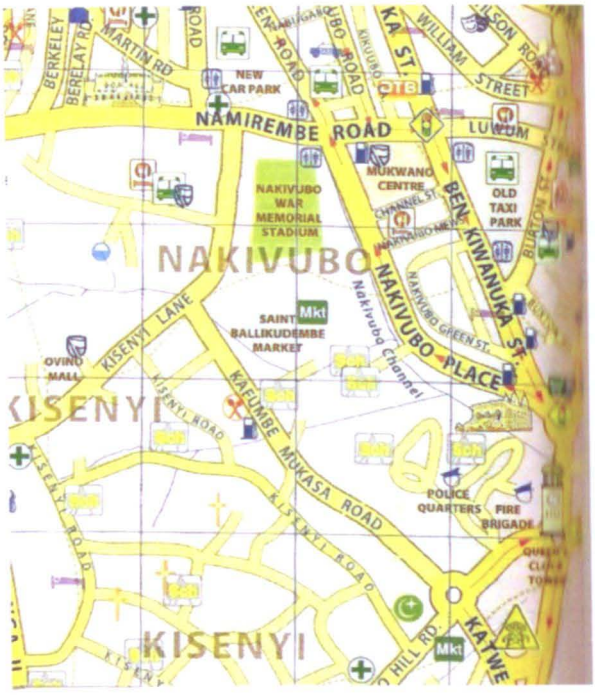
In selecting the sites, I held discussions with a lecturer working on ICTs at Makerere University and a female NGO worker working on women and ICT issues. They also provided comments on rephrasing of questions and additional questions to reflect the local context, so may be regarded as my expert local advisors. Six urban (Saint Ballikudembe, Kikuubo, Kisseka, Nakasero, Wandegeya and Katwe markets) and four peri-urban sites (Nansana, Kasubi, Namuwongo and Bwaise) in Kampala were visited in October 2008 and discussions held with community leaders about the viability of conducting the research in these areas.

In the end, the site outside Saint Ballikudembe market (see Figure 5[22]) was selected for its diversity in street-trading activity and centrality in Kampala. Unlike the other markets with more specialised economic activity, Saint Ballikudembe market attracts a diverse range of street trading activity, with products and services ranging from fresh food to hardware. Kikubo (largely wholesalers – fast moving merchandise), Kisseka (motor

[22] Figure 9 in chapter 4 presents the spatial location of Kampala

vehicle car parts), Nakasero (fresh food – fruits and vegetables) and Wandegeya (few small retailers – largely cigarettes) and Katwe (artisanry, crafts, metal fabricators) were considered and ruled out because of their degree of specialisation.

Figure 5: Location of Study



The streets selected were Nakivubo Place (approximately 382 make-shift stalls), Namirembe Road (98) and Kafumbe Mukasa Road (276). They are the busiest streets. However, these figures do not reflect the entirety as there is a shifting population throughout different times of the day. The stall count was undertaken one morning 17th November 2010.

Research phases

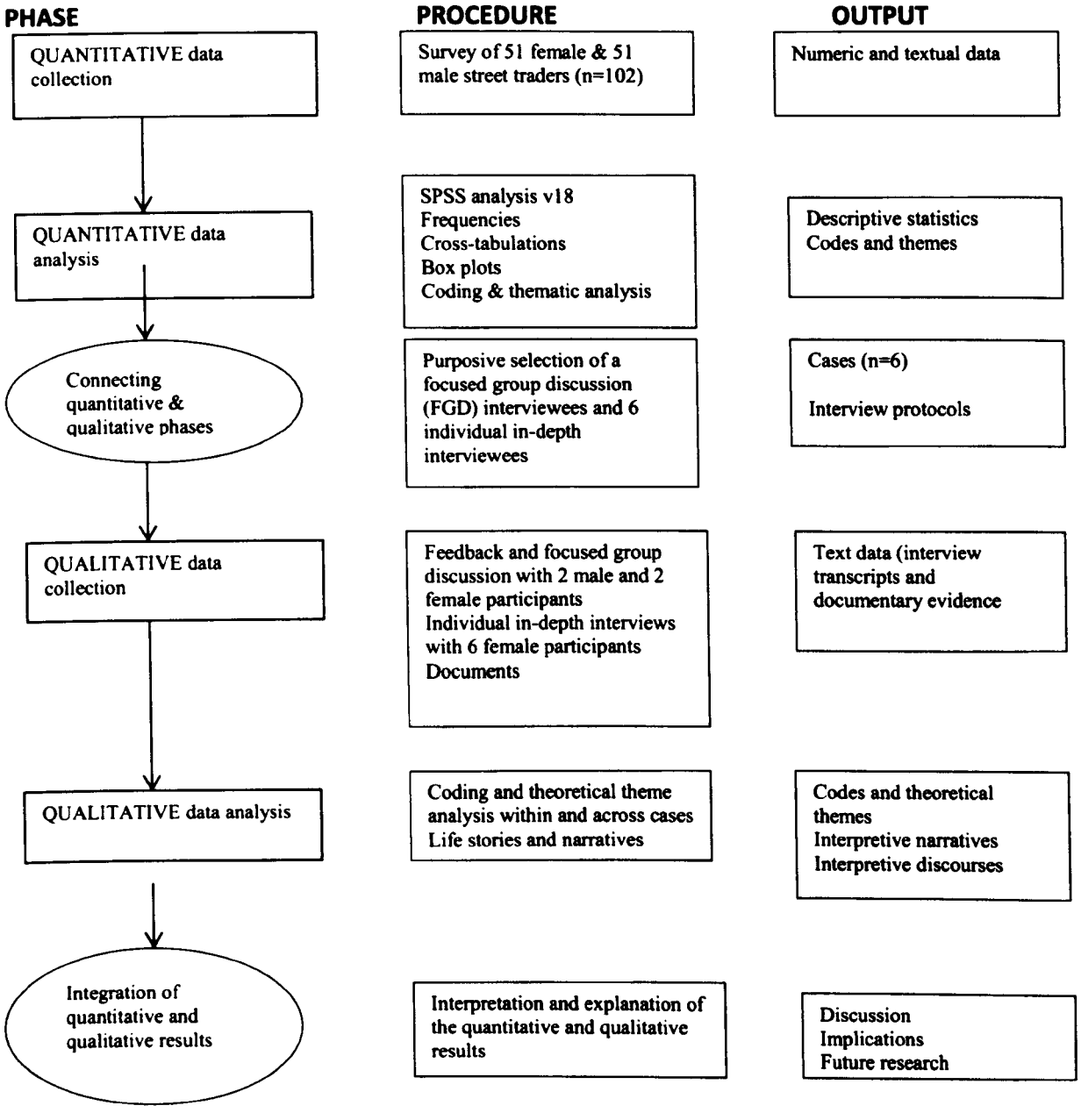
The research methods detailed in the next section were piloted in two urban (Saint Ballikudembe market and Wandegeya) and two peri-urban areas (Nansana and Kasubi) in October 2008, then amended in light of weaknesses identified. For the first phase of the

research, the survey, was conducted October-November 2010. The second phase, the focus group discussion and 6 in-depth interviews were conducted March-April 2011). The third phase of following up questions with individuals took place in March 2012.

3.3 Research methods

As noted above, the quantitative part of the mixed methods study applied a survey questionnaire method and the qualitative part included a focus group discussion, six individual interviews, as well as the study of documents, explained below. The stages, steps and methods are outlined in Figure 6. The following subsections present the design, discuss the methods and considerations for the quantitative and qualitative parts of the research, and conclude with a discussion of their validity and reliability.

Figure 6: Visual model for the mixed method sequential exploratory and explanatory design procedures



Adapted from Ivankova *et al*, (2006)

3.3.1 Survey questionnaire

Surveys provide an organised and systematic model for collecting quantitative data on a large scale (Denscombe, 2007) and also lend themselves to collecting data on demographic characteristics and routine behaviour and to reporting opinions (Miller and Brewer, 2003:302). The survey thus provided me a means to systematically describe the views, opinions, attitudes and behaviour of the target population, street traders. Following (Creswell, 2003), my use of quantitative methods was aimed to be:

- reductionist (reduce ideas into small, discrete ideas to test against the research sub-question 1);
- concerned with empirical observation and measurement and theory verification (testing, verifying and refining theory).

A descriptive survey as discussed by Oppenheim (1994), was selected for this study primarily for fact-finding purposes. Its purpose was chiefly to count, find out how many members of a population had a certain opinion or characteristic or how certain events occurred together and make inferences about a population. Unlike analytical surveys which seek to explore associations and causal relationships between variables, descriptive surveys are not designed to show causal relationships or explain why (Oppenheim, 1994). My survey aimed to capture basic descriptive statistics of the research population such as gender, age, level of education and ethnicity and to measure their general opinions about gender and mobile phones, such as the actual and perceived gender-differentiated mobile phone use and outcomes.

Survey sampling frame

The sampling frame was a geographical area in central Kampala. The sampling was purposive to some degree insofar as 51 men and 51 women were drawn from a sample population of 756 stall holders on three streets surrounding Saint Ballikudembe market. To minimise bias in selection, systematic probabilistic sampling techniques (Huck, 2008) for selecting participants were also applied in the following way. The 51 men and 51 women were selected on alternate days, through 'simple random sampling' (Hedges, 2004) or systematic/interval sampling. Every third male stallholder and every other female stallholder was approached and the next stallholder by gender if the selected person declined to participate. In this way the sampling was purposive in terms of gender but not in other ways.

The mobility of street traders, the changing numbers during the course of the day, the difficulty in engaging female traders initially, and the fact that the survey was conducted over several days, all meant it was difficult to obtain an unbiased random sample. Acknowledged variables that might affect the research, but not controlled for in the analysis were: (i) that the study was undertaken on different days, at different times in different weather conditions; (ii) the research participants' mood and feelings at the time of the interview and their reaction to the researcher.

Both mobile phone owners and non-owners were included in the sample to estimate the proportion of street traders with mobile phones. As I did not intend to draw any statistical inference, the sample was not stratified, although the categories of gender, age, ethnicity, economic activity, own account/worker and access to mobile ICTs were

included in the survey questions. These categories were compared for consistency with other studies on mobile phones and the informal economy in discussing the data findings. By doing so, I could attempt to establish the representativeness of my sample.

It is widely acknowledged that accurate data on the size and composition of the informal economy are difficult to obtain (Skinner, 2008). Finding a representative sample of informal economy workers at the outset was a challenge because of heterogeneity, methodological and legality issues. A few researchers have developed categories and classifications of informal sector occupations that were adapted for the survey (Charmes 1998a; 1998b; McKeever, 1998). Own account worker, family owned status, specified industry/economic activity and mobile/fixed shop were the four key classifications applied (see Appendix 1).

Formulating survey questions

A combination of pre-coded and open questions was formulated relating to the following areas in Table 4. The complete questionnaire is in Appendix 1. Several proxy questions concerning agency were posed for three reasons, to: (1) operationalise agency which is an abstract concept; (2) reflect the multi-dimensional nature of agency; (3) take on board the pertinent issues identified in M4D literature and research, and issues deemed relevant by local informants with local knowledge. Black (2005:24) notes that, as most concepts used in the social sciences are abstract, it is necessary to 'devise observable activity, that is indicative of a concept' and that the relative validity of the operational definition is dependent upon measurement skills and sound inferences. The proxy

indicators correspond to the study's theoretical framework (agency context, capabilities, forms and achievements).

The proxy questions (see Appendix 1) focused on individual agency and drew on proxy indicators, predominantly developed by Alkire (Alkire 2008; Ibrahim and Alkire, 2007), drawing on Sen's and Kabeer's work on agency as value-driven and goal oriented. Initially I chose to focus on five indicators of agency: control or ability to do, decision-making, autonomy, changing aspects in one's life and communal life. Alkire's agency proxies were further developed in consultation with local informants to include proxies for participation in mobile phone-led-development processes (economic, social and political activities) and the use of specific mobile-services. It also included perceived benefits, costs and improvements as proxies, from which presence or absence of agency could be inferred. Other issues highlighted by expert advisors with local knowledge were identity, values, modernity and increase in voicing opinions as proxies for agentic change.

These ideas are reflected (with further enhancements from the literature and local informants) in questions 17-31 which are about values, willingness to participate, perceived altered states, sense of achievement, and perceived outcomes. The survey attempted to gauge participants' sense of differences between men and women in relation to mobile phone achievements that are reflected in questions 17 (willingness to use a phone in relation to men's and women's issues), 18 (act and behave differently as man or woman), 21 (raising consciousness about gender issues), 24 (perceptions of whether men or women benefit most from mobile phones) and 25-28 (exploring positive and negative changes mobile phones have wrought upon men and women).

After the pilot and discussions with expert advisors, the questions were grouped in the following order (illustrated in Table 1): socio-economic and demographic questions; agency proxy indicators reflecting values and sense of being and achievement; goals, benefits and achievements; and positive and negative outcomes.

Table 1: Structuring of survey questions

Relation to theoretical framework	Focus of questions
Agency context	**Socio-economic and demographic:** Questions asked included respondent's gender, ethnicity, education, economic activity, business ownership status, how far they travelled to provide some socio-economic, and demographic descriptions of the research participants (presented in chapter 4).
Agency context and forms	**Access and participation:** Questions were asked about types of access to mobile phones, choice and preferences of using technological functionalities (voice, text, camera, video etc.) and services and the frequency of use to establish any gender differences (presented in chapters 4 and 5).
Agency forms and achievements	**Agency indicator proxies:** Some questions sought to establish preferences for, and willingness use their phones for various activities and services (as proxy indicators to establish agency freedoms and action (capability and achievements) afforded by mobile phones) framed theoretically and conceptually in chapters 2 and 3 and presented in chapters 4 and 5.
Agency forms and achievements	**Value, goals and benefit:** What was valued most and whether mobile phones helped achieve to establish Sen's notion of agency linked to values. Some questions sought to establish whether there were differences in opinion between men and women over what mobile phones could and could do for men and women based on their perceptions.
Agency capabilities	**Social change/transitions:** The last few open-ended question sought to establish what changes mobile phones brought for women and men and

	themselves and what light their responses could shed on agency and changing gender relations.
Agency context and capabilities	**Barriers:** The last question on improvements sought to establish what might be perceived as barriers to mobile phone use and thus impede agency.

Operationalisation of concepts and terms used

Deciding what to investigate and operationalise (for example, political participation) requires specific measures, for example, party membership, fundraising activities, going to political rallies, watching political events on TV, displaying a window poster or bumper sticker (Oppenheim, 1994). Table 2 explains how the more contested terms were operationalised and explained to the research participants for the survey. Formal definitions of agency and other concepts applied to the study are presented in chapter 2.

Table 2: Operationalisation of more contested concepts and terms

Concept/term	Operationalisation in the study
More modern	Sense of departure from the old or traditional and being up to date
Politically active/participate in political processes	Engage in political discussions through radio phone ins, canvas for party, organise meetings for political parties, engage in riots
Economically active	Expansion of livelihoods, business and income generating opportunities
Socially active	Attend a range of social events from familial/kinship related events to leisure activities and national ceremonial events
More knowledgeable	Learn something
Free, more autonomous (more independent)	Sense of being able to do what they want without a sense of obligation and fear of repercussion
Improved personal well-being	Well-being translates into Luganda well *émbela'* which encompasses capability theorists framing, but also typically signifies a good state of being, happiness and contentment in Luganda
Participation in community decision-making	Attend community level meetings (e.g. LRC), voice opinions and contribute to outcomes at the community level
Consciousness of gender issues	Awareness of an unequal gender order and the efforts being made to rebalance or redress it

The operationalisation of the concepts involved examining how they are framed in my literature review and consultations with expert advisors with local knowledge who suggested ways of framing them for the survey questionnaire.

Data collection

The survey data was collected over a period of three weeks from October to November 2010 and I transferred the data into a spreadsheet every evening. I observed that men

were more willing to be surveyed and in many cases women directed us to male street traders. When I enquired as to why this was the case, some women indicated that they felt they were less educated, fearing that we would ask difficult questions that they would not be able to answer, and others that women were more likely to be focused on work and saw the interview as an unwelcome distraction. I kept a researcher log or diary of such observations and key issues that arose that could not be recorded on the survey, as they were not included in the design. Many of these related to ideologies of gender that I identified, for example women's place in society and roles and perception of what they could and could not do, and differences between women and men in terms of the nature of their work, their attitudes and mobility. For example, women tended to be stationary and less likely to be peddlers.

Data analysis and interpretation of the survey

Several survey analysis approaches are available, for example hypothesis testing and elaboration of relationships between variables (Rosenberg, 2004). Univariate and bivariate descriptive analyses were chosen as the study did not seek explanatory (deducing direction and strength of influence of variables) or inferential (extrapolating characteristics and relationships between variables to the wider population) explanations.

I organised the data as follows to guide my analysis. The data was put into Excel and exported to SPSS and cleaned, correcting or removing inaccurate data. The first 51 male and 51 female entries with the most complete entries were selected for analysis. Missing data for those with incomplete entries within cases is noted in the analyses in chapter 5, where appropriate. No respondent refused to answer any question so the missing data

was an error in recording responses. Non-responses are only presented where tables have data that contains a non-response.

Continuous data from the closed questions was in the form of ordinal and cardinal scales. Ordinal scales are essentially those in ascending or descending rank (Yates, 2004:80). For example, those responses to attitude statements using the Likert scale, from 'strongly agree' to strongly disagree were coded 1-5. Interval scales 'where the values held by cases are points on scale with a distinct unit size' (Yates, 2004:80) were applied to age, length of ownership and amounts paid. Scales were coded 1-5 (for example age 16-20 =1, 21-25 =2) for purposes of statistical analysis. Statistical data concerning percentages are rounded to two significant numbers (10% and above) or one significant number (below 10%).

Generating categories, themes and patterns

Categorical data, where data belonged to distinct categories (Yates, 2004), for example socio-economic status such as employee status, was already systematically organised. Data from the open-ended questions was coded then reduced to categories to explore emergent themes, then re-categorised into coding frames that reflected agency and shifting gender relations in a context of gender and development in relation to my theoretical framework.

While the data lends itself to multivariate analyses, the data analysis for the quantitative part was univariate (looking for characteristics) and bivariate (looking for patterns). Blaikie describes univariate as 'concerned with summarizing the characteristics of some

phenomenon in terms of distributions of variables' (2003:47) and bivariate as including 'cross-tabulating the distributions of two variables' (*ibid*:91). The purpose for the use of univariate analysis was to summarise frequencies of occurrences across characteristics or variables for all the street traders. The bivariate analysis used proportions expressed in percentages to compare data across men and women, as groups.

In terms of organizing and preparing the data to answer the research questions, the survey data were then grouped to reflect the theoretical framework's key elements in response to the overall research question: to what extent can mobile phones contribute to gender equality through the expansion of women's agency? The survey responded directly to the research sub-question 1: what spaces and capabilities do mobile phones open for women's agency and what are the features of this agency? In so doing it illustrated the forms of mobile mediated agency afforded by mobile phones and the differences in capabilities for men and women. In developing an explanatory framework I also sought alternative explanations from other studies and the focus group's perspectives. I discuss how I carried out the focus group discussion in the next section.

3.3.2 Focus group discussion

A focus group discussion (FGD) was selected for this study to elaborate and explicate the findings of the survey. An advantage of a focus group is that it expands the number of views and opinions available to a researcher (Denscombe, 2007). Following Denscombe (2007,) the focus groups had the following characteristics. First, the discussion had focused on gender issues and mobile phones, being based on an experience which all participants have a similar knowledge. Second, as a moderator, I introduced the stimulus

of the discussion, kept it on track and encouraged participation from all members. Third, the group interaction helped me understand the reasoning behind views and opinions expressed. However, unlike some focus groups, the group dynamics was not the key motivation for the discussion. The purpose was to seek explanation for the survey results primarily and only to probe and explore issues that signalled differences within the focus group.

Ten street traders were invited to participate in the two-hour focus group discussion with the expectation that at least six would participate, but only four turned up. Denscombe (2007:181) suggests that 'mini focus groups of three to four people are used quite regularly in small-scale social research', and the small focus group in my study did provide useful insights.

The themes (see Appendix 2) for the focus group were identified from the survey and are summarised in Table 3.

Table 3: Focus group discussion themes

Topic	Issue of discussion
Use of mobile phones, m-content and m-services	Men and women's differentiated access to and use of mobile phones, m-content and m-services
Business and public life	Disparities in men and women's attitudes towards use of mobile phones in relation to family, business, engaging with public official and local community

Social, leisure and cultural activities	Differences between men and women's reported use of mobile phones for social, leisure and cultural activities
Politics	Both men and women's low propensity to engage with politics using mobile phones
Behaviour and capabilities	Whether access to mobile phones changed men and women's behaviours and capabilities
Wealth creation	Why women were less inclined than men to agree that mobile phones had made them wealthier
Autonomy, voice and decision-making	Examples of increases in autonomy, voice and decision-making mobile phones had facilitated
Achievement of goals	Polarised picture of women reporting that mobile phones had helped them achieve their goals
Gender positioning	Whether improvements attributed to mobile phones by women translate into improved positioning or status for women in their household, community and society at large.

Data collection and interpretation

Data for the focus group discussion was collected in May 2011. The discussion lasted two hours and comprised two women and two men. The discussion was recorded on tape and later transcribed by a transcriber/translator. I considered spatial influences, in terms

of where the focus group meeting was held, on the reliability of research. Datta's (2008) analysis highlights how power embedded in space can have a bearing on the research findings, so I considered such influences in terms of where the focus group meeting was held. In agreement with the research participants, neutral, familiar, yet comfortable environments were taken into consideration when arranging where to meet. The focus group discussion was held at Makerere University, as the local sponsor for my research, and an environment away from the participants' workplace.

The transcribed data was categorised in themes relating to the theoretical framework and analysed in relation to the survey data to expand the findings. The data is presented as one of several explanations to observed trends and opinions.

3.3.3 Individual interviews

Six cases were chosen to provide a deeper holistic understanding of agency and mobile phones in women's lives. These cases would explain and complement the survey findings. Semi-structured interviews were selected to respond to a clear list of issues as well as allowing for some flexibility for the interviewee to develop ideas and speak more widely (Denscombe, 2007). Semi-structured interviewing on a one-to-one basis helped investigate how mobile phones enabled agency capabilities and the research participants' interpretation of agency within their context. Interviews had the potential to investigate the consequential significance of agency 'in terms of [men and] women's strategic life choices and the extent to which it has transformatory potential' (Kabeer, 1999:461).

Since agency involves an assessment of what the individual values (Sen, 2001), narratives were a useful way of capturing individuals' social realities. Using components from the theoretical framework to guide the interviews, and a narrative approach to allow other themes and issues as perceived by the women to come through, the complex pathways and forms of agency enabled by mobile phones could be uncovered and illustrated (McCormack, 2004). Through the research participants' accounts, the study built a picture of what they considered as important events around agency and mobile phones in their lives.

By using narratives on agency, the context, features, forms and achievements of the six could be explained. Such an in-depth analysis provided the opportunity to understand how the participants' fluid economic, social and political networks enable or disable agency. As Kabeer suggests, these agency pathways can be non-uniform:

> 'Access to new resources may open up new possibilities for women, but they are unlikely to see to realize these possibilities in uniform ways. Instead, they will be influenced by the intersection of social relations and individual histories which form the vantage point from which they view these new possibilities. Unless indicators are sensitive to these contextual possibilities, they are likely to miss the significance of those transformations which do occur' (Kabeer 1999:460).

As one-to-one interviews, the narrative and conceptual thematic investigation enabled me to explore any changes in women's economic and social wellbeing attributed to mobile phone through probing. Further supplementary questions also helped me probe whether these improvements provided spaces and pathways for capabilities or opportunities for strategic agency, as defined in chapter 2.

Selection of questions and operationalisation of concepts

Thus, thematic and narrative approaches were taken to scripting the interview questions. Kvale (2008) describes thematic interviews as being concerned with the theoretical concepts of the research topic. Narrative interviewing emphasises the narration of life stories with ample space given to the participants to retell their story with minimum interruptions. Only a few prompts are needed. In line with Kvale's (2008) advice, attention was paid to formulating introductory, follow-up and probe questions in relation to my theoretical framework. Appendix 3 lists these questions.

In the survey, agency was conceptualised in terms of a process with multiple features. For the interviews agency was regarded as also embedded in meanings, expressions and symbolic practices (Geels and Schot, 2007) with the potential for unforeseen revelations of the interviewees. My probe questions therefore drew on Kabeer (1999) and Lister (2004) to uncover agency practices that might demonstrate improvements in gender relations. Agency achievements in support of greater gender equality were assumed to be manifested by:

- Increased influence over private (personal, domestic/family/intra-household) and public (community/work/livelihood/income, political) matters;
- Changes in attitudes towards men's and women's roles and behaviours in private and public spheres;
- Concrete examples of mobile-enabled expressions of increased voice, leadership, consciousness, strategic choices, network formation, use of information and knowledge and awareness of gender relations;

- Pervasive ideologies and discourses that reveal the state of gender relations and construction of the self.

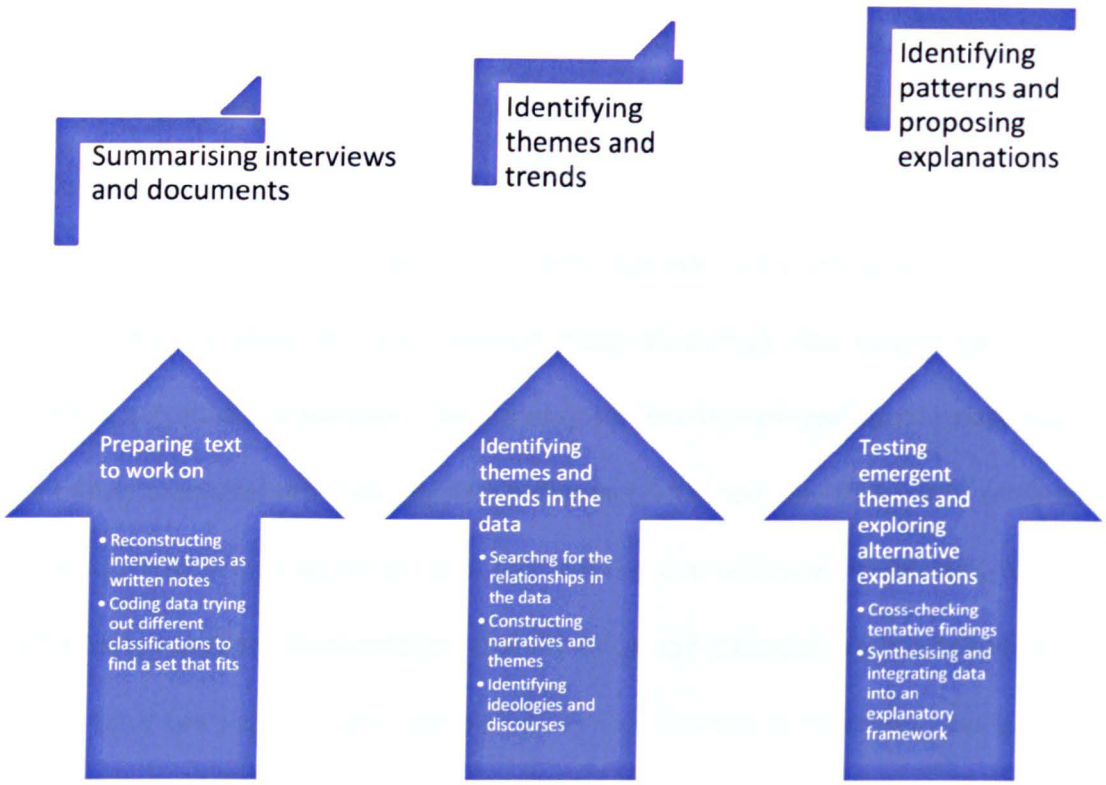
Data collection

Data for six individual interviews was collected over two weeks in May 2011. It comprised 1-1.5 hour interviews with six female street traders. The interviews were recorded on tape and later transcribed by a transcriber/translator. I utilised a field log to record my impressions of the interviews which I completed straight after the interview on the same day. Four interviews were held in a nearby café, one interview by the participants stall and another at the participant's home, which was her choice as she had recently had a baby.

Qualitative data analysis and interpretation process

The qualitative analysis was based on the transcribed individual interviews and the transcribed focus group discussion. The qualitative data was categorised, themes and patterns generated, emergent themes considered, against my theoretical framework, and alternative explanations of the data considered as suggested by Miles and Huberman (1994). Miles and Huberman (*ibid*) also suggest that the data analysis process consists of three concurrent flows of activity, involving data reduction (explained in this section), data display and conclusion (chapters 4, 5, 6 and 7). The data analysis process was iterative and consisted of three levels, described in Figure 7.

Figure 7: Ladder of analytical abstraction



Adapted from Carney's (1990) ladder of analytical abstraction in Miles and Huberman (1994:92)

Generating categories, themes and patterns

Narrative, thematic and discourse principles were used in repacking the data. Thus, narratives were initially presented as a chronological summary of the conversations and life stories for each participant by way of preparing the data. These were then repackaged according to themes corresponding to my theoretical framework and the study's research questions to identify themes and trends.

Discourses relating to shifts from traditional to modern perceptions of femininity and gender relations and participants' perspectives of gender and mobile phone relations

were also traced to explain the extent to which mobile phones can help realise gender equality through enhancing women's capabilities. Ideologies underpin discourse, so the data was also analysed to identify ideologies that might explain women's relationships with mobile phones. The data is presented in chapter 6.

3.3.4 Documents

Collecting and analysing secondary data in the form of documents was a necessary part of my research, particularly with respect to contextualisation. Documentary study therefore commenced at the start of the research project. Documents included academic literature and those produced by non-governmental organisations, businesses, the Uganda government, bilateral and multi-lateral donor agencies, and inter-governmental organisations such as the UN family. I used the institutional texts as 'background material for the real analysis' (Silverman, 2006:154), for example the official statistics from the Uganda government and the World Bank, bearing in mind that their reliability and validity should not be taken for granted, but that they are a 'representation of a stable reality' (*ibid*:174). Media reports of specific events relating to mobile phones were also collected and are reported in my data chapters.

Documentary evidence represents individuals' and institutions' construction of the social world (Silverman, 2006) so I applied four principles of approaching documents (authenticity, credibility, representativeness and meaning) in evaluating them for use in my analysis (Denscombe, 2007). Bearing this in mind, my approach to the documentary collection and analysis was to question the authority and identify the readership, that is who produced the text, for whom and why as advised by Silverman (2006) and

Denscombe (2007). Different documents also informed my research in different ways. First, official statistical information provided specific measures of contextual issues relating to their local economy and national issues. Second, academic journals presented peer-reviewed perspectives on several topics on Uganda. Third, newspapers, business publications and NGO material provided up to date information on opinions and trends relating to mobile phones. Fourth, government publications presented perspectives mainly provided by professionals on situational issues in Uganda. All are cited as appropriate in Chapters 4-7.

3.3.5 Overall data integration

The analytic procedures for linking mixed methods are referred to as data integration (Ivankova *et al*, 2006) and describe the facilitative role of each data type and the stage in the research process at which the integration occurs (*ibid;* Bryman, 2006). This section explains how the quantitative and qualitative data was analysed, interpreted and integrated in this study with these procedures in mind.

In linking primary data, Bryman (2006) suggest three ways of combining quantitative and qualitative data types:

- Qualitative data might be treated as facilitative and subordinate to quantitative data
- Or, vice versa
- Each data type is given equal weight, complementing each other

For the purposes of this study, equal weight is given to each data type. In chapter 5 the quantitative survey data is analysed and the qualitative data from the focus group discussion is used to explain and expand the findings. In chapter 6 the qualitative data from the individual interviews is presented, making reference to the quantitative and qualitative data from chapter 5. Throughout chapters 5 and 6, data types are evaluated and discussed in relation to the literature reviewed in chapter 2.

Data was integrated at two stages. Integration refers to the stage in the research process where the mixing of quantitative and qualitative methods occurs (Ivankova, *et al,* 2006). The possibilities range from mixing at the stage of formulation to the integration of the findings. In this sequential explanatory study, the first connecting point was at the stage of devising the interview protocols as these were informed by the survey findings. The second stage of data connection was in the interpretation and explanation of quantitative and qualitative results in the discussion in chapters 4-7.

Throughout all these stages, secondary data from the literature reviewed in chapter 2 and secondary data from official documents, personal communication and grey and published literature on Uganda is integrated into discussion in chapters 4-7.

3.3.6 Validity

Interpretations of validity in quantitative and qualitative studies differ (Huck, 2008; Guba and Lincoln, 1985; Silverman, 2006). I therefore explain how I approached these issues. Guided by Huck's (2008) interpretation of validity, as accuracy, for quantitative studies, I

addressed it as presented in Table 4. Conclusion validity (relationship between variables), internal validity (if the relationship is causal), construct validity (ways of elaborating abstract concepts that support the theory under investigation – making sure the instrument measures what it is supposed to measure) and external validity (extent to which findings can be generalised) are key considerations. Conclusion validity and internal validity are addressed in this study in chapter 5 when discussing other interpretations. Construct validity is addressed through the questions posed. External validity was addressed by the audit[23] of the sampling and execution of survey in this chapter.

Table 4: Validity for the quantitative part

Validity	Approach to ensure quality
Conclusion validity	Relationships were tentative and alternative explanations also provided in the analysis (chapter 5)
Internal validity	Causal relationships were not a key concern as data is largely descriptive
Construct validity	Operationalisation of concepts behind the questions posed, explained in this chapter, constructed in consultation with local experts and tested in a pilot study
External validity	Audit - sampling explained in this chapter and coding reviewed with another researcher

Drawing on Lincoln and Guba (1985) interpretation of validity as the trustworthiness of research, I addressed these issues as presented in Table 5. Internal validity was addressed through member checks (for example, focus group discussion and interviews to explore survey findings), revisiting the sites and constant comparison of the survey and

[23] Audit refers to the researcher's documentation of data, methods and decisions.

interviews data. External validity was addressed by detailed description of the setting of my research so other researchers can establish its applicability to other sites. Dependability, which relates to reliability, is explained through an audit trail of my data, methods and decisions about the research. Objectivity was approached by an audit of knowledge claims, use of mixed methods and reflexivity, for example, my own subjectivities, discussed in section 3.1.2.

Table 5: Validity for the qualitative part

Validity	Approach to ensure quality
Internal validity (credibility)	Member checks, multiple engagement in the field and data complementarity
External validity (transferability)	Thick description of setting and participants
Reliability (dependability)	Audit – documentation of data, methods and decisions presented in this chapter
Objectivity (confirmability)	Audit – knowledge claims and reflexivity about my own subjectivities Cummulative view of data through theoretically defined concepts

Adapted from Silverman, 2006

Interviews are not unproblematic, so I considered the following. Silverman (2006) argues that comprehensive data treatment using theoretically defined concepts strengthens the validity of interview data. Atkinson (2005) notes the danger of taking narratives at face value: they are not unmediated private experience, but performances or speech-acts. However, conducted skilfully, interviews serve as a 'powerful method of capturing the

experiences and lived meanings of the subjects' everyday world' (Kvale, 2008:110) and meaning interpreted through vocalisation, facial expression and other body gestures (Kvale, 2008).

3.4 Ethics and practical challenges

This section presents the ethical considerations for this study and the practical challenges encountered.

3.4.1 Ethical considerations

The research study was approved by the Open University ethics committee. In considering the ethics of my research I used the ESRC Framework for research ethics 2005 (updated in 2010). ESRC (2005) recommends six key principles: integrity, quality and transparency; consideration of risks; confidentiality of information and anonymity of the research participants; voluntary consent; consideration of possible harm to research participants; independence of research and making explicit any conflict of interest.

Integrity and quality issues were addressed through the careful design of the research, transparent detailing of approaches taken and truthfulness ensured in the conduct and reporting of the research. I adhered to ethical research practices in the design and execution of my study with integrity and observed research professional codes in the design, implementation and reporting. The research was designed with transparency in mind and was also scrutinised by, and affiliated to, the Makerere Institute of Social

Research (MISR). It was also scrutinised and approved by the Uganda National Council for Science and Technology (UNCST[24]). As part of the approval process, both bodies required me to provide them with a final copy of the research.

I considered the personal and safety risks my research might pose and militated against these risks by conducting interviews in open spaces and with a translator. I considered the implications of researching activities such as street trading considered illegal, but I had the UNCST and Local Council[25] (LC) approval to conduct the research. I also informed the Kampala City Council (KCC) of my research. I also considered the risks of the consequences my research might pose for the participants in revealing information they may later regret or the consequence of forming a quasi-therapeutic relation (Kvale, 2008), by carefully moving away from discussions that appeared to be ethically sensitive and intrusive, such as individuals' revelations that they were involved in acts of criminality, their HIV/AIDS status and personal problems.

My research was based on everyday life and conducted on the street which might appear intrusive. I took great care to explain my research aims, earn the trust of the participants, ensure that they were comfortable for me to conduct the interview on the street and offered them an option to meet in a nearby café of their choice. I also ensured that I stopped the interview when a customer appeared so as not 'to violate the participants' privacy or unduly disrupt their everyday world' (Marshall and Rossman, 1989:75)

[24] The research body that has to approve all research conducted on human participants in Uganda.
[25] The district level administrative body.

Participants were informed of the purpose of my research prior to the interview, asked to sign or initial[26] consent forms which were translated and were reminded that they could withdraw from the study at any point. I provided them with a form detailing this with my email address provided. I also provided my research supervisors' email addresses should they wish to lodge any complaint about the conduct of the interview. I explained that the research was part of my doctoral study and I would aim to use the data for my thesis and potentially in subsequent publications and that it would always be anonymised. I informed them that I could provide them with excerpts of any part of my thesis that directly referred to them should they wish to see it.

Confidentiality was maintained by granting anonymity to participants and ensuring that information that would identify them is not included in my analysis and findings.
This issue of confidentiality became more apparent as I conducted the interviews when I realised the illegality of their circumstances and the process through which I obtained their trust. Confidentiality was also maintained through the transcription process (Kvale, 2008) by selecting a transcriber with no known relationship with the street-trading community or public officials. Personal introductions at the beginning of the focus group discussion and interviews were not recorded. Survey questionnaires and transcripts were also stored securely to maintain confidentiality. I took the issue of harm to the participants seriously and ensured that I kept the survey forms and interview transcripts separate from the consent forms in a safe place.

[26] Not all participants were literate, so care was taken in verbally explaining the consent process and building trust, through the use of gatekeepers who were literate and confirmed the content of the forms.

3.4.2 Challenges encountered

Literacy and language barriers were likely to be an issue in completing questionnaires so the questionnaires (in English) were administered by an interviewer who interpreted and translated the questions into Luganda and recorded the responses in English. The use of translators and interpreters presented me with practical and technical challenges (Bujra, 2006): practical in terms of the cost implications and technical in term of what might be lost in the process of translating and interpreting concepts, issues and responses. I had the opportunity to clarify responses as the interviews were conducted. I was also fortunate to have some knowledge of Luganda that mitigated some of the interpretation challenges.

I took great care in selecting an interpreter on the basis of appropriate skills such as local language capability, formal education, an understanding of gender and social science issues and experience of social research. I briefed her of the aims, objectives and methods of research and interviewing norms prior to conducting the survey. These are all, issues highlighted by Simon (2006). The interviewer/translator was recommended by the Makerere Institute of Social Research (MISR) and she provided me with a CV. I interviewed her and found her to have understood the premises and purposes of the research. She was a highly experienced social science researcher and interpreter, linked to a reputable research institute both in Uganda, the United States and South Africa. Several meetings were held beforehand to establish a shared understanding of the research process.

The issue of power-relations and building trust was anticipated which is partly why Luganda was chosen as the language for the conduct of survey, why we sat on the street floor when conducting the interviews, stated at the beginning that we would stop the interview to allow the trader to serve their customers. We explained in great detail what the interview entailed. What we did not anticipate were some gatekeepers and the bystanders, who tried to intimidate and belittle participants and sow seeds of mistrust by suggesting we were officials from the local authority or journalists. Some asked other potential or actual interviewees, usually women, not to participate or sign the consent form after the interview, and others crowded around us, minimizing privacy. The insider-outsider perception of us worked to our advantage in trying to establish trust, as it was clear from our manner, appearance and clothing that we[27] were from outside Uganda, yet we spoke Luganda.

On a number of occasions whilst interviewing, the bustling street would suddenly clear with no sight of any merchandise or make-shift stalls as officials from the local authority were perceived to be coming. On many occasions, it rained interrupting interviews conducted on the street.

I found, as Buksens and Webb (2009) note, that when researching women, some believe they are less worthy, capable, competent and talented. Therefore, we altered our initial approach. We kept the paper questionnaires out of sight until we had fully explained the purpose of the interview, gained trust and consent. This was because we had been informed that part of the reluctance to participate was the paper questionnaire and feelings of inadequacy in responding to it. Women's initial reluctance to participate

[27] My interpreter was a Ugandan who had been living in the US and had returned to Uganda to work on various research projects.

meant we altered the random sampling from every 3rd woman to every other woman. Also there appeared to be fewer women than men in the areas we conducted the fieldwork than is the norm. Most studies suggest that a larger proportion of the informal sector comprises women (Lange, 2003; Snyder, 2000).

Another challenge I encountered was recruiting participants for both the focus group discussion and individual interviews. Previous survey participants were reluctant to meet and participate in a group discussion for two hours despite offering to hold the meeting close to their workplace and a nominal fee to reimburse loss of earnings. Ten people were recruited with a view of at least six attending, but only four turned up.

The scheduling of both the focus group discussion and individual meetings was also problematic. My interview visit occurred during a period of insecurity consisting of both planned and unscheduled riots leading to violence on the streets, including the research site. Planned interviews had to be rescheduled on four occasions. The political tension might also explain the research participants' reluctance to discuss use of mobile phones for political action.

In recalling memories, interviewees may not discuss areas considered important by the researcher and that the focus of probe questions might have little meaning to those interviewed, as Kakuru and Paradaza's (2007) note in their use of narrative-based life history research in Uganda. I attempted to mitigate these issues in two ways. First, I tightly aligned my questions to the conceptual themes of study. Second, I focused on narrative probing of events by asking follow-up questions using why, how and when-type questions.

I was aware of 'interviewer bias' and how an overly interventionist form of facilitation could potentially skew my results. I mitigated this bias by the use of the other research methods that I have already identified. Despite the challenges, the focus group discussion technique was appropriate for my investigation because it highlighted varied attitudes, priorities and conflict. As a process it also: encouraged different communication styles, tapping into different knowledges and forms of understanding; demonstrated how social groups articulate knowledge through what is censured or muted; and showed how individuals adapt to alternative views and illustrated power relations. Its relational, interactive nature suited my investigation into the types of linkages between agency and technology modified by gender relations. Its use enabled me to identify group norms, and explore differences across participants.

Another 'interviewer bias' challenge I faced relates to the one-to-one interviews. Oakley (1981) suggests that the rapport-promoting nature of interviews might support the ease of soliciting information from women, the inference being, that it might not be the most appropriate method for eliciting information from men. Huddy *et al*'s (1997) study of the effects of the interviewer gender on survey results demonstrated that respondents were more likely to give feminist responses to female interviewers. Proponents and opponents of whether women interviewing women is best practice also raised practical challenges for my study of women interviewing men on gender issues, particularly in relation to agency issues. Questions needed to be framed indirectly and the questions eliciting particular information framed differently two or three more times.

Conclusion

In this chapter, I have explained how I designed my research and the methods I used to respond to the key research question which is concerned with the extent to which mobile phones can contribute to gender equality through the expansion of women's agency to facilitate gender equality objectives. I have argued that observation of this requires both deductive and inductive approaches to address the research sub-questions that address the what, how many and why dimensions. I have further demonstrated the importance of my research approach to investigate perceptions and lived experience and understand the street traders' context.

On reflection, I conclude that the pragmatic complementarity of quantitative and qualitative methods and their modification in the field reinforce the benefits of mixed methods for research into complex processes such as agency directed towards gender equality concerns. The approach highlights the potential for development and wider application to other contexts where agency processes are of interest. I acknowledge that my research methods reflect the methodological limitations of each, but I have argued that that my approach attempts to address these through their complementarity.

In the following contextual background chapter I show how the statistical information gleaned from the survey interfaces with broader and wider national characteristics to frame the context through which mobile phones mediate agency.

4 The urban street traders' characteristics, context and biographies

Introduction

Making sense of the street traders' perspectives requires an understanding of their lives and wider political, social and economic context. The street traders in this study worked on the streets around Saint Ballikudembe market in Kampala's Central Business District (CBD). Their lives were affected by public policies relating to trading activity and wider economic, political and social trends, including gendered relations and the introduction of mobile phones and services.

This chapter aims to contextualise their lives in both local and national contexts. The street traders' socio-economic characteristics, Kampala's spatial and socio-economic features and governance structures are described, the mobile phone landscape explained and gender relations in Uganda outlined. It draws on this study's survey data, official statistics, personal communications with key informants and other studies on Uganda.

4.1 Contextual socio-economic and demographic descriptors

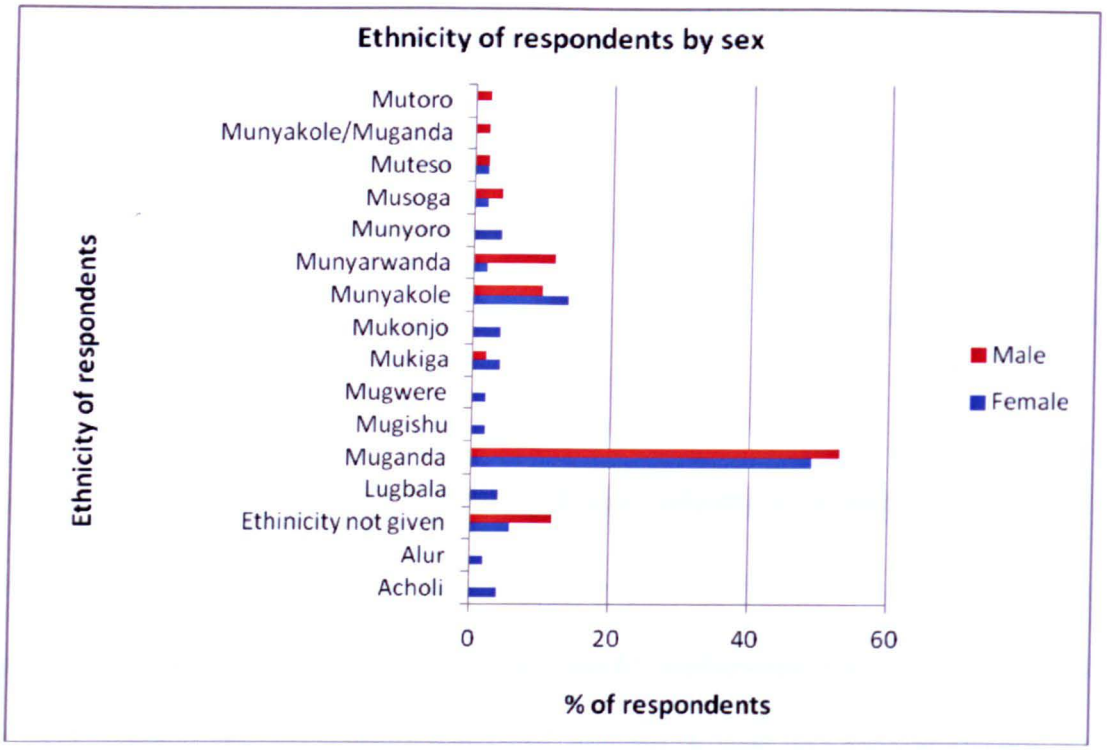
This section provides demographic and socio-economic characteristics of the 51 women and 51 men surveyed for this research, highlighting gendered social relations. These relations have implications for both agency and mobile phone capabilities as they frame possibilities and constraints.

4.1.1 Socio-economic characteristics of the research participants

The research participants represented 14 Ugandan ethnic groups (see Figure 8), with one person indicating that she was a refugee from the Democratic Republic of Congo. Approximately half were Baganda[28] which is not unusual as Kampala, the capital city, is within the Buganda region. The city itself is ethnically diverse, although at 60% (Mwakikagile, 2009:52), the Baganda are most dominant group. Ethnicity has played an important role in shaping behaviours and ways of life (UBOS, 2006a).

[28]Baganda refers to the ethnic group, Muganda to an individual, Buganda to the region and Luganda to the language spoken.

Figure 8: Ethnicity of research participants



Different ethnicities have different socio-cultural practices (Freda Nakabugo, FGD participant, 2011) and models of gender relations. Within some ethnic groups, 'women are still regarded as property by their husbands owing to dowry payments and, as such, men have control over women's lives, including their time, access to information and participation in politics, social groupings and training' (cited by Bakesha *et al*, 2009:143; MFPED, 2002). Preference for sons limits opportunities for girls and deeply rooted socio-cultural attitudes lower the status of women (ROU, 2008). Kinship based systems are an important traditional social security system through which resources are mobilised where extended families provide money and material goods (Kasente, 2006), and are organised along historical social relations of production and reproduction that privilege men.

Examples of such gender ideologies are illustrated by the traditional exclusion of women from owning land (Lange, 2003) and subservient cultural practices such as women

kneeling for men. Assumptions that women cannot do what men can are 'entrenched by traditional customs and norms' (Ellis *et al*, 2006:19). While statutory laws make provisions for women's inheritance and ownership of land and other assets, customary practices pervade and many women are unaware of their rights, and so lose out. Overall, cultural practices, discriminatory property and inheritance laws (tensions between customary and statutory laws), lack of access to formal financial institutions, and time constraints because of family and household responsibilities are key barriers to women's entrepreneurship and productivity (Stevenson and St Onge, 2005). Escaping poverty is harder for women owing to gender inequalities in the household, community and the market which limit women's income-earning options and access to education (Kasente, 2006).

The survey participants ranged from those describing themselves as having no education to graduates, with 48% having an education level of Primary 7[29] – Senior 2 completion (typically 7 to 9 years of schooling if a school year is not repeated). Historically, the Ugandan informal economy has comprised individuals with low educational attainment, but with the expansion of university education and high graduate unemployment, increasingly more graduates are resorting to street trading (Makerere University lecturer, personal communication, 2008). The National Strategy for Girls Education (NSGE) in Uganda, which intends to achieve gender equality in response to Millennium Development Goals 2 (aiming for universal primary education) and 3 (promoting gender equality and empowering women), has had limited relevance to the research cohort, and little impact on achieving gender-equitable education opportunities for girls (Jones,

[29] Uganda's education system consists of 7 years of primary schooling starting at age 6 and 6 years of secondary schooling starting at age 13. However, in most cases age does not correspond to year as many start schooling late.

2011). It aims to sensitise communities about the rights of girls, promote their education and acknowledges the importance of cultivating their self-confidence, autonomy and leadership skills (*ibid*). Street traders who can afford it, however, often send their children to boarding schools from a young age so that they can concentrate more on the business and at the same time give their children a good education, as corroborated by this research's findings (chapter 6). This is because they perceive education as offering unique advantages and opportunities that they did not have (Snyder 2000:23). Women's motivation for informal sector work tends to support the needs of the extended family. The HIV/AIDS epidemic has placed extra demands on women. The burden of school fees for their own children, and AIDS- orphans living with them are not uncommon issues.

Most of the research participants surveyed fell within the 21-35 (see Table 6) age bracket (n=71, 70% of total participants), a critical fertility age bracket. Women (n=8, 15% of total number of women) were more highly represented in the 31-35 category than men (n=5, representing 9.6% of total number of men) whilst there were more men (n=26) in the 16-25 age group than women (n=21). Overall, in Uganda, the proportion of those aged under 18 is 56% of the total population, 27% of whom are in the Central Region where Kampala is located (UBOS, 2006b:10), suggesting a relatively young population. Most of the female participants are within the 20-29 age bracket which has the highest fertility rates (ROU, 2008). High fertility is valued, as children are regarded as a form of status, recognition and social security in old age (ROU, 2008).

Table 6: Age groups of research participants, 2010

Age bracket (question 8)	Female (n=/%)	Male (n=/%)	Total (n=/%)
16-20	5(9.8%)	8(16%)	13(13%)
21-25	16(31%)	18(35%)	34(33 %)
26-30	12(24%)	12 (24%)	24(24%)
31-35	8(16%)	5(9.8%)	13(13%)
36-40	3(5.9%)	4(7.8%)	7(6.9%)
41-45	5(9.8%)	3(5.9%)	8(7.8%)
46-50	2(3.9%)	1(2%)	3(2.9%)
Total	51(100%)	51(100%)	102(100%)

Socio-economic indices point to some gender disparities and inequalities. Uganda's sex ratio is 95 males to 100 females (UBOS, 2006a:xiii). Generally, in Uganda social and power relations help explain other gender inequalities in health, education and livelihood capabilities illustrated by national human development indices disaggregated by gender (MFPED, 2010). The gender status index (GSI), a composite index measuring social power (capabilities), economic power (opportunities) and political power (agency) included in the African Gender Development Index (AGDI) notes women's gender disadvantage with respect to all three measures in Uganda (ECA, 2009; ECA, 2011). For example, it notes that Uganda scores only 1 on laws out of a maximum total of 2 indicating persisting gaps in legal provisions that guarantee non-discrimination against women (ECA, 2011:48). The redressing of gender inequality, which entails gender achievements, often framed in terms of empowering women, requires an enabling institutional environment for women's agency (Narayan, 2005; Wong, 2003; Kabeer, 1999), such as the legislative environment to uphold land rights.

In Uganda 88.2% of economically active women are self-employed or unpaid family workers, and thus categorised within the informal economy (Stevenson and St-Onge, 2005:xviii). In terms of place of work for the research participants, 18% of the research participants were peddlers, the rest stationary roadside sellers (see Table 7).

Table 7: Employment status of research participants, 2010

Employment status (questions 3 and 7)	Men (n=/%)	Women (n=/%)	Combined (% of total)
Stationary workers	37(72%)	47(92%)	82%
Peddlers	14(28%)	4(7.8%)	18%
Employees	12(24%)	6(12%)	18%
Employer	4(7.8%)	2(3.9%)	6%
Own account business	33(65%)	37(73%)	69%
Paid family worker	0(0%)	1(1.9%)	1%
Unpaid family worker	2(3.9%)	5(9.8%)	7%

Women surveyed were all concentrated in less mobile economic business activities; 7.8% of the total female participants there were female peddlers. The main activities of the participants (product made/sold or services for pay) included:

- Vehicles and transportation (*boda boda* motorcycle people transportation services, vehicle repair and sales of parts);
- Electronic goods (including mobile phones sales and services);
- Non-consumable goods (clothes, shoes, beauty products, utensils and handicrafts);
- Perishable goods (confectionary, fresh and cooked food and local alcohol);

- Services (shoe shiners, carpentry and hairdressing).

While the informal sector economic activities are still largely gender segregated, women are entering sectors formerly dominated by men, and some men are entering previously female domains such as the preparation and sale of food and hair styling (Lange, 2003:1). The employee status of the participants did not show any major disparities by gender in terms of own account business ownership. However, fewer females were employees and more females were unpaid family workers, but more females than men were own-account owners (see Table 7).

The most recently available published data estimate that up to 100,000 people a year from rural areas arrive in Kampala seeking employment (KCC, 2000). Many, in search of the perceived opportunities the city can offer them, end up pursuing a diverse range of livelihood strategies, particularly within the informal sector. Those with little formal training initially engage in skills-related livelihood activities as informal employees or trainees in apprenticeships such as carpentry, hairdressing, automobile repair, brick-making and *boda boda* taxi motorcyclists, and later as small-scale entrepreneurs as their participation in these activities builds their human capital assets and increases their opportunities for self-employment (Republic of Uganda and World Bank, 2009). However, they also face considerable human capital barriers and challenges to, for example, poor information flows (Stevenson and St-Onge, 2005) and lack of knowledge of business registration, regulatory and legal processes. It is suggested that women in the informal sector face additional challenges, for example in relation to negotiating deals and credit facilities (Kaheru, 2005). As noted by Stevenson and St-Onge (2005:47), women are more accustomed to informal credit systems, for example, rotating and group

lending schemes and fail to access formal credit, productive resources, services and training. Women entrepreneurs belong to their own informal savings and producer groups (*ibid*:55), but generally face constraints in organizing as a group.

The 'continuum of productive activities' of street traders with 'complex linkages and dependent relations between production and distribution systems' (Moser, 1978) demonstrate some organisational attributes. The research participants, like other informal sector workers, perform their activities outside legal and regulatory frameworks, but this does not imply a lack of rules or institutional arrangements. Rather:

> 'People engaged in informal activities have their own "political economy" – their own informal or group rules, arrangements, institutions and structures for mutual help and trust, providing loans, organizing training, transferring technology and skills, trading and market access, enforcing obligations, etc. What we do not know is what these informal rules or norms are based on and whether or how they observe the fundamental rights of workers' (ILO 2002 cited by Lange, 2003:2).

Most of the research participants displayed their goods at strategic points where there was heavy human traffic. Goods were displayed on rail hangings, table and mats on the ground or over their shoulders. Public space is a key physical asset for the livelihood strategies of the urban poor (Brown and Rakodi, 2006). Street vendors are a visible illustration of the urban poor making 'lives that work' (Simone, 2001:6) and the application of agency.

More generally, street traders' livelihoods are vulnerable due to their peripatetic nature, variation of goods and seasonality. An expansion of informal economies has been

attributed to exclusion caused by economic liberalisation which has changed livelihood opportunities and created new forms of vulnerability (Lindell, 2010b). However, there is an economic dynamic that is 'underexplored' (Skinner, 2008:28) particularly the increasing penetration by formal retailers. Muwonge *et al*'s (2007) review of formal-informal linkages in Uganda concluded that these were low, although some goods sold in the informal sector do come from the formal sector. As the expansion of informal sector continues to expand, it is useful to look at where the research participants reside and Kampala's characteristics.

4.2 Kampala's characteristics

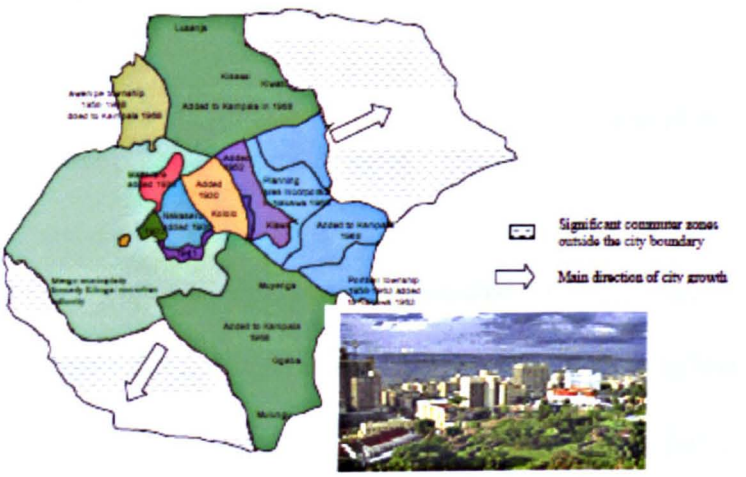
It is noteworthy that 59% of the research participants live outside Kampala so commute to work. It is claimed that the population size of Kampala almost doubles during the day since the city serves as a workplace for commuters from nearby areas who go back home in the evening (Kulabako *et al*, 2004). The key commuter areas are presented in Figure 9 in the following subsection which presents Kampala's spatial characteristics. This is followed by other subsections concerned with local governance, the local economy and urbanisation.

4.2.1 Spatial characteristics

Kampala is situated in the central region. The city is divided into five divisions: Central Business District; Kawempe; Makindye; Nakawa and; Rubaga. Its history can be traced back to the 1600s, initially part of the Buganda Kingdom. Historically, Kampala was

known as the city of seven hills (Kasubi, Mengo, Kibuli, Namirembe, Rubaga, Nsambya and Old Kampala) but expanded to encompass surrounding hill areas (for example, Nakasero, Kololo, Tank Hill, Naguru, Bugolobi, Mulago and Nsambya) and the suburbs (for example, Najjanakumbi and Kira). It expansion from the headquarters of the Buganda Kingdom, the *Kibuga*, as the administrative capital (see figure 8), to its present-day has occurred through the extension of the city's boundaries from 1929 to 2002.

Figure 9: Kampala's spatial development



Source: Mukwaya, 2004:5

The 2002 census estimated the population of Kampala at 1,189,142, (UBOS, 2006c:42). It collected household data on population, housing, agriculture micro-enterprises and community information and is the most comprehensive survey that has been undertaken in Uganda (UBOS, 2006a). Nationally, the average number of children per household was 5.5 (UBOS, 2006b:11) and fertility rate estimated at 7.7 per woman.

Designed initially for 600, 000 people, Kampala's expansion over the years is straining urban infrastructure, services and resources provision. Persistent urban poverty is evident in the poor housing and sanitation conditions in some inner city and peri-urban areas. Unplanned settlements driven by rural-urban migration have exacerbated infrastructure, services and environmental challenges. The rise of informal settlements, particularly in wetlands of the peri-urban areas, compounds these environmental challenges (for example, flooding, drainage management and waste disposal), threatening the natural landscape (Byamugisha *et al*, 2008).

Urban poverty in Kampala has to be understood within wider processes. Uganda's recent socio-economic and political history has been turbulent. After a series of political upheavals (military coups, insurgency, insecurity and instability from 1971) and the implementation of structural adjustment programmes (SAPs)[30] in the 1990s, the consequent decline in urban employment adversely affected a cash dependent urban population. SAPs and the HIV/AID crisis in the 1990s severely undermined family support networks at a time when they were most needed. Kilbridge and Kilbridge (1990), for example, observed that cooperative and caring obligations amongst kinship groups were gradually eroding as a result of economic stress, urbanisation and neo-colonial cultural influences. While there have been some improvement's in Uganda's economic outlook, with 6.7% GDP growth in 2010/11 (MFPED, 2011b:1), governance structures (services and resources) have not been able to fully address the socio-economic and welfare needs of the urban poor (National Planning Authority (NPA), 2010). Formal and informal social security systems have also not been able to cushion the urban poor against lifecycle events that lead to vulnerability (Kasente, 2006; 2002).

[30] SAPs are economic policies aimed at reducing fiscal imbalances that developing countries had to implement to qualify for IMF and World Bank funding initiated in the 1980s.

4.2.2 Local governance

Kampala, as other districts (LC[31] Vs), is divided into several administrative units: counties (LC IVs), sub-counties (LC IIIs), parishes (LC IIs) and local councils (LC Is) (UBOS, 2006b). The LC (local council) levels refer to the local government system at the different levels whose key role is to implement and monitor government interventions at the respective levels.

Kampala is administered by the Kampala City Council (KCC) whose vision is to serve the city's residents through coordinated service delivery that addresses local and national priorities. The Kampala City Development Strategy's overall objective is to address the priorities of the decentralisation agenda. The KCC has the sole responsibility for ensuring the effective co-ordination and delivery of basic social and infrastructural services (for example, water, sewage, refuse collection, public transport, emergency services, education, healthcare, public housing, recreational facilities, electricity and market infrastructure). It rents stalls and market spaces to small-scale business entrepreneurs and monitors local business and trading activities. KCC is tasked with implementing policies towards street traders in the City Business District (CBD). Street trading activity is illegal but tolerated (KCC Official, personal communication, 2010). Street clearances are implemented periodically with goods confiscated, but traders are not fined or imprisoned as it is impracticable to do so.

[31] LC is local council as introduced in chapter 4.

Saint Ballikudembe market, the site for the research, is the largest urban market in Kampala, and is located in the CBD. The physical approach to it is characterised by a highly visible volume of vendors (Snyder, 2000). Traders are regarded as highly politicised and engaged in collective organising (Snyder, 2000), although there was little evidence of this in my research. Goodfellow and Titeca (2012) suggest that presidential support has helped subvert formal urban governance structures so that market vendors and *boda boda* taxi motorcyclists have tactically leveraged presidential intervention in their favour, to help them evade the policies and regulations of the City Council. As such some groups of the informal sector have been able to 'use politics' (*ibid*) to exert their influence and circumnavigate urban policies and interventions in order to pursue their livelihoods. A women's group, the Owino Women's Group is registered with the National Association of Women of Uganda (NAWOU). However, few female street traders who participated in the survey are associated with it or other associations. Other active trading associations include the Kampala City Traders Association.

While in theory, urban governance involves non-state actors and the state working together in formally institutionalised ways to make collective decisions and provide urban services, in Kampala, a city with a highly informalised economy, Goodfellow and Titeca (2012) suggest that the processes that underpin 'real' governance reflect informal bargaining power much more than formal institutional frameworks. In my thesis traders' engagement with the state is explored through political and civic involvement with local councils and is reported in Chapter 5.

4.2.3 Local economy

In 2003 Uganda was ranked the most entrepreneurial country in the world amongst the Global Entrepreneurship Monitor (GEM) countries with a Total Early-stage Entrepreneurship Activity (TEA) index of 29.2 indicating that 29 out of 100 Ugandans are is engaged in some kind of entrepreneurial activity (GEM Consortium, 2003). Official statistics paint a picture of steady national economic growth in terms of GDP (World Bank and UNDP reports), but Kampala's local economy presents a mixed picture of wealth and poverty as is the case for many cities. The local economy has a sizable proportion of small and medium enterprises, although most large businesses are also located in Kampala. Kampala has the highest level of manufacturing industry in Uganda, 90% of which comprise MSMEs (NPA, 2010:118).

While the city has attracted investment capital, factors such as globalisation, economic reform, rapid urbanisation and unemployment have contributed to the expansion of the informal sector. It is estimated that up to 87% of MSMEs are informal (Muwonge *et al*, 2007:1). The informal economy is largely comprised of micro and small-scale enterprises (MSEs), which employ about 90% of the total non-farm economically active population (MFPED, 2004 cited by Stevenson and St Onge, 2005). The National Planning Authority (2011:178) suggests that women own 40% of private enterprises and that these are located mainly in the informal sector, but lack the skills and knowledge required to run a business.

The local informal economy is typified by petty business activity such as those described in section 4.1.1 for the survey participants. Evening markets are common, but were not

covered in this study. A major characteristic of the informal economy in Kampala is the tendency of entrepreneurs to invest in several sectors at the same time, as 'occupation pluralists' (Lange, 2003). This, Lange (*ibid*) describes as dealing in multiple products and/or providing multiple services.

Women in the informal traders' category have fewer available sources of capital, start with very small amounts of capital, and are motivated more by generating income to meet their family responsibilities than they are by the commercial potential of the enterprise (Synder, 2000). The vast majority of women-owned MSEs are informal and not registered (Stevenson and St-Onge, 2005:31). Women are more likely to be involved in trade-related rather than manufacturing-related parts of the informal economy because trade generally requires less capital than manufacturing (Lange, 2003). Generally, even trade sectors that require high amounts of capital are male dominated, for example, wholesale shops (Lange, 2003).

However, as Lange's (2003:6) study of gender relations in the informal sector suggests, there have been some discernible gendered normative and quantitative shifts over the years. One male respondent in her study proclaimed that 'women have grown wings', referring to women's growing economic independence, success and increasing representation. Another male lamented that women had taken over, referring to the same. Women's increased visibility in the informal sector in Kampala has been attributed to their entry into the informal labour market as men died of AIDS in the 1980s, women's improved status and confidence as a result of their co-optation into the national resistance army in 1986, and returning female exiles with increased skills and more capital (Lange, 2003).

However, despite these shifts in composition, the informal sector in Kampala remains gender segregated. Although women are slowly moving into male arenas such as high-tech enterprise, taxi operation and real estate, informal economy sectors in Kampala are still highly gendered (Lange, 2003). Women dominate the trading of food in markets, and are heavily represented in tailoring, textile, beverage, services and craft trades (Snyder 2000). Men dominate in carpentry, transportation, wholesale shops and business related to fish. A 'new' sector like second-hand clothes, on the other hand, appears to be equally open to men and women. However, not only gender but also religious factors may determine the kind of economic activities that people judge to be appropriate for themselves or others. Some Muslim women are afraid to sell clothes or provide hairstyling services that violate Muslim law (Zaamu 2002, cited by Lange, 2003:8). Just as women who have capital move into male arenas, there are signs of a new trend, where poor men move into previously female arenas. For example, men are beginning to sell vegetables, cook and sell *matoke* (plantains), *chapatis* (pancakes), and fish, trade second-hand clothing and provide hair dressing services, which were previously female economic activities (Lange, 2003). Hairdressing is considered unthinkable for Ugandan men, and it is mainly Congolese men who engage in this activity.

Cross-over gender economic endeavours present some problems, such as leading to divorce and separation as women are unable to accept disrupted gender employment roles and men are threatened by women's economic success (Lange, 2003) and its implications for gender conventions.

4.2.4 Urbanisation and mobile phones

Most mobile phone subscriptions in Uganda are taken up in urban areas (Gamurorwa, 2004) and demand in urban areas has been driven by a relatively high urbanisation rate, combined with a rapidly increasing number of tourists and an emerging middle class. The level of urbanisation in Uganda in 2010 was 13% of the country's population and, with an urban growth rate of 4.4% per year (World Bank, 2012:188) it is projected to increase to 20.7% by 2015 (Mukwaya, 2004:1). In 2010, 36% of the country's urban population was based in Kampala (World Bank, 2012:188).

The pace of urbanisation in Uganda is increasing with concomitant increases in the number of urban poor, a physically visible category of the poor but often overlooked in national planning priorities. Urban planning and services provision in developing countries often fails to provide services for the urban poor (Allen *et al*, 2006). Urban governance systems based on market-based approaches to delivering urban services (for example, water, environmental sanitation and housing) tend to be unable to meet their needs. The Kampala City Council, for example, as other city and municipal councils, has been unable to provide adequate services and meet the needs of urban residents (Kulabako *et al*, 2004).

While urbanisation is often closely associated with development and growth, development planners often focus less on the vulnerabilities, needs, rights and entitlements of the urban poor, favouring instead those of the rural poor. Historically the urban poor have been regarded as an aberration and underclass, but are increasingly viewed in development policy as contributors to inclusive cities (Beall, 2000), and

informal entrepreneurs as co-producers of urban development (McFarlane, 2012). Urban population growth and its complexity of needs is still poorly understood and planners ill-prepared for the development challenges it raises (Satterthwaite, 2011; Severdlik, 2011; Drakakis-Smith, 1996). Drakakis-Smith (1996) emphasised the need to understand demographic characteristics in order to expand the rights and entitlements of different urban categories (based on age and gender) or groups at risk of impoverishment or neglect by urban planners and resource providers, but there continues to be a lack of data, particularly of those living in informal settlements (Patel and Baptist, 2012). Urban growth in Uganda has been associated with rapid expansion of unplanned smaller urban centres and peri-urban settlements. It is reported that informal settlements comprise 60% cent of the population in Kampala (WSP/NWSC, 2000 cited by Kulabako *et al*:474).

Mobile phones contribute to urban growth. Muto (2012) found that possession of mobile phone handsets in rural parts of Uganda increased individuals' likelihood to migrate to the city in search of work, and that this likelihood was greater for those within smaller ethnic groups. While urban growth presents challenges for planners, the growth of mobile phones has contributed to expanding services mediated by mobile phones.

4.3 The wider enabling ICT policy context and mobile phone features

The following subsection presents the enabling mobile phone environment that has been presented by policy interventions to support the mobile phone sector and the industry's services. It also provides a gender analysis of the research participants' mobile phone access, financing patterns, functional usage and services use which serve to demonstrate

existing capabilities. In my research, a higher proportion of men than women owned mobile phones.

4.3.1 Mobile phone policy and m-development context

Since the adoption of mobile phones in Uganda, there has been a shift in emphasis from access to cultivating value-added services (VAS) that include m-development services[32], applications and content. However, there is little evidence that people at the bottom of the pyramid are taking, or are able to take up many of these services, although numbers continue to grow.

The predominant development discourse on mobile phones in Uganda has been largely framed in terms of broader concerns relating to political economy ideology, governance and the regulatory environment (Torarch *et al*, 2007), and to some extent infrastructure. There is considerable political will and plans of action to shore up the communications technology sector to promote economic globalisation-focussed development and investment through political, legal and regulatory approaches (MFPED, 2010; ITU, 2003). Examples have included ICT policies (national ICT policy, rural communications development policy 2001), statutes (electronic media statute 1996), Acts (Uganda Communication Act 1997) and a simplified licensing regime (reducing barriers of entry for telecom operators) to achieve national development aims.

Another discourse, largely championed by civil society organisations, and socio-economic in nature, has focused on livelihoods and the mobile ICT needs of women in rural areas

[32] Mobile phone-led or driven development that includes the provision of public services.

(Burrell and Matovu, 2008), with little attention paid to the needs and interests of, low-income women in urban areas. The publicly available literature of the Uganda Communications Commission (UCC), which is tasked with regulating and promoting the communications industry in Uganda, suggests that it has incorporated both discourses, but still largely neglects low-income women in urban areas in the thrust of its programmes and policy direction (UCC, 2008). IICD (2011) suggests that linking of the national ICT strategy to the objectives of the Poverty Eradication Action Plan (PEAP) also requires some further thinking.

Much has been made of Uganda's ICT policy and regulation environment as an enabler of the diffusion of mobile phones in Kampala. Mobile phone subscribers (per 100 inhabitants) stood at 28.9 (MFPED, 2010:35) in 2008. With the expansion of mobile phone use in Uganda, the industry's focus has shifted from access towards value-added services such as m-content[33], focusing on well-being, livelihoods and delivery of public services. One study suggests that users in Uganda value the livelihood opportunities mobile phones present more highly, for example in relation to the airtime transfers (CTO and Ericsson, 2008). This is in marked contrast to in-country perceptions and similar studies undertaken in other developing countries, where 'entertainment value' is often ranked highest.

The proliferation of mobile telephony in Uganda is reflected in the expanding use and the expressed urgent need for on-going development of mobile phone technology applications and content (CTO and Ericsson, 2008). A workshop to advance mobile applications in East Africa, *M4D workshop in East Africa*, which I attended in Kampala in

[33] Mobile phone content is any type of media viewed or used on mobile phones such as games, discount offers and services.

November 2008, showcased some of the applications and uses of mobile phones in the areas of governance, health, education, agriculture and pro-poor services such as the provision of banking and financial services. Table 8, presents my compilation of these services and the organisation promoting them).

Global analyses have also documented the uses of mobile phones in the areas and sectors indicated in Table 8, in other African contexts (Castells *et al* 2007; Banks and Burge, 2004), confirming a shift in focus from mobile phone access to value added services (VAS). In Uganda, mobile phone services have largely been uncoordinated, responding to individuals' capabilities and interests and/or led by civil society interventions. However, at a strategic level, the importance attached to addressing unequal gender relations is underlined by the Ugandan government's commitments to improving gender disparities through policies and interventions in ICTS, education, health and economic sectors. In this regard organisations such as the Grameen Foundation that target women in their mobile phone interventions contribute to this.

Table 8: M-development, m-services and m-applications in Uganda presented at workshop, 2008

Examples of mobile phone services and information	Spearhead organisation
Multi-focus • Google SMS – SMS information on health, business, agriculture weather and sport	Google and MTN Uganda
M-Banking/Financial Services/M-payments/airtime and cash transfers • Zap Mobile Money • MTN Mobile Money	Zain MTN
Commerce and Enterprise • Advertising and marketing using SMS provided by the service providers • Mobile phone gambling – send SMS and you will win prize or get more airtime	Mobile phone service providers
Livelihoods and employment • Lake Victoria fishermen project – Millennium village project • SMS Job platform through which jobs can be found	Ericsson Platform Daily Monitor
Security • Security issues in villages – mobile phones for security guards to maintain contact	Village security
Health • SMS Tips (as per Google SMS) – provides information by text on sexual and reproductive health (HIV/AIDS, family planning, maternal and child health care, STIs and sexuality) and information on health clinics (location, number and services offered) • Survey administration, data gathering and transfer of information to central bureau in Uganda and Tanzania	Google and MTN Uganda (developed with Grameen Foundation Applab Applab – Grameen Foundation project

• Preventive health information provision for rural areas in Uganda
  ○ Info about nearest clinics
  ○ Services provided
  ○ General health information enquiries
• Linking communities to health units and improving quality of data collection
• Uganda health information network – improving data collection on health
• Smartphones for Better Healthcare – deployment of smartphones to improve communication
	Ericsson supported project www.mopra.org
	IDRC
	TIER, Microcare, Marie Stopes International, Ministry of Health, Uganda

Education • Examination results updates • Mobile learning	PurCAL Makerere University distance learning initiatives/secondary schools
M-governance • Voting reminders sent to 500,000 potential voters to remind them to vote in 2005 • Complaints about government via short SMS	Uganda Electoral Commission Inspector General of Government
Music, entertainment and cultural aspects, weather forecasts	Mobile phone service providers

4.3.2 M-development applications and services

Participation in m-services and use of m-development applications may be regarded as a conduit to agency practices, such as growing the business, looking after one's health or money appropriation coping strategies. The mobile users surveyed did not use all available m-development services frequently, although this might be explained by their

novelty as newly introduced services. There are diverse m-development projects and approaches in Uganda involving many different stakeholders, but they tend to be small scale with little efforts to scale up (Hellström, 2010).

As a much longer standing financial arrangement, the *Sente* practice, more street traders were familiar with this money transfer system using airtime. Over three quarters of male (n=36, 78%) and 23 (64%) of female mobile phone users surveyed for this thesis used money airtime transfer services (see Table 9).

Table 9: M-development services use by research participants, 2010

Characteristic	Men (n=/%)	Women (n=/%)	Combined (% of users, n=82)	Missing	Valid
Used mobile phone for airtime transfers	36(78%)	23(64%)	72%	1	99%
Used m-banking services	18(39%)	8(22%)	32%	1	99%
Used mobile phone for health services or information	8(17%)	10(28%)	22%	1	99%
Business and technical information	22(48%)	13(36%)	43%	1	99%

Mobile phone money banking services such the MPESA in Kenya are relatively new to Uganda. Most started operation in 2010, a few months before the survey was conducted. More recent accounts suggest that mobile banking services are revolutionizing ways of doing business and paying for services. Through mobile money people can pay now for goods, services (water, electricity) and school fees. At the time of the survey, 8(22%)

female and 18(39%) male mobile phone users had accessed m-banking services. M-Sente (has similar name to the airtime transfer practice), MTN Mobile Money, Zain Zap Mobile Money are the main mobile money services on offer.

A number of m-health initiatives have been launched in Uganda ranging from digitizing national health services (IICD, 2011) and community health surveillance and disease control (UNICEF) to provision of health information on mobile phones such as Google SMS Tips (Nchise *et al*, 2012) or health campaigns (Text to Change) and reporting fraud in the health service (Uganda Capacity Programme SMS Service). A higher proportion of women (n=10, 28%) in my survey than men (n=8, 17%) had used health-related mobile phone information services. M-health services are still in their infancy and most had accessed m-health related information through Google SMS Health Tips, a mobile phone service on sexual and reproductive health.

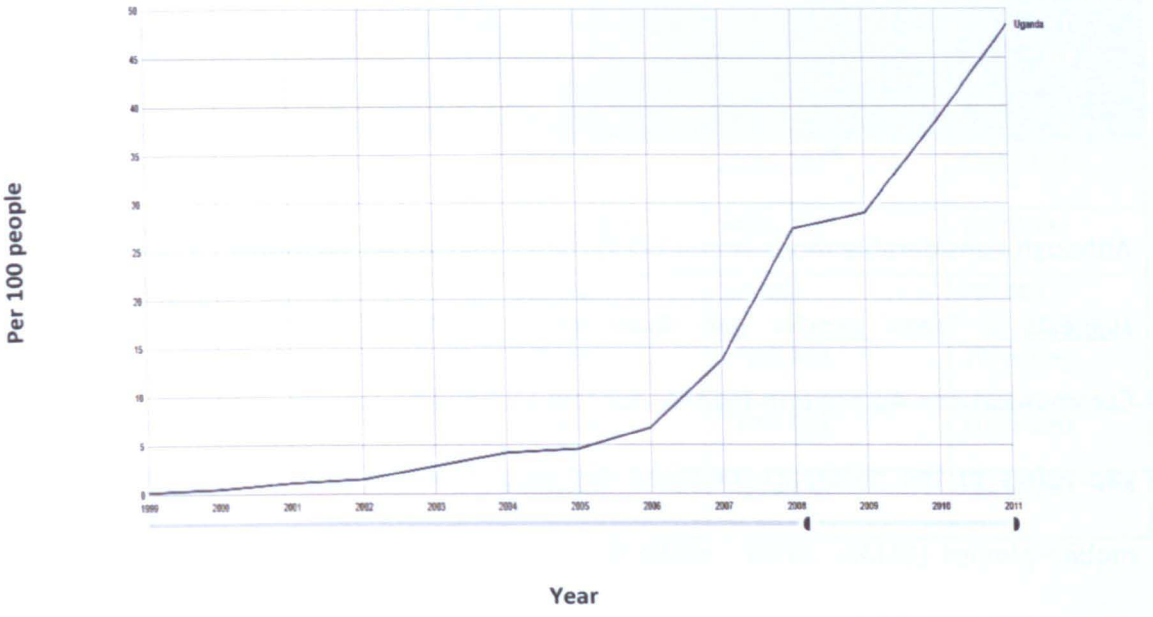
Mobile telephony in Uganda is also used to provide entrepreneurship, market, pricing and agro-business-related technical information services as well as mobile phone search services where people ask questions and retired volunteers respond to them. Examples include Google Trader or *Akatale* SMS (Hellström, 2010). The Grameen Foundation has spearheaded such mobile technology initiatives to improve access to business information and other services through innovative mobile applications laboratory (Applab). Mobile phone users' reports in my survey suggested that more men (n=32, 69%) than women (n=13, 36%) use mobile phones for technical or business-related information. More generally, the Grameen Foundation has found it hard to attract women to their initiatives as a result of what they consider to be gendered barriers and

constraints to effective mobile phone use related to financing and confidence in using applications (Project Manager, Grameen Foundation, personal communication, 2011).

4.3.3 Mobile phone diffusion and affordability

Uganda's low digital opportunity ranking masks the exponential growth of mobile phone telephony. The latest available data indicates that Uganda's digital opportunity index of 0.16 was lower than the African average of 0.22 and ranked 158 in the world out of 173 countries (APC/ITeM, 2007:89). The digital opportunity index is based on 11 indices grouped in three clusters - opportunity, infrastructure and utilisation - which indicate a country's digital opportunities for its citizens. Uganda's low ranking globally and in Africa might be partly explained by indices combining measures of mobile phone, landline and internet or computer availability and provision, provision for the last being low. While the literature suggests that the exponential growth (to over 45 per 100 people in 2011 – see Figure 10) in mobile phone subscriptions in Uganda is largely occurring in urban areas (Gamurorwa, 2004), market analyses have not segmented the market on the basis of socio-economic groups. Thus, few studies (Gillwald *et al*, 2010; Diga 2008) have been conducted to assess gender differences in the use and outcomes of mobile phones. Global ICT analyses reflect this dearth in gender disaggregated data relating to ICTs (Bisnath, 2005).

Figure 10: Mobile subscriptions growth for Uganda



Source: ITU (2012)

MTN, Zain, Warid, UTL and Hits Orange are the five mobile phone operators in Uganda. They have varying pricing plans, but costs are declining in pricing wars. National data mask variations in affordability for different segments of the population (UNCTAD, 2010), but it is estimated that the monthly mobile expenditure as a share of monthly individual income for the bottom 75% of the population in Uganda is 19% (Gillwald and Stork, 2008, cited by UNCTAD, 2010:31). Poor people sacrifice food and travel to finance mobile phones (Diga, 2008). However, costs of handsets still remain a barrier for adoption, for many poor people.

If mobile phones are considered to enhance agency capabilities, then mobile phone access and financing capacities need to be seen as a precursor to agency. Of the research cohort (see Table 10), a total of 75 people owned mobiles, 7 shared and 20 did not own or share mobile phones. In the sample 34 females and 41 males owned mobile phones, 2 females and 5 males shared and 15 females and 5 males indicated they did not own or

share a phone. Over 60% of those with access to a mobile phone had an MTN line, some of whom also subscribed to other lines, and the rest subscribed to ZAIN, Hits Orange, UTL and Warid.

Although considerably more women (15) than men (5) had no mobile phone, my survey suggests a lower gender gap than found by the Global Systems for Mobile Communications Association (GSMA) for low and middle income countries. The gender gap refers to the difference between the proportions of men and women who own mobile phones (GSMA, 2010). While the GSMA study found the gender gap[34] in sub-Saharan Africa to be 23%, in this study (see Table 10), it comes to 17%. Another possible explanation could be that female traders are more likely to own mobile phones than is typically the case for low-income women in Uganda.

However, in relation to sharers, this survey group may be atypical. Contrary to other research in Uganda that suggests women are more likely to be sharers with some agency restrictive implications (Burrell, 2010), a larger proportion of men (9.8%) than women (3.9%) in this survey are sharers (see Table 10). Burrell (2010) suggests that female sharers are less likely to use mobile phones effectively than male sharers, because of women's less powerful position in negotiating use. However, Burrell's study was conducted mainly amongst rural populations whereas the survey for this research study was conducted in urban areas.

[34]The gender gap in access is calculated by subtracting the percentage of female owners from that of male owners then dividing it by male owners and the resultant figure represents the % of women less likely to own a mobile phone (GSMA, 2010:12).

Table 10: Mobile phone ownership of research participants, 2010

Mobile phone ownership (questions 9 and 12)	Men (n=/%)	Women (n=/%)	Combined
Over 5 years access to mobile phone	24(47%)	21(41.2%)[35]	45(44.1%)
Own a mobile phone	41(80.4%)*	34(66.7%)*	75(73.5%)
Share a mobile phone	5(9.8%)	2(3.9%)	7(6.9%)
Do not own a mobile phone	5(9.8%)	15(29.4%)	20(19.6%)
Purchased a mobile phone	37(80.4%)	23(63.9%)	60(73.2%)
Gifted mobile phone	5(9.8%)	10(19.6%)	15(14.7%)

*combined mobile phone users and non-users

More men (n=37, 80.4%) than women (n=23, 63.9%) are represented amongst those who purchased a mobile phone category (see Table 10). An analysis by gender for mobile acquisition suggests that amongst those surveyed, more women (n=10, 19.6%) appear to acquire mobile phones by gifting than men (n=5, 9.8%), confirming Lindell's (2010b) study in a rural context in Uganda.

Technical and functional use form part of an information capability set that can influence the scope of agency practices. Availability of mobile phones and information does not necessarily mean that they are accessible (Byamugisha *et al*, 2008; Castells *et al*). Mobile phone use divides are in part due to limited technical and functional use of mobile phones by some groups for a host of reasons. Literacy, financial and cultural constraints (Burrell, 2010) or preference for other means of communication for specific tasks are part of the explanation. About half (49%) of households use word of mouth as their main source of information (UBOS, 2002:iv) and street traders' information and communication

[35]In this table for precision the figures are presented without rounding off.

sources also encompass radio, television, internet cafes, broadcasts from moving vehicles and public meetings.

Taking into account that more men than women own mobile phones, slightly more men report higher usage of most available functionalities of phones. For example, 83% of women and 95% of men who own mobile phones report using the phone more frequently for talking more than once a day and similar gaps are reported for all other functions (see Table 11).

Table 11: Technical and functional uses of mobile phones of research participants, 2010

Mobile phone use (question 15)	Men* (n=/%)	Women (n=/%)	Combined (% of users, n=82)
Voice calls (more than once a day)	44(96%)	30(83%)	90%
Have used SMS/texting	37(80%)	22(61%)	72%
Accessed or browsed internet	5(11%)	2(6%)	8%
Have accessed radio on their mobile phones	27(59%)	16(47%)	52%
Check weather reports on their mobile phones	5(11%)	8(23%)	16%
Have received news updates on their mobile phone	19(42%)	16(44%)	43%
Music and entertainment use	27(59%)	17(47%)	54%
Games use	25(54%)	18(50%)	52%
Camera/video use	20(45%)	13((36%)	40%
Alarm use	30(68%)	16(46%)	56%
Radio phone-ins	19(41%)	7(19%)	32%

*mobile phone users only

A higher proportion of women (n=14, 39%) than men (n=9, 20%) indicated never using SMS text, the cheapest form of communication on a mobile phone in Uganda.

A larger proportion of men are more likely to use mobile phone mediated information, knowledge and news updates. For example, a slightly smaller proportion of male (n=41, 89%) users than female (n=34, 94%) in my survey tended not to browse the internet on their phones[36], corroborating evidence of Scott *et al* (2004). When asked the reasons for this, both groups responded that they either did not have access or did not know how to use it. A smaller proportion of women (n=16, 44%) than men (n=27, 59%) with access to mobile phones use the radio functionality on their mobile phones, although some use it for sports news which also straddles entertainment. Most mobile phone users (n=68, 83%) do not use their phones for checking the weather. Over half of the mobile phone users (n=46, 56%) do not listen to news updates and, of those that do, a slightly larger proportion of women (n= 16, 44%) than men (n=19, 41%) listen to the radio on their phones. However, those who do not listen on their phones might be listening on radios.

Radio phone-ins are presented as one channel through which less empowered Ugandan women voice political opinions and express their views about civic, community and social issues on political talk shows and social commentary programmes. In this research, a greater proportion of men (n=19, 41%) reported using their mobile phones for radio phone-ins than women (n=7, 19%), suggesting that men are still more likely than women to engage politically. Political participation through mobile phones is still in its infancy. Hellström and Karafelt's (2012) study of SMS-enabled crowd-sourcing election monitoring platforms for the 2011 general elections suggests that traditional methods of democratic participation such as public meetings are preferred to mobile phone-mediated methods.

[36] It is estimated that only 2% of Ugandan used the internet in 2008 (ITU, 2011:110) ITU measuring the information society report. Research ICT Africa (RIA) suggests that mobile phones are the key entry to use of internet and suggest that 7.9% of people aged 16 and above in Uganda in 2011 used the internet (RIA, 2011).

Leisure, games and entertainment and accessories use may indicate a predisposition to having more leisure time. A smaller proportion of female users (n=17, 47%) than male users (n=31, 67%) male users indicate that they use mobile phones for entertainment and listening to music. Half of female users (n=18, 50%) responded that they do not play games on their mobile phones, whilst just under half of male users (n=21, 46%) do not. Most female users (n=23, 64%) do not use or have camera or video functionalities whilst the same applies to 54% of male users. 52% of female users and 30% of male users report not using the alarm function. Additional functionalities used that are reported include the calculator and torch facility. A focus group and six female interviewees were invited to elaborate on these gender differences (see chapter 3).

4.4 Introducing the research participants

This next section presents brief biographies of the focus group discussants and six female interviewees to contextualise their lives before the subsequent data analysis.

The focus group discussants

The focus group discussants consisted of four survey participants who have been provided pseudonyms for the purposes of anonymity. Of the four participants, two were male (Fred and Godfrey) and two female (Freda and Topista). This subsection presents a brief description of these participants from the information they provided during the survey and at the focus group discussion. They were invited to discuss the key issues

raised from the analysis of the survey, and their views are incorporated in the analysis in chapter 5.

Fred Sekanya (Respondent 45)

Fred is 41-45 and owns his own business selling agricultural inputs such as chemical fertilisers and seeds. As an agro-dealer who sells seeds, fertiliser, weed killer, pesticides and small farming tools, he also has land in Kyebando where he lived and practised farming. He has had a mobile phone for over ten years. He has a wife and children. He uses his phone mainly for business and to keep in touch with his wife and children. He wishes that his wife would phone him, as he tends to initiate calls. He suggests that his wife might be more financially prudent which might contribute to why she does not call him. He uses SMS texting regularly and although he has an email address which he provides as a contact he has never used his mobile phone for internet access or obtaining business or health-related information. He occasionally uses his mobile phone for airtime transfers and m-banking. He strongly disagrees that his mobile phone has helped him to be socially active or that he likes to use it for social, cultural or leisure activities. Money is his most valued goal and having a mobile phone has helped achieve this to a very large extent. He strongly disagrees that mobile phones have enabled him to voice his opinions more. He was very vocal and articulate at the focus group meeting. The benefits of a mobile phone for him are that it made communication faster for his business. The negative issue is the expense. The improvements he would like to see is for mobile phones companies to provide support in cases where there were thefts and trace the name and details in case of loss of SIM and to reduce the costs of airtime. He mentioned

the increase of promiscuity and spread of disease (HIV/AIDs) and ears, marriage breakdown and dishonesty as negatives, as a result of increased use of mobile phones.

Freda Nakabugo (Respondent 70)

Freda is between 40-44 years old, a Muganda and has a Diploma in Education. She lives in Kampala. She is part of a leadership group for street traders and sells fabric, clothes, handbags and cosmetics. She is actively involved in women's NGOs and political activity. One particular organisation in which she is actively involved promotes women's leadership. She has had her mobile phone for ten years and finds it is extremely useful for communicating with her relatives overseas (including the UK). Her valued goal is to obtain money and felt that a mobile phone had helped her to a large extent in this endeavour. She mentioned that she used her phone a lot for beeping friends and relatives. The benefits or outcomes she cited of mobile phones were that they had made her work easier, communication with her political constituency and husband easier and enabled savings in relation to reduced travel costs and increased her sense of security. In her view mobile phones have had no negative effects on her life, but the improvements she wants are a reduction in networks and the provision of free handsets. Overall the negatives of mobile phones are the marital disputes they have brought about and promiscuity.

Godfrey Muntu (Respondent 19)

Godfrey is aged 21-25 and employs 3 people who sell bed-sheets, bags and shoes. He was educated up to Primary 7. He lived in Nansana about 6 miles from the Kampala city

centre and is a Muganda. He has had a mobile phone for 10 years. He uses SMS texts daily and browses the internet at least once a week on his phone. He also uses his mobile phone for technical and business information alerts, but never for health information. He occasionally also used his phone for m-banking and air time transfers. His most valued goal was business and his mobile phone helped him to a very large extent to achieve this goal. He disagreed that mobile phones had made him more socially active. He used his phone mainly to promote and grow his business, connect with friends and keep in touch with relatives. Its negative impacts for him are the increase in expenditure from using the phone, people lying to him, limited privacy and panic at the thought of bad news. Improvements in his view were required around the service provided by telecom providers. Negative issues he associated with mobile phones included adultery, betrayal, lying, family break up and loss of work because of talking on the phone.

Topista Nalubenge (Respondent 6)

Topista, a Muganda, left school at Primary 5 and sells *chakala chakala*, a mix of confectionary and household and goods that include sweets, cigarettes, shoe polish, nail cutters, plastic bags, coffee beans and washing powder, as an employee. She gave her age as between 21 and 25 during the survey. She lived in Gayaza, 15 kilometres from Kampala. She had had a mobile phone for 2 years at the time of the survey which she had purchased herself. She was a single mother of two and was keen to obtain child sponsorship from an overseas sponsor. Her most valued goal was to educate her children and felt having a mobile phone had helped her to achieve this to a large extent. She did not use SMS texting or internet on her phone. She had never used her phone for airtime transfers, m-banking or getting health information. Like most of the female participants

surveyed, she had no engagement with formal politics or civic participation with a mobile phone, but felt a mobile phone had increased her opportunities to voice her opinions and learn. The benefits of owning a phone, for her include getting to know new people and developing closer relationships with family and relatives. She could not think of any negative impacts of a mobile phone on her life and suggested no improvements.

Introducing the six female street traders

This sub-section provides a brief biographical summary of each of the 6 street traders who were interviewed in-depth and whose perspectives are presented in chapter 6.

Fatuma Nalumansi

Fatuma, a 32 year old street trader at the time of the interview had been selling children's shoes for six months. She had been involved in a money lending group, through which she was able to successfully repay a loan she took out to pay for a mobile phone and run a business. Having moved away from Mabira Forest to Kampala City by personal obligations, as the eldest child to care for the family home on the death of her father, her new business is less reliant on mobile phone interactions. She attaches great importance to a mobile phone helping her achieve her valued goal that is her children's welfare. But since her phone was stolen she was sharing with a friend and despite her reasonable income, and money provided for a mobile phone by her partner she has not prioritised buying a mobile phone as she would rather spend the money on her children. She mainly uses the phone she shares to talk to her boyfriend.

Christine Nantongo

At 48 when interviewed, Christine a former mobile phone seller uses her phone mostly to call her mother who lives in a village and whom she supports financially and occasionally to organise meetings for a women's group, Pride Micro-finance to which she belongs. Currently, she is selling jelly, soap, shoe polish and toothpaste, and her business has little need for business-oriented mobile phone interactions as she obtains her supplies from nearby Kikuubo, a wholesale market. Having a mobile phone has changed the way she interacts with her mother, brothers, two grown up children and other relatives. She sees them less face-to-face, reducing transactional costs associated with travel, but keeps up to date with them through the phone. Christine largely uses her phone to maintain social ties and states she prefers the new forms of 'absent-present' relationships enabled by mobile phones.

Jane Nakku

Jane's shirt business that she runs with her sister is highly dependent on mobile phone interactions involving contacting both suppliers and customers. At 21, at the time of the interview, she is the youngest interviewee. She is the most reliant of the group on her mobile phone and most effusive about the large extent to which her mobile phone helps her achieve her chief goals, survival, personal advancement and her child's welfare. She has a strong sense of self-belief and is very driven as her attitude to her business and its success demonstrates this. She attributes her strong work ethic to her childhood and having to fend for herself at a young age.

Joanita Namirembe

As the *de facto* rather than *de jure* proprietor of three mobile phone stalls that 26 year old Joanita, at the time of the interview, jointly runs with her 33 year old husband, she supervises five employees. A heavy user of mobile phones for both business and communicating with her mother in the village who looks after her child, Joanita enjoys her work. She regards herself as taking on a consultant role and actively pursues new ways to expand the business. For example, she has taken the lead in expanding from mobile phone sales and accessories to repairs and has also found innovative ways to market the business through loudspeakers at each of the stalls. Her husband deals with local and international suppliers and often travels to Kenya, China and Finland for more stock. Whilst she banks the business proceeds she has to ask her husband for money as he controls the finances. Her husband's children from a previous marriage live with them. She also uses Mobile Sente to send money to her own child and mother.

Mary Nampera

Mary, a 34 year old divorcee at the time of the interview, has the highest level of education attainment, having completed post-secondary secretarial training. Previously a housewife, she fled from an abusive relationship in the village to Kampala City. Her husband had refused to allow her to work and now she runs a *chakala chakala* stall where she sells an assortment of goods that include sweets, cigarettes, shoe polish, nail cutters, plastic bags, coffee beans and washing powder. She used to pay school fees for her three children, but now her husband does so. She doesn't use her phone for business as she gets her goods from the nearby New Taxi Park, but mainly for social networking, for

example, Facebook and seeking lifestyle and health information. She also uses her phone to send money to relatives and receive money from 'friends'.

Prossy Nandundu

At 22 when interviewed, Prossy as one of the youngest in the group who has grown up in a digital era, without a sense of 'before' and 'after' mobile phones. She does not think a mobile phone has helped her business productivity nor in managing her social relationships. Having recently given birth to a one-week baby girl at the time of the interview, she used her phone mainly to communicate with her two workers manning her stall where shorts are sold. She also used it for a form of 'remote mothering' (Madianou and Miller, 2011; Parreñas, 2005; Rakow and Navarro, 1993) to communicate to her other child who lives in the village. She views a mobile phone as opportunity to receive money from 'friends', but does not have a benefactor. She also perceives a mobile phone as more beneficial for women who have larger businesses than hers.

Conclusion

This chapter has presented the context of the street traders' surveyed, framing their opportunities and constraints in relation to mobile phone use. It has demonstrated the expanding informal market linked to poverty and its gendered nature, the digital opportunities offered by a favourable ICT policy environment and the gendered differences in use of mobile phones and associated services by the street traders surveyed. I conclude that while mobile phones have several functions, and that there are

many emergent m-development services, these are not fully used by the research participants, and where they do so, men are more likely than women to make use of them. As such, the extent to which mobile phones can contribute to gender equality through the expansion of women's agency is foreclosed by the 'gender gap' in access and use.

The chapter ends by introducing the biographies of the six female interviews and focus group discussants, the latter who elaborate upon the gendered differences in the use of mobile phones in the following chapter.

5 Mobile phone enabled agency: context and features

Introduction

This chapter addresses the research sub-question (1), what spaces and capabilities do mobile phones open for the expansion of women's agency and what are the features of this agency? It is concerned with the context and features of mobile phone mediated agency as inferred from reported use and perceived achievements. The chapter analyses the situational factors (element a of my framework) that influence their agency possibilities and constraints in section 5.1, followed by the forms of agency (element c) afforded by mobile phones in 5.2, then the enhanced capabilities (element b) augmented by mobiles in 5.3, and finally a discussion of the extent to which the different agency dimensions foster agency achievements (element d) for gender equality in 5.4. The data analysed is based on the survey and is elaborated upon by the focus group discussants and also discussed in relation to the literature presented in chapter 2. The mixed gender survey and focus group discussion served the purpose of identifying and explaining differences between men and women's views and mobile phone use in order to establish the extent of women's agency.

5.1 Situational influences

As framed in my theoretical framework (Figure 3, chapter 2), situational factors make up the agency context. Individuals' contexts include the goals and motivations for mobile phone use and the material and human capital context which are underpinned by social relations that shape the space, the possibilities for and constraints of agency in relation to what people can be or do with mobile phones. This section discusses these factors that influence mobile phone mediated agency through the following proxies: values as framing goals for achievements; and material and human capital issues.

5.1.1 Values and goals

Almost a third of street traders surveyed reported that they valued wealth creation and work (see Table 12) over other goals, which implies a greater emphasis on economic agency and productivity. Table 12 presents their most valued goals (question 19 in the survey) from which two observations of relevance to this research can be discerned. First, as a group, business productivity is their most valued goal and therefore economic agency would be of great importance to them. This can be inferred when agency is seen as purposive and value-centric (Sen, 2001). Second, is the observed difference between men's and women's valued goals as a group in terms of wealth creation, work, relationships and identity.

Table 12: Most valued goal, research participants, 2010

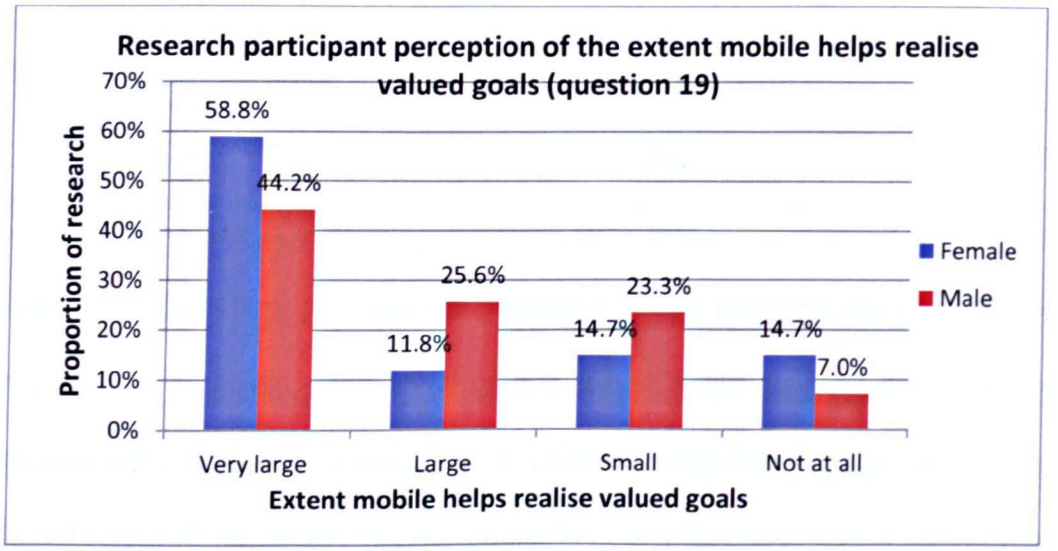
Valued goals (question 19)	Percentage of female responses	Percentage of male responses	Combined % of both male and female responses (n=82)
Wealth Creation and Money	29%	34%	32%
Work and Career	21%	25%	23%
Good Life and General Wellbeing	8.8%	19%	14%
Children, Family and Relationships	15%	2.3%	7.7%
Material Possessions and Assets	5.9%	4.5%	5.1%
Health	2.9%	6.8%	5.1%
Leisure and Fun	5.9%	2.3%	3.8%
Identity	5.9%	0	2.6%
Religion	2.9%	2.3%	2.6%
Education	2.9%	2.3%	2.6%
Travel abroad	0	2.3%	1.3%
Total	100%	100%	100%

Both men and women surveyed placed a greater emphasis on productivity enhancing goals, which taking into consideration their material poverty, might be explained as reflecting a 'widening of opportunities agency'. As mentioned in chapter 2, Welzel's and Inglehart's (2010) human development evolutionary model, based on Maslowian logic, suggests that agency predispositions change at different stages of material and social achievements. Individuals change their agency strategies to reflect changes in values that correspond to shifting needs and opportunities in life. Initially, as people are less well off, they direct their agency towards widening opportunities. As opportunities widen, individuals place greater agency emphasis on emancipative values which are not represented in Table 12. In response to greater emancipation, individuals place greater

emphasis on agency action shaping life satisfaction. As a response to agency directed towards life satisfaction higher levels of life satisfaction are then achieved.

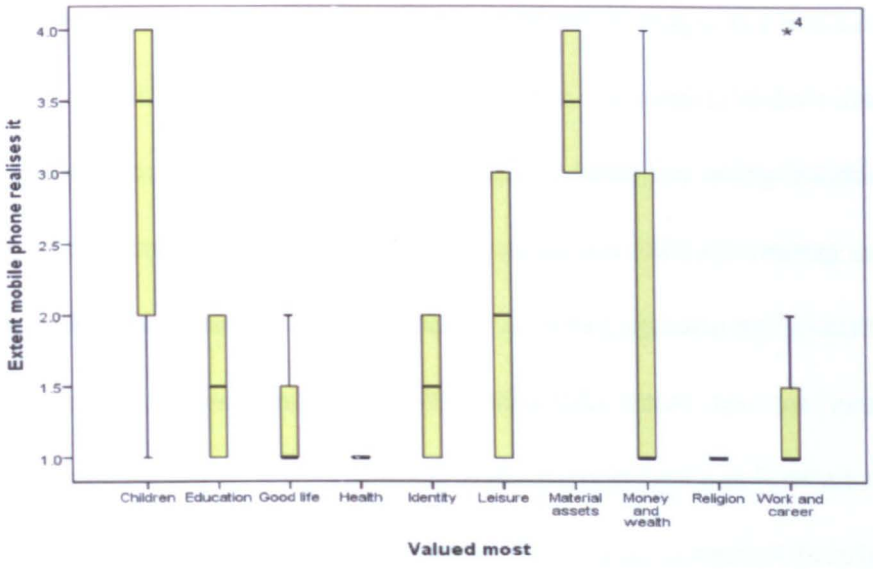
A complex picture emerges as to the extent mobile users (n=82) perceive mobile phones as helping them achieve what they value and the distribution of responses illustrating the level of satisfaction. Over two thirds of users, 69.8% of men and 70.6% of women are satisfied (large and a very large extent) that mobile phones help them achieve their valued goals (see Figure 11).

Figure 11: Extent to which mobile phones realise valued goals of research participants, 2010



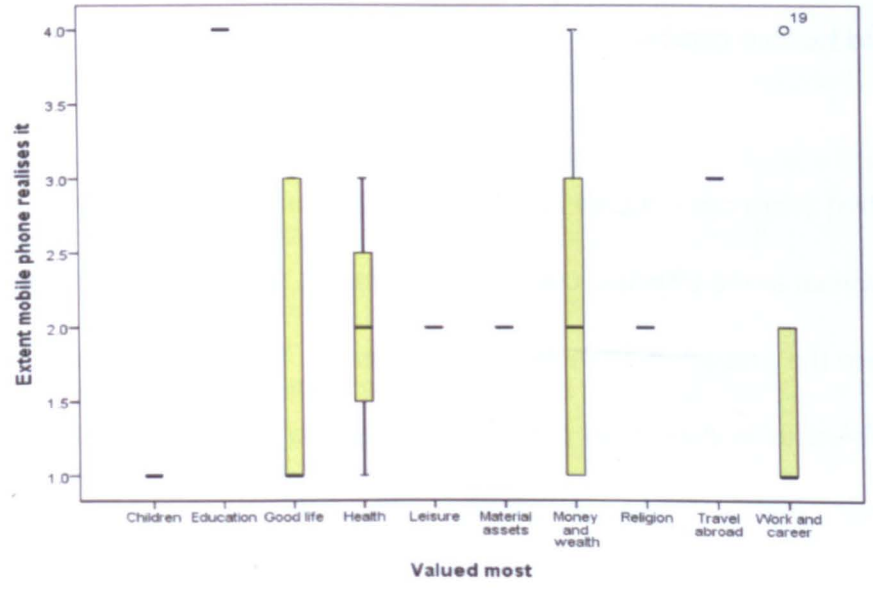
However, the breakdown by gender of the distribution of responses using boxplots (Figures 12 and 13) reveals that women who value children and family and material acquisitions report the highest levels of satisfaction, or perceive that mobile phones help them achieve their most valued goals.

Figure 12: Extent to which mobile phones realised what women valued most, research participants, 2010



1= not all and 5 = to a very large extent

Figure 13: Extent mobile phone realises men's most valued goals, research participants, 2010



1= not all and 5 = to a very large extent

Based on question 19

Given the street traders' prioritisation of economic-related goals (Table 12), the breakdown (Figure 12 and 13) suggests that while a large majority of street traders' goals are economic-related, mobile phones are not perceived as helping realise them to a very large extent. Individuals' goals and values, however, are shaped by circumstances and can shift. In this case gendered values constrain women's mobile phone mediated agency in relation to productivity (as discussed later in chapter 6), but enhance it in relation to childcare. As values are not static (Deneulin, 2011) and are linked to existential conditions that shift (Welzel and Inglehart, 2010), the data captures a specific moment in time. The material and human capital issues provide a deeper insight into men and women's differing capability and agency possibilities.

5.1.2 Material and human capital

The data suggests that there are material and human capital factors that privilege men and disadvantage women in the effective use of mobile phones, and these are important to explore as they are the precursors to mobile phone agency. The survey suggests that there are some differences in ownership patterns for men and women which the FGD participants attributed to women's more limited financial capital.

Women are disproportionately represented among those who do not have access to mobile phones. In Table 10, (in chapter 4, section 4.3.3), the survey suggests that a higher proportion of women, 29.4% do not have access to a mobile phone, compared to 9.8% of men. A higher proportion of women (39%) than men at 20% report never having used SMS. SMS texting is the cheapest form of communication when relaying the same information to a group. Moreover, a high proportion of both men and women (92% of

mobile phone users) had never used the internet on a phone (in chapter 4, section 4.3.3, Table 11).

The reasons given for this by the participants included: cost; limited know-how; and with regard to internet use, non-awareness of whether the phone had internet capability. In exploring these issues further in the focus group discussion, the limited use of both SMS, particularly for women, and Internet, for both men and women, was put down to illiteracy and digital or ICT illiteracy specifically. In the case of women' reported higher non-use of SMS, this might also reflect national illiteracy trends and local languages not being written down. Illiteracy among women is 55.1% and 36.5% for men in Uganda (IFAD, 2000). While some studies elsewhere, for example India, South Africa and Niger, suggest that mobile phones can improve literacy skills through their use as pedagogical tools (World Bank, 2010), it has not yet been empirically verified in Uganda. When the issue was raised at the focus group discussion, anecdotes were proffered of relatives in villages learning basic signs and symbols leading to some recognition of spelling of words.

Furthermore, digital literacy limitations as discussed above and financial constraints converge to limit the research participants' use of m-development oriented services through which they can potentially expand their agency. The data suggests that there are differences between men and women's capacity or willingness to use some mobile phones services. Non-usage of m-services investigated in the survey (airtime transfers, m-banking, health services, business and technical information and radio-ins) suggests that proportionately fewer women use these services (chapter 4, section 4.3.2, Table 9).

The observed differences between women's willingness or ability to use M-Services from these survey results highlight some potential issues. Some explanations for non-use proffered by the focus group discussants include financial constraints and lack of information or knowledge that inhibit opportunities for agency through these services. Capability theory frames these situational factors as personal conversion factors where capabilities are converted into functionings (Robeyns, 2005).

The barriers to effective mobile ICT use have implications for the deepening and widening of agency through capabilities enhanced by mobile phones as the broader literature on ICTs demonstrates. Increased ICT skills have been shown to increase transformational benefits and increase expanded capabilities for ICT use (Grunfeld *et al*, 2011). Grunfeld *et al* (2011) illustrated how increased ICT knowledge and use increased capability for further enhanced uses and functionings.

While mobile phones have been hailed as a potential tool for the expansion of agency, ICTs might be oversold as being able to leapfrog familiar development problems such as illiteracy (Wade, 2002), with implications for effective or enhanced mobile mediated agency for women. Where women might have fewer ICT capabilities, their potential for widening and deepening agency mediated by mobile phones is constrained. Low-income women as a group, with lower literacy and ICT knowledge are more at a disadvantage in making full use of mobile phones potential (Sauter and Watson, 2008). From the very start of life in many contexts, power, male privileges and perceptions of gender-specific entitlements result in men and women being assigned different sets of rights and privileges (Johnsson-Latham, 2010) that influence the space for mobile phone-mediated agency. Gender relations assign agency and decision-making power (Kabeer, 2003). For

example, men might have more material resources in terms of money and employment opportunities or non-material resources that make them more confident to participate in formal politics and public domains, building effective networks. Men compared to women might also have non-material advantages such as the right to play and have fun (Johnsson-Latham, 2010) that enhances their social agency. These rights, privileges and resources might help men acquire and use resources more effectively to deepen and widen their mobile-mediated agency in contrast to women.

As mobile phone access is now regarded part of a capability set (Zheng and Stahl, 2011; Birdsall, 2010), non-access can be perceived as an acute deprivation and disadvantage, in a context where mobile phones are increasingly regarded as an essential asset and an enabler of agency. This increasing importance of a mobile phone is captured by Topista (FGD participant, 2011) who asserts:

> *'Communicating these days has become something where someone directly or indirectly has to get information through a phone. Directly, when someone has a phone and gets a message through that very phone and indirectly, when the intended person does not have a phone but his or her message is conveyed through someone with a phone.'*

The following sub-section moves from the situational factors to present the next facet of my theoretical framework around the forms of agency afforded by mobile phones.

5.2 Forms of agency afforded by mobile phone practices

Guided by my theoretical framework, this section looks at the data that provides some insights into the agency afforded by mobile phones. The survey data is organised using Lister's (2004) framework to highlight divisions between strategic and every-day (tactical) agency. It then looks at the data on a sense of control and social transitions and change from which the forms of agency presented in the thesis' theoretical framework are inferred.

5.2.1 Everyday and strategic agency

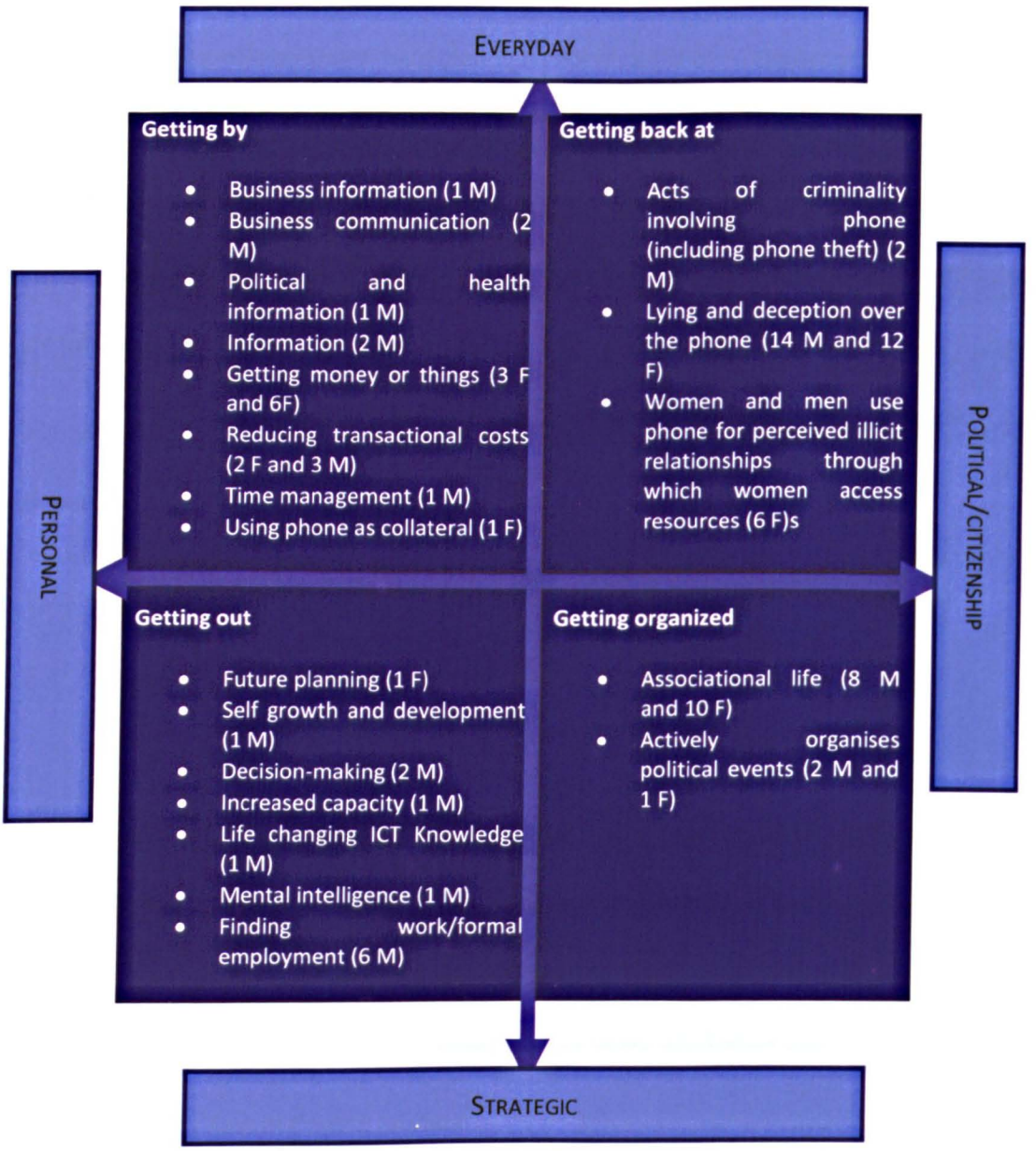
The data suggests that mobile phones afford the research participants strategic and everyday forms of agency. Here it is presented using Lister's (2004) categorisation of getting by, getting back at, getting out and getting organised. The survey as structured cannot uncover strategic agency in-depth so no data analytical comparisons are made between strategic and everyday agency.

Decision-making, strategic choice, participation, voice, resistance and subversion forms of agency were mentioned or implicit in the survey participants' responses and are categorised in Figure 14 using Lister's (2004) typology. In relation to getting by, some participants use their mobile phones for information and communication purposes relating to business and politics, demonstrating some degree of agency. Their choice to reduce transaction costs by calling also reflects another 'getting by' type of agency. Using the phone for time management or as collateral are also choice forms of getting by.

Obtaining money or things, in the case of some women surveyed, represented decision-making and consciousness in so far as it was a considered resource allocation tactic.

In relation to 'getting out of poverty', future planning, decision-making, self-growth and development, increased capacity and finding formal work represent strategic forms of agency. Life changing ICT knowledge and mental intelligence imply reflexive forms of agency which are personal and strategic in Lister's (2004) framing.

Figure 14: Examples of reported changes by research participants; numbers of men [M] and women [F], 2010

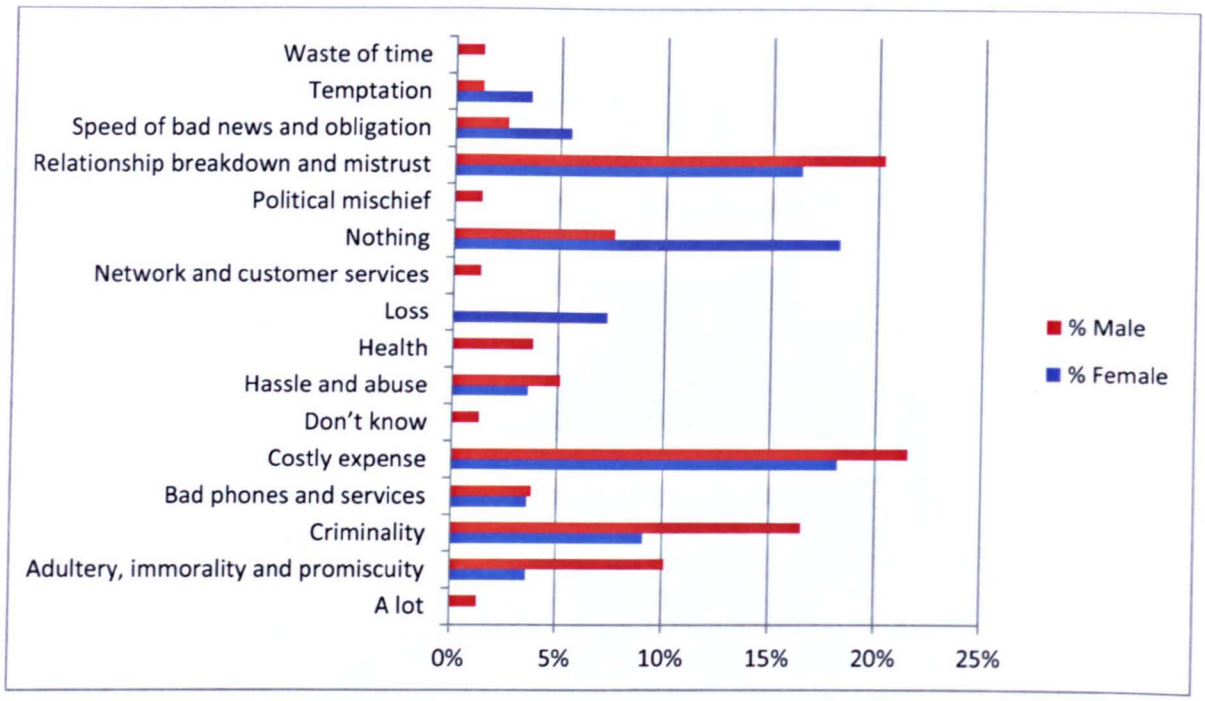


Based on questions 17, 29 and 30

'Getting organized' agency can be quantified from responses to questions about associational life which revealed that most participants did not report much collective organisational agency that would reflect strategic and collective agency. A higher proportion of women 20% (n=10) in the survey report belonging to some organisation compared to 15% (n=8) of men. Narayan (2005) argues that, in addition to people's individual (material, human, social and psychological) assets and capabilities, agency is also influenced by collective (voice, organisation, representation and identity) assets and capabilities. The 18 people who reported membership to an association mentioned participation in financial or lending organisations, with the exception of the few who mentioned a political or a religious organisation. Both Lister (2004) and De Certeau (1988) conceptualise strategic agency in terms of collective acts. However, whilst De Certeau sees strategic agency as only ever exercised by institutions and the powerful, Lister (2004) also takes into consideration non-institutional individual agency of the less powerful as also taking a strategic form, for example getting out of poverty, by taking a job or pursuing education is considered strategic agency. In this regard, survey participants reported mobile phones being used to get out of poverty through personal development/growth, strategic actions such as decision-making, planning for the future and life-changing knowledge construction or production.

In addition to 'getting back' agency reported by the research participants, such as acts of criminality, lying, deception and illicit affairs, the negative associations reported about mobile phones are revealing. The issues highlighted most by participants as negative about mobile phones, and to which they owned up, are expense, criminality and deception and breakdown of relationships (see Figure 15).

Figure 15: Negative associations with mobile phones in own life, research participants, 2010



Based on question 30

These issues highlight three things about agency. First, the ways in which prohibitive costs or impoverishment associated with mobile phone use can impinge upon the possibilities for use and hence agency directed towards circumventing 'the system', for example, the practice of beeping discussed later in chapter 6, section 6.2.3. Second, criminality and deception associated with mobile phones relating to negative agency highlighted by Lister's (2004) as 'getting back at' agency is evidenced. Third, there is the reported breakdown of relationships and morality, associated with phone practices. This was also observed by Ling and Horst (2011) in Jamaica.

Lister's taxonomy (2004) is useful in that it recognises negative agency (getting back at), including acts such as thieving or rioting, for example, which were mentioned in the free text comments in the survey. It provides a framework for categorising those acts that De

Certeau (1988) calls tactics against the system such as petty theft. Scott (1990; 1995) frames similar resistances against dominant groups and systems as the 'weapons of the weak'. Social relations of power, such as gender and income poverty thus position people in ways that shape the forms of agency they deploy, such as resistance, subversion and power to effect change. It is for such reasons that De Certeau (1988), discussed in chapter 2, section 2.3.2, distinguishes between tactical and strategic agency suggesting that only the powerful, by virtue of their social positioning, deploy strategic agency and that the less powerful [such as the poor, my emphasis] exert tactical agency. Other forms of agency uncovered by the research are presented forthwith.

5.2.2 Senses of agency

A large proportion of the street traders strongly agreed that mobile phones provide them with a sense of control, analysed here through the proxies of autonomy, decision-making, voice, learning useful information, opportunities for self-improvement and raising consciousness about men and women relating to gender issues. Senses of control over one's life are key proxy indicators of agency exercised in social, economic and political spheres of life (Alkire, 2008; 2005). Most survey respondents strongly agreed that mobile phones enabled the agency proxies (I constructed), in their lives presented in Table 13, with responses well-above 70% although gender consciousness is lower at 59%.

Table 13: Proportion of research participants agreeing mobile phones enabled agency

Agency proxy indicator (Questions 18 and 21)	Women	Men	Combined	Missing	Valid
Free/autonomous	85%	69%	71%	2	98%
Making decisions	92%	78%	84%	3	96%
Voicing opinions	86%	80%	83%	0	100%
Learning useful information	92%	80%	85%	0	100%
Self-improvement	83	76%	79%	0	100%
Raising consciousness about men and women (gender issues)	67%	52%	59%	0	100%

Two observations can be discerned from the data in Table 13 of relevance to this study. First, in relation to autonomy, a higher proportion of women (85%) than men (69%) strongly agree that mobile phones help them become more autonomous. Autonomy, in the thesis was defined as the 'condition of the will that makes agency possible' (in chapter 2, section 2.3.6), and operationalised 'as freedom to do what you want' in chapter 3, section 3.3.1. Second, a higher proportion of women (67%) than men (52%) report a sense of mobile phones providing opportunities for raising consciousness about gender issues. This was operationalised for the survey as an 'awareness of an unequal gender order and the efforts being made to rebalance or redress it' (chapter 3, section 3.3.1).

5.2.3 Sense of transitions and social change

Street traders' perceptions of the sense of achievements afforded by mobile phones (discussed again in relation to gender equality achievements in section 5.4) flag up the types of agency that potentially involve some or all the forms of agency conceptualised in

my theoretical framework. Table 14 demonstrated these changes. There are three key observations from this data. First, there are relative similarities (less than 5% difference) between men and women as a group in strongly agreeing to feeling happier and being more secure as a result of mobile phone use.

Table 14: Proportion of research participants strongly agreeing to change enabled by mobile phones, 2010

Change (question 18 and 21)	Women	Men	Combined	Missing	Valid %
Act behave differently as a man or woman	58%	76%	68%	4	95%
More modern	89%	77%	83%	2	98%
Feel happier	89%	91%	89%	3	96%
More confident	89%	84%	86%	3	96%
More secure	75%	77%	76%	2	98%
More knowledgeable	79%	80%	80%	4	95%
Closer to family and friends	97%	98%	97%	4	95%
Fashionable	74%	77%	75%	5	94%
Higher in status	70%	68%	68%	5	94%
Improved personal well-being	83%	76%	79%	0	100%

A second observation is that there is a 5-7% between women and men in reporting that mobile phones had afforded them more confidence or improvements in well-being. This sense of greater confidence and improved well-being is repeatedly mentioned in the survey's free text commentaries on benefits and changes associated with mobile phones, in the individual interviews (chapter 6) and corroborated as one of the key benefits of mobile phones for women in several studies (Chib and Chen, 2011; Aminuzzaman *et al*, 2003; Barua and Diacon, 2003).

Third are the pointers the data provides about women's agency directed towards self and identity. A higher proportion of women (89%) were likely to associate mobile phones with 'being modern'. Mobile phone ownership's symbolism of modern identities, with meanings associated with cultural and economic progress are well documented (Baston-Savage, 2007; Campbell and Park, 2008; Lemish and Cohen 2005). This sense of 'becoming more modern' was reiterated elsewhere in the survey responses relating to the benefits of mobile phones, with women citing it as a personal positive achievement of mobile phones. The focus group discussants also cited 'becoming modern' as a motive for women's phone acquisition.

However, the sense of acting or behaving differently as a result of mobile phone ownership divided opinion as this was perceived negatively and contrary to strongly held values about appropriate behaviour for men and women. A lower proportion of women (58%) than men (76%) reported strongly agreeing with this statement. At the focus group this was explained as women's propensity towards guardianship of culture and reluctance to be perceived as altering their socially sanctioned behaviour, an indicator of men's more socially accepted norm of being freer to 'be' (Sen, 1990). These proxies indicate how men and women have different mobile phone enabled agency capabilities and spaces.

5.3 Agency capabilities afforded by mobile phones

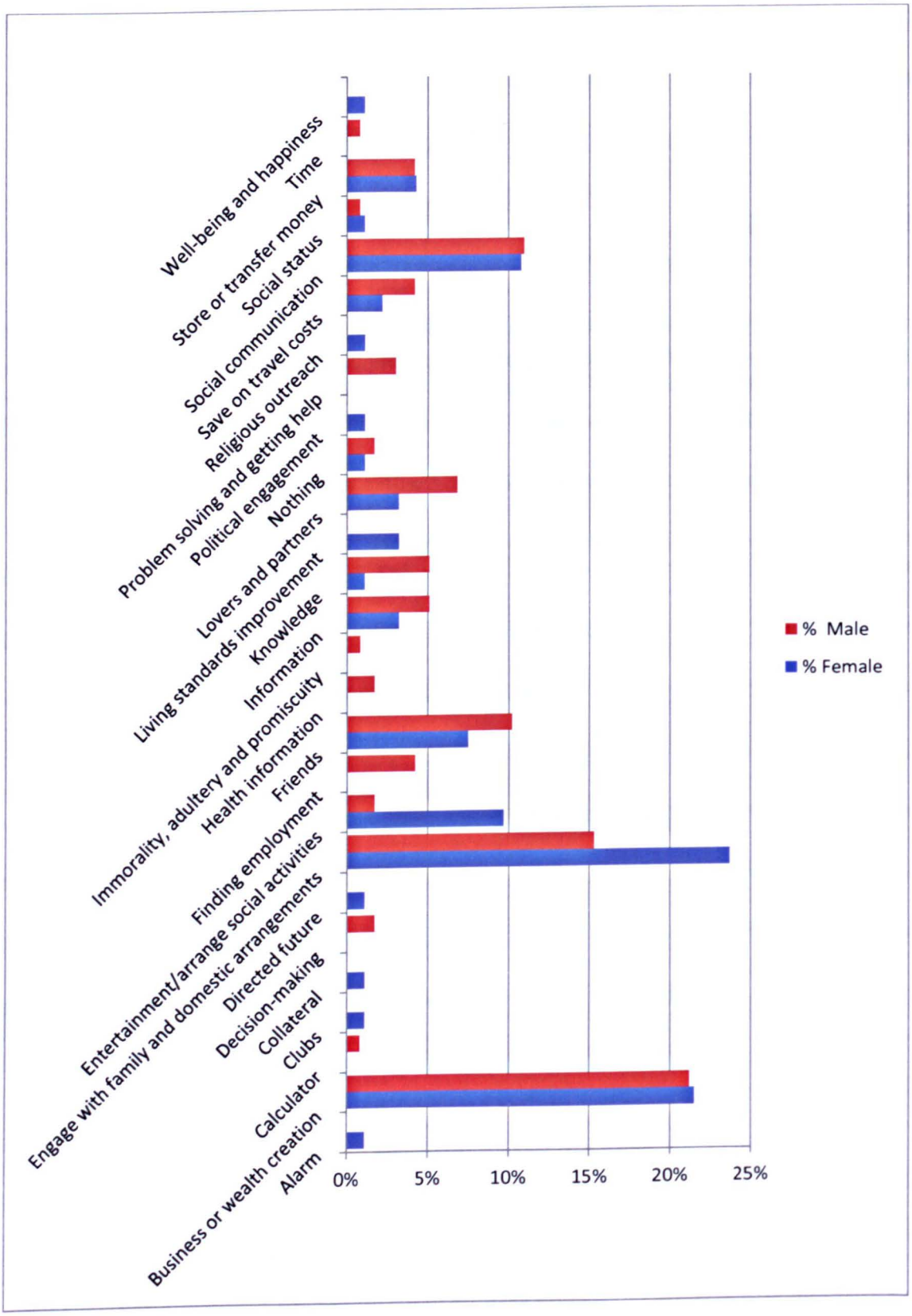
From the perceived benefits of and positive outcomes from mobile phones reported by survey participants it is possible to infer where agency is facilitated by mobile phones and

capabilities expanded, another element of my theoretical framework. These reveal what individuals choose or are able to do using mobile phones and the types of networks and informational uses they facilitate.

5.3.1 Networks

The perceived benefits from and uses of mobile phones gleaned from the survey suggest that mobile phones are largely viewed for business and social purposes (see Figure 16). From this we can infer that the key valued networks are familial, social and business as these are the networks in which they tend to engage.

Figure 16 : Perceived benefits for research participants in their own lives, 2010



Based on question 25

A closer examination reveals differences between men and women in relation to engaging with the family and arranging social events. The latter contradicts other data in which female participants suggest mobile phones have not made them more socially active. One explanation is as the data reported here consisted of free text comments, whereas social activity is split across social activity, friends and communication. Another explanation would support the notions that the processes of individual agency are riddled with contradictions and tensions (Ramazanoğlu and Holland, 2004; Foucault, 1990; 1981; 1980).

These benefits which are perceived to be achieved are consistent with the valued goals discussed earlier in this chapter (section 5.1.2). These findings suggest that the capabilities and spaces for agency that are enabled by mobile phones might reside in building and maintaining relationships and businesses.

5.3.2 Informational and communication capabilities

A lower proportion of female, 83%, in comparison to male, 96%, mobile phone users reported using mobile phones frequently. While frequency of mobile phone use is not an indicator of quality of use, the focus group discussants alluded to and provided some insights into gender-differentiated capabilities and practices. Some explanations for this difference might lie with financial ability, as suggested by participants in the focus group presented in the excerpt below:

Freda: *There are some businesses which don't need someone to communicate on phone to do businesses and if she chose to use a phone to communicate to her customers the costs will be encroaching on her would-be profits.*

Topista: *Some ladies just don't want to associate themselves with spending.*

Godfrey: *I think it is in the culture of women to beep men so that they can call back because even if you buy her airtime she will use it on some other things but when she wants to talk to you she will just beep you. [Laughs]*

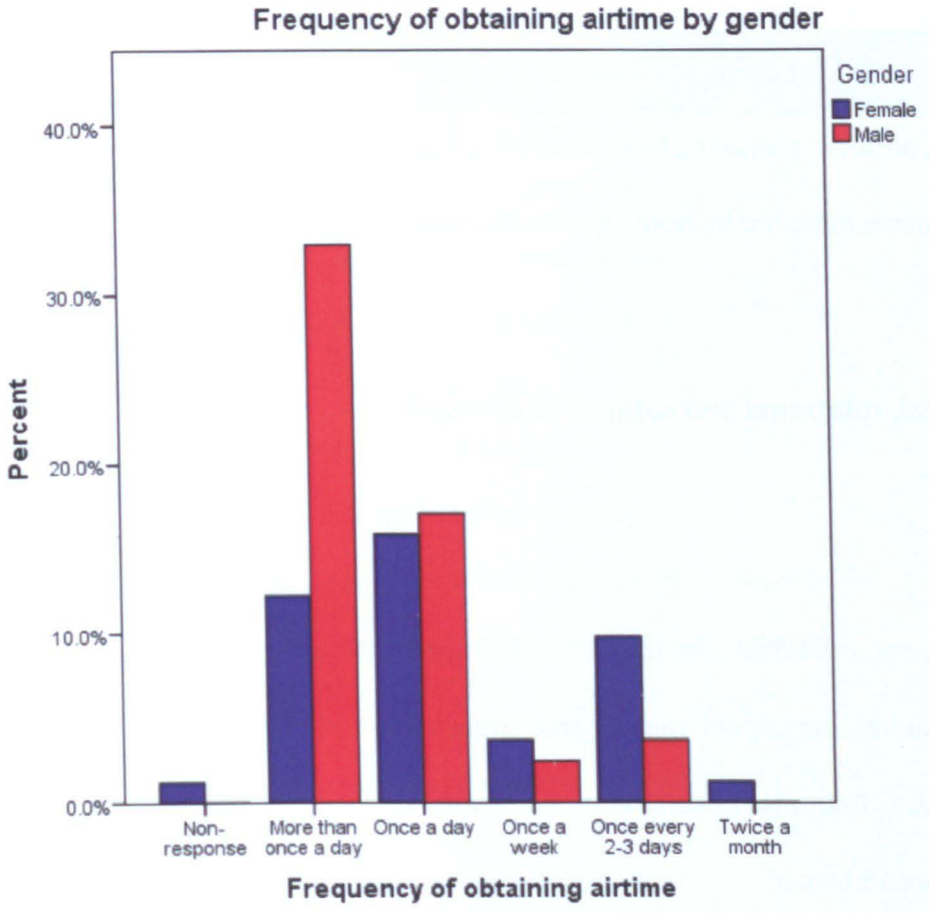
Freda: *It is not that all the time a woman will keep asking airtime from a man. If I get airtime from you I may use it to call my parents.*

Fred: *At least for once use it to call me this will please me.*

Another explanation for the reported differences between men and women relating to frequency in talking on the phone could be that women's communication patterns and mediums might differ from men's in that women interviewed also suggested they conducted much of their communication face-to-face. For example, they were less likely to need communication via phones when conducting business (discussed in 6.1.1).

Men and women's payment patterns and frequency of payments also suggest slight differences in communication patterns and their financing. A cross-tabulation analysis by gender for amounts paid (represented graphically in Figure 17) did not show any major gender differences, confirming Meso *et al*'s (2005) findings in other African countries that show no big differences by gender in access and use patterns. However, contrary to Meso *et al*'s findings (*ibid*), there are some gender differences in frequency of payments. A larger proportion of men than women (see Figure 17) report purchasing mobile phone airtime more frequently (more than once a day) than the other categories.

Figure 17: Frequency of obtaining airtime by gender, research participants, 2010



Based on question 12

These gendered differences might reflect wider gender structural and contextual differences and also have implications for women's capacity for mobile phone mediated agency and achievements, particularly when also considered alongside the fact that slightly more men report higher usage of most available functionalities of phones (see chapter 4, section 4.3.3, Table 11). The following section discusses the achievements gleaned from the survey that have the potential to contribute to greater gender equality.

5.4 Agency achievements for gender equality

The survey paints a mixed picture of indicators of agency for gender equality achievements, another element of my theoretical framework, that suggest women's use of mobile phones is inhibited by their situational factors.

5.4.1 Material, relational and subjective dimensions

While the material, relational and subjective dimensions of agency overlap, it is possible to infer from survey participant reports that these dimensions are evident in women's mobile phone use. Examples of comments from women that reflect these dimensions are provided in Table 15 below.

Table 15: Material, relational and subjective proxy indicators of agency, research participants, 2010

Dimension of Agency	Illustrative comments
Material	*'receiving money and things',* (F)
	'improved standard of living' (F)
	'used the phone as collateral' (F)
	'more income opportunities' (F)
	'business growth' (F)
	'educated my children' (F)
	'called for help when I was sick' (F)
	'business information about my local community' (F)
	'know what is going on through on the radio' (F)
Relational	*'conning and finding men'* (F)
	'easy communication with husband' (F)
	'monitoring kids wellbeing' (F)
	'communicate with family and children (F)
	'keep in touch with relatives' (F)
	'engage with club', (F)
	'sharing with others' (F)
	'gain entry into women's groups' (F)
Subjective	*'directed my future life – I know where I am going'* (F)
	'not undermined and overlooked' and 'modern identity' (F)
	'family disputes' (F)

Based on women's responses to questions 25 and 29

Material benefits are largely framed in terms or productivity from business and 'getting money from men'. In contexts where women are materially disadvantaged (Burrell, 2010; Stevenson and St Onge, 2005; Lange, 2003), the female survey participants' reported achievements in their own lives indicate that mobile phones help them grow their businesses, educate their children, enhance their knowledge, and acquire money and material possessions through their own initiative. In addition, as outlined earlier, both men and women perceived business as the most important benefit of mobile phones. Responses to the question about the benefits of mobile phones to women had 57% of women citing business and 43% of men also citing business as the most frequently reported response to benefits of mobile phones for women. However, as subsection 5.5.2 suggests, it is quite possible that men achieve similar benefits, possibly even more business benefit, from mobile phones than women.

While the relational category in Table 15 reflects prevailing gender relations, relational shifts or benefits are extrapolated from further comments. A male respondent suggested that *'women no longer respect men'* (Survey Participant 36, Male) as a consequence of freedoms and capabilities enhanced by mobile phones. Such a comment indicates a possible perceived a shift in gender relations. However, in terms of relational dimensions of agency, whilst women report instances of improved personal and social relations of love and care and networks of support, broader gender relations are not necessarily perceived to be improved. There are still troubling perceptions of women as an excerpt from the focus group demonstrates below, where a conversation alludes to how women are perceived more widely in society to be less intelligent, capable and responsible and hence unable to engage with politics.

Subjective dimensions are deduced from the previous and another two comments in the survey. Statements such as *'women now look like men in business matters'* (Survey Participant 32, Male) *'women are no longer respectful to men '* (Survey Participant 36, Male), *'family disputes'* (Survey Participant 20, Male) and *'destroying marriage partnerships'* (Survey Participant 19, Male) as reported outcomes of mobile phones may be indicators of shifting unequal relations and women's improved 'self-concept' and meanings associated with the gender order that Connell (2011) highlights. However, the subsequent focus group discussion highlights the tensions in negotiating agency directed towards equality goals, where the following conversation took place:

> ***Topista:*** *Women status has changed but emancipation and equality cannot be realised. Whether you [woman] consider yourself as bigger than a man, the reality is you are not, you are still a woman because of our nature and what we do.*

> ***Godfrey:*** *It is not possible [equality between men and women]. There are things that nature has provided and cannot change. A phone cannot change this. It can work in areas of entertainment, passing-on information and the rest. For example, if I am to pass-on information pertaining to the death of some member in Kyabazaala village using a phone this will be done faster than people delivering information on foot as it was in old days. So a phone is extremely important wherever.*

> ***Freda:*** *Something else I wanted to put across is that phones have indeed helped us to develop even more than men but equality will never be realised.*

> ***Topista:*** *Never. Time come when you have enough money and you feel you would not want to be with a man but because you cannot defy nature you are forced to get a man and you end up becoming a helper. And in our culture a woman cannot rule over a man.*

Freda: *May be he [referring to a statement made by Fred earlier that mobile phones have increased infidelity amongst women] was right because, most women when we got phones we thought they will quicken what we want and you may find that women save their other loved ones in their phone books as Mukasa 1 to 7. [Some laughs.] So, most cases we get as leaders are related to phone issues. Phones are a major cause for domestic violence. When you get a phone you have to use it carefully.*

The reported subjective dimensions pertaining to values, perceptions and experiences suggest that mobile phones might present a site for gender conflict in terms of increased domestic violence and marital strife or familial conflict as a result of jealousies brought on by mobile phone conversations and the added confidence women derive from more opportunities to engage in clubs and business organisations. Subjective dimensions are also gleaned from other comments about shifting identities and gender relations, modern identities forged through mobile use and representation and increased mistrust between men and women over illicit relationships that are facilitated by mobile phones. These dimensions are discussed more fully in Chapter 6.

5.4.2 Economic, political and social spheres

Three spheres of life, social, political and economic, illustrate the gendered differences in the agency possibilities that mobile phones help create for men and women. In chapter 6, conversations with the survey participants selected for in-depth interviews begin to uncover some of the gendered identities, hegemonies, subjectivities and ideologies that impinge upon men and women's differing opportunities for agency. Women's agency possibilities might be restricted by gender norms. For example, if a woman lacks power or political nous to gain access to public services and officials, her possibilities and life options are more limited than a man who enjoys these opportunities (Coates, 2010).

Economic sphere: business and wealth creation

In relation to the economic sphere that covers business, livelihoods, economic participation and material acquisitions, male survey participants report proportionately higher willingness to use and capacity for mobile-mediated economic activities (see Table 16).

Table 16: Business and wealth creation, research participants, 2010

Strongly agree (questions 17 and 18)c	Women	Men	Combined	Missing	Valid
Strongly agree that they like to use their phones for business activity	77%	89%	84%	2	98%
Strongly agree that mobile phones have made them wealthier	32%	55%	45%	3	96%
Strongly agree that mobile phones have made them more economically active	54%	70%	63%	3	96%

The reasons for women's likelihood or willingness to use mobile phones for business were not fully investigated in this survey on agency. However, it is instructive to note that Freda (FGD participant, 2011) suggests that men might boast or exaggerate their business growth and expansion. The higher value that women attach to the family (discussed in chapter 6) as a valued goal and motivation, compared to men, might be another explanation and is corroborated by other research (Burrell, 2010). The nature of women's business might also explain this lower likelihood as women suggested that they were less likely to require telephone contact (discussed in chapter 6) because their businesses tend to be stationary, and smaller, and suppliers are often within walking distance.

In terms of entrepreneurial capability, women's capacity to build their businesses in some instances can be hampered by gender relations. One focus group discussant shows how the prioritisation of family, cross-cut with feelings of jealousy can limit women's capacity to expand business opportunities:

'The biggest number of women in Kampala work in distant places from where our spouses work from. When you get back home after work because of the nature of our businesses sometimes our customers call while we are at home. This disturbs men so much because they really want to know what the discussion on phone was all about. Because you may be prioritizing marriage to business if you detect that a phone is going to damage your relationship with your spouse, you are forced to choose to abandon it' (Freda).

Other research in Uganda has shown that women prioritise their marriage over business where husbands are threatened by their economic advancement and social independence (Bantebya, 2009).

Political sphere: voice and public and civic engagement

Use of mobile phones for political activity, civic engagement and public life might imply that there is an absence of political voice or that mobile phones are not a medium through which some research participants articulate political voice or engage with public life. At a first glance, the figures in Table 17 might point to similarities between men and women in the way they report their likelihood of using mobile phones for political activity and civic engagement, with the exception that they disagree that mobile phones have made them more politically active. On closer examination of the issues during the focus group discussion, however, a greater apathy towards politics was revealed for women (discussed below). Individual interviews (in chapter 6) corroborated women's disengagement from political activity or public/civic life.

Table 17: Proportion of research participants disagreeing with political activity or public engagement statements, 2010

Disagree (questions 17, 18 and 19) that...	Women	Men	Combined	Missing	Valid
Like to use mobile phone mostly for engaging with government authorities e.g. Kampala City Council	56%	52%	54%	1	99%
Like to use mobile phone for engaging with local community matters (e.g. Local Council)	57%	55%	56%	1	99%
A mobile phone has made me more politically active	86%	59%	71%	3	96%
Mobile phone has helped me to participate more in political processes	83%	62%	71%	2	98%
Mobile phone has helped me to participate more in local community decision-making	63%	64%	63%	3	96%
Mobile phone has helped me to participate more in dealing with public officials	74%	59%	66%	3	96%

Fewer women than men appear to use mobile phones for political agency. From this data it would appear that women at 86% were more likely to disagree that mobile phones had made then more politically active than men, at 59%. A higher proportion of women (74%) than men (59%) also reported that mobile phones had not enabled them to engage with public officials. Again women reported that they were less likely to feel that they need to engage with public officials, or less confident of doing so. They also reported that here was an antagonistic relationship between street traders and public officials and a mistrust of government officials and politicians. While women report less mobile phone-enabled political activity and participation in political processes than men, these gender

differences are not as stark in relation to dealing with public officials and civic engagement (see Table 17).

These results beg the question of whether people do not engage with politics at all or use other means for political engagement that were not readily explored within this survey (for example, preferring certain types of contact and face to face engagement rather than through a mobile phone). But the results also raise the question whether fear mediates people's stated value towards political agency in a survey context and the extent to which it reflects political agency as a little valued goal in this research. Further discussion in the focus group discussion revealed that women were more likely to be disengaged from politics more generally and perceive political engagement as of little value to their lives rather than engaging less via mobile phones.

In trying to explain this lack of interest in, or avoidance of, formal channels for politics, 'survival versus political agency' and 'fear of reprisals' discourses, prevail. Survival is valued over political action for of fear of repercussions or reprisals for talking about politics (real or imagined). Misinformation about alleged phone tapping also limits mobile phone mediated political agency. A limited understanding of the connections between the role of politics in providing public goods and meeting citizens' needs and the research participants' survival needs, the very things they value, is another explanation. Another interpretation is that the survey was conducted shortly before an election and the interviews shortly after. This was a period of political unrest with riots that might explain the reticence and mistrust. A fear of discussing politics was particularly pertinent (Daily Monitor, 2011)

Other explanations are also possible. For example, active citizenship and community involvement are highly contested arenas (Marinetto, 2003), and the survey could not possibly have uncovered all of the different expressions or forms of communitarianism and associative democracy. Social and political participation is constantly changing (Turner, 2000) and being political takes different forms (Isin, 2002). Indeed recent developments in the Middle East and Kenya (Shrum *et* al, 2011) point to new ways in which mobile phones and social networking media have enabled collective political agency, but such developments were not evident in this survey. More recently, the *boda boda* strike over increased payments to KCC (New Vision, 2012) was coordinated via mobile phones, and citizenship participation in monitoring elections through SMS (Hellstrom, 2012) suggest that mobile phones are enabling new communication channels for political participation.

Freda (FGD participant, 2011) suggests that the particular 'class' of the survey participants displays a lack of interest in political affairs because of poor knowledge of politics and lack of awareness of political processes, time pressures, timidity, lack of self-confidence, lack of leadership and views that the issues women care about are unimportant to the politics realm. Fred (FGD participant, 2011) also emphasises socio-cultural explanations in asserting that women tend to be less educated and expect men to deal with those sorts of issues. 'Class' and 'gender' explanations for female traders' lower inclination to engage with formal politics and public servants, thus lower political agency as a valued goal, are implied in the following excerpt.

> ***Godfrey:*** *Most times women don't have issues to do with such kind of things.*
>
> ***Interpreter:*** *But we are talking about women of a working class, one would expect them to be engaged in such kind of things.*

Freda: *Me as a leader I have something to contribute most times you call women for a meeting but don't show-up and they sometimes start giving excuses others just ignore your calls. Others are reluctant to take up responsibilities and others are just timid. That is why if you went and asked some women at their villages whether they have bothered to take-up duties in some available offices they will tell you 'me I cant manage'.*

Topista: *The laws of our land are so protective of women than men. For example, if a man and woman committed an offence and all of them are supposed to be arrested, a man will be arrested forcefully while a woman will be treated will golden gloves. And when women are at home you can hardly reach her because they rarely pick calls especially at home, this takes us back to the point that men use phones more frequently than women.*

Interpreter: *Do you think Kampala City Council (KCC) does not often arrest women?*

Fred: *They are arrested but because women are careless.*

Godfrey: *For example; you can bring something home and keep it with your wife but when time comes for you to ask her for it she will tell you to go and ask the children. Why do I have to ask children when it is you I gave the stuff to keep? (Some laughs).*

Freda: *Me, I noted some woman who was married to my brother and was surprised what kind of family they were running but eventually things did not work out for them. They separated but, me, I had seen her at the start that she was not a good person. One evening we went home and there was no power then the man asked why there was no power she replied that the power guys had disconnected it. They had so far brought 2 bills and the lady had not even submitted a single bill to the husband to be cleared. When the man asked for the bills the woman said the kid dipped them in a basin of water as I was doing the washing. (Laughter) Leadership all starts from home so such a lady can't be responsible. Very few women who can think that of getting a police number for just in case of any emergency at home. Me I can't fail to have Kayihura's [chief of police] number or a*

new police OC in the area. Most women are not very intelligent but there are things you would think your fellow woman can do like getting any letter from the village chairperson and is not doing. Or fighting for their rights. For example, if KCC guys come with the intent to carry away some woman's Kiosk at the village you may find one who cannot even try to defend herself over such and eventually ends up losing.

Fred: *Some women are still careless to a level that she cannot think of having a neighbour's phone contact, hence little usage.*

Godfrey: *Women need to be educated about how one needs to use a phone. Some women still think in old our culture where it used to be known that it is only a man who is supposed to provide for the family even if she has her own money she can't touch it.*

Social sphere: social participation and leisure activity

A complex gender-differentiated picture of women's capacity for agency in relation to social and leisure activity emerges. When asked whether they like to use their phone for social, cultural and leisure activities, both men and women show a similar spread of levels of agreement (see Table 18). However, when asked whether mobile phones have made them more socially active a higher proportion of women are likely to disagree (see Table 18).

Table 18: Social and leisure activity, research participants, 2010

Characteristic (questions 17 and 18)	Women	Men	Combined	Missing	Valid
Strongly agree that they like to use their mobile phones for social/cultural/leisure activity	60%	59%	60%	3	96%
Disagree that mobile phones have made them more socially active	46%	23%	33%	3	96%

One explanation for this, given at the focus group discussion, and explained in more depth in chapter 6, is lack of time. Women especially perceived themselves as not having time for leisure, social or cultural activities because of balancing domestic and productive work. Another explanation provided was that social activities were a waste of time.

5.4.3 Self and social relations of gender

In relation to unequal gender relations, perpetuated through social positioning (Ramazanoğlu and Holland, 2004) and the self (Foucault, 1990; 1981; 1980), three interesting observations can be made from the survey results about women's positioning. First, is that men's sense of agency and perceived achievements from mobile phones is higher than that of women. Second, is the reinforcement of gender roles in relation to family obligations for women, although there are some signs that men are being enabled to take a more active role. Third, are women's shifting identities empowering them sexually, but also some reinforced inequalities in sexual relations.

Sense of agency and perceived achievements

The survey suggests that men report higher levels of achievement than women as a group, demonstrating continuing gender inequalities. The data suggests three issues. First, men have more willingness and capabilities to use mobile phones for business and economic activity (see Table 16). Second, men have more willingness and capabilities to use mobile phones for leisure and social activity (see Table 18). Third, men generally score marginally higher on most proxy agency scores (see Table 14) used in this survey that demonstrate altered states and social transitions and change enabled by mobile phones.

However, these figures might suggest that hegemonies conceal heterogeneity amongst men, in that the 'gender order' (Connell, 2011) does not mean that all men are privileged (Cornwall *et al*, 2011) and that less powerful men's mobile mediated agency is also constrained by their positioning amongst other men and by poverty. Nevertheless, the extent to which the forms of agency afforded by, and capabilities enhanced by, mobile phones for women identified in this chapter contribute to improved gender relations, order or regime hangs in the balance.

Most of the survey responses tended to capture the material dimensions evidenced by the high frequency of specific responses citing economic benefits from mobile phones (see Figure 16). But a closer examination of these through the subtleties about agency revealed through narrative and discourse (chapter 6) presents a mixed picture of traction toward gender equality and empowerment enabled by mobile phones. Values influence capabilities and shape information and communication networks and patterns, partially

explaining the gendered nature of mobile phone mediated agency. Gendered identities, hegemonies and ideologies, reflected in these values inhibit the expansion of capabilities and agency that are typically enabled by mobile phones.

Reported shifts in gender relations, such as increased spaces for mobile mediated agency might threaten power and privileges of men (access to resources, sexual privileges, greater mobility, influence, voice, agenda-setting and leisure time) leading to male resistance. Notions of gender equality embedded in cultural ideologies of gender also illustrate the extent to which mobile phone use might have limits in helping transform unequal gender relations.

Family, social and domestic ties, obligations and responsibilities

An interesting observation is that while mobile phones expand women' agency in terms of voice and decision-making, most women report achievements in relation to coordinating family arrangements, in their roles as carer rather than for emancipative purposes. Other studies of landlines and mobile phones elsewhere equally observe a gendering of phones where mobile phones extend traditional gender roles related to micro-coordination of family affairs away from home (Wajcman *et al*, 2008; Rakow and Navarro, 1993).

While the survey suggests that men are proportionately less likely than women to strongly agree to the statement that they like to use mobile phones for family and domestic matters (see Table 19), many men report that mobile phones have made them closer to friends and families.

Table 19: Family, research participants, 2010

Characteristic (questions 17 and 18)	Women	Men	Combined	Missing	Valid
Strongly agree that they like using mobile phones mostly for family/domestic matters	91%	75%	82%	2	98%
Strongly agree that having a mobile phone has made me closer to friends and family	97%	98%	97%	3	96%

Typically, women are associated with domestic responsibilities, social care and monitoring of children's welfare. In this study men report that mobile phones have helped them engage more with this realm, implying a shift to more equitable roles. This is evidenced by the male focus group discussant who stated that men support the family through calling to see what food or household goods are needed, monitoring partners and children and maintaining family welfare through giving advice and financial support. Godfrey (FGD participant, 2011) added that men find it economically viable to keep informed about home because of the ease and cost of mobile phones. Fred (FGD participant, 2011) explained he found it much easier communicating with his wife over the phone after an argument. He was able to be more reconciliatory and better express how he felt on a phone rather than face-to-face.

These shifting gender identities and social practices reworked in relation to mobile phone use are also evident in new sexual identities that mobile phones enable.

Transformations in gender relations relating to sexual identities

Survey participants perceived mobile phones as enabling increased immorality, infidelity and illicit behaviours (see Figure 15) by making them easier to pursue. This suggests that mobile phones are enabling women to construct new freer, sexual identities that are not culturally sanctioned, so conducted in secret. Some research participants indicated that mobile phones had made it easier for them to find sexual partners and others observed that generally, the ease of communication and connectedness afforded by mobile phones was increasing sexual activity. Subversions of gender norms in creating more permissive sexual identities can reflect agency, but can also equally reflect or represent coping strategies for women to acquire resources in ways that do not necessarily empower them or emancipate them from restrictive gender relations. A focus on the political economy of sex in African countries has revealed that rising unemployment, rapidly declining marital rates and women's migration (for example, rural to urban) has contributed to the sexualisation of gender relations, increasing recourse to multiple sexual partners as mechanisms for redistributing formal and informal earnings and other resources (Moore, 2010). The resulting sexual networks are not simply instrumental exchanges of sex for money, but provide frameworks for claims about love, pleasure, identity and care (*ibid*).

The processes and forms of agency enabled by these sexual networks are unclear because of their social connectedness and interdependencies, but are infused with power and resource allocation. Political economies of sex largely address material dimensions in terms of safety nets for women gaining access to resources. However, they also reflect relational issues where some women, to some extent are sexually empowered and in

control, and involve subjectivication with respect to moral justifications for multiple sexual partners as a resource allocation back-up.

Conclusion

With respect to the research sub-question 1 addressed by this chapter, (what spaces and capabilities do mobile phones open for the expansion of women's agency and what are the features of this agency?), the survey and focus group discussion suggest that mobile phones enhance information and network capabilities and expand spaces for agency, but men and women's capacity and willingness to participate in, or take advantage of, these spaces differ. Two contradictory trends are evidenced which suggest an initial conclusion from these data in relation to the overarching question, (to what extent can mobile phones contribute to gender equality through the expansion of women's agency?). The data suggests that underlying and unequal gender relations influence mobile phone use as well as the extent to which individuals can overcome the structural conditions in their lives. First, in some instances women are able use mobile phones to participate and engage effectively within those areas that are important to them, what they value, for example, children and family. Second, there are other areas for which women have little capacity or willingness to participate more effectively, for example, business and participation in social or leisure activities.

Guided by my theoretical framework, various factors explain the shortfall between the much heralded promise of mobile phones (UNDP, 2012; Gill *et al*, 2010; World Bank, 2008; SIDA 2005) and the actual realities for women. Social relations emerge as

important situational factors (element a) in shaping the extent to which mobile phones enable agency that alters unequal relations. Agency capabilities (element b) and agency forms (element c) afforded by mobile phones do have mixed outcomes on the transformation (element d) of prevailing norms to enable greater equality. The survey and focus group discussions suggest that mobile phone practices:

- help women build confidence, improve senses of well-being and achieve what they prioritise or place most value, for example, family and childcare, but they do not necessarily reap wider gender equality and development achievements;

- emancipate women in some areas of their lives (for instance, provide a sense of more autonomy, control and consciousness), but also present a site for gendered struggle, control and resistance in terms of negotiating gendered values and identities;

- increase men's agency more in terms of being more economically and socially active, relative to that of women;

- reflect both men and women's greater propensity towards productivity rather than emancipative goals without a clear trajectory to the latter; and

- expand women's opportunities for sexual agency with unclear outcomes on gender relations.

These findings that expose the tensions between possibility and constraint, particularly those related to women, are taken forward in the next chapter which further illuminates these issues through the narratives of six female street traders.

6 Female street traders' perspectives

Introduction

This chapter addresses the second and third research sub-questions: (2) How is women's agency enabled and restricted by mobile phone use, practices and representations, and why?; and (3) What situational factors enable or inhibit the empowerment, emancipative and transformatory potential of mobile phones in relation to how gender equality is perceived? The chapter argues that whilst mobile phones enhance individuals' capabilities and facilitate their agency, contributing to greater gender equality, cognitive habits and gendered normative patterns are difficult to shift. In order to understand the reasons why, and therefore demonstrate the extent to which mobile phones can support female agency, this chapter focuses on three elements of my theoretical framework: agency capabilities (element b); agency forms (element c); situational factors (element a). Data from the interviews was analysed and interpreted inductively using these elements of the framework to order the analysis presented in this chapter. Other emergent issues such as trust, respect and sexual agency, not conceptualised in the framework are also presented.

First, section 6.1 examines multi-dimensional areas of six female street traders' lives (see the biographies presented in chapter 4, section 4.4), where mobile phones typically enhance capabilities and how these are differentially constituted for the six female street traders. Their capabilities are understood as reflecting agency and resources (Kabeer,

1999). Reflecting on their life stories reveals a number of gendered aspects of their lives that both enable and constrain their capabilities in nuanced ways. Thus, the chapter highlights:

- entrepreneurial capabilities (inferred in chapter 5, section 5.4.2) and gendered motivations for mobile phone appropriation and use that are underpinned by values that determine goals and priorities;
- functional and operational capabilities (financial, know-how and political and community decision-making capabilities), signalled in chapter 5 which shape mobile phone use, practices and interactions (both gendered and not) and what these reveal about the extent of agency;
- network and informational capabilities (flagged up in chapter 5, section 5.3.1) and the extent to which these are influenced by gender positioning that both expands and limits opportunities for fostering opportunities for agency using mobile phones.

Second, in section 6.2, the chapter explores the gendered micro-dynamics of the six women's mobile phone use, practices and interactions, organised in themes that demonstrate the forms of agency they exercise, another element of my theoretical framework. It explores their agency freedoms in terms of:

- construction of modern feminine identities represented through mobile phone ownership and usage;
- women's resource appropriation using their sexual agency;
- gendered resistances to mobile phone pricing structures through 'beeping';

- effective 'power to' and the situated nature of agency and adaptive preferences and the implications of these for agency freedoms manifested through choice and decision-making.

Third, in section 6.3, the chapter explores the situational context, another element of my theoretical framework that exposes the limits to women's agency mediated by mobile phone practices and interaction in terms of their positioning within 'gender regimes' (Connell, 2011). It attempts to explain how mobile phone representations and usage intersect with, change and make more visible prevailing social relations and the material and socio-cultural context. This provides a better understanding of how gender positioning in relation to the labour market, family, state and 'self', and power relations related to these, are embodied in the use of mobile phones. It highlights dominant ideologies (respect and gender ideology) and discourses (traditional vs more egalitarian forms of gender) within the narratives that reveal tensions in negotiating change and 'new identities' (Baston-Savage, 2007; Green and Singleton, 2007). An analysis of these meanings through the values, ideologies and discourses that individuals attach to mobile phone representations and use provides insights into the how they construct and negotiate agency.

Overall, the chapter expands on the key findings of the previous chapter that suggests women's values and goals are shaped by their identity, and therefore their mobile phone mediated agency capabilities differ from men's. It exposes the dialectical tensions between autonomy and subordination, liberation and control, and empowerment and disempowerment (Baxter and Montgomery, 1967) within gender roles. These tensions are situated within the discussion of gendered motivations, values, ideologies and

discourses that have implications for the female street traders' agency, demonstrating the nuanced intersection of everyday, strategic and discursive agency. These tensions contribute to a better understanding of the extent to which mobile phones can support empowerment and greater gender equality within the context of the six women street traders.

The chapter concludes that the spaces through which mobile phones mediate agency are influenced by situational factors that include:

- gendered values played out through gender positioning in terms of markets, the state, self, family, kinship, household, community), markets and the state (Connell, 2011; Kabeer and Subramanian, 1999);
- intersecting relations of power, poverty and gender.

These values and relations, both shaping and shaped by mobile phone use and their negotiation and reconfiguration, play an important role in determining the extent to which mobile phones can help achieve gender and development goals of empowerment and equity. Narrative and conceptual forms of interviews (Kvale, 2008:71-72) were used to gain insights into the six female street traders' relationships with their mobile phones in their own lives (explained in chapter 3) and their perceptions of other women's experiences. This chapter analyses their life stories identifying key narratives, ideologies and discourses to illustrate this complex and nuanced nature of agency realisation and limitation.

6.1 Agency capabilities realisation

The survey suggested that mobile phone-augmented agency capabilities are largely realised through entrepreneurship and social relationships that are facilitated by enhanced communication, information and networks. This section discusses the street traders' entrepreneurial, functional, operational and network capabilities. It explores their motivations for appropriation and use of mobile phones and what these reveal about their capabilities (resources and agency) to demonstrate the gendered constitution of mobile phone mediated agency.

6.1.1 Entrepreneurial capabilities

The six female traders' stories demonstrate the hard work, often depicting entrepreneurial capability that goes into purchasing a phone, the phone's varied significance for women as a tool for sociality and productivity, and the shifting role mobile phones play as street traders' livelihood strategies and life circumstances change.

As micro-entrepreneurs, it is surprising[37] that four of the six interviewees did not use their mobile phones for business (see Table 20[38]), which is consistent with other studies that suggest mobile phone users tend to use them largely for personal and social rather occupational uses (Sey, 2011). At the time of the interviews, only Jane and Joanita were currently using their phones for business operations consistently. Prossy indicated that

[37] In that mobile phones have come to be associated with female entrepreneurship (aka Grameen Foundation schemes and women concentrated in mobile kiosks selling airtime) in Uganda.
[38] Table 20 indicates their business and summarises the six female traders' predominant use of mobile phones. Their biographies are presented in chapter 4

she had only used her phone for business to coordinate and liaise with her workers during her maternity leave *'to get things moving'*. Fatuma previously, had to some extent used her mobile phone for business, in another line of business. Mary and Christine did not use their phone for business at all.

The reported lower usage of phones for business by women in this study (discussed in chapter 5, section 5.4.2), is in marked contrast to the higher proportion of male street traders who report using their phones mainly for business. Mary explains this disparity in terms of women's positioning within markets and fewer material resources:

> *' it is not the same although these days women want to look equal with men but there is a difference even in our nature and the kind of work or business women run... It is very hard to get a man running a small shop [*actually a makeshift stall on the roadside*] like the ones women are running because for them they have more money than most women. So, their businesses are on a large scale. You will find them dealing with people in Dubai.'*

Table 20: The six interviewees, research participants, 2011

Pseudonym	Brief description (at time of interview)	Most valued goals
Jane	21, runs shirt business with her sister and uses her mobile phone to liaise with suppliers and customers.	Self-development
Joanita	26, jointly runs three mobile phone kiosks with her 33 year old husband, she supervises five employees. She uses mobile phone for both business and communicating with her mother in the village who looks after her child.	Expand business and support her family
Prossy	22, used her phone mainly to communicate with her two workers manning her stall where shorts are sold. She also used it for a form of 'remote mothering' for her other child who lives with her mother.	Grow her business
Fatuma	32, sells children's shoes for six months having moved from Mabira Forest to Kampala City. Her phone was stolen so shares with a friend she lives with and uses the phone predominantly to talk to her boyfriend.	Build business and obtain money to education children
Mary	34, runs a *chakala chakala* stall (selling an assortment of goods that include sweets, cigarettes, shoe polish, nail cutters, plastic bags, coffee beans, washing powder etc.) She uses her phone mainly for social networking (Facebook), seeking lifestyle and health information, sending money to relatives and receiving money from 'friends'.	Business development
Christine	48, a former mobile phone seller sells jelly, soap, shoe polish and toothpaste. She uses her phone to call her mother in the village that she supports financially and occasionally coordinate meetings for women's group, Pride Micro-finance, to which she belongs.	Build a house

Women are concentrated in lower and smaller scale segments of the informal sector, and in gender-segregated informal trading activities that are less likely to benefit from business transactions involving mobile communications. Five of the six women interviewed had small businesses and obtained their goods from suppliers within walking distance, so had little reason to contact suppliers using their mobile phones. For them mobile phones do not contribute to meeting their current business goals and hence there is no motivation to use them for business purposes.

However, as Prossy and Fatuma imply there are female street traders with larger businesses that use mobile phones in the running their business:

> *'There are some women who have big businesses and their transactions have to be done via the mobile phone so the phone can really help her to execute it* [but not for her]' (Prossy).

> *'if you really have a serious business, leave alone this small one of mine, it is impossible to survive without a mobile phone'* (Fatuma).

These quotations indicated an association between more precarious, smaller segments of the informal economy where women are over-represented, and lower use of mobile phone communications for business. Female businesses are usually less lucrative than male labour activities (Buskens and Webb, 2009) and Gries and Naudé (2011) suggest that females tend to be less entrepreneurial than men. One reason given for women's restricted entrepreneurial disposition is the inhibiting of their agency through cultural norms, beliefs or outright discrimination that lowers their self-confidence (Miniti and Naudé, 2010, cited by Gries and Naudé, 2011). In Uganda another explanation for women's lower entrepreneurial orientation is women's prioritisation of marriage over

economic advancement (Bantebya, 2009), or spending money on children's needs rather than investing in their business (Bakesha *et al*, 2009). All these gendered goals and values frame where their agency is directed.

The prioritisation of children's needs over entrepreneurial activity is exposed by Fatuma's reason for not replacing her stolen mobile phone, despite the affective value she attaches to it. She continues to share the phone of the friend with whom she lives. The cost for a phone remains prohibitive as she explains:

> *'for airtime I can afford it but not the phone; it is the phone that I can't afford. Because I imagine buying a phone when my children have nothing to eat.....but for 500/= for airtime I can afford. But because you have to feed the children just imagine spending 30,000/- or 40,000/- on buying a phone?'*

During the interview, Fatuma indicated several times her desire to obtain her own mobile phone which she believed would help her grow her small enterprise, one of her valued goals. Fatuma's repeated protestations were not entirely convincing, however, or exposed tensions in directing agency to conflicting goals. For example, the cost of a phone (USH 30,000, about £8 in 2011) is a fraction of the school fees she pays for one term for one child (USH 216,000, almost £58). The relatively low cost of the phone in relation to her other expenses such as school fees might suggest that the benefits of a mobile phone that she professes might be overstated when individuals rationalise choices about mobile phones. Throughout the interview[39] she pits the cost of acquiring a phone against her children's needs even when the opportunity arises to acquire a phone, for

[39] She also later states that one of the reasons for not acquiring a phone is that she has two lovers and would not trust herself to not constantly call them.

example, she says: *'He [my boyfriend] once gave me money to buy it [mobile phone] but I used it [the money] on the children'.*

This begs the question about the extent to which women in her circumstances have the ability to strategise effectively to use a mobile phone to achieve their competing valued goals. Fatuma believes that a mobile phone is very important to her, but she does not prioritise buying her own phone or strategically using it for entrepreneurial activity.

> *'A person with a phone is far different from one without one because a person who had a phone and they steal it from you, you can even end up falling sick. You can sit and start imagining as if someone is calling at that time yet there is no one calling though after sometime you get used and let go. I myself was badly affected at first but I later got used. As long as you have ever held a phone, even if you miss it for only three minutes you can feel the impact...'Yes it* [mobile phone] *can make me strong but there are times like at night when I need to talk to someone but I don't have it so this makes me feel frustrated but still I don't have it.'*

It is quite possible that shared phone use was sufficient for Fatuma's purposes at the time of the interview. Previously, she used her phone mainly to liaise with suppliers, her family and boyfriend. This changed to using it mainly to talk to her boyfriend:

> *'Ok, I would say that for most people the phone helps them in two ways; business and love. For a business like mine it does not need a phone because I am always here and when I sell I just go there* [Kikuubo] *and restock, so if I get that phone in most cases I am talking to my boyfriend'.*

Her current business does not require a mobile phone as she can restock her supplies from nearby, but she can envisage having a mobile phone helping her make orders for shoes for styles she requires. She has explored finding five other women to set up a

saving initiative through the regulated FINCA or the unregulated Savings and Credit Cooperative (SACCO), to raise more cash, but as she is new to the area she hasn't established strong enough relationships to facilitate this. FINCA Uganda is a Microfinance Deposit - taking Institution (MDI) that aims to provide financial services to Uganda's lowest-income entrepreneurs so that they can create jobs, build assets and improve their standard of living. It is a subsidiary and member of FINCA International, whose headquarters are in the United States. SACCO are owned, managed and governed by their members. She would like to set up a shop in the room where she lives but does not have the USH 1 million she needs and has been told that FINCA or SACCO initiatives do not support setting up shops. In the interim she has started a money-round group with three women (saving USH 16,000 each a week for a group member) and claimed at the interview that she will use her money when it is her turn the following week to buy a mobile phone. Money round-groups are informal saving mechanisms where group members contribute a sum of money periodically (weekly or monthly) which is then distributed to one member in turn in a lump sum.

While Fatuma demonstrates some agency in single-handedly raising her three children, forging a livelihood on the streets and previous engagement with a collective as a livelihood strategy, she does not provide sufficient evidence to suggest any acts of strategic entrepreneurial agency directly enabled by a mobile phone. However, she has demonstrated this in her past enterprise. At the interview she illustrated latent entrepreneurship, that is a person seeking entrepreneurial opportunities (Gries and Naude, 2011), but not acted upon because of various obstacles, such as her circumstances narrated below.

Fatuma's move from a mobile phone dependent business to one that wasn't demonstrates the fluidity of livelihood strategies undertaken by street traders owing to their personal circumstances that shift spaces for mobile mediated agency in pursuit of livelihood strategies. Before moving to Kampala City, Fatuma conducted a business in Mabira Forest[40] selling drinks after leaving her husband who had mistreated her. Fatuma acquired a mobile phone through a loan from a SACCO group lending scheme which she repaid in full through weekly instalments. She used the phone to liaise with her business suppliers and grow her business. When Fatuma moved to Kampala her phone was stolen so she started to share with a friend.

She started her new business in Kampala with a capital of USH 50,000 (£13 in 2011). Her earnings are depleted by having to bribe council officials (as street traders are unlicensed and illegal) about USH 20,000-30,000 (£5-8 in 2011) when caught working. She feels her business is not developing because of the payments she makes to KCC officials, and for school fees and feeding her children. Her father had over 35 children, ten of whom can no longer afford to go to school and whom she feels obliged to help, although to a lesser degree than her own children.

Where women's lives are constructed and negotiated through gendered roles and institutional arrangements, as illustrated by Fatuma's case, it is possible to see why men and women's motivation for mobile phone appropriation and use differ and how their mobile-mediated agency is thus differently constituted as an extension of their gendered roles. Mobile phones help people do better what they already do (Burrell and Matovu,

[40] Uganda's largest rainforest 55 kilometres from Kampala

2008), organising activities and relationships in more dynamic ways, but also replicate or perpetuate gender stereotypes and biases with unintended negative impacts on women.

Mobile phones, however, also economically empower some women and introduce new forms of interactions (Donner, 2008) as Jane's life story demonstrates. Her case illustrates women's differing use of mobile phones and emancipation trajectories that depend on one's own capability sets and life situation. She uses her mobile phone to deal with both suppliers and customers and her shirt business is highly dependent on using a mobile phone.

Jane's story shows how mobile phones can support women's economic agency and mobility and how her entrepreneurial motivation to acquire and use a mobile phone helped her. Jane was born in a village near Jinja, the second major urban settlement of Uganda at the source of the River Nile, and has 14 siblings. She and her brother were sent to live with their grandmother in her grandmother's village. Her parents visited rarely, so Jane and her brother always felt the need for self-sufficiency to support their ill grandmother and started to grow and sell maize to support themselves and their grandmother. She continued to work throughout her childhood, moving on to restaurant work, selling mobile phones then shirts.

Her education stopped abruptly at primary school level. She explains her drive for work in terms of childhood experiences:

> *'since my childhood as a person who wanted a bright future, I always wanted to work and you know when you are hardworking, you can cater for yourself instead of looking for money from men from*

whom you can even contract diseases. But if you work for yourself, one day you will succeed because good things come in the future.'

Jane had wanted to become a lawyer, but explained at the interview that this did not come to fruition due to the standard of the school in her grandmother's village. The teachers came in the morning, disappeared shortly after, then returned in the evening. Failed by the schooling system her inspiration for a hard work ethic came from this failure and her mother:

'So that inspired me to work [absent teachers and incomplete education]. *My father had eight wives and my mother was the fifth. You see my mother was a hard working woman though she was not working for the government* [desirable occupation in Uganda] *so she advised my father about working telling him that she had some little money which she was going to use to construct a house she would use as a Hotel. When she had this idea, father liked her so much because she was hard working and chased the other wives away. He stayed with her because she was hard working and this inspired me to work hard so I could get the right man.'*

The contradictions between Jane's independence vis-à-vis work and the need for a man are some of the tensions women like her face. Jane also attributed further experiences in her life to explain her entrepreneurial drive:

'So when I got pregnant, as you know the village situation, the father of the kid denied the pregnancy until when I gave birth. That was when he acknowledged that he was the real father because the baby looked so much like him. So he bought land somewhere and he constructed a house that he gave me. All this inspired me to be hard working because if you are educated and hard working at least you can be on a safe side. After constructing the house, he gave it to another woman. Why? Because she was hard working, you see that! I myself had nothing but the other one they agreed that

he had built the house but had no money to buy doors and the woman bought the doors. So I vowed to myself that to get what I want I have to be hardworking.'

Jane's entrepreneurial drive was driven by both her innate and intrinsic beliefs and her circumstances. She worked long hours to save for a phone because she saw the productive potential of a phone, as she says:

'A phone is far better than food. Because for example you might be eating food but doing nothing which means that food is not of any importance to you because even here where we are, you have to first have money so as to order for something to eat. And yet for a mobile phone, when you have it you have 100% chances, but when you don't you have 50%. Because now as you can see for me yesterday, I had run out of clothes but there was one who had and was selling at a lower price than me. I just called him up and told him to bring the clothes and when I asked him the price on which to sell, he told me 4,000/= each but me I sold them at 7,000/-. A phone is extremely important and helps a lot. It is the phone that can turn you into a lawyer, a doctor, and it is the phone that can make you the president.'

In this way, Jane implies that a mobile phone expands capabilities corroborating arguments that mobile ICTs increase and enable other capabilities (Alampay, 2006a). Jane further provides an example of this reflexivity, consciousness and resultant strategizing that depicts agency arising from entrepreneurial capabilities enabled by mobile phones:

'I have been with the mobile phone for over 3 years because ever since I held a phone everything of mine moves smoothly...Those businesses had a lot of shortcomings before I got a phone, but the moment I got a phone, I no longer face such challenges.. The first job I used to do needed a lot of money but when I got a phone, I got a business which is far better than the other one... Before I had a phone, I had nothing to think about but when I bought a phone that is when I started thinking.'

Jane's motivation for appropriating a mobile phone, are firmly entrepreneurial – for business purposes:

> *'My motive to buy a phone was a business phone. At first I was employed so I saved some money and bought a phone and after buying a phone I went to another standard because I had a phone'...'Of course the phone is for the business, the reason being that you may have something that you need for the business, a phone makes the job move like for example the people from whom you buy stock can call you and let you know when he will bring the clothes. A phone is like food in that the way you eat food is the same way you need the phone. The phone helps for example if you are traveling and it can be like transport'.*

Her motivations appear entrepreneurially strategic. Her consciousness, reflection, actions and achievement in acquiring a mobile phone point to a more active agency than some of the other interviewees. Her motivations for phone appropriation were focussed on business from the outset.

Jane's case as for many other women in the survey, illustrates that, with a particular mindset and circumstances, personal conversion factors, mobile phones can help women build entrepreneurial capabilities and exercise their economic agency, tactically or strategically. The links between intrinsic motivation, values and goals that incentivise her actions have been long established (Mele, 2003; Eccles and Wigfield, 2002; Sen, 1985). Motivations for mobile phone appropriation and use reflect broader goals such as to generate income and resources or engage with their partners and children (Sey, 2011; Burrell and Matovu, 2008). The importance of the influence of children on entrepreneurial values and agency is apparent in Fatuma's case, as is the situation for

many of the women in the survey. Women's motivations for appropriation and use of mobile phones are in ways that that make sense to them and help them with the arrangement of their daily affairs (Ling and Horst, 2011), implying that gendered dimensions, such as gendered values underpin these broader goals. The focus on Fatuma and Jane as on two ends of the entrepreneurial agency continuum of the six female traders serves to illustrate these differences amongst women.

6.1.2 Functional and operational capabilities

Mobile phones are framed as enabling users' choices and optimizing capabilities (Smith *et al*, 2011; Donner, 2010), albeit in different ways for different groups (Alampay, 2006b). The six female street traders' experiences in this subsection help explain in more detail the gender differentiated capabilities women's use of mobile phones observed from the survey. Functional and operational competences limit further capabilities, the building blocks for change (Sen, 1999) in some areas of the street traders' lives which further restrict their effective agency, and its deepening and widening. Old familiar development challenges, poverty in all its multi-dimensional forms of knowledge, financial and political illiteracies are not always eradicated or eased by mobile phone use and this capability deprivation can be experienced more acutely by women.

Technical know-how and financial capabilities

The survey intimated that more women feel less competent to use SMS and internet functions on mobile phones and use their phones less frequently than men (see chapter5,

section 5.1.3). Both illiteracy and limited functional know-how were also found to limit the extent to which some of the traders can make full or effective use of mobile phones, as Fatuma demonstrates when she reflects on her limitations in using a phone beyond voice functions. Even if she has shown a desire to use mobile money services by enrolling, she is unable to do so. Fatuma, for example, reveals functional literacy constraints in being able to use her mobile phone. She says *'I can't read so I can press a wrong button and spoil it...and some people are like me they did not go to school so they don't understand anything'* and she also highlights her restricted capability to engage with financial networks, although subscribing to mobile money, and might also explain why she does not get a phone.

Unlike Joanita, Mary and Jane who at the other end of the spectrum transfer and receive m-payments over their mobile phones, Fatuma is excluded from these financial networks because of functional literacy and know-how competence. As she establishes:

> *'I had connected to Mobile Money, as they had told me to connect to the Mobile Money service... Mobile money, they came registering and I registered but am ignorant about it, and even M-Sente, you know with me I join whatever comes along, so I registered but I don't have a phone but I kept my papers that in case I get back on air I will use it...Why I did that was because of MTN as I would sent money to my child who is at Nakaseke who told me that if it is possible I can use that service to save transport that I would have spent to travel there. So that is why I decided to join the service' (Fatuma).*

Increased knowledge, education and skills can thus be pre-conditions of enhanced agency in terms of optimally effective use of mobile phone opportunities. However, the differences in the six women's capabilities serve to demonstrate the differentially

nuanced spaces for their agency. These differences in capabilities echo Hafkin and Huyer's (2006) distinction between those women who can use ICTs effectively to empower themselves, and those who cannot. The latter are often at the lowest strata of the knowledge society and have fewer opportunities to gain from ICTs. In addressing ICTs, more broadly, rather than mobile phones specifically, Hafkin and Huyer (2006:4) emphasise the need to fully empower women and the importance of ICTs in 'enabling agency, capability and choices for women as well as in supporting the process of change from a condition of disempowerment'.

Prossy, whilst acknowledging that mobile phones could present her with opportunities to send and receive money, explains her non-usage for such purposes as the result of financial constraints. She maintains that:

> *'It [mobile phone] can contribute also. I may use my phone to request my friend to give me some money to inject in my business hence more development in that way a phone will contribute to my development. But it can only help if you have a person to call to give you money, but I don't have him or her and cannot afford to send any money to my relatives.'*

Fatuma and Prossy' experiences echo my survey findings and Scott *et* al's (2004) study of gendered mobile phone use among low income communities in Uganda which also highlighted financial and technical functional capabilities for women and a lower awareness of the mobile phones' potential uses. It suggested that costs of calling other networks and a lack of understanding of how to use phones were significant barriers for women specifically leading, to a weaker intention to use mobile phones in future.

Limited finances also mean that some women substitute food and other expenses to pay for mobile phones (Diga, 2008) demonstrating the value they attach to them. Financial, other illiteracies and confidence also impact on women's ability to use mobile phones effectively in other spheres of their lives to maximise and optimise the potential of mobile phones (for example political voice and community decision-making).

Political and community decision-making capabilities

Mobile phones appear to have made little traction in facilitating politically motivated activity amongst the six interviewees, as the survey also suggested for most women (in section 5.4.2). The female street traders' accounts provide little evidence of political organisation and voice to achieve political aims, but rather reaction to political events. Yet, mobile phones have been shown to enhance both individual and collective agency in facilitating political activism, mobilisation, coordination and expression and more recently as a tool to promote transparency in electoral processes and monitor corruption (Hellstrom and Karafelt, 2012; Miard, 2009).

However, Fatuma's use of her friend's phone to make and receive calls providing information about riots demonstrates mobile activism or community activism in activating power and voice (Goggin and Clarke, 2009). At the time of the interviews, food riots combined with political undertones were underway in Kampala twice a week on designated days. Often the areas where the street traders worked were affected being centrally located in Kampala. Typically street traders stay away, but on occasions where riots erupted spontaneously they would become caught up in them.

Fatuma provides an example of how mobile phones help inform people of impending political action:

> *'With the phone, the information that I could get like riots, like the walk-to-work. For example if a person is somewhere and you would like to tell that person about the situation this way as long as they are not disconnected, the phone can be of help and we indeed use them. And if you want to know how mother is doing like how she called me to ask me about the situation in Kampala asking me to leave town because of the situation.'*

Aside from information on riots, there was little evidence of the interviewees engaging with both formal and informal politics through their mobile phones let alone actively engaging with political networks. Rather, they demonstrated both a lack of power and agency toward their political contexts and in some cases a lack of political literacy. When asked what might explain women's reported non- or little use of mobile phones for political action (although both men and women reported low willingness to use mobile phones for political activism) in the survey (section 5.4.2), the women showed a lack of political voice and power and reinforced the survey finding that women were less likely than men to participate in politics.

The quotes below present some of their reasons which demonstrate their inability or unwillingness to use their phones for political objectives and activity. Their reasons relate to a lack of understanding of politics, prioritizing survival needs over political objectives and fear of reprisals.

> *'Yeah they don't [women liking to talk about or engage with formal politics] because of our government. It is something I don't understand. I don't even like to talk about it'* (Joanita).

*'I am more concerned with upgrading my business, it [*politics*] does not help me'* (Mary).

*'It doesn't help me...there are some that use others don't use [*mobile phones for formal political engagement*]. It depends. Now like in this era where phones are being tapped women fear to use their phones like calling radio shows because anything can happen to them if at all they kind of criticise the government'* (Prossy).

'Because [why people don't like using their phones for politics] they [colleagues, friends and newspapers] told us that the phones are tapped and they go to the computer and they follow you up until they get you that is why people hate that thing' (Fatuma).

'Because [why women don't like to engage with politics] they are none of your business...I am there to worry about how I have eaten, how I slept, what I am going to pay for the house instead of shouting about politics because no one is going to give me anything' (Christine).

'Political issues like on radio? Because the phone does not lie, whatever you say you have spoken the truth. That is why they fear because they know the phone does not lie. That is why there is a switchboard that records your voice and everything that you say on that phone that when the time comes, it proves what you said however much you try to deny it' (Jane).

There is also some despondency about what political engagement can achieve, as Christine notes above. She however, also reveals in a subsequent conversation a strategic estrangement from formal politics because engagement is likely to end in tears and a lack of confidence in political leaders. She does the minimum by voting while not holding out much hope that it will do her any good. It is also possible that there are strong negative associations with politics as a dirty word which might have influenced responses. As Hay (2007) suggests, politics becomes equated with dishonesty and lack of integrity. The

thesis research did not uncover any local hidden meanings of how women's political agency is expressed for example through kinship ties (Tenhuen, 2003) or hidden spaces such as acts of subversion and strategies of non-violent resistance (Emejulu and Bronstein, 2011; Takhar, 2011; O'Kane, 2008). Rather, the life stories captured differing hopes for change in terms of projective capacities for social mobility that place responsibility for change with the individual rather than through politics.

Projective capacity for social mobility capabilities

The projective capacities of the female traders for economic and social mobility enabled by mobile phones are exemplified by the cases of Jane and Joanita, but the abilities of the other women appear to be more restricted by the type and nature of their businesses in harnessing the economic expansion opportunities mobile phones offer. Social mobility in sociological literature refers to movement between social hierarchies usually defined by occupational or social class categories. Their hopes, fears and aspirations for the future provide some insights into their 'projective capacity to imagine alternative possibilities' (Emirbayer and Mirsch, 1998:962), a facet of agency.

In terms of their hopes, an indication of how they felt about their future and control over their lives at the time of the interviews, a mixed picture emerges showing various levels of consciousness about their agency and feelings of control. Jane is optimistic about her future. Because she is continually achieving the goals she sets for herself, she feels more control in her future. She also reflects on other people and evaluates her prospects as comparatively good. She says '*because we are seeing a lot of people with degrees* [street-trading], *but they don't have common sense...I have common sense*'. She says she sees

rich men admiring her because of her common sense. She sees a mobile phone as having a central role in helping her achieve her future goals because she can see how to use it to good effect.

Joanita, as a mobile phone seller, gains income and social status, and her plans to further expand her business illustrate projective capacity. She exudes self-belief and optimism about her future and has the resources and agency with which she actively markets her business and looks for business expansion opportunities to maintain and increase her social standing and her responsibilities for her mother in the village. As the wealthiest of six women, Joanita is well aware of her more privileged social position in relation to other female street traders and says:

> *'of course I am different* [from the traders], *there are so many people I take care of, I work hard because of the responsibility I have* [her mother and son in the village]. *I like to work hard as it will help me develop and build a better future.'*

Fatuma sees immense challenges in raising money for her hopes to achieve her valued goals (children and business), but sees things as changing for women positively. She would like to acquire her own mobile phone and very much sees the opportunities a mobile phone can bring about in expanding her business. Christine feels that things are becoming harder economically and that she might have to retire to the village. *'Everything is getting more expensive'*, she says. She regards a return to the village as a retreat, 'giving up', a choice that will be forced upon her by economic circumstances, rather than positive retirement. She projects the stance of someone who feels that far wider processes (for example, the economic situation) control her life and her agency is limited. Her phone occupies more of a communicative tool for her social networks and

ties and she does not envisage how it can provide her with productivity enhancing opportunities.

Mary said that she has fewer material things and more responsibilities than when she was married, but is optimistic about her future and hopes. She is happy to be independent from her ex-husband and feels she has a greater control of her life. She is optimistic about the opportunities to expand her business as she points out that last time I saw her when I conducted the survey she only had a mat on the floor, but, now she had an umbrella and big stall. Mary explicitly places her phone in strategizing for her future.

> *'Like I said that in the near future I expect to get a loan and grow big that can necessitate me to do some surveys in relation to how prices of different commodities are faring before I could stock... I would want to stay here and start-up a bar because both the troubled and the one at leisure takes booze.'*

Asked about how she sees her future prospects, Prossy responded that she did not know. She doesn't see her mobile phone helping her much in her future. Prossy would like to have a bigger business such as where she can need to use her mobile phone for the business, but does not see the way how to. At the interview she also indicated that she does not have the networks to grow her business. The next section discusses the six female street traders' network and informational capabilities.

6.1.3 Network and informational capabilities

Access to and use of mobile phones have been shown to enable women to engage in action where they are placed in a broader flow of events that give them the ability to enlarge their sphere of interaction, consequentially disrupting pre-existing ideas of their appropriate role (Jagun *et al*, 2008). However, the network and 'informational capabilities' (Gigler, 2011) of the six female street traders differ. On one hand, mobile phones expand opportunities for new experiences and learning that can be a first step towards empowerment. On the other hand, the network and informational capabilities from which the six traders could benefit are either lacking or the development of these capabilities are constrained by time constraints, balancing multiple gender roles, mistrust and control over their communication.

In some ways, many of the networks and information could be considered not 'useful' (Archambault, 2010). The types of networks and information the six female traders access do not always help them build the 'weak ties' that are important for spreading information and resources (Granovetter, 1973) or the 'right' connections with those in higher social strata (Meagher, 2005) that can help them move on in life or engage effectively in other networks such as financial and political networks. The female street traders' are positioned less powerfully and beneficially within networks, thus reinforcing gender inequalities, a point that is made by Wallis (2011) about women's use of mobile phones. Norms and controls effectively cut off women from many spheres of knowledge, interaction and activity, thereby curbing their agency (Kelkar *et al*, 2002).

Mobile phone-mediated social networks and ties

Differing network capabilities are illustrated by the life stories of two of the women traders. Christine uses her mobile phone mainly as an effective way to strengthen ties with an ascribed micro-social network, her family. Mary uses hers to open up new acquaintances by participating in global social networks such as Facebook. Mobile phones have helped them marshal their social networks in ways that demonstrate their capabilities. The use of a mobile phone has weakened the communicative control of others over them and given them more communicative control over their own social networks to some degree. Each acts on their values and motivations, both use mobile phones to control and run their networks in ways they want to.

Christine who lives alone uses her phone mainly to communicate with her mother, her two brothers in Mbale and her two adult children in Ndeeba. She makes three to four calls a day and also receives calls. She says that she uses the phone to keep abreast of what is happening with the family and *'to be in the know'*. It also provides her with the opportunity to offer advice and receive advice from her brother. For example, she recalls discussing the plight of her pregnant niece who was living with her and making the decision to send her back to the village to the baby's father. She also remembered a time when she ran out of capital for her business and considered returning to the village, but her brother advised her over the phone not to do so and offered her USH 100,000 to inject into her business. Asked about the disadvantages and advantages of a mobile phone for her, Christine responds:

'There is no problem it [mobile phone] has created for me but instead it helps me and I feel that my heart is happy because I have achieved what I wanted... Now if I want to talk to my mother, I do that, if I want to talk to my brother in Mbale, that is what I do or he is in Masaka, I just call and talk to him, yet I would have used transport to go there if I didn't have a mobile phone... [asked by the interviewer whether she thinks it not a good thing visit her relatives] visiting comes with its own problems. When you go to visit, it is like you have forgotten what you are supposed to do yet you sleep in a rental house and you need to feed. So this phone helps me in that, instead of visiting, I just call and talk about each and everything that I feel like...[asked by the interview whether she doesn't want to see them physically] ...No, may be in case there is a problem that is when I will go there.'

Within her context, Christine has shaped the parameters of her micro-social network on her preferred terms. Preferring not to visit, an issue she later returns to and reiterates, it shows how a mobile phone has helped her achieve what she wants in relating to her relatives.

Christine also uses her phone for social organisation and coordination of family functions and on the rare occasion to receive messages from the Pride micro-finance organisation to which she belongs that meets every Sunday. Fifty women pool together cash (I,000 USH each) then buy kitchen utensils to distribute amongst themselves. The leader of the group calls if the meeting is to be shifted, but it is rare. However, it is because she has a phone that she was able to join the group. Nalongo, the woman who set it up called several women to reinforce it after it had a slow start. The group had started in February 2011 but did not pick up until Nalongo's efforts.

Christine recalls how mobile phone use has enabled her to be exposed to a wider world.

'I might receive a call inviting me to go somewhere where I have never been. Like one time we had a function, my cousin was getting married and they called us to go and attend and they told to go their second address which meant that after that we're going somewhere else. So I was able to go somewhere I had never thought I will ever be, I went to the Entebbe Beach Resort where I saw a lot things that were new to my eyes. Entering the washrooms, it was like you are in a bedroom as there were decorations and wherever you would look they looked beautiful. While inside, you would not be able to tell whether it was day or night unless if you check outside.'

This is an exposure that can potentially be a background factor in the long process of emancipation. Mary advances a more concrete example of how mobile connections and social interactions help drive literacy and social learning as a base for developing other capabilities. She explains how mobile phones drive literacy amongst her relatives in the village. She says they are compelled to learn to operate the phone and read and write messages as they cannot keep running to their friends to read their messages for them. Part of this learning is through seeing pictures that guide the reader then relating them to the words. There is also a sense of trying to be autonomous in learning how to use a mobile phone to avoid depending on others.

Mary's use of her mobile phone social networking on Facebook suggests that she has a more global reach and more possibilities for establishing 'weak ties'. She is pleased she has made so many friends internationally and regards access to the internet enabled by her phone as important for learning and exposure to different worlds that presents opportunities.

The other four female traders' networks are more ascribed and limited to family and close friends with little evidence of 'weak ties' and useful connections. Rather, they are

more circumspect of mobile phone mediated networks because of trust issues. Trust is an issue that all six traders bring up in the context of their business and social relationships. The ease and speed of developing relationships over the phone and the fact that it is more difficult to read non-verbal communication cues make it easier for unscrupulous people to misrepresent themselves or lie. In this sense, while mobile phones help expand network capabilities that present people with opportunities to build new relationships and strengthen old ones, they also undermine trust which is valued.

Trust within networks

Trust was an issue that emerged from the interviews that had not been considered in the theoretical framing of networks of the thesis. Trust refers to 'expectations about the actions of other people that have a bearing on one's choice of action when that action must be chosen before one can monitor the action of others' (Dasgupta, 1988:51). Trust is important in individuals initiating and strengthening both business relations and social ties, thus enhancing capabilities for reciprocal benefits. Joanita and Fatuma illustrate below, however, two contradictory, yet simultaneous, trends relating to issues of trust that emerge around mobile phone use in relation to networks and social ties. On the one hand, mobile phone interactions build trust and on the other hand diminish trust with implications for agency, whether it is undermined or enhanced through reciprocity and obligation arrangements.

Thus Joanita, by maintaining contact with suppliers at a distance through her mobile phone, is able to build trust with her business networks, find out about new products and

seize new opportunities. Fatuma, however, says that mobile phones help build trust for her in other ways.

> *'The phone is more important in helping us trust each other better than sending like Jane to go and tell so and so that this and this and that but with the phone you talk to the person direct as I can give you a message and you deliver a different one. That is where the phone is more important.'*

Fatuma on the other hand, does not trust what one of her intimate partners says over the phone, undermining her relationship and her ability to foster a relationship of love and care. Fatuma also suggests you shouldn't introduce your friends to your partner (husband or boyfriend) as she will steal your man, a feat made easier by mobile phone communications. Jane fears discussing political issues on the phone because she believes they are tapped. She also regards it as a means for catching criminals as she says:

> *'And the second thing if you hide but had a phone, all they do is go to the computer and tap you voices and they get to listen to what you are doing and whatever you did. With this phone you can be investigated. The phone has a lot of services.'*

In response to a question why people don't like using their phones for political purposes, she says:

> *Because the phone does not lie, whatever you say you have spoken the truth. That is why they fear because they know the phone doesn't lie. That is why there is a switch board that records your voice and everything that you say on that phone that when the time comes, it proves what you said whoever much you try to deny it.'*

Mobile phones in this way do not always appear to present some women with the opportunities to facilitate and encourage their reflection of political issues or voice political opinions. This is in contrast with observations (Serwanga, 2008; Ssewanya, 2007) that suggest mobile phones provide opportunities for women's voice on political and social issues through radio phone-ins. Trust and time constraints limit the female street traders' opportunities for building and engaging in networks mediated by mobile phones that accrue political, emotional and material benefits. The street traders suggest that their obligations, time and income poverty prevent them from socializing and spending leisure time with others, for example, even though mobile communications are considered effective mediums for extending social networks.

Time and financial constraints on networking capabilities

Multiple demands on women's time and labour and their prioritisation of their time towards children and survival constrain female street traders' social agency in leisure and entertainment activities as well as the opportunities to develop social friendships and networks that may lead to productive possibilities. Yet, social friendships are important providers of opportunities as studies have shown how business and social relationships intersect in users' mobile phone interactions amongst MSEs (Donner and Escobari, 2010; Molony, 2007). These studies illustrate the overlap between social interaction and business where friendship and business feed each other to sustain trust and build or strengthen business relationships and opportunities.

In this study, Joanita alludes to this intertwining of friendship and business in mobile phone usage that Donner and Escobari (2010) observe when she states that the phone helps her in that she is able to conflate her business interests with friendship:

> *'It* [mobile phone] *really helps me so much, particularly concerning my business. We have so many friends, so many friends as in business wise.'*

In contrast, the other female traders intimate that they have little time for leisure and social activities. In doing so they provide explanations as to why the initial survey for this study found differing capabilities for men and women in using the mobile phones to initiate and engage is leisure and social activities. Prossy suggests that women don't use their phones for leisure because: *'women are pre-occupied with domestic work more than men'*. Women tend to have no personal time left at the end of the working day and exhaustion is common as their work carries on at home (domestic and childcare). Many men also work long hours but then go on to rest or socialise. Fatuma alludes to this when she says:

> *'When a man sits down like that, the next thing he does is to settle with his phone and he starts playing with it yet I the woman it can't happen... Unless someone calls and I answer, I have a lot to do but the man is just there so he has a lot of time to check his phone... As you can see most domestic chores are for us women, men go especially for income generating jobs. And if he is the type who works in town, by the time he gets home he is tired that he just has to go straight to bed or sit around playing with his phone as he waits for supper.'*

But money is also an issue. Christine says that she uses her phone to plan and liaise about family functions, but does not have money to go to other types of social events such as

concerts. In relation to events like the Kabaka[41] and going to Lubiri[42], she says she simply doesn't have the time or money. She hasn't been to Lubiri because: *'I don't have time because in Kampala if you relax you don't feed...I work from 10am to 9pm everyday'.*

Mary says that she rarely receives calls to go to social functions, meeting and leisure because of her responsibilities:

> *'We do but men do it* [use mobile phones to coordinate leisure and non-obligational social activities such as wedding s and funerals] *more than us. For example, even if a man spends the night outside he is not worried of anything because he is a man but for a woman it is hard.'*

Joanita takes a different view on the differences between men and women's leisure time:

> *'That is not true, for us ladies we have more leisure time than men... Because now, my example, when my husband is around sometimes I leave early to go home and because I am a woman he will say you look tired. For him he will stay and I can go home and when I reach home he doesn't care what I do. I can go out with my friend, I can go to the beach.'*

Her circumstances might explain this difference in capability to have a social life, as she appears wealthier than the other five street-traders, and is the only one who is married. The other female street traders have casual partners or boyfriends who do not live with them. The other women typically have few enhancing networking opportunities because they have to go home and look after children.

[41] The King of the Baganda ethnic group that is held in high esteem and has many followers.
[42] The palace, visited by many Baganda, signifying loyalty to the King and connectedness with their ethnicity.

The street traders' social and business opportunities generally arise through family members. For example, pitches for work stalls for many of the interviewees arose through family connections rather than friends. The female traders' experiences demonstrate how social accessibility offers a lens to observe the constraints (Carrasco *et al*, 2008) on their networking and how they navigate them. Their agency, or lack of, describes the tendency of people to capitalise on their circumstances and create and reproduce social order (*ibid*, 2008).

Control over communication

The interviewees generally demonstrate a tight control of their networks, but I recorded one instance where one research participant's control over communication, and therefore building and strengthening her network agency and resources, is monitored by her husband. Joanita illustrates how individual autonomy and communicative power in maintaining social networks may be hampered by the benign control of her mobile phone by her husband:

> *'For me sometimes my friends can disturb me on the phone. I then tell them and he [her husband] says you bring that phone over because it is making me not do my work. Because he is my husband and he is not okay with my friends who are just calling. It is not business, it is just..... you know. So he says bring it here and I give it to him.'*

Joanita does not perceive this as a form of control, but like the other female interviewees it is a worldview that is continually normalised in cultural discourses of women's and men's positioning in a world order. Some women may altogether choose not to have or use their phones at home, as Fatuma reflects:

'It is because at home if you see that the phone won't make you free, it is better you stay without it. Because there are men who are full of anguish that he can demolish that phone the moment it rings because he does not know the caller number and then he tells you that if you want peace in the house, stay off the phone, so that is one of the reasons.'

Unlike Joanita, Fatuma and the other four female traders do not live with their partners, so issues of men's control over communication and monitoring of women's use of mobile phones were not evident. However, what was observed was the differing quality of the six women's information and communication content and the extent to which it can perceived as 'useful', productive and 'emancipative'.

Information and communication quality

An examination of the six women's information and communication in terms of its emancipative and productive quality of information communicated and usefulness (Archambault, 2011; Bellinger *et al* 2004;) suggest that their possibilities for expanding agency is limited. Their differing information and communication networks and capabilities mean that some of the women are not able to benefit from mobile phones in terms of the agency opportunities phones enable.

The types of information conveyed by the six interviewees are largely social, rather than productivity enhancing, with the exception of Jane and Joanita who use the mobile phone for business interactions. Prossy does too, in liaising with her workers. Thus it could be inferred that the three have wider, if not better quality, information and communication networks insofar as they are maximizing their agency potential in relation to wider

business information flows. Information is power, but this is also contingent on what they use it for and its relevance to their business.

That social information is the most valued use of their information and communication networks is evident. Mary's use of her phone for informational purposes around lifestyle and social advocacy around HIV/AIDS is a case in point. The discussions she has with her friends about HIV/AIDS provide her with health information from which to use her agency to prevent infection. Having escaped a controlling and abusive husband five years previous to the interview, Mary is the most highly educated of the six women, having completed post-secondary education and done secretarial training. She uses her phone mainly for talking to her children at home when she is working, for money transfers, Facebook and receiving religious, health and lifestyle messages, the last particularly about love. She has signed up to an SMS messaging service. Asked how a mobile phone has helped her, she responds in relation to women generally:

> *'Phones have helped us in a sense that we get information. Through a phone radio one can get informed about news all over or get on Facebook and get information... One can get on to Facebook and get information one needs without making noise for others...I get news and sometimes if you subscribe for things like getting love messages they can avail you with such Info.'*

Mary is a social networker on the internet, but also uses her phone for social advocacy, and learning. She recalls a conversation about a discussion about HIV/AIDS with a friend who was HIV positive. Not only was she able to provide emotional support to the friend, she learned much about HIV/AIDS. The things which she learned she also discussed with other friends asking them to be careful. Mary sees having a phone as a source of informational agency and an opportunity to learn. She actively seeks these opportunities.

During the interview, she showed me a button to press where one could obtain information about the bible and health every day.

The geographical scale of the six women's information and communication networks positions each of them differently within a global knowledge network offering them different agency opportunities. Mary's use of her phone to link into global networks such as Facebook positions her in a good place to learn from and connect with a wider range of people and expand her social opportunities. Joanita's wider business contacts from China, Dubai and Kenya position her within wider business information flows, providing her with more strategic opportunities for economic agency. However, the overseas interactions are mainly conducted by her husband.

From a perspective of scale and quality of information and communication network, Fatuma's agency potential is more restricted than some of the other traders. Her limited knowledge and use of mobile phone functionality and applications, poor literacy and lack of own mobile phone limits the opportunities for expanding agency provided by mobile phones. Her communication network has been modified through the use of mobile phones for speaking to her family on the phone and not visiting, reducing the relational benefits of face-to-face communication in strengthening social ties. Her communication content involves banalities usually, but the conversations and advice that she receives helps with decision-making around family matters. Her communication network is largely ascribed and she does not provide any evidence of built networks. She has a more 'everyday', tactical and survival-oriented use of information and communication.

By and large, bearing in mind the broad opportunities that mobile phones offer, the six traders' mobile-mediated networks seem somewhat limited in the context of gender and development aims of empowerment and equality. The social activities created and modified through use of mobile phones in relation to broader communication patterns are out of reach for most of the women. The influence of mobile phones on the communicative content of their networks is not clear from this study (and would have had to be investigated in more depth).

However, the infrequency of communication, attributed to cost and know-how, and limited connections with wider circles beyond family, friends and colleagues might suggest that they have fewer agency enhancing opportunities in terms of information flows. Their financial and know-how limitations are further exposed in the way they engage in financial networks mediated by mobile phones, the theme of the next section.

Mobile-mediated financial networks and ties

Mobile phones interact with existing formal and informal financial networks in two ways. First, they interact through financial exchange, for example, formal micro-financial services delivered through mobile phones such as m-payments and airtime transfers. Second, mobile phones are a medium for the arrangement of financial transactions or informal discussions of financial matters. The research participants are located within one or both networks to varying degrees although other literature suggests that low-income individuals prefer informal networks (Duncombe and Boateng, 2009:3).

Fatuma shows strategic agency in initiating financial support networks, an example of a built network she has achieved through more traditional face-to-face means. She explains why she set up a financial group, albeit not helped or mediated by a mobile phone:

> *'Because we want to help ourselves as women because we have problems that we can't deal with on our own and yet it is very hard to save the money to deal with the problem...women, we have problems getting money yet we have many needs than men. Ok, even men have their own problems but... most of our problems depend on the children because for children, now like me, I started with a girl so this girl might need something which she can't tell her father and so in order to keep her from yearning for what she wants from other channels, you give her what she wants so that you keep her safe from getting spoilt.'*

She does not lack agency, but in her particular context mobile phones have yet to play a role in the facilitation and coordination of her financial network, despite being an effective medium of communication and organisation. Drawing on other comments she makes elsewhere (section 6.1.2) of her limited knowledge in using her mobile phone, her inability to extend her agency might be a reflection of mobile phone functional illiteracy.

Fatuma also reveals a gendered dimension around her expectation of where women are positioned in financial arrangements as dependent and receivers of financial resources. Asked for her thoughts on the survey results suggesting that proportionately more men than women use money services, she implies that it is men's role to send money.

> **Fatuma**: *They* [men] *use this Mobile Money for their businesses, to send money to their lovers and maybe their relatives.*
>
> **Interviewer**: *Don't women send?*

Fatuma: *Why should I give you when it is you the man to give me. You just give me and then I go and receive.*

Jane cites receiving mobile money as one of the benefits of a mobile phone to her, positioning her as a receiver:

'I have benefited a lot from the mobile phone that I hope this phone is showing me where I am heading. Reason being I have my friends whom I can tell that things are not good on my side that send me Mobile Money. But if you don't have a mobile phone you can't do that, you can spend the day and night on an empty stomach, but a person with a mobile phone cannot fail on this earth.'

Mary also demonstrates how mobile phones have helped her participate in particular financial networks:

'The phone helps me to get friends and friends help in sending me some mobile money and sometimes a phone saves you from unnecessary expenditures. For example if I have some money I want to send to my people in the village, I just send it via mobile money... If I need money a friend can send me some money using mobile money.'

The interviews provide insights into the types of financial networks to which female street traders subscribe. Some of the women are positioned in informal financial networks as recipients of cash (gifts or loans) rather than initiators of finance or credit. Others are actively engaged in formal mobile mediated financial networks as providers or generators of finance to their families and relatives. Others, despite their face-to-face financial networks, cannot or do not transfer this agency into mobile mediated interactions. What these examples demonstrate is the differing capabilities of women to exert their agency in relation to the financial networks they create or to which they belong.

Overall, mobile phones optimise agency capabilities. However, the extent to which the six female traders' agency is enhanced is tempered by gendered roles which shape motivations for mobile phone use and gendered constraints which limit use of mobile phones to their full potential in terms of their functionality and the networks they extend. The female traders demonstrate varying capabilities in making use of mobile phones and expanding their agency. Their differing capabilities raise questions about the extent to which their agency is tactical or strategic and the forms of agency mobile phones afford, to which I now turn.

6.2 Agency forms and freedoms

The agency forms afforded by mobile phones reflect the six womens' agency freedoms. These agency freedoms are manifested in a variety of ways: through the construction of desired modern female identities; sexual relations as resource appropriation strategies magnified by ease of communication and connectedness; new communication modalities such as gendered resistances to mobile phone pricing, and; choices that reflect the adaptive preferences that mobile phones afford. A close examination of these depictions of varying forms of agency exposes the micro-dynamics of gendered interactions. Mobile phones, for example, become a site for the reproduction of gender identities and inequalities, through which women's agency operates.

6.2.1 Modern female identities construction

The survey suggested that both men and women identify mobile phones as tools through which modern identities are constructed (chapter 5, section 5.2.3). One expression of agency that the female traders demonstrated, was defining selfhood (Baston Savage, 2007; Ling, 2001; Foucault, 1981) in so far as social identities can be managed by people (Hulme and Truch, 2006). Their identities were reflected in mobile phone appropriation, use and interactions in the ways that Katz (2003) suggests communication technologies become extensions and representations of people. The creation and maintenance of social identities as a form of impression management (Hulme and Truch, 2006; Goffman, 1959) was also evident.

The importance the female traders attached to appearing responsible - supporting children/families/others – as a desired identity for women is linked to mobile phone ownership and use. Fatuma's assertion *'that a person with a phone is different from one without'* highlights the constructing of identity linked to mobile phones. But, it is her later assertion that provides insights into how mobile phones symbolise constructions of female identity:

> *'You know, like now when I am here and my phone rings, you take me to be responsible, but a person without a phone, for sure you it is like you are out of the world. As a woman, when you have got a phone, people see you as a being responsible.'*

In this case, Fatuma, who lost her phone and shares with a friend, illustrates how a mobile phone symbolises notions of femininity linked to responsibility. For Jane, a mobile phone is a symbol of her identity as a businesswoman:

> *'I myself ever since I got a phone, I realised I had changed from other women. When I got a phone I joined the business bond for the phone.'*

Jane also sees mobile phones as a marker of class:

> *'Among the opinions that came to my mind after buying a phone was that I can buy a car if I could buy a mobile phone. Just imagine now here where we are, we are in the same class because we all have mobile phones but if I don't have a phone that means you are in a higher class than me. And now I can envisage driving a car because if I can afford a mobile phone I can also buy a car.'*

There is a general sense that mobile phone ownership propels women to a higher stratum that runs through all the female traders' narratives. Implicit in their narratives is the desire to construct modern female identities for themselves in acquiring and using a mobile phone that motivates their agency in the appropriation and continued use of them.

Based on her life and worldview, Jane also sees women's future prospects as tightly linked to mobile phone ownership and use:

> *'... Now, I already told you that a phone is a future so the more a woman spends without a future, she becomes dormant and she will leave the world without a future. But me I have a phone and because of it you got to know me, would you have known me, but it was because of the phone.'*

Mary sees constructions of female identities as linked to mobile phones in terms of relationship prospects and the notion of respect:

> *'Especially in this era, if a man seeks to get your mobile phone number and you tell him that I am not connected he looks at you as someone who is cheap and can easily play on your psychology.'*

Mary also considers women with mobile phones as being more informed and having opportunities to learn and express themselves in new ways, as she finds from her experiences with social networking on Facebook and texting friends. SMS texting opens up new ways of relating that make people say things they would not normally say face-to-face (Pertierra, 2005a). It thus offers new ways of inter-subjective reflection where new and radical identities become possible (*ibid*), such as new sexual identities. This was also highlighted by the survey participants; mobile phones were enabling freer identities that are less bound up with socially sanctioned sexual norms.

6.2.2 Sexual identities and agency

The survey intimated that mobile phones were perceived as facilitating and increasing promiscuity and illicit sexual relations which, in a context where notions of what it is to be a woman requires sexual restraint, exhibits some form of sexual agency. Sexual power dynamics and relations are shaped by social norms governing sexual behaviour within relationships between men and women that influence women's sexual agency. The negotiation of gendered sexual values has implications for whether sexual agency enabled by mobile phones can be considered as agency or a reflection of unequal power relations. Gender produces particular constraints on women's capacity for various forms

of agency (Wallis, 2011), thus rendering them to use this agency to achieve desired ends such as money and material resources. Sexual agency could be interpreted as subversion of prevailing gender norms or subjugation (strategic acts) or as a reinforcement of inequality (everyday, tactical, coping).

A common thread in the six female traders' stories and survey responses of the wider sample reveal the significance of mobile phones in making it easier and quicker to initiate and maintain friendships and negotiate sexual relationships around intimacy and/or acquisition. Many friendships that female traders discussed are around relations of love and care, but also acquisitive. The communicative opportunities that mobile phones opens up or expands for women in initiating friendships, allows them to use their sexual power or agency. Pertierra (2005b) has demonstrated how young women, who are constrained in their behaviour by tighter rules of decorum, make use of mobile phone texting to explore and develop their sexual agency.

In this study, Jane highlights how mobile phones make it easier to develop friendships and relationships:

> *'A phone does a lot of things first of all to give you a talent. Reason being that you can find someone and you greet each other and then he asks for your number which you do. After sometime he calls you up and says you should go and meet which you do and all this is because of the phone. A mobile phone can bring you good friends, a good man.'*

Christine states that a mobile phone makes it easier for men to express their feelings in relationships, an issue corroborated by the focus group discussion for this study:

When you have got a lover, it is easier for him to check on you and express his love feelings to you when you have a phone and maybe he can call you to inform you of where you can meet but if you don't have a phone, he can't get to talk to you.'

Fatuma feels at 32 that she is too old to find a husband, but later says she would rather not get married. Having access to her friend's phone helps her navigate her relationships with two men, one of whom is married. But she also sees not having a phone a form of self-control. She recounts:

'Though one of them is not stable, I have two boyfriends but the one I had put much emphasis on seems he is not that interested in me so I also want to let go of him. You might call him and he switches off instead or makes it busy and if he answers it he asks for money...Those are some of the challenges so I decided that I would rather stay alone. Then the other one you can call him and he says that he is so tired, so things that put you on pressure, you would rather let go of them. Those are some of the challenges that I am facing and at the same time I am on a safe side if I don't have my personal phone because if I have one I can easily be attempted to call. So I decided to stay without a phone for that reason because I knew he had another one [romantic relationship].'

The quicker and more widespread breakdown of marital relationships and families, perceived as a consequence of mobile phones by the female participants and the rest of the survey group, signals rapid formations of relationships that challenge gender ideologies of sexually restrained women. Jane and Fatuma for example say:

'A phone changes women's behaviors. When a woman has a phone she cheats but it depends on her common sense. With common sense, you see I am still young but I have my common sense though am not educated. That is why I work hard and that is why people tell me that I will get rich at a tender age. But when a woman has no common sense she cheats, it is not the phone that cheats but it is the real person and a phone does not lie but the person does. So when a woman

gets a phone she decided to cheat because she can talk on the phone with someone-do you see the air transport I talked about. But like me I get just one boyfriend, we do business until the right time and then we go. Everyone has a way of using a mobile phone' (Jane).

'I hear that mobile phones have increased the levels of prostitution in both men and women. Initially people used to take long with seeing each other but now it is just a call away and the next thing is fixing an appointment... it increases the rate of HIV/AIDS infection among the people' (Fatuma).

The perceived negative impact of mobile phones in increasing illicit and immoral behaviours and the breakdown of marriage, relationships and families is a recurring theme amongst the street traders' perceptions of the negative impacts of mobile phones. In some ways these perceived immoral values imply a renegotiation of sexual politics where both men and women are able to exert sexual agency. In other ways it expedites a breakdown of trust or a position of women in sexual relationships where they are less powerful and less able to exert agency or perhaps gain less in terms of reciprocal exchanges involving sexual favours. Christine explains how, within marriage, women go about eluding being caught out:

For this phone, there are some women who are not like me and they are not like you, when to her, the mobile phone has led to her infidelity. She might be married with a husband at home but also get a side dish. That is why you see that in most cases they cause fights in homes. The wife puts unclear names, when it rings at night she does not answer and sometimes switches it off and you wonder what she is implying.'

Jane recounts a story where a friend of hers was lured into a relationship by the offer of a mobile phone:

'Why I say that my future is good is because I had a friend of mine who was deceived by my man at the time who told her to go with him so he can buy her a phone which he did and they started chatting, as I was working. Now the man succumbed to HIV. This month when he died I went for an HIV test and I tested Negative. That is why I tell that I have a future because I am healthy, I don't go on an empty stomach and I told you I have to look for my future because I am hard working and I understand each and every job. So if I happen to get a man, we sit and reach a decision. I tell him that I did not go to school and then we can decide on what kind of business I can do. Because you see right now even if you murdered someone or even if you are a president but you know you have HIV you don't settle you are always worried.'

Joanita explains what she sees as happening:

'Many marriages have been broken down by mobile phone because women these days are left at home and they end up getting some other guy use phones to arrange where to meet. Then eventually their husband can come back home when they are not there because they've gone to meet someone else. It can end up breaking that marriage just because of a phone. Because these days we use phones all the time you can no longer send neighbours. No, no. It is just give me your number; when it is okay you just call to arrange to meet. That easy connection between people. Many marriages have been broken by mobile phones.'

The experiences and perspectives of the street traders validate observations from studies in other countries, that mobile phones are a tool for negotiating agency around relationships and intimacy with impacts on trust, faithfulness and constructions of sexuality (Baston Savage, 2007) and ease multiple sexual partners for men and multiple sources of money for women (Horst and Miller, 2006). However, it is open to interpretation whether women's enhanced resource appropriation, money and gifts from men facilitated by mobile phones is regarded as strategic, or whether it is a tactical form

of gendered resistance to a gender order that positions women's at a disadvantage. Gendered resistances among the women traders are discussed in the following subsection.

6.2.3 Gendered resistances, tactics and 'weapons of the weak'

Instances of female traders' gendered resistances were apparent in their practice of beeping. The practice typifies De Certeau's (1988) depiction of everyday agency, Lister's (2004) categorisation of everyday 'getting back at' agency and Scott's (1985) 'weapons of the weak'. Considered as a way of conveying pre-arranged messages that are decoded as 'thinking of you' or 'call me back' (Donner, 2008) where the richer person pays, in Uganda, the unspoken rules or code of beeping are that it is unacceptable from male suitors. Although this might be regarded as an everyday form of negotiating relationships and resisting payment, it also unmasks inequalities in financial resources and power as well as signifying gender performances. The gendered 'scripting' (Shade, 2007) of mobile phones through beeping reinforces existing power relations.

While it is acceptable for women to beep men in Kampala, the women traders qualified this by stating that there should also be already an established relationship, usually familial or romantic. It is also acceptable depending on one's social standing, for instance, for an employee to beep an employer. This scenario is deemed acceptable as an employee would often be calling about a problem. However, beeping is also practised as an alert to signal that someone is within the vicinity if they have arranged to meet. It is also used as a method to communicate that some deal has been struck so signalling

'please call me'. If one does not beep then nothing has progressed. In this case it may be either male or female.

These practices are consistent with Kriem's (2009) study of mobile phone users in Morocco which also found that silent rules that govern 'beeping' are played out within economic/power and dependency/obligation relations. According to her study, the person doing the 'beeping' would generally be of lesser financial means and in some type of dependent relationship with the person receiving the 'beep' (for example, in the employ of the other). Because of this dependent relationship, the person being 'beeped' would often feel socially obliged to shoulder the financial cost of the communication.

In this thesis' study beeping represents gendered values and relations insofar as it is more acceptable for women to beep men, but not the other way round. Christine illustrates this by saying:

> *'To some extent there is an unspoken code whereby one does not expect a man to beep! I don't know whether I should say that it's an ego thing or reflection of how much of a man you are. For example, girls beep a lot but boys never beep. Boys call with whatever little air time they may have, talk to you and tell you that he is running out of credit but he does not beep.'*

Thus beeping could be regarded as a particularly gender inflected form of 'getting back at' (Lister, 2004) in terms of manipulation or tactical (De Certeau, 1988) agency where the beeper uses their capabilities creatively to work a system from a structurally disadvantaged position manifested by a lack of material and income resources. By avoiding paying for the call, yet communicating some signal like 'I am here at the meeting point', it symbolises a short-term strategy to minimise the costs of mobile telephony.

Unlike the survey where participants reported other acts of 'getting back at' and tactics (De Certeau, 1988) such as petty thieving and criminal activity, the female street traders did not report such acts. Rather, the female traders provided evidence of gendered adaptive preferences and situated agency rooted in their earlier childhood experiences that help explain how they used or did not use their mobile phones.

6.2.4 Adaptive preferences and situated agency

Considering the possibilities mobile phones present for enhancing emancipatory agency, the female street traders' agency and choices reflect adaptive preferences. The female street traders demonstrate that their choices tend to reinforce old social structures rather than transformations of social relations of power, poverty and gender through use of mobile phones. In conceptualising agency, Kabeer (1999) places great emphasis on strategic choice in decision-making in areas that affect one's life. The concept of choice, however, also needs to be considered in terms of adaptive preferences, the ways 'in which individuals adjust their desires to the way of life they know' (Nussbaum, 2005:136). Situated or restricted agency, articulated by Peter (2003), illuminates those behaviours of women that reflect their gendered circumstances. Agency freedom starts with an individual's local situation and situated knowledge. It takes shape in situations, societal relations and differences as well as cultural interpretations from different starting points (Vehviläinen and Brunila, nd).

As mobile phone use and interactions are embedded in the female street traders' everyday practices, the possibilities and limits to their strategic use of mobile phones are inevitably influenced by poverty and their gender positioning in relation to their families,

where girls' education is not prioritised. Their choices and strategies are constrained by their circumstances. For many of the women street-trading was a last resort not a preferred choice. Jane for example revealed her earlier dreams and how the lack of education thwarted these:

> *'I really wanted to study and I had a dream of becoming a lawyer, but I did not have enough brains and the school that mother took me to at grandma's village did not have a good standard. And even if you had some brains they would add to your misery because a teacher would come to class in the morning and then come back in the evening to say goodbye to you.'*

Fatuma who demonstrates the least capability for using her phone for strategic purposes is from a large family where girls' education was not prioritised (at the time before universal primary education). She indicates that if she had received an education she would not trade on the street:

> *'I face a lot of oppression, because at one time I went for a job and I was asked for a primary seven certificate and I didn't have it and yet I wanted to work. If I had gone to school, I wouldn't be working where I am now. And that is why I want to try my best if God gives me a life, to educate my children because myself I can't go back to school, I have children to take care of. Their father is alive but he doesn't support me. That is why I want to educate my children so they don't suffer in life like me.'*

In many ways, the choices the street traders make around mobile phone use and interactions reflect a greater concern for survival rooted in basic needs such as food, shelter, children and psychological/spiritual health rather than achieving greater gender equality and other needs. For example, take Christine's assertion about politics being less

of a concern to her, although the fact that she votes implies it has some significance or value for her:

> *'...politics not concerning me...Am there to worry about how I have eaten, how I slept, what I am going to pay for the house with instead of shouting about politics because no one is going to give me anything.'*

Emancipative concerns are of no great consequence to Christine. First order choices and strategies based on survival needs (Kabeer, 1999) are more important than second order choices and strategies related to quality of life. As Welzel and Inglehart (2010) observes agency practices and strategies shaped by values linked to existential conditions progress to those shaped by emancipation to quality of life through stages as individuals are more able to meet existential needs. Christine, as more concerned with survival, is less inclined to engage with emancipative issues. Also as being less powerful, she is less able to exert strategic agency in De Certeau's (1988) framing of the term. Social relation of poverty and unequal gender relations make her and many other female street traders less powerful and less able to make strategic choices and seize the opportunities that mobile phones present.

Agency in resisting social structures is also framed by the situation and context of the six female street traders. They have differing material, knowledge and psychological resources to deal with any male (or other females') resistance to the positive changes they seek to make in their lives that destabilises the gender order. The incentives for maintaining gender regimes and disincentives for going against the gender order inhibit their choices. A decision might be made, for example, not to use mobile phones at home to grow a business because of the consequences of male resistance. Women might wish

to avoid direct confrontation or conflict with men and thus alter their behaviour to keep the peace.

I conclude that mobile phones afford the six female traders opportunities for expanding their agency, for example in reconstructing identities as modern women and intimate sexual partners. However, advances in agency in these areas for women do not necessarily lead to changes in the overarching patriarchal system in which they live. Rather than emancipation strategies that require massive social transformation of interlinked forms of oppression (Ramazanoğlu and Holland, 2004), I find evidence of collusion with 'gender regimes' (Connell, 2011) and subtle strategies manifested as resistances (Peter, 2003). The following section explores explanations for the street traders' collusion with gender inequality which serves to illustrate the extent to which mobile phones can help facilitate women's agency for gender equality objectives.

6.3 Explanatory situational factors of persistent inequality

The everyday material, social and symbolic practices (Cooks and Isgro, 2005) of the six female street traders provide important clues as to how gendered values embodied in ideologies and perpetuated through discourses are transformed or more deeply embedded, with implications for mobile phone use, practices and interactions. Ideologies exposed through an analysis of the interviews, suggest that such situational factors, as framed in my theoretical framework, limit women's agency achievements. In the course of discussing their relationships and interactions with their mobile phones, the six street

traders revealed two broad dominant discourses of gender egalitarian versus traditional or conservative gender relations. Traditional gender ideologies limit the development of more egalitarian forms of agency that mobile phones can enable through construction of new identities, the expansion of business and the extension of networks. Limiting notions of what it means to be a woman or what constitute acceptable behaviours for women shape mobile phone use or non-use to expand particular capabilities and serve to illustrate the extent to which mobile phones can help transform unequal gender relations through empowering women.

Capabilities to reconsolidate their own perceptions of life against other alternatives and assert oneself and say 'no' to certain ways of working, being and doing vary amongst the six women. This section expands on the survey's findings on the agency achievements that mobile phones enable. It elucidates how positioning within the gender regime and subsequent subjectivities subordinate women's emancipatory interests in favour of deeply entrenched gendered values and ideologies. Discourses on gender, gleaned from the interviews, that reveal the scope for personal transitions and their responses to the changing social context are also presented. Gendered self-concept and identities can change with social interaction, context and the opportunities for expression mobile phones open up or curtail.

6.3.1 Gender ideologies

Gendered values and ideologies inhibit the emancipative and transformative potential of mobile phones to support agency that leads to greater equality between men and women through notions of respect. As social and political ideologies frame socio-cultural

contexts, this section explores those ideologies reflected in the narratives on mobile phone representations, interactions, use and non-use.

Gender ideology

In this study gender ideologies were evident in relation to women's positioning within markets and with the state in relation to decision-making, interest materialisation and making their voices heard. Gender ideologies about women's work, both local and supra-local, locked some of the women in particular lower employment segments within the informal sector with little need for extended mobile phone use and the opportunities that mobile phones present. Gender-based divisions of labour, influenced by 'breadwinner' ideologies that subordinate their needs and emancipatory interests to the needs of their children (and families), constrains their use of mobile phones by influencing what they use them for. Mobile phones are thus appropriated into existing divisions of labour so that men make greater use of mobile phone functions and possibilities than women.

Ideologies of men as decision-makers are also observed through women's notions of politics and community decision-making as discussed in section 6.1.2. A common thread in their interviews was their construction of politics, engagement with the state and public decision-making as no place for a woman. In effect their views largely reflect traditional gender ideologies which are justified and legitimised through the non-use of mobile phones for political activity.

Gender ideologies of respect

The everyday gender practices and ideologies of the female street traders and their positioning within the family and their communities cannot be understood without some discussion of their values, particularly the notion of respect, which helps explain the values that underpin their actions and choices and was discussed repeatedly at any mention of gender issues. The term respect amongst many Ugandan ethnicities is loaded with highly contextualised meanings that govern how men and women and people of different ages should behave towards each other to fit in and accrue reciprocal respect as a man or woman. Respect is highly valued and thus it becomes both an agency enabler and constraint in how people behave with implications for mobile phone-mediated agency.

In more traditional forms of Buganda culture, for example, women's subservience is respected and valued, for example the practice of women kneeling for men or elders to show respect for men when greeting or serving food. Being respected is a valued goal where that respect is conditional upon appropriate behaviours and roles for men and women. For example, Jane sees women's worth in the eyes of society as linked to men, she says: *'That is why I told you that even if you have buildings and cars, but without a man, you can't be respected. So you get your respect from a man'.* When asked whether she does not have a future because she does not have a man and yet is doing so well with her business, Jane responds that more men than women have phones and men have a greater number of phones than women. Her response both confirms the survey findings and justifies the point that men are a conduit to respect and better material and social conditions:

'Yes, but I am also looking for my future from here, but I haven't found it because what I am doing now is not my future because I don't have a man[43]*...Yes I believe it... if you can say that men have phones more than women, that means men have a better future than us women that is why you see that a man has a phone for the business, one for his family and for self-defence [when asked haven't you ever heard of women who don't have men but they survive]... She has no future.'*

In a context where men are deemed to be breadwinners and providers with superior incomes, when women nevertheless achieve economically, it changes the gender balance in ways that are not attractive to both men and women. Fatuma for example, hints at this in explaining the reasons why a survey respondent suggested that women are no longer respectful to men:

'Why they say that is because he can have a phone of the same price like the one I have and so with this the only difference between us is him putting on trousers. Both of us having the same phones means we are equal so I can't kneel before you when I meet you. It depends on your worth, if we are worth the same, I can't respect you.'

Asked for her thoughts on why someone in the survey had mentioned that because of mobile phones women no longer respect men, Jane also says: *'Mobile phones lead to infidelity and that is why women stop listening to their husband. A mobile phone brings about richness, a mobile phone brings about infidelity.* Christine also suggests that mobile phones encourage women to get *'side dishes'*, extra-marital lovers. *She says: 'And even when men allow us to go and work, the moment you get some money you feel you are on cloud nine yet it is just a mask that is only destroying your marriage'.*

[43] prioritisation and maintenance of relationships with men to feel fulfilled or complete as women may come at an extremely high price in terms of personal advancement and public health with respect to self validation and costs related to safe negotiation of sex.

In discussing whether mobile phones increase women's income and therefore bring about behavioural changes, Christine asserts that:

> *'There are certain women who change their behaviours when their incomes increase and forget that the female is led by the male...even if you get to all the places men can get to, you are still under the man.'*

Notions of 'respect' represent conformity with a socially acceptable gender order where women do not want to economically outperform their husbands. A common story that is recounted by the female traders is the effect that some micro-finance schemes have had on marital relations and obligations. For example, a woman who, through hard-work and loans, becomes economically so successful rearing chickens that her husband stops contributing to the upkeep of the household and the woman does it all. While this might be perceived as a positive step for women, she is in fact pitied. Her increased decision-making in the household is regarded as disrespect. Her household becomes a site of contestation and resistances. Meanwhile, threatened by her newly found independence the husband undermines her business by offering chickens to visitors and relatives free of charge.

For some women such stories act as enablers of their agency. To others; to others it undermines their agency, serving as a cautionary tale about the dangers of destabilizing the gender order or regime by enhancing their economic capabilities. The gender ideologies that underpin these stories are expressed and reproduced in the social practices and acquired, confirmed, changed and perpetuated through discourse (Van Dijk, 2006a), the focus of the next sub-section.

6.3.2 Discourses of gender and the construction of the self

In keeping with my theoretical framework that situates ideologies and discourses as situational factors, those ideologies referred to in the previous subsection largely reflect cultural values and ideals that have collective meanings and are legitimised in predominant discourses. However, discourses can be divergent, contradictory and overlapping (Van Zoonen, 1992; Foucault, 1990; 1980) as revealed by those on gender gleaned from the street trader's narratives. Following Lazar (2000), they encompass discourses of 'egalitarian gender relations' and 'conservative gender relations', and correspond to the two broad gendered traditional and egalitarian ideologies discussed in chapter 2. These two broad contending discourses on gender, alongside other nested sub-discourses, emerged from the interviews and provide insights into how women perceive themselves and their positioning within their societies. The dominant discourse of conservative gender relations and the counter discourse of 'egalitarian gender relations' run through the sub-discourses of 'western infiltration', 'gender difference', 'patriarchy' and 'achieving gender equality', gleaned from the narratives.

These discourses reveal how the 'self' is constructed vis-à-vis gender relations and values through representations and meanings which provide insights into the extent to which mobile phones can help achieve women's empowerment and greater gender equality. Studies suggest that men and women might have different starting points in achieving and negotiating agency (for example, Vehviläinen and Brunila, nd) which potentially have implications for what the female street traders can or cannot do with mobile phones. Sub-discourses on gender regimes and women's emancipation highlight these different

starting points and how constructions of self and meanings associated with gender equality can both support and negate the ways in which mobile phones enable the extension of their agency.

Dialectical views about a social order of women's control or lesser position versus women's empowerment and emancipation are evidenced. The lives and views of six street traders illustrate these contradictions. They also show the ways in which meaning can enable and constrain different ways of knowing the world and a sense of who we may or may not be within that world order and how we relate to each other (Lazar, 2000).

Sub-discourses of 'western infiltration' and 'modern femininities'[44]

Mobile phones represent constructions of modernity and the West, to which some of female traders voiced their rejection of particular constructions of femininity and gender equality. In many conversations the women associate mobile phones as inextricably linked to modernity (with particular reference to dress and the infiltration of Western ideas). Disquiet about the shifting gender norms and behaviours and new forms of femininity (expressed in dress and behaviours) and the potential threat to the established gender order are projected for instance by Joanita through the notion of femininity in cultural artefacts such as dress. She, for example, in discussing behavioural change linked to mobile phones, repeatedly equated mobile phones to modernity and an onslaught on traditional culture embodied in dress. For example, Joanita said:

[44] The social constructions of femininities shape motivations, intentions, use, interactions around mobile phones and the extent to which spaces for agency can be created.

'Our women in our culture... It is not the same any more, but in our culture, we are supposed to put on long skirts, or Gomesi, our traditional dress. It has changed these days, especially for young girls who have copied Western culture...Me I would have liked it [Western culture influences], *but the problem is the girls here have gone to the extreme, you understand... Women dress up now in a way that makes you feel ashamed. They put on some clothes which should be beach wear, but they move around in town in that. So that one really, I am not okay with it.'*

After discussing the negative aspects of change for women she concedes that culturally there have been some positive changes for women:

*'In the past culture, women were supposed to stay at home and look after the kids...For me I like working. In fact for me, spending something like three hours at home is a burden for me. We've been in Easter [*the interview was conducted a few days after Easter*] and I spent the whole time at home, I couldn't sleep eh... I just have that heart in myself.'*

Jane alludes to western culture and what she sees as its construction of femininities and gender equality. She on one hand suggests that a phone can bring about such changes, but at the same time, questions the ideals of equality in the West:

'I don't know but those books from white [the West] *like the one that I saw with a woman running out of time but the husbands has to first kiss his children goodbye and when they come back home, the woman is so busy with her chores that she does not have a minute for the husband and the husband also shows that he is less concerned about his wife. That is what I am telling you that a phone can bring about.'*

Jane rejects what she sees as modernity linked to what mobile phones represent and uses discursive agency to construct what she sees as the desired feminine identity for herself. She asserts that she definitely kneels and would kneel for her partner. She says:

> *'The difference between us and men is not cultural, it is natural and it is not religious because still if you don't kneel before him, when he finds someone who can do that for him he just runs away... Yes I kneel for him. It is what I want.'*

Several of the behaviours implied in the discourse of 'western infiltration' are typified as negative cultural shifts. The negative discourse of western infiltration acts as a moral gauge of acceptable social behaviours and interactions for women, especially girls. It represents both a comment on the changing values and behaviours of Ugandan youth and a backlash against what is constructed as the infiltration of an immoral, permissive, busy, uncaring Western culture into Ugandan society.

Asked about decision making and sharing the proceeds of the business with her husband and whether she would like more equality within her relationship, Joanita says:

> *'For me I really like my culture so much so that a man has to be supreme so I am always very humble to him... Me I am not a westerner so why should I go for it...Me I like it, it is okay with me, so he can understand, if I need something we can sit. Say if I have a problem or if he has done something I don't like we can sit and talk about it...*

Joanita's narrative again shows the co-existence of the two contrasting discourses of conservative and egalitarian gender relations and the tensions in navigating a path through them.

Sub-discourses of gender differences within the gender regime

The socio-political context of the street traders is such that hierarchical gender differences between men and women are acknowledged and 'legitimated' (West and Zimmerman, 1987) but not necessarily questioned or challenged. There is little appetite to challenge the social order and gender regimes. While each of the research participants offers compelling constructions of notions of gender equality, they reject the term 'gender equality' as undesirable because of the meaning it has come to convey to them. This suggests that mobile phones or other schemes that are framed as empowering for women might not address the subjective elements of agency and consciousness that are necessary for emancipation.

Christine believes that there is a pre-ordained social order in which men are always on top. Initially the reasons she gives to explain why a woman will never be equal or 'on top of a man' are based on biological differences, but she concedes that they could also be cultural:

> *'Let me put it like this, a woman will never be above a man. A man can never be challenged whether you have more money or what, the man is always first. A man is always on top because there are certain jobs that are meant for men. However much you try, you will never get there... There are certain things that a man can do and you as a woman can't ...It is natural. A woman can never be equal to a man. A man is always ahead 100%... It is in two ways; in nature and culture whereby what a man can do a woman cannot... Culturally, I would say that in Buganda, as a Muganda woman, what a man can do, a woman cannot.'*

Christine acknowledges that mobile phones help improve women's situation in many ways, but is adamant that such changes are not tantamount to greater gender equality. It is instructive to note that her conception of gender equality is more aligned to a social order that cannot be overturned by women's achievements:

> *'Yes, the mobile phones have helped lift up women from the ground as women and still what the man would have done for you as a woman you end up paying for it...They've helped us... They have opened our eyes to the world, to understand and to enjoy life... You see this phone, there is someone in the village who does not even know how to read a message but you just train him that when it rings, you press this and when you are switching it off, this is what you do. So for that, many people have been developed because of the mobile phone as even young children also know how to operate it...Despite the gender equality you mention, still the man is superior and you are under his feet...As long as you were created female, you will never be above the man. If there was gender equality, even women would pay bride price to the parents of their men, but this is not the case, it is him who pays your bride price.'*

Jane too explains further the differences between men and women that she regards as the social order, but provides a different conception of gender equality as listening to your husband and making decisions together:

> *'So if a woman buys a mobile phone and doesn't listen to her husband, it means that she doesn't have common sense and it is not gender equality except the other one I told you about where you listen to your husband and make decisions together. You may find that the husband becomes the president and the wife is the vice [president] which is the gender equality. But the other one, where you want to win is not common sense. That is how God created you. Just a mobile phone and the things it brings you in your life can't make you equal with your husband. God created the man to be superior to you the woman.'*

Like Christine, Jane interprets gender equality as women on top of men or women winning. In this way, it shows how meanings associated with greater gender equality reflect an undesirable competition with men and a shift from a gender regime steeped in respect where women listen to men. Jane particularly highlights this and shows how men can be perceived as women's route to respectability. She suggests that this is because women are far more concerned about looking good and with children, which reflects 'privileging of appearance' and 'nurturing' discourses' (Sunderland, 2004). In contrast, men are focussed on making money:

> *'For a man, when it comes to opinions, men think differently from women. Because women think about three things. If you don't have a kid, you think about buying a dress and vaseline and how to look good so that you attract men. But men think about making money, building his own house and preparing for his future. A man has a better future than a woman because however much money a woman has, without a man by her side, she earns no respect in society, you see that, always the man is on top...A man can provide you a better future like this, because even if you have the tallest buildings or most beautiful cars but you don't have a man, you still lack respect in society.'*

Joanita initially sees the differences between women and men in terms of physical strength and when prompted reflects on the socio-cultural aspects. She situates her discussion of gender equality in terms of an implicit discourse of sexuality:

> *'Men and women are not the same, they are really different... Because there is some stuff I can't do, me myself... Like hard work, can't do such things... In our culture, go deep down in our culture, women and men, I mean men and women we are totally different, we are not the same...Because in our culture, a woman is not supposed to put on a trouser, pants eh short skirt... No, no, we don't do it in our culture, if you put it on, they take you to be something else.'*

Her interpretation of gender equality is in terms of a 'permissive' discourse (Sunderland, 2004). She does not dissociate mobile phones from modernity and western culture, which she associates with women's freedoms and sexual permissiveness. She uses her culture to justify a notion of a social order exemplified by dress.

Mary provides an interpretation of gender equality in terms of educational attainments and financial achievements, but also points out differences between men and women in terms of physical strength:

> *'What I said was, today, women in areas of finances, jobs and academic qualifications are equal to men but where I disagree however, is that in nature women cannot be equal to men because women are weaker than men although some women have pursued the career of boxing.'*

She also points out one difference between men and women in business is in terms of buying behaviours which in reality might reflect their being less powerful in terms of both material and psychological resources (that is, money to purchase large quantities and the confidence to make decisions quickly):

> *'This is common in women; they are always selective and waste too much time bargaining before they can buy something, unlike men. A man buys in plenty and does not want to waste much time.'*

When asked whether she sees mobile phones as bringing about gender equality, Prossy highlights changes in men's behaviours towards their families. For example, she suggests *'Some of them, but not all, because men don't care the way one would expect when it comes to family issues.'*

Prossy also discerns some differences in men's and women's concerns that illustrate why there might be differences in the communicative behaviour, preferences or approaches to using or not using mobile phones for some activities. She suggests that women do not tend to go to public officials because their problems are not big:

> *'It is rare to go to the public officials especially when the magnitude of the problem is very low...Like a cow has eaten my sweet potato tubers etc. But there are those that are serious and people just take them to the police to handle.'*

Prossy goes on to say that few women attend Local Council meetings. If there was something she wanted to say she would rather submit it via phone, she says:

> *'If it is going to be a meeting whereby if am to travel there, the cost will be too much. I can resort to loading airtime worth UGX: 15,000. I load, thereafter call, and make my submission and save the UGX: 15,000.'*

Sub-discourses on differences and tensions between women

A sub-discourse implying differences and inequalities between the women that sometimes develop into tensions amongst them can also be discerned from the narratives. Markers of difference such as age, ethnicity, social status and religion amongst women intersect with gender to produce differing representations and associations with mobile phone use. The intersection of multiple markers of difference (Crenshaw, 1991) might help explain the women's differing strategies in using mobile

phones and predisposition to not engaging in collective action to pursue common interests.

Age, for example might explain Prossy's perception that mobile phones do not make much difference to her life, in contrast to the other women who continually articulated how mobile phones had made their lives better. Prossy has grown up in a mobile phone age so has no experience of life without a mobile phone. However, Jane who is within the same age bracket – early twenties – articulates how a mobile phone has been central to achieving her valued goals and in constructing her identity as belonging to a certain class of women. She raises the issue of class and differences between women in an assertion in 6.2.1 where she suggests: *Just imagine now, here where we are, we are in the same class because we all have mobile phones, but if I don't have a phone that means you are in a higher class than me'.*

The articulation of class and socio-economic groupings as a difference amongst women runs through the women's narratives, however, in some instances flagging up tensions that can restrict collective agency, often described as 'power with' (Kabeer, 1999). Mary hopes to obtain a loan to expand her business from Pride Micro-Finance towards the end of the year rather than through women's groups. This is because she says that she *'fears'* women's groups and doesn't want to associate with women she sees as financially inferior:

> *'From financial institutions like Pride Micro Finance I fear women groups. Because they backbite a lot and I don't want to associate with people who are not better than me financially'.*

In relation to gender relations, Fatuma further highlights tensions between women and suggests that it is easier to form business relations and networks with men rather than women. Her business suppliers are mainly men and she states:

> *'You see us women, quite a large number we don't get along with our fellow women. For a woman, I don't even know how to explain it but it is really hard for women to deal with fellow women as you can just meet on the street and look at each other as if you had already quarreled or had a fight. Their responses are rude and we are short tempered, let me say that. But when you buy from a man, he comforts you more than his fellow man, and even women ease more to men.'*

Jane says that *'women back-bite more than men'* and adds that she doesn't belong to any organisations because they *'retard'*. Such perceptions of 'other women' might foreclose their opportunities to be agents for change through collective action. Yet collective action is an important force that can bring about changes in policy and political change and strengthen women's productive capacity for their own private interest (Fukuda-Parr, 2003). Both Lister (2004) and De Certeau (1988) regard collective action as strategic and more empowering in the case of De Certeau. Agency in human development includes demanding rights in decision-making and evidence suggests that it is most effective through processes of forming associations, making alliances and generating public debates (Fukuda-Parr, 2003).

Sub-discourses of patriarchy, marriage and motherhood

Sub discourses that may be regarded as 'constricting patriarchy', 'marriage as restrictive' and 'motherhood contradictions', can be discerned from the women's stories. They illustrate the limits that patriarchal systems, and women's constructions of themselves

within these systems, place on women's opportunities and their agency. The interviewees' reflections on patriarchy, marriage and motherhood reveal the scope for their agency towards gender equality and the extent to which mobile phones can assist. The manifestations of agency reflected in the prevalent discourses in their narratives serve to illustrate the temporal nature of mobile phone-mediated agency and the interplay of the past, present and future.

Patriarchal values

There are some commonalities in childhood experiences and the ways in which patriarchal systems frame power relations and thus the agency for most of the women. They articulate early experiences within patriarchal systems that produce and reproduce social power, conferring on them different opportunities from men. A close reading of these experiences shows how women's positioning within patriarchal systems sets their agency context through patriarchal values that are accepted by themselves. However, the temporally variable nature of agency means that some women are able to transcend the disadvantages of this positioning.

For all six female traders, they saw their fathers' numerous marriages and inability to look after everybody as the unequivocal reason for their childhood unhappiness and current position. Fatuma, stands out from the others when she says that she feels 'oppressed' as a woman, but what she probably means is hard done by, through a system of patriarchy. She recounts the story of her polygynous father who married several wives and had 32 children but wouldn't bother paying her school fees and clothes, and the injustice of this. In her view he was fulfilling the behaviours of a muslim man. She recounts how a lack of

education has hindered her all her life, how finding a job was difficult for her without a Primary 7 certificate and that if she had that she wouldn't be working on the street. For this reason she prioritises her children's education as their father too doesn't support them and she doesn't want them to suffer like her. She says, as a man their father, her ex-husband has more opportunities for finding work and that it is acceptable for men to do what they like while women cannot, in other words men and women are not equal. For example, she cannot openly have multiple relations because of cultural sanctions and reprisals from the men in terms of jealousy and violence. At 32 she feels too old to find a man who will take her and her children.

Marriage relations

Marriage for some of the six female street traders constrains or constricts their mobile-mediated capabilities and agency, consolidating men's power over women. Marital power dynamics, conditioned by social norms and gender roles, mean that wives can have greater respect in terms of social status (as discussed in section 6.3.1) and access to material possessions (as indicated by Mary below) yet, on the other hand, marriage can also constrict their agency and ability to achieve their valued functionings as some of stories of the women suggest. As indicated in section 6.1.3, men also may exert control over women's use of mobile phones in their presence, stifling their entrepreneurial opportunities and agency. For those women who choose different forms of relationships, mobile phones are an important tool in managing these relationships.

Mary illustrates the case where, through marriage, men control women which can constrain mobile phone use. Mary, whose husband refused to allow her to work when

they were married, prefers not to remarry. It is instructive to note that she is the only interviewee who uses social networks such as Facebook, a mobile phone practice that might have been constrained had she been married. She says:

> *'Men suppress women so much, a case in point is myself. I got freedom to exercise my rights when it was already too late.'*

Mary notes, based on her own experiences, that women are materially poorer on their own than when they are with a man. Being unmarried brings many responsibilities as she has to fend for herself and sees a mobile phone as potentially key to growing her expanding business. She wouldn't want to be married again, however, because:

> *'I got married at an early age* [24 and is 34 at the interview] *and I was mistreated by my husband and the whole thing was, he was only interested in having sex. He would beat me but surprisingly thereafter demands sex, no care at all and remember that care in any marriage is the common denominator.'*

Christine brings up the issue of marriage as confining, reflecting gendered values and entrenched norms of male authority and female submissiveness that can have implications on freedom to use mobile phones. She prefers not to be married:

> *'I can provide for myself whatever they* [a husband] *would have provided me. I can feed myself, pay rent for my house so now I don't need any more headache* [a husband]... *During those days back I had to behave like a woman to stay in my marriage. But I got tired of marriage as I was completely fed up... I never felt it* [independent] *because I wasn't working, I was always waiting for my husband to provide each and everything from salt, but now I can provide for myself everything that I would ask from him. So, going back to that situation of asking the husband I don't have this*

and then he says he doesn't have money, I just feel it hurts my life... Yes I feel free [now that she is divorced] *and when I say that this is what I will eat it is what I eat but if I just ask for it, he will take long to bring it for me or he can even tell me that he doesn't have money.'*

Fatuma finds marriage constricting, so she prefers to have a boyfriend rather than a husband, particularly as it gives her some power over condom use as she worries about HIV/AIDS. In her words, *'With him you can give him orders, but with the one at home it is hard'*. She feels freer on her own and can do what she wants which is why in some ways she prefers not to have her own phone as she fears that she would lack self-control in calling her boyfriend all the time. She continues to say that women have more problems than men yet men find it easier to get money. Women's challenges she suggests are because of children.

It is for these reasons she feels that the view that mobile phones empower women, plausibly enabling more gender equality, is full of contradictions. In her view, women can become more independent outside the confines of marriage, and that women's position is changing. She says that the big change she sees for women is that women are now working. Fatuma says:

'There is a big change because women are now working, they have mobile phones and their businesses are moving smoothly. She can just make a call and she gets whatever she wants from where she is, which was not the case in the past.'

Motherhood values

Motherhood is a central aspect of the female traders' lives. As in other studies (Bogren, 2010), motherhood is associated with responsibility and rationality values. As indicated in 6.1.1 motherhood is prioritised over entrepreneurial activity in some instances, impacting on entrepreneurial capabilities and strategic use of mobile phones. However, as Jane reveals it can also inspire and drive agency.

Jane, who is entrepreneurially driven, illustrates some of the sacrifices she has to make and the limits to her own fulfilment in relation to being with her son. She would like to stay with him, but his father provides the child with better opportunities at present:

> *'I also go and visit him, but the father has money... Very much* [asked if she misses her son] *but the problem that I have is that where I am right now, I don't have enough support but I feel I like to be with my child badly. So I gave up that child so he can be educated as the only wealth that a parent bequeaths to their children is education. If my mother had given that to me during the right time I wouldn't be here. I myself I did not study but if at least my child is educated, it is the only thing that I can offer him but if I feel like I need him during the holidays, I get time and stay with him.'*

Jane regards a mobile phone as her gateway to a better life and the ability to provide for her child in future. To her, having a mobile phone represents her ability to succeed. Using it to expand her business reinforces her belief in herself to achieve her valued goals that include the care of her son.

Joanita has a daughter who is almost four who lives with Joanita's mother in the village and visits during holidays. She lives with her husband and his children, but not her

daughter. The reasons for this were not made clear by her, although she was asked. It was not clear the extent to which it was her choice or an adaptive preference. Her remote mothering is enabled by a mobile phone, as she speaks with her daughter frequently over the phone.

Sub-discourses on achieving gender equality

The meanings of gender equality, and whether it can be achieved, varies amongst the traders, and as a situational factor are important in considering the extent to which mobile phones can shift inequalities. In exploring whether they perceive mobile phones as an enabler of women's emancipation and greater equality with men, as has so often been articulated in broader international development debates, the six women's views range from rejecting this view to seeing the possibilities. Their views in this matter are important as they have implications for their strategic agency. Where gender equality is not desirable or not seen as achievable, women's agency towards their repositioning is restricted or avoided. Everyday practices and actions are undertaken to maintain the status quo, because dismantling it might have social sanctions or be irreconcilable with how women view themselves within the social order or gender regimes.

Jane's views on whether gender equality can be achieved are:

> *'Gender equality may never happen because a man is the woman's future. You will understand it well if you find a man you call the one of your dreams but you have more money than him. Within the home there is no equality. If you don't kneel before your husband he will go elsewhere. The only equality is when you understand each other and agree to everything in your home together. What a man wants is what you also want and what he thinks is what you too should think so as to*

make it gender equality but not saying that in the future women will be equal to men. It will never happen.'

Joanita's views on achieving gender equality are such that:

'For sure women can never be equal to men, we can never be, we keep trying but we can't...Me what I believe is that naturally men are more extreme from us. However much we do, he is still the man.'

Prossy sees gender roles as having been broadened and gender relations shifted towards greater gender equality. She sees opportunities in life as not dependent on gender, and cites bride price as an indicator of these shifts and more equality for women:

'No. It is obvious. Everyone has got his/her own chance / opportunity...Not really [re: whether men or women have more opportunities.]. *You might find I, myself, having more opportunities than my husband. Even financial ability, that one depends... In Baganda culture the issue of bride price is highly considered. The trend has changed these days especially here in Kampala where women and men get each other and rarely pay the bride price so, the above mentioned issue* [gender inequalities in opportunities] *does not arise.'*

Her view conforms with gender analyses that suggest that social practices around masculinities and femininities are forever shifting. It is interesting that she notes equalities can be achieved in some areas (offering possibilities for enhanced agency for women in some, for example financially), but a particular social order/hierarchical gender order prevails. Asked whether she would like to see even more equality between men and women, Prossy responds:

'I would not want because I am a woman already. Equality is different. Even if I was financially equal to a man, I would want to be financially, but still a man has to have more authority. Even if you have much money you still have to be under a man.'

More broadly Fatuma sees women's movement towards gender equality as possible:

'It was because what a man has, you the woman can also have. If it is importing things from abroad, women also do it. That is the reason why women are like men... I would say they are equal because women nowadays work as porters on buildings and I think in the near future, women will climb and build the house roof. That is why they say women and men are more equal. A woman can marry a man at her home and she is the breadwinner at the house which makes her equal to the man'

These discourses on achieving gender equality suggest there are varying conceptions of the gender order (Connell, 2011) and extent to which greater gender equality can be achieved.

I conclude that 'deep structures' (Geels and Schot, 2007), manifested through legitimacy battles over gender ideologies and discourses, play an important role in shaping agency opportunities that can contribute to greater gender equality. The ideologies and discourses reveal that structurally, there are still huge inequalities materially and discursively. In these ways inequalities are still inflected in what mobile phones symbolise and, as such, demonstrate the extent to which mobile phones are able or not to address these underlying inequalities. Mobile phones are empowering but individuals face restrictions on their everyday, strategic and discursive agency that limits their use of them to make full use of the benefits and opportunities they provide. The 'gendered scripts' (Shade, 2007) relating to mobile phone practices are still unsettled, drawing on a range of

competing and conflicting discursive resources, ideologies and experiences that highlight what mobile phones represent and cultural expectations demand. These complexities demonstrate why gender equality outcomes are complex and can be uncertain.

Conclusion

The chapter has demonstrated three elements of my theoretical framework, with implications for a fourth element, identified at the end of section 6.3. First, it showed how the six female street traders mobile phone enhanced capabilities (element b) are enabled and constrained by gendered relations and values. It demonstrated how particular capabilities (entrepreneurial, functional and operational and network) are underpinned by gender values, motivations and relations that frame agency possibilities and limits. As illustrated by the women's differing spaces and capabilities sets, the resulting nuanced picture of autonomy and subordination, liberation and control, empowerment and disempowerment suggests that mobile phone-gender relations are far too complex to assume that gendered values can be easily transformed through mobile phones to empower poor women. This does not foreclose possibilities of mobile phones empowering women, but suggests that agency is realised in complex and contradictory ways.

Second, the chapter explained agency forms (element c) afforded by mobile phones. It argued that mobile phones afford agency that is directed towards constructions of new identities and resource appropriation tactics through the use of sex. It also illustrated how the female street traders' agency is situated in gendered processes. Third, it

demonstrated the situational influences (element a) of gender ideologies and discourses that help explain the persistence of unequal gender relations and the extent to which mobile phones can change these.

From these findings I infer that agency achievements (element d) from mobile phones for gender equality objectives are likely to be thwarted by hidden and deeply embedded gender ideologies and discourses that prop up gendered orders and regimes. The chapter exposes restricting gender ideologies and competing discourses of gender that enable and limit the interviewees' notions of what they are and can be and thus their agency.

The female street traders' perspectives presented in this chapter serve to illustrate how mobile phone use and representations both shape, and are shaped by gender, a point made by Wajcman (2010) in her analysis of gender-technology relations. Capability intersects with identity, values and networks to frame the possibilities or constraints for emancipation. Agency achievements operate at multiple levels through multi-dimensional areas. The situated nature of agency demonstrated in this chapter show how the mix of situational factors and capability sets frame agency behaviours and prioritisation of valued goals, for example, survival and respectability over other strategic goals which can be steps towards greater gender equality or restrict agency.

Thus, in response to the two sub-questions addressed in this chapter, I conclude from the data that women's agency is both enabled and restricted by mobile phone use, practices and representation through complex processes that include gender, manifested as social relations of power, ideology and discourse. These gendered processes are key situational factors that frame the possibilities and constraints for empowerment, emancipation and

transformation that may bring about greater gender equality. The extent to which mobile phones can contribute to gender equality through the expansion of women's agency, the overarching concern of this thesis, is thus framed by these situational factors which in turn depend on (1) the extent to which women can construct new and more favourable gender ideologies and discourses; (2) exert their agency in relation to the enhanced capabilities mobile phones present (3) reposition themselves more favourably in relation to the self, family, markets and the state.

7. Discussion and conclusion

Introduction and overview of the chapter

The aim of this study has been to explore the extent to which mobile phones can contribute to gender equality through the expansion of women's agency. Mobile phones have been presented as a solution to development challenges, including the expansion of women's agency, usually framed as empowerment (UNDP, 2012; Gill *et al*, 2010; World Bank, 2008; SIDA 2005), a perspective that has come to be referred to as the mobile phone promise (Molony, 2012; Duncombe, 2011; Rizzo, 2008). However, as illustrated in chapter 2, critical perspectives challenge this optimistic view, highlighting a diverse set of factors that include context, values, power and social relations of gender that shape the opportunities for agency with complex and uncertain outcomes. Chapters 4-6 have shown how these factors play out in the lives of street traders in Kampala, shaped by and shaping gender relations and framing the possibilities and constraints for mobile phone mediated agency. Mobile phones, as with any other ICTs and technology, are embedded within historical, political, economic, social and gender patterns and lifestyles of different groups with unclear and contradictory gender equality outcomes.

A common debate and thread of the literature on mobile phones and development suggests that there is a gap between the promise of empowerment and the realities on the ground. This thesis explains this gap by exposing the processes that shape female street traders' mobile phones-mediated agency and the extent to which these explanations are consistent with competing or contending theoretical perspectives. The

gap, I suggest, arises from a reductionist treatment of agency, and argue for the intersection (Geels and Schot, 2007) of perspectives on capabilities (Gasper, 2007; Clark, 2006; Robeyns, 2003b; Sen, 2001; 1999), emancipation (Ramazanoğlu and Holland, 2004; Foucault, 1990; 1981), values (Gries and Naudé, 2011; Welzel and Inglehart, 2010), identity (Baston-Savage, 2007; Green and Singleton, 2007; Ling 2001; Butler, 1999; Goffman, 1959), networks (Lasen, 2004; Emirbayer and Goodwin, 1994) and gender equality (Connell, 2011; Cooks and Isgro, 2005) to provide a deeper holistic understanding of agency enabled by mobile phones.

The purpose of this concluding chapter is to present the key findings with particular reference to the literature and theoretical perspectives that have framed the research, address the overall thesis' research question (to what extent can mobile phones contribute to women's agency for gender equality achievements?) and explain my contribution to knowledge and the field. The sub-questions and the methods I employed to answer them in my empirical research are addressed in previous chapters.

This chapter sets out the:

- research findings as they relate to the overall research question. Following my theoretical framework that was derived in chapter 2, these findings cover agency context or situational factors (element a), capabilities (element b), forms (element c) and achievements (element d);

- thesis' contribution to knowledge, the theoretical and methodological significance of this research and its implications for mobile phone-driven development policy and practice in relation to the realities of women's circumstances;

- further research avenues that would deepen an understanding of mobile phone enhanced agency processes

7.1 Main research findings

The thesis has argued that agency is a complex and multi-faceted process and concludes that the extent to which mobile phones can contribute to gender equality through the expansion of women's agency depends on favourable situational factors, the agency freedoms women enjoy, and the particular agency opportunities mobile phones open up for them in the context of their everyday lives. Women's operates within structures, webs of relations and wider processes that both hinder and support their agency. Gendered interests, values and identities are 'black-boxed' through hidden and assumed processes of technological practices, symbolism and representation of mobile phones through which unequal gender relations are maintained, repackaged or reduced in the lives of female street traders. Social relations of gender influence the pathways, the information and communication networks mediated by mobile phones, and frame the possibilities and constraints through which information and network capabilities are enabled or not. Gendered relations and their continuous re-negotiation through mobile

phone practices produce complex and contradictory outcomes for gender equality achievements.

7.1.1 Agency context or situational factors

Values and motivations are the key themes that emerge from the quantitative (chapter 5) and qualitative (chapter 6) analyses of the situational factors that constitute the agency context. As argued in chapter 2, capability theorists and researchers tend to under-define and under-explore values, in terms of how they arise and how they are shaped and change (Deneulin, 2011), yet what people have reason to value is a central pillar of capability theories (Sen, 2001). This research has shown that values are an important pre-condition for agency directed towards reducing gender inequalities and that these values can be gendered and permeate mobile phone practices in ways that limit women's agency, for example entrepreneurial, political and social agency, with unequal consequences for women and men.

As scholars of technology have argued, the extent to which ICTs make a significant impact on development and people's lives is determined by their local social, economic, political and cultural context (Wallis, 2011; Galperin, 2010; Johnson and Wilson, 2009; Wilson and Heeks, 2001). These contextual factors frame the spaces for agency, underpinning agency processes that shape and determine gender equality achievements. These have also been referred to as the pre-conditions of agency that include the institutional arrangements and the socio-political and socio-economic environment (Narayan, 2005; 2002; Kabeer, 1999).

Explicit attention was paid to the social and technological contexts in which the street traders use mobile phones in this research. For the social context, the gendered motivations for mobile phone acquisition and use (geared towards gendered roles such as familial obligations discussed in chapter 6, section 6.1.1. and constructing sexual identities in chapter 6, section 6.2.3) and gendered values (evidenced through ideologies and discourse in chapter 6, section 6.3) help explain the extent to which users can leverage mobile phones to achieve their goals and wider development goals. Research participants' discourses on gender imply that their choices are inflected with calculated goals that include maintaining the 'gender order' (Connell, 2011), highlighting a disconnect between individual goals and broader development goals (UNDP, 2012; Gill *et al*, 2010; World Bank, 2008; SIDA 2005) of gender advocates. Agency, therefore, can be directed towards maintaining unequal gender relations, as the gender ideologies and discourses discerned from the interviews reveal.

For the technological context, gendered technological use was explored in chapters 4 and 5 and the distinctions between effective, productive and emancipatory in empowering and enabling end-users for gender equality objectives are now discussed. The technological value that individuals place on mobile phones is evidenced by what they use them for or what they value them for and therefore where they direct their agency. This study finds that, in most cases, women's mobile phone use and practices are in most cases for social and familial communication thus reflecting sociality, as observed by Mascarenhas (2010), rather than for efficiency, production or emancipation. These findings indicate contradictory implications for gender equality achievements. My mixed gender survey demonstrated differences in emphasis in use of mobile phones between

men and women with men more likely to use mobile phones for productive purposes such as business and with emancipative intentions through engagement with politics.

As discussed in chapter 2, Guerstin (2003) defines 'effective use' as the capacity and opportunity to integrate ICTs successfully into the accomplishment of self or collaboratively identified goals, largely in terms of productive and emancipatory goals. The data in this study shows that women's use of mobile phones is more oriented towards family and children (chapter 6, section 6.1.1) and less towards business and wealth generation, yet as a group women place more value on the use of mobile phones for business and wealth generation (chapter 5, section 5.1.2). The survey data also suggests that those women who value mobile phones to communicate with family and children report the highest satisfaction that mobile phones help them achieve their goals. In contrast, those who value mobile phones most for business are less likely to report that they achieve these ends. Thus, women who value mobile phones mainly for ends related to family and children are most able to exert their agency effectively in line with their valued goals, whereas those who value mobile phones most for business and wealth generation are less able to realise these goals. For some women, their efforts and thus agency are more oriented toward family and children rather than business and leisure because of gendered roles and responsibilities which curtails their entrepreneurial agency. This increases disparities between men's and women's business capabilities, although some women manage to make a success of both their businesses and their social agency in making time for leisure.

Thus my thesis finds that mobile phones help women achieve what they value most when this corresponds to children and family, but they do not reap wider gender equality

achievements in other areas, for example, in relation to business and social leisure activity for which men report relatively higher agency achievements, and political activity for which both men and women report low usage. This is consistent with other studies that suggest that women prioritise children, family and marriage over business growth to preserve their culturally sanctioned gendered positions and obligations (Bakesha *et al*, 2009; Bantebya, 2009).

Therefore, as such, my data has shown that the extent to which mobile phones can help facilitate agency for gender equality objectives is framed by both motivations and values, and the extent to which these align to equality outcomes. As Sey (2011) and Ling and Horst (2011), observe, individuals use phones in ways that make sense to them, rather than in terms of their perceived ICT benefits, linked to productivity and social equity. Values, whether intrinsic or conditioned (Pulvertaft, nd) underpin motivations for their use, and the over-riding values might not relate to productivity and equity. Rather they might relate more to social communication uses as Mascarenhas (2010) observe.

7.1.2 Agency capabilities

A cross-cutting theme across the different data in my thesis suggests that network capabilities are gendered and that the opportunities for women to use their agency to build the 'weak links' (Granovetter, 1973) that are so crucial for spreading beneficial information and resources between disconnected groups are constrained by the time pressures imposed by gendered responsibilities such as childcare. Women's 'informational capabilities' (Gigler, 2011) are also limited by human and capital constraints. Networks and information provide the principal pathways, through which

agency is enacted in relation to mobile phones, and it is argued that networks further enhance or expand capabilities in economic, social and political spheres (Smith *et al*, 2011). Networked information is also important for decision-making and learning (Heeks and Duncombe, 2001), as are network relations for reciprocity, flows of resources and opportunity expansion (Fuhse, 2009; Moloney, 2006) and network processes for empowerment (Corrigan and Mills, 2011). However, the ways in which these network capabilities are gendered have not been a key concern for the literature on mobile phones and capabilities.

My thesis finds that women street traders' engagement with, or exclusion from, business, financial and economic networks is explained by some gender factors. Fuhse (2009) notes that typically women tend to have more kin in their networks (ascribed) whilst men have more friends and work colleagues (achieved). I find that women's networks are more circumscribed than men's which limits their agency. Most of the female street traders interviewed for this study (chapter 6) perceived men as having wider economic and financial networks in terms of more business contacts and also that men are more likely to use their phones for business as men's businesses are larger and consequently require greater use of mobile phones. Thus, men have more opportunities to expand their economic and entrepreneurial agency.

Fewer female than male street traders engage with mobile phone financial networks and explain this (chapter 6) as a consequence of their more restricted financial, technical and functional capabilities. My survey data (chapters 4 and 5) also demonstrates that women are more likely to be excluded from mobile phone-enabled financial networks, but it is acknowledged that the survey took place in the early stages of the introduction of

services such as Mobile Money. At the time of writing, there is anecdotal evidence that take-up of mobile phone banking is on the increase for both men and women. However, mobile credit has difficulty attracting female customers as the Grameen Foundation has found (Project Manager, Grameen Foundation, personal communication, 2011).

Politics is also perceived as no place for women, as indicated by the survey and all the six female street traders interviewed, foreclosing the possibilities for their political agency and engagement in political networks. Few women in the survey belonged to associations or engaged in public or civic life, although some of the six female interviewees demonstrated their ability to make use of women's savings and credit associations to meet goals such as purchasing mobile phones and meeting basic needs.

Women have less time for social and leisure activities and are less able therefore to expand their social networks that could lead to more opportunities. In the survey men emphasised friends, lovers and partners as benefits of mobile phones in their lives whilst women emphasised connections to children and family. The interviews revealed that women, because of their productive and reproductive roles as primary caregivers, were constrained by time to extend their social networks.

Both the survey and interviews provided evidence of women's ease at extending their social ties and relationships with men for the purpose of obtaining resources. However, while the terms under which some women engage with some men within such relationships may be regarded as a reflection of their sexual agency, they also equally reflect their unequal and less powerful situation more widely in society that provides limited opportunities for resource accumulation. This tension is consistent with a

Foucauldian analysis of power that sees agency practices as contradictory (Foucault, 1990; 1981).

These gender inequalities as a consequence of network effects of power are maintained and consolidated, as Corrigan and Mills (2011) suggest, through collusion between men and women. Both men and women are complicit in socio-technological processes where gender equality is taken or not taken up. However, these processes are unstable and contradictory (Singleton, 1996) which helps explain why some women are able to empower themselves in some areas of their lives and not others. The networks to which women belong, or the terms under which they participate in them, shape their network capability. Thus the extent of their agency achievements with respect to gender equality, differ for different women.

As such, my thesis finds that the extent to which mobile phones can contribute to gender equality through the expansion of women's agency in relation to enhanced capabilities is conditioned by their more limited network and informational capabilities. As D'Exelle and Holvoet (2011) observe time pressures constrain women's building of networks and deriving benefits from these. Also, as Gillwald *et al* (2010) argue, women's lower human and material capital places them at an informational disadvantage.

7.1.3 Agency forms

Treated as complementary, the quantitative and qualitative data provide evidence of mobile phones practices that illustrate the wide array of different forms of agency outlined in the theoretical framework, namely: control, autonomy, decision-making,

strategic choices, participation, voice, selfhood, identity construction, effective power to, consciousness, reflexivity, resistance and subversion. For example, female participants in the survey report that mobile phones help them increase their autonomy, decision-making and voice (chapter 5) and female interviewees (chapter 6) demonstrate these to varying degrees in their narratives.

Everyday (tactical), strategic and discursive expressions of these forms of agency and how they are played out by the street traders create dialectical tensions between autonomy and subordination, liberation and control, empowerment and disempowerment (Chib and Chen, 2011; Baxter and Montgomery, 1967). This is evidenced by the contradictions between the survey participants when reporting on social activity, and the competing discourses and ideologies within the six female traders' interviews. The dialectical tensions suggest that here is fluidity between these forms of agency in the lives of the street traders, a continuum as Lister (2004) suggests, rather than the rigid categories of De Certeau (1988).

Female street traders strategize in relation to what they value, regard as important and within the confines of structures such as gender and poverty. My thesis argues that what might be perceived as 'everyday' might actually be 'strategic', when contextualised in an individual's life and that, while these distinctions are heuristically valuable and serve a purpose, they are nevertheless somewhat incomplete. The everyday acts of survival can have strategic consequences in themselves, or taken in combination with other discursive forms of agency, can generate beneficial outcomes and transitions. For example, Jane's portrayal and use of a mobile phone to symbolise success provides her with the inner

resources and confidence to drive her entrepreneurial capabilities and carve out an identity as a successful female entrepreneur (chapter 6).

My thesis finds that it is also possible to detect inter-temporal distinctions between different aspects of agency, at different points in time (Binder and Coad, 2011; Emirbayer and Mische, 1998) that are of concern to detractors and proponents of the capability approach. Through the reflective accounts of the six female traders, moments of strategic choices and their consequences can be discerned, as in the case of Jane's story of her life and how her personal circumstances motivated her to make business decisions and apply entrepreneurial agency.

The diverse acts of agency enabled by mobile phones (presented in chapters 5 and 6) reflect the four foundational conceptions of agency - rational choice, interpretation, power and 'deep structures' (Geels and Schot, 2007) - which are crucial for the necessary transformational shifts that might lead to greater gender equality. However, the stories generated from the interviews demonstrate how these foundational aspects are not always present for the female street traders. In particular, none substantially challenges deep structures which are those taken for granted values and assumptions such as symbolic acts and cultural repertoires that emerge as gendered ideologies and legitimacy struggles for women's equality.

In summing up, because the exercise of different forms of agency has different consequential outcomes, in terms of everyday or strategic consequences (Lister, 2004), the extent to which mobile phones can substantially contribute to gender equality through the expansion of women's agency, is influenced by how they are able to use

them strategically. In this regard, my survey revealed a small proportion of women reported strategic agency as conceptualised by Lister (2004), for example, through political and collective action. The narratives revealed that some of the six female traders were engaged in collectives, but this engagement is not archetypal of female street traders.

7.1.4 Agency achievements for gender equality

A compilation of the different ways in which mobile phones present opportunities for material, relational and subjective achievements (see Table 21), drawn from the survey reports (chapter 5) and the interviews (chapter 6), suggests that mobile phones have the potential to enable women's agency. Examples include control over income, wealth, assets and engagement in associations for material benefits. Mobile phone practices can be a first step towards women's emancipation or greater gender equality in many ways, for example empowering them economically, politically and socially (see Table 21) as well as exposing them to new experiences and presenting them with opportunities through which they can alter their worldviews, their sense of 'self' and their place in the world. However, they can also be used as a form of control, as the case of Joanita also illustrates. Whilst seemingly successful, in control of the business and staff, her husband takes control of her phone at home. In this way, this particular finding corroborates other research that highlights how mobile phones can also serve as a technology of control (Lemish and Cohen, 2005).

While mobile phones help facilitate agency achievements that can contribute to gender equality, their use is unlikely to empower women in all areas in their lives. My research

confirms attestations of others that the expansion of agency operates at multiple levels (Narayan, 2005; Malhotra *et al*, 2002). It also finds evidence that achievements in one sphere, for example economic, may not translate into other areas of women's lives as the literature on women's empowerment in other areas (such as micro-finance, labour and education) observes (Aikman and Unterhalter, 2005; Johnson, 2005; Kabeer, 2005; Mayoux, 2002). Rather, my thesis finds contradictions in individuals' lives, with evidence that an expansion of agency in some dimensions is offset by a lack of agency in other areas. The example of Joanita (chapter 6) is a case in point. As the front for her husband's three mobile phone businesses she demonstrates considerable economic agency and ability, but has no control over the finances.

Thus, mobile phone use and practices might not always result in appreciable or straightforward changes in women's agency capacity, or clear changes in their gender positioning. I contend, moreover, that the nuanced picture of women's agency, where positive changes in one sphere can be juxtaposed with negative ramifications in another, presents conceptual problems for how empowerment is understood and supported by policy and practice. At the heart of these problems is how agency is sold as a policy objective within development organisations and understood as an end and as outcome rather than a jostling process embedded in discursive practices (Foucault, 1990; 1981; 1980). Emirbayer and Mische's (1998) conceptualisation of agency as a temporally embedded process, informed by its past and oriented towards the future, offers also a compelling explanation of agency. The dynamic, fluid, symbolic and discursive understanding of agency that I have presented in my thesis demonstrates how agency operates differently in different spheres as well as different times.

Table 21: Taxonomy of material, relational and subjective dimensions of agency potentially enhanced by mobile phone use and practices

Dimension of agency	Material	Relational	Subjective
Key Concerns	Gendered practical welfare and standards of living	Gendered personal and social relations	Gendered values, perceptions and experiences
Area of focus	Objectively observable outcomes that women are able to achieve	Extent to which women are able to engage with others to achieve their interests, needs and goals	Meanings that women give to the goals they achieve and the process in which they engage
Indicators	Material needs and asset indicators	Human agency and multi-dimensional resource indicators	Quality of life indicators
Key proxies	Attaining and control over income, wealth, assets and human capital enhancements for material production	Redefining gender rules, norms and cultural practices	Creating possibilities for new gender ideologies and discourse
Economic	Enhanced livelihood activities where previously disadvantaged Access to material resources, services and amenities	Engagement in male dominated economic activities	Subjective dimensions of entrepreneurial agency
Political		Relations with the state (law politics, welfare, social, political and cultural identities)	Engaging in political action aimed at improving the situation of women and own life

	Negotiating and accessing political power		
Legal	Acquiring knowledge of land and other legal rights and use of judicial system to redress rights violations	Use to alert others of violence, conflict and insecurity	Awareness of gender injustice
Organisational	Engagement in associations that have material benefits	Participation in local institutions Scope for personal and collective action and influence Organisational leadership	Sense of women's entitlement and inclusion
Socio-cultural/interpersonal	Coping strategies using social network capital	Relations of love and care Involvement in networks of support and obligation and visibility in social spaces	Trust and confidence Understanding of the sacred and moral order Sense of meaning and meaningless
Personal/Psychological	Acquiring education and skills Maintaining physical health and ability	Improved relations and relating to others	Self image, identity and personality, hopes, fears and aspirations Self-esteem and self-efficacy Levels of dissatisfaction

Adapted from Sumner (2010), Malhotra *et al* (2002) and Oakley and Clayton(2000).

My research also finds that women adapt to circumstances and use numerous tactics or 'weapons of the weak' (Scott, 1985) to obtain what they need and value, but it is not always clear how or whether these tactics contribute to greater gender equality. The reinforcement of the women street traders' roles as caregivers and domestic overseers that mobile phones afford also does little to improve their status and standing that is necessary for greater gender equality. As such my thesis finds as have other studies (Wei and Lo, 2006; Lemish and Cohen, 2005; Nordil and Sørensen, 2003), that mobile phones can reinforce inequalities.

Deeply embedded ideologies, apparent through discursive practices suggest that mobile phones can help transformative shifts towards greater gender equality, but that the catalyst of these shifts varies as the life stories of the six female traders demonstrate. In their stories, the catalysts are bound up in situational factors, and in the capabilities and forms of agency these situational factors shape in relation to mobile phone use. Mobile phones are inserted into specific historical, political, social and economic contexts that limit or expand what people can be and do with them.

Therefore, in conclusion, mobile phones can contribute to gender equality through the expansion of women's agency in many ways, incrementally and radically, but this depends on the agency space of individuals comprising their context, the forms of agency they are able to exercise, the agency capabilities they are able to expand and the agency achievements they attain where previously lacking or disadvantaged. From my findings I conclude that mobile phone mediated agency for gender equality could be re-conceptualised as a capability, a subject re-positioning and involving a web of relations in

which both men and women are complicit to show that agency is nuanced, temporal and situated. It is a capability in terms of the motivations and goals of individuals and the extent to which these are directed towards equality values and outcomes. It requires a subject's re-positioning in terms of the discursive and transformational agency that greater gender equality demands. It involves a web of relations since gender is relational, requiring the engagement of both men and women in moving towards more equitable ways of being and doing.

7.2 Research contributions

My research contributes to the body of knowledge on gender, agency and mobile phones of relevance to the fields of Sociology, Technology and Development Studies, and specifically M4D, ICT4D and the capability approach. Its deep exploration of gender-agency-technology relations adds weight to the emergent body of knowledge by exhibiting the nuanced outcomes of mobile phones adoption and uses. As argued in chapters 1 and 2, mobile phones are seen to empower women (UNDP, 2012; Buskens and Webb, 2009), an expansion of their agency contributing to greater gender equality. Yet, this literature does not sufficiently engage conceptually with what this mobile phone mediated agency is, how it is played out and the contextual factors that influence it in relation to different forms of inequality. My thesis investigates these issues and the tensions of empowerment in mobile phone-mediated agency processes. It demonstrates, as Chib and Chen (2011) have argued, that as women incorporate mobile phone benefits in their lives, oppositional forces act as a constraint. Conflicting issues are constantly negotiated and redefined with unclear gender equality outcomes.

In the following subsections, I highlight the theoretical, methodological and policy implications of my empirical research.

7.2.1 Theoretical implications of the thesis

First, the thesis responds to calls for further theoretical elaboration of the outcomes of mobile phones in the lives of low income groups in developing countries by using social critical theories to theorise these outcomes in relation to capabilities. It extends the capability approach's evaluation of agency by deepening it with a critical understanding of freedom, in the context of women's lives, in considering the notion of emancipation. Its application of the capability lens takes into consideration how gendered values and identities frame capabilities. It also extends the conceptualisation of capabilities in relation to mobile phones by applying a feminist lens to illuminate the gendered processes of network formation and construction that have differing consequential outcomes for men and women, an underexplored area.

Second, my thesis extends the exploration of gender-agency-mobile phone relations by developing a theoretical framework within which to explore these issues. Agency as a concept in relation to mobile phone outcomes for women has been treated cursorily (Buskens and Webb, 2009), yet agency is a central thrust of feminist approaches. My thesis offers a more powerful way of theorizing agency mediated by mobile phones that deepens an understanding of socio-technological and agency processes. My theoretical framework is sensitive to context, illustrating the dynamic interplay of structures and

individual agency in the lives of street traders and allowing for the inclusion of issues not previously considered, for example, trust, respect and sexual agency. The framework is informed by perspectives that draw attention to different forms of agency (Lister, 2004; De Certeau, 1988) and dimensions of agency achievements (Sumner, 2010; Oakley and Clayton, 2000) that can support gender equality objectives. It builds on these perspectives to contextualise them in the lives of female street traders and their use of mobile phones. I demonstrate that it is important to ground studies of agency theoretically and question the explanatory power of approaches that emphasise a limited number of the foundational conceptions of agency (Geels and Schot, 2007). Thus, I present a more probing and insightful theoretical framework that takes into consideration situational factors, forms of agency and their consequential outcomes, enhanced capabilities and the implications of these for achieving gender equality.

However, such a taxonomical exploration of agency also exposes theoretical tensions in how to interpret my findings in relation to my overarching research question (the extent to which mobile phones can contribute to gender equality through the facilitation of women's agency?). If agency is regarded as part of process of 'being and doing' that is tightly connected to a resource, in this case a mobile phone, then, from the lens of a capability approach, this research suggests that mobile phones can open up many possibilities for redressing gender inequality (see Table 21), but women may not be able to harness or exploit these opportunities. Where agency in relation to gender equality is seen through the lens of 'ideologies', however, my findings are circumspect. Deeply entrenched gender ideologies are difficult to shift even where mobile phones present opportunities.

When agency is regarded as discursive, through the lens of 'discourse', the thesis finds more scope for mobile phones to negotiate unequal gender relations. Taking a Foucauldian lens, where small discourses are elaborated everyday in peoples' lives, my thesis finds that this is happening through the contradictory discourses about gender equality that the women street traders elaborated in their interviews (in chapter 6). However, a Foucauldian perspective suggests total emancipation is never possible, only recurring' discourses that move forward and backward.

I reconcile these different lenses by acknowledging that they are mutually supporting in some ways in that they highlight different facets of agency processes linked to gender equality objectives. The framework I have developed is not complete and final but enables nuanced insights that can lead to further inductive insights and therefore deeper theoretical understanding.

7.2.2 Methodological implications of the thesis

My thesis makes three methodological contributions. First, by combining quantitative and qualitative methodologies it measures the breadth and depth of mobile phone mediated agency and proffers explanations. It applies statistical, narrative and discursive interpretive lenses to demonstrate differences in capabilities between men and women around mobile phone use and also uncover hidden gender ideologies that shape choices and action. In this way, it responds to Best's (2010) call for more interdisciplinary and mixed methods approaches when examining mobile phones and ICTs to understand the knowledge gaps and continue dialogue between different disciplines and stakeholders. It

also responds to Burrell's (2011) appeal for mapping and explaining the conditions that underpin measures of gender difference in access and use patterns.

Second, it presents a survey instrument that uses proxies for agency that are potentially useful for other researchers exploring mobile phone processes. The survey is also potentially useful for exploring wider issues related to agency, empowerment and poverty and could be extended for use in such analyses.

Third, is the methodological use of my theoretical framework for inductive and as well deductive purposes, as a guide for analysis that also enabled additional dimensions to emerge from the data.

7.2.3 Policy and practice implications of the thesis

The thesis makes two contributions to policy and practice. First, its theoretical framework can be extended to form the basis for needs identification, planning and evaluation phases of policies and projects directed toward gender concerns and ICTs. Second, its sharp focus on agency can inform policy of different facets of agency that require additional measures to support gender interventions and increase their success.

The UCC and NGOs such as the Grameen Foundation are committed to redressing gender inequalities, as mentioned in chapter 4, in relation to access and use of mobile phones and m-applications. In this they admit challenges in engaging women in m-services beyond initial take up of mobile phones for voice communications. The key message of

the thesis is that the multi-faceted processes of agency suggest that enhancing situational factors (for example, human capital), paying attention to values and how these are shaped in relation to technologies, and engaging with how women form or build their networks can maximise the benefits of m-development initiatives. The research participants' use of mobile phone communications raises questions concerning the influences, such as situational factors, on take-up of m-content and m-development services which provide pointers to how these factors can be harnessed to influence strategies linked to their take up.

My thesis illustrates that the extent to which m-development initiatives are successful is influenced by agency spaces that highlight the potential barriers, risks and opportunities for these interventions. It demonstrates that some gender challenges and barriers are considerable, but opportunities exist if sufficient attention is paid to individuals' capacity and situational factors to harness the benefits of m-development services. Development organisations can provide support for building women's technological capabilities, the resources and agency necessary for generating change, build upon their skills and knowledge and improve their material conditions through holistic interventionist approaches that consider:

- gendered values and the cognitive and behavioural changes that are needed to make full or effective use of m-services;
- focusing on women's network, functional, financial, literacy capabilities and expanding them;
- broader policy interventions in key areas that allow women to benefit equally from ICTs, such as human capital maximisation (incentivising the education of

girls) that also enhance their employment prospects. In this, I reach similar policy conclusions as Gillwald *et al* (2010), that gender inequities in access and use of mobile phones cannot be addressed by ICT policies alone

The Uganda government is also a signatory to global agreements such as the gender equality MDG3 mentioned in chapter 4 of this thesis. A sharper look at agency, as presented by my thesis can inform policy and programmes in this regard.

7.3 Further research

There are two areas that warrant further investigation, arising from this thesis. First, a more in-depth investigation is required of the size and nature of men and women's networks to establish empirically their properties and relations and the extent to which they influence gendered outcomes. One way would be to investigate men and women's networks through observation of their daily activities and examination of their contacts in their mobile phones.

Second, it would be useful to establish whether, relative to women, mobile phones enhance men's agency more and therefore the net result on gender inequality is exacerbated. Some of the evidence of my research points to this in some areas, but because of the scope, of my study it was not possible to explore the issue in such depth. It would be useful to further explore it through a comparative analysis of men and women mobile phone mediated agency.

Conclusion

The thesis has shown that a multi-faceted and multi-dimensional examination of agency processes in the context of gender equality objectives demonstrates the extent to which mobile phones can support these objectives. A sharper examination of different facets of agency suggests that a capability-focussed approach illustrates that mobile phones can expand opportunities for women, moving towards greater gender equality, but the exploitation of these possibilities is dependent on an individual's circumstances. Discourse oriented perspectives suggest that small steps can be taken, but there is no endpoint. Ideology-oriented views suggest much deeper, transformational shifts in gender relations need to occur to which mobile phones can contribute, but not in isolation. Thus with respect to my thesis' overarching question (to what extent can mobile phones contribute to gender equality through the expansion of women's agency?), I conclude that mobile phones present substantial opportunities, but women are not always able to harness these possibilities.

Mobile phone ownership and use do not automatically translate into productive or emancipative achievements as is often implicitly assumed in the literature as these may not be the valued or prioritised goals associated with mobile phones. Reported mobile phone practices reflect more tactical forms of agency rather than strategic. Limited use of mobile phones technical functionalities and capabilities that are enhanced by mobile phones limit the opportunities for deepening and widening agency spaces that mobile phones can expand. Potential mobile phone-mediated agency achievements are constrained by structuring variables such as gender and income poverty. Unequal

gendered power relations, embedded in social relations of gender and poverty are manifested multi-dimensionally, requiring different forms of action at multiple levels. However, there is still a need to better understand whether relative to women, mobile phones enhance men's agency more, which calls for further comparative analyses.

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Appendix 1: Survey questionnaire

SURVEY QUESTIONNAIRE

Paper form to be administered verbally to participants but completed on paper by interviewer

Section A: Basic socio-economic/demographic data of the respondent

1. Gender of respondent

☐Male ☐Female

2. Ethnicity .....

3. Work environment

☐Stationary ☐Pedlars

4. Area of residence/travelled from to work

.....

5. Education .....

6. Primary or predominant street trading economic activity.....

(list to be coded after survey)

7. Employee status

☐Employer ☐Own account business ☐Employee ☐Unpaid family worker

8. Approximate age:

☐16-20 ☐21-25 ☐26-30 ☐31-35 ☐36-40 ☐41-45 ☐46-50 ☐51-55 ☐56-60 ☐61-65 ☐66-70

Section B: Access to mobile phones and Use (access and participation rates of participants)

9. Do you own or use a mobile phone (own or share)? If no go to question 21

☐Yes ☐Share ☐No

10. How long have you had access to a mobile phone?

☐under six months ☐1-2 yrs ☐3-4 yrs ☐5-6 yrs ☐7-10yrs ☐over 10 years

11. Who is your service provider?

☐MTN ☐ZAIN ☐Warid ☐UTL ☐Hits/Orange ☐Other.....

12. How did you acquire your phone?

☐Purchased it yourself ☐Gift ☐From business/employer ☐

Other.....

13. How frequently do you pay for your airtime?

☐More than once a day ☐Once a day ☐Once every 2-3 days ☐Once a week ☐Twice a month ☐Once a month ☐Less frequently than once a month

14. What amount (Uganda shillings) do you pay for your mobile phone usually/typically for your airtime?

☐500 ☐1000 ☐2000 ☐5000 ☐10,000 ☐over 10,000

15. Which of the following mobile functions do you use, and how often?

Voice/Talking	☐More than once a day	☐Once a day	☐More than once a week	☐Once a week or less	☐Never
SMS/Texting	☐More than once a day	☐Once a day	☐More than once a week	☐Once a week or less	☐Never
Internet access/ browsing	☐More than once a day	☐Once a day	☐More than once a week	☐Once a week or less	☐Never
Music and entertainment	☐More than once a day	☐Once a day	☐More than once a week	☐Once a week or less	☐Never

Games	☐More than once a day	☐Once a day	☐More than once a week	☐Once a week or less	☐Never
Camera/video	☐More than once a day	☐Once a day	☐More than once a week	☐Once a week or less	☐Never
Radio	☐More than once a day	☐Once a day	☐More than once a week	☐Once a week or less	☐Never
Weather updates	☐More than once a day	☐Once a day	☐More than once a week	☐Once a week or less	☐Never
News updates	☐More than once a day	☐Once a day	☐More than once a week	☐Once a week or less	☐Never
Alarm	☐More than once a day	☐Once a day	☐More than once a week	☐Once a week or less	☐Never

Other Please explain.....

16. How frequently have you used mobile phones for the following during the last six months?

Airtime transfers	☐Daily	☐Weekly	☐Monthly	☐Occasionally	☐Not at all
M-banking	☐Daily	☐Weekly	☐Monthly	☐Occasionally	☐Not at all
Health services and information	☐Daily	☐Weekly	☐Monthly	☐Occasionally	☐Not at all
SMS alerts for technical/ business information	☐Daily	☐Weekly	☐Monthly	☐Occasionally	☐Not at all
Radio phone-ins	☐Daily	☐Weekly	☐Monthly	☐Ocassionally	☐Not at all

Other: Please explain.....

Section C: Agency (identity, well-being, things individuals value and participation in political, economic and community life)

17. I like to use my mobile phone mostly for...

Personal matters	☐Strongly agree	☐Agree	☐ Neither agree or disagree	☐ Disagree	☐Strongly disagree
Family/domestic matters	☐Strongly agree	☐Agree	☐ Neither agree or disagree	☐ Disagree	☐Strongly disagree
Business matters	☐Strongly agree	☐Agree	☐ Neither agree or disagree	☐ Disagree	☐Strongly disagree
Social/cultural/leisure matters	☐Strongly agree	☐Agree	☐ Neither agree or disagree	☐ Disagree	☐Strongly disagree
Government/ local authorities (e.g. KCC)	☐Strongly agree	☐Agree	☐ Neither agree or disagree	☐ Disagree	☐Strongly disagree
Local community matters (e.g. LC)	☐Strongly agree	☐Agree	☐ Neither agree or disagree	☐ Disagree	☐Strongly disagree
Women and men's issues	☐Strongly agree	☐Agree	☐ Neither agree or disagree	☐ Disagree	☐Strongly disagree

Other official business, or group or movement issue (e.g. Associations): Please explain.....

18. Has having a mobile phone made you...?

Act/behave differently as a man or woman	☐Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree
More modern	☐Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree
Feel happier	☐Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree
More confident	☐Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree
More secure	☐Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree
Wealthier	☐Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree
Politically active	☐Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree
Socially active	☐Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree
Economically active	☐Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree
More knowledgeable	☐Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree
Closer to family and friends	☐Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree
Fashionable	☐Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree
Higher in status	☐Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree
Free/autonomous (more independent)	☐Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree

19. What do you value most in life (goals as an additional question)?

.....

To what extent has a mobile phone been useful in achieving what you value in life?

☐ A very large extent ☐A large extent ☐ A small extent ☐ Not at all

20. A mobile phone has helped me participate more...?

In political processes	☐ Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree
In local community) decision-making (LC	☐ Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree
In dealing with public officials (KCC)	☐ Strongly agree ☐Agree ☐ Neither agree or disagree ☐ Disagree ☐Strongly disagree

Section D: Gender-differentiated perspectives on value and benefit

21. State the extent to which you think a mobile phone supports the following.

Improving personal wellbeing	☐Strongly agree	☐Agree	☐Neither agree or disagree	☐Disagree	☐Strongly disagree
Making decisions	☐Strongly agree	☐Agree	☐Neither agree or disagree	☐Disagree	☐Strongly disagree
Voicing opinions	☐Strongly agree	☐Agree	☐Neither agree or disagree	☐Disagree	☐Strongly disagree
Learning useful information	☐Strongly agree	☐Agree	☐Neither agree or disagree	☐Disagree	☐Strongly disagree
Self improvement	☐Strongly agree	☐Agree	☐Neither agree or disagree	☐Disagree	☐Strongly disagree
Raising consciousness men/women (gender issues)	☐Strongly agree	☐Agree	☐Neither agree or disagree	☐Disagree	☐Strongly disagree

22. What do men tend to value most in life?.....

To what extent do mobile phones help men achieve what they value?

☐A very large extent ☐A large extent ☐A small extent ☐Nothing

23. What do women tend to value most in life?.....

To what extent do mobile phones help women achieve what they value?

☐A very large extent ☐A large extent ☐A small extent ☐Nothing

24. Who benefits more from mobile phone use, men or women?

☐Men ☐Women ☐Both equally

How?.....

Section E: Outcomes – open ended

25. What positive changes has the use of mobile phone brought about for women? List up to five changes, in order of importance. (Have mobile phones enabled women to do things they could not do before, or had difficulty doing?)

.....

.....

.....

.....

.....

26. What negative changes has the use of mobile phones brought about for women? List up to five changes, in order of importance. (Have mobile phone brought about some more problems and challenges for women?)

.....

.....

.....

.....

.....

27. What positive changes has the use of mobile phone brought about for men? List up to five changes, in order of importance. (Have mobile phone enabled men to do things they could not do before, or had difficulty doing?)

.....

.....

.....

.....

.....

28. What negative changes has the use of mobile phones brought about for men? List up to five changes, in order of importance. (Have mobile phone brought about some more problems and challenges for men?)

.....

.....

.....

.....

.....

29. How has the use of a mobile phone improved your own life (personal/business/social/political/community), (*if respondent owns or shares a phone*)? List up to three ways, in order of importance.

1.....

.....

2.....

.....

3.....

.....

30. List three ways in which mobile phones have had a negative effect on your own life?

1.....

.....

2.....

.....

3.....

.....

31. Can you think of improvements to mobile phones that would make mobile phones better for you?

.....

.....

.....

Section F: Questions about further participation

32. Would you be willing to help this research by taking part in a longer interview?

☐ Yes ☐ No

33. How may we contact you?

.....

Thank you

Appendix 2: Focus group feedback and discussion protocol

Initial project findings

102 traders working in four streets surrounding Saint Ballikudembe (formerly Owino) Market took part in the questionnaire survey in November 2010. Following this survey, 52 participants volunteered to take part in further interviews. This information sheet presents some of the initial findings that have emerged which I would like to discuss with you further.

Access and use of mobile phones

Both men and women reported similar access, payment and usage patterns, except:

- Fewer women than men had access to mobile phones and men (66.6% females and 80.% males)
- Men reported higher frequency of talking more than once a day on the phone(95.65% of male and 83.33% of female users) and purchasing phones themselves than women(90.24% men and 67.64% women users)
- A higher proportion of women (38.8%) than men (19.5%) indicated never using SMS text

Questions:

Do you agree, and what might be the explanations for this?

Are women less likely to own a mobile phone?

Do men talk more frequently on the phone?

Are men more likely than women to text message?

M-content and M-development services

Generally, many men and women reported using airtime transfers, m-banking and money, health information, business and technical services, however,:

- More women (34.28% of female users) than men (21.73% of male users) have never used airtime transfers
- A greater proportion of women (77.14% of female user responses) than men 28 (60.86% of male users) had never used m-banking services
- More women (27.7% of female users) than men (17.3% of male users) had used health-related mobile phone information services
- More men (69%) than women (36.1%) had used mobile phones for technical or business-related information

Questions:

What are your opinions on this?

What might be the reasons why proportionally fewer women are less likely to have used airtime transfers, m-banking services and business and technical information?

What business and technical information?

What health-related information and services are provided over the phone and why are women more likely to use these services?

Intentions and purposeful activity

When asked the extent to which male and female participants like to use their mobile phones for some social, political, economic and gender-centred activities and issues, there was much agreement, except:

- A slightly greater proportion of women (97.05%) expressed an interest for liking to use their phones for domestic/family matters this than men (90.9%)

- When it came to liking using mobile phones for business a smaller proportion of women (77%, n=27) than men (95.44%, n=42) agree.
- A slightly greater proportion of women surveyed disagree (31.42%, n=11) that they like to use their mobile phones for social/cultural/leisure activities, than men (24.99%, n=11) yet score quite highly in the strongly agree category, 60 and 59.09% respectively. Can this polarised opinion be explained by disaggregating these activities?
- A smaller proportion of women (38.22%) agreed to liking to engage with public entities with their phone than men (47.72%). Also similar for local community matters and organising around women and men's issues.

Questions:

Does the relatively high proportion of men expressing an interest in using their phones for domestic and family affairs suggest a change in men's attitudes to this?

Why do you think fewer women like to use their phones for business?

Why might women be more polarised in using mobile for social/cultural/leisure activities?

Why might women be less inclined to use mobiles for engaging with public officials and for community matters?

Proxy indicators of agency

- Your responses suggested that mobile phones have made your lives better in most areas of your life (economic, social and personal life, wellbeing, personal, identity, freedom and security), however, not politically.
- Most of you said that mobile phones had made you change the way you behave or actYou also mentioned mobile phones helped you access information and knowledge.

- Fewer women than men thought mobile phones made them wealthier (52.93% women and 69.04% of men) or economically active (74.28% women and 83.71% of men)?
- You also mentioned mobile phone increased your opportunities for voice and decision-making.
- A greater proportion of women disagreed that mobile phones had made them more socially active (45.71%) than men (22.72%).
- A higher proportion of men (40.9%) than women (25.7%) report using phones to deal with public officials.

Questions:

Why did most people report that they do not use their mobile phones for political activities or purposes, yet they do for other things?

What are the reasons for this?

How did using mobile phones change the way you act or behave, or people act or behave?

What information and knowledge?

Did any of it involve learning and changing your behaviour towards the opposite sex? What do you think might be the reasons for fewer women thinking that mobile phones make them wealthier?

In what ways has using mobile phones increased women opportunities for voice (making their views heard) and decision-making that were not possible before?.

More women than men said that mobile phones made them more socially active, can you explain this?

More men than women report using phones to deal with public officials, can you explain this?

Values/goals and benefits of mobile phones for men and women

A higher proportion of women than men report that mobile phones help them achieve their

goals, or what they value to both a large extent and not at all – a **[contradictory picture – more polarised]**.

A mixed picture is presented on whether women or men benefit most from phones.

Questions:

What do you think are the reasons why more are more polarised in their views – saying they think that mobile phones help them to achieve they goals, but also that they don't?

Why do you think there is a mixed picture on whether women and men benefit from mobile phones?

Outcomes of mobile-phone enabled agency practices

You suggested that mobile phones had various outcomes on your life that form the basis for the following questions. In light of these, have these changes actually improved women's position or status? Improved position and status relates to women feeling or being regarded as more powerful, more equal to men, not different to men, can behave and do the same things as men, less disadvantaged than men etc.

Questions:

- **Does increased opportunity (productivity, business development, engagement with clubs etc.) enhance women's status? How? Give examples.**
- **Does improved standard of living translate into an improved status for women? How?**
- **Does enhanced well-being translate into improvements in women's status? How?**
- **Does modernity associated with mobile phones translate into improved status for women? How?**

- **Does increased or enhanced communication improve women's status? How?**
- **Does increased access to information help women's status? How?**
- **Does learning translate into improvements in women's position? How?**
- **How have mobile phones helped raise women's consciousness about their position in society and has this helped them?**
- **Has increased security helped women? How?**
- **Does decision-making aided by mobile phones improve women's status? How?**
- **Are women no longer respectful to men as a result of interactions with mobile phones? How and why?**
- **Are women becoming more like men because of the opportunities presented by mobile phones? How and why?**
- **Are men's views and behaviour towards women changing because of the information and opportunities they can access through using mobile phones?**
- **Is there anything you are doing or achieving that you couldn't do without mobile phones?**
- **What behaviours associated with mobile phones are desirable, and do any of these have any implications for improving women's status?**
- **Have mobile phones led to an increase in adultery, immorality, promiscuity? And does this affect women's status? What trust issues have mobile phones increased?**
- **What nature of organising (organisations mentioned and activity toward authorities) taken and does this help women? (how they act, how they are perceived)**

Additional Questions

It has been suggested that our culture sometimes makes it hard for women to be free, reach their potential and do whatever they want (are there some things men do, that women shouldn't).

Questions

Have mobile phones contributed to women doing what they didn't used to do or isn't expected of them to do?

How do you see women's position being changed by mobile phones? How do mobile phones help in the change and what else makes it possible (e.g. people, organisations, networks, money, education etc.? Has the change been good or bad?

Do men and women see or regard each other differently?

What really is the role of mobile phones in all these changes and what else has contributed to them?

Appendix 3: Individual in-depth interviews protocol

Introductory questions: What do you sell and how long have been working at your stall? Tell me a bit about yourself, your life.	
Key interview questions: How long have you had a mobile phone? Tell me about your experiences of having a mobile phone. Has it helped or hindered you? How? Tell me how mobile phones have affected you, specifically in your role as a woman since you got a mobile phone?	
Supplementary probe questions to the key questions: What, why, how, when, who was involved type of questions relating to issues raised in relation to the narration above.	
Generalised probe questions[45]: What, when, how, why and who was involved type questions in relation to following questions.	
Thematic concepts/questions	**Dynamic Questions**
Subjective dimensions of agency	• Has a mobile phone contributed to making you think, behave or act differently as a woman in relation to cultural, men's or other women's expectations? i.e.:

[45] Kvale (2008) advises on having to lists: one that highlights the thematic concepts or questions and the other detailing the dynamic questions relating to the themes.

	○ Has having a mobile phone changed your views about women, in a way that it might not have done so without it? ○ Has having a mobile phone changed your life as a woman (made you think, act, or behave differently) from how you previously perceived a woman should, or previously not thought possible for a woman? ○ Do you do things you couldn't do before as a woman?
Relational dimensions of agency	• Can you think of a situation where or ways in which mobile phones helped change the way you relate to men or other women? i.e.: ○ Made you feel more equal to men (in terms of opportunities and what you can achieve)? ○ Mad you feel confident or better able to engage with men in your life? ○ Trust men more ○ Changed the way men (in your family, work or social environment) view or regard you? ○ Challenged other women's expectations about how women should behave towards men?
Intra-relational dimensions of	• Has having a mobile phone made you any different from other women you know without mobile phones?

agency	○ Do you see your situation as better or worse than that of women without mobile phones? Explain.
Material dimensions of agency	• Have mobile phone enabled you to achieve what you might not have been able to achieve (well-being, livelihoods, empowerment), as a woman without a mobile phone? ○ Are there things you do that you couldn't do without mobile phones? Are there things you can do because of mobile phones that you couldn't do as a woman before? ○ Are there things you have learnt that you couldn't without a mobile phone?
Agency as networked	• What networks (people, relationships, organisations, information etc.) facilitated by mobile phones have been important to you? Have you been able to access new or deepen existing networks that you have found help that you could not before? i.e. ○ Which people? ○ What relationships? ○ What organisations? ○ What information or knowledge? ○ How have these helped you?
Agency strategies and practices	• What practices do you engage in with your phone that are helpful, or unhelpful? i.e.:

	○ In what ways do you use your mobile phone which has helped you advance as a woman? ○ Can you give an example or learning something or finding out something that helped you? ○ Can you think of a situation where you were able to make a decision or voice your opinion that helped you?
Agency processes in bringing about change (the how)	• What place has a mobile phone had in bringing about positive and negative changes in your life, as a woman? Can you give some examples? ○ How did you experience the change? ○ What conversation or practice around mobile phone use contributed to or made that change? What happened? What? Who? When? How? Why? ○ What else contributed to the change? What made it possible (people, organisations, information, learning etc)? • Can you recall a situation involving a mobile phone (conversation, interaction, practice) where you discussed or became aware of your position as a woman or women, more generally, and did something about it? i.e. ○ Where you were conscious of altering your behaviour contrary to what you think or other think women or should behave, because of

Agency achievements for gender equality	something that was said or your realised? ○ That made you feel differently as a woman? ○ Did anything else contribute to it? • Do mobile phones help bring about greater gender equality? If so, how (or why not)? ○ Have mobile phones changed women's status?