Mobile Technology and Women’s Empowerment in Post-Revolution Egypt

by

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Abstract

This study examines how young Egyptian women are accessing and utilizing mobile technology to contribute to their socio-economic empowerment. Toward that end, this project employed qualitative interviews to discover the women’s lived experience with mobile phones and report their narratives around its impact on their individual development, regarding equity, autonomy and socio-economic transformation. Principal findings indicate mobile phones as normalized within their life-worlds characterized by a consistent connection via mobile technology (telecopresence), and a critical cultural analysis reveals its potential to both facilitate and frustrate empowerment for young women of the Arab Spring in an emerging nation.

Keywords: Arab, autonomy, communication, critical cultural, Egypt, empowerment, equality, gender, interviews, mobile, phones, technology, telephony, socio-economic, transformation, qualitative, women, youth
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This paper is dedicated to all who push against cultural barriers and battle tyrannical forces of tradition towards personal transformation and empowerment.

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List of Acronyms

£E  Egyptian (pounds/livre égyptienne) currency
HIC  High Income Country\(^1\)
GSMA  *Groupe Spéciale Mobile Association*
ICT  Information and Communication Technology
ISP  Internet Service Provider
ITU  *International Telecommunications Union*
LMIC  Low - Middle Income Countries
MMS  Multimedia Messaging Service
NGO  Non-governmental Organization
SIM  Subscriber Identity Module
SMS  Short Message Service (text message)
TE  Telecom Egypt
TSP/MSP  Teleco Service Provider/Mobile Service Provider
UN  United Nations
UNDP  United Nations Development Program
USD$  US currency
VOIP  Voice over Internet Protocol\(^2\)

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\(^1\) HICs include: Australia, Canada, Iceland, Israel, Japan, New Zealand, Norway, South Korea, Switzerland, the United States and western Europe (OECD), as well as, Andorra, Cyprus, Hong Kong, Macau, Malta, Liechtenstein, Monaco, San Marino, Singapore, Taiwan & the Vatican City
\(^2\) Technology that allows for voice communication over the Internet
1. Introduction

Development is transformational, whether personal or national. While significant human development goals have been attained and economic growth is up, the political instability and marginalization of women and youth continue to hamper Egyptian national development (Sherif, 2016; The World Bank Group, 2016). Academia, NGOs and media alike have frequently referred to “inequalities” as one of the root causes of the social discontent that fuelled the 18-day uprising in 2011 (Verme et al., 2014) and the socio-political upheaval that followed in 2013. Politically and economically marginalized men and women demanded autonomy and fought to dismantle the power structures privileging any elitist hoarding of social assets for private gain, in solidarity with many others around the world (Shenker, 2016; Verme et al., 2014). Therefore the underlying socio-economic, political and cultural causes of inequality need to be addressed for sustainable development to be realised (Hall, 2000; ITU, 2016; UN, 2016). Gender is not just one category of the many inequalities, but the most pervasive, placing women at a disadvantage on multiple political, as well as socio-economic levels of society; therefore achieving women's empowerment is an essential component of sustainable development (Kabeer, 2015)

A woman's economic empowerment improves her ability to hold others to account; that in turn influences her capabilities and confidence; as well as her status (social status and decision-making power) in the community or family. Being able to take matters into her own hands means having the capacity to have and to exercise greater control over her own resources or life choices, that can successively boosts her social empowerment (Golla et al., 2011). Social empowerment, in terms of a process of developing a sense of autonomy and self-confidence, through acting individually or collectively, can change social relationships, as well as impact institutional discourse that contributes to marginalisation (Goetz & Jenkins,
Many feminist scholars have been critical of the use of terms like “agency” or “empowerment” as used by international development agencies however, claiming that they have been appropriated by occidental institutions promoting neoliberal economic and social policies, with a consumerist core, that actually undermine truly progressive social change with deleterious effects on gender relations (Batliwala, 2007; Cornwall et al., 2008; Eyben & Napier-Moore, 2009; ITU, 2016). Their fuzzy concept of individualistic empowerment, the scholars argue, needs to be re-associated and reaffirmed in association with forms of collective action that involve resisting and transgressing repressive social norms (Batliwala, 2007; Cornwall et al., 2008; Eyben & Napier-Moore, 2009). Academics and development practitioners agree that “empowerment” resonates with power and transformation, as well as freedom from constraints that mar women’s choices to evoke agency on a personal level affecting health, education, politics and economics on a social level (Batliwala, 2007; Cornwall et al., 2008; Eyben & Napier-Moore, 2009). For the purposes of this study therefore, the concept of empowerment will include: (1) challenging and potentially transforming existing relations of power (such as resistance to dominant ideologies); (2) active citizenship; (3) equity in access to opportunities for political and economic engagement; (4) rights to public space; (5) reproductive health; as well as (6) organizing against repression. This paper acknowledges Egyptian women who struggle with personal development to gain equity, autonomy and other socio-economic gains against social norms,

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3 The term “occident” is used instead of “Western” in order to emphasize ideology, power and prestige over geography, as a metonym for countries that are the most influenced by western Europeans & the Enlightenment, such as the powers of western Europe, the United States of America, and Canada, but that also includes, South Africa, New Zealand and Australia (which are not in the western hemisphere) while excluding South America and the west coast of Africa (Which are in the western hemisphere). It is emphasizing a patriarchal, neoliberal, capitalist, individualistic, secular, scientific-rationalization standpoint rooted in Christian/Greco-Roman traditions in contrast to the socio-political differences of west Asian and North African cultures and ideologies more connected to ancient traditions, political-Islam, that are mix of high and middle to low income countries. This term is also used to indicate the “other” from an Arab standpoint, in the way that “Oriental” still dominates a European-centric worldview.
and who take part in a process of challenging and changing those norms reinforced by neoliberal international development narratives, towards broader social transformations privileging progressive Egyptian values and aspirations.

Access to information and communication technology (ICT), such as the Internet, is seen as an important pre-condition to strengthen women's economic empowerment, in addition to enabling them to take part in or influence any process that is critical to the development of policies that reflect their particular needs and interests toward social empowerment. Accessing unmediated information, on their own terms, can also ensure women understand the services they are entitled to and the possible mechanisms available to them to access these services. Such access is also purported to reduce disparities in levels of political engagement, economic growth and the diffusion of knowledge (Badran, 2008, 2012). And yet, the most disenfranchised groups of women in the world, who could benefit the most from ICTs or access to the Internet, such as young adults (Badran, 2012) in Arab states or African regions, have some of the greatest challenges accessing it, which creates a gendered, geographical and socio-economic digital divide (Allagui, 2009; International Telecommunications Union [ITU], 2014a, 2014b; Najmabadi et al., 2013). However, international development agencies and academics alike report that the rapid diffusion of mobile phones across Africa has been a game changer in bridging the gap, where this type of ICT has become more attainable than any other by young adults and therefore a vital tool for accessing the Internet (De Bruijn, Nyamnjoh & Brinkmann, 2009; ITU, 2015; James & Versteeg, 2007; Sambira, 2013). This is what makes studying young women, who have low rates of economic and political participation in Egypt but high rates of ICT usage, so important (World Economic Forum, 2015) and although there has been much praise and recognition around the potential or diffusion of mobile technology related to sustainable
development, there is a dearth of research measuring its actual impact or how it is being incorporated into social and cultural life (Badran, 2012; Donner, 2008; James, 2016; Bhullar & Kuar, 2014; Mechael, 2006; Wheeler, 2007).

The central aim of this study therefore was to determine if harnessing the power of mobile devices could impact women’s empowerment in post-revolution Egypt. Lack of autonomy linked with power relations that exist around gender, race, religion, class, and age in this regions make the prospect of gaining a perspective of access to ICT as interpreted from the standpoint of young Egyptian women ideal for strong objective narratives regarding the utility and impact on their empowerment. This type of data offers important insight into how young women in low-middle income countries (LMIC) use mobile technology that would enable industry, policy makers, NGOs, development organisations and educators to better understand the women’s reality of access, use and adoption of ICTs. It would also be foundational for refining plans to scaffold the knowledge and power gaps toward creating more equity. Considerations for how technology can foster socio-economic changes and be adapted for enhancing marginalised voices or democratic cultures that shift power relations to create greater empowerment for women are greatly facilitated through this type of data (Badran, 2008, 2012). This paper also attempts to redress the lack of investigation into how mobile devices are being employed or if they are beneficial to personal development on a micro-level, by investigating their actual use by Egyptian women in their daily lives. Reporting their narratives gives insight into the realistic potential of ICTs to affect their social and/or economic empowerment.
2. Literature review

Multi-disciplinary ICT research

Studies of the integration of mobile phones by society tend to be examined in a number of ways by a number of different disciplines. Computer systems, anthropology, psychology, education, technology, economics, sociology, development, and health researchers in addition to communication scholars, have produced research on mobile phones regarding: institutional versus individual applications; for a specific sector (i.e.: education, health, commerce); or within a certain demographic or geographic location. Multi-disciplinary ICT studies in general can be categorised (see figure 1 below) according to one of four classifications: (1) Transformist; (2) Sceptic; (3) Provisionalist; or (4) Continuist, according to the level of technological determinism and perspective of the positive social impact (Francoli, 2005). In general, the utility of the mobile phone is seen as facilitating the coordination of processes and interactions, and an improved connectedness for people in institutions or as individuals by all perspectives (Lenhart, 2012). Also, specifically for individuals, mobile phones have the potential to increase privacy, or even display social status (Ling & Campbell, 2011; Mbarkho, 2012). Early empirical studies conducted prior to the wide adoption of the smartphone found that individual users were largely occident men who obtained mobile technology for business purposes, but the technology gradually began to seep into their social world (Roos 1993; Katz, 1999; Palen et al. 2000; Bautsch et al. 2001). Individual user profiles have shifted to include more women, as well as adolescent users across the globe (Ling 2004). More recently, studies show the use of the mobile phone as a tool of research to provide “experience snapshots”, such as diaries via mobile technology utilised in exploration of the everyday lives of youth in studies by Ito et al. (2005) and Plowman and Stevenson (2012).
**Figure 1: Categories of ICT research**

Early research into mobile phone use conducted in the 1990s that seem to be the most lauded in international development involved very utopian views of ICTs that could be categorized as Transformist. According to the Transformist view, fewer cues in computer-mediated communication (CMC) would demographics, like age, race, religion or gender, would be rendered as irrelevant and invisible, thereby creating capacity for egalitarian dialogue (Kiesler and Sproull, 1992). More moderate scholars with less optimistic views of ICTs from within the digital divide discourse such as Warren, Stoerger and Kelley (2012)
could be classified as Continuist. Under Continuist scholar scrutiny, it was demonstrated that despite hopes to the contrary, traditional offline biases and social inequities are reproduced online. Kendall (2002) and Gefen and Ridings (2005) suggest that this is due to the fact that people do not discard their offline expectations and understandings when they are online, which shapes interactions. Notwithstanding, the proportions of women accessing the Internet have tenaciously increased and are now nearly equal to that of men world-wide (World Wide Web Foundation [WWWF], 2015). Subsequent Continuist researchers found that like offline public space, online public space is also dominated by tech-savvy, occident, men who speak English (Herring, 1992, 2003; Royal, 2008).

Although the proportion of men and women who go online is similar, their usage has been shown to vary. Researchers who could be categorised as Sceptic, like Hargittai (2002), have shown that with ICT access, ICT usage cannot be assumed as both skills and literacy impact utility. Mobile devices linked to the Internet allow for a range of complex CMC and activities. Both Transformist and Provisionalist research with more positive assessments of the portable ICT device maintains that mobiles have considerably transformed our social landscapes for the better. Early research claims that mobile phones connect people (Castells, 2007; Chayko, 2007; Wei & Lo, 2006), are used strategically to create impressions (Fortunati, 2005), and maintain important relationships (Ling, 2004; Ling & Campbell, 2011) including intimacy with others (Castells, 2007; Hoflitch & Linke, 2012). Seiler and Kidwell (2016), along with Zhao & Elesh (2008), explored the impact of mobile technology on everyday life and substantiated the idea that social relationships are no longer limited to a corporeal copresence (i.e., face-to-face interactions) but now include a sense of being together in a shared environment that is virtual, disembodied, and electronically mediated (telecopresence). In an Arab context, Mbarkho (2012) shows that in Lebanon, not only are
young lovers, who are forced to live apart by social values, able to maintain relationships through CMC; but that they are also able to create virtual spaces for interaction free of chaperones.

Meanwhile more Sceptical scholars such as Langmia (2016) warn of CMC and anonymity that although opening up many new opportunities for human-to-human communicative freedom, it has also brought with it issues of trust - how do you know who you are really talking to online? Sceptics have also pointed to the proliferation of global CMC that has squeezed space and time to a point where an image or message can be posted digitally, read and re-sent by a multitude of users around the world in the blink of an eye that has changed perceptions of an acceptable turn around time for replies to messages from days or hours into the stressful counting of mere seconds (Langmia, 2016). The more neutral Pew Research Centre (Lenhart, 2012) and other Continuist scholars, discovered that young people are more likely to send an SMS than do anything else from their smartphones, which limits interactions to CMC but across time can result in authentic relationships (Castells, 2007; Reid & Reid, 2004; Rettie, 2007). Sceptics Turkle (2008) and Hjorth (2012) point to the resultant tethering to others, the result of a perpetual telecopresence (Katz and Aakhus, 2002; Zhao and Elesh, 2008) which is a sense of being accessible, available and subject to one another in a shared virtual environment through mobile phones, as being unhealthy. Continuist-leaning Ling and Campbell (2011) add that mobile technology both connects and disconnects individuals, in that CMC replaces interaction with those in close proximity as much as across distant borders reducing our face-to-face conversations, which in turn, may threaten our social cohesion.

Watkins (2010) appears to be more realistic in perceiving overall benefits mitigated by the challenges of cognitive and behavioural adaptations involved in being always-on, multi-
tasking, whenever-wherever with multi-media mobile devices that fits in with a Provisionalist standpoint. As an educator, Watkins (2010) surmises that there are multiple benefits for young people: to learn from the innovative utilities that other regions are instigating; to experience the potential of peer-based educational social media; to share their cultural and knowledge productions with the wider world; to reimagine their creative and civic identities through networked media. The unrelenting demand for attention, however, in being electronically tethered, necessitates being in a constant state of artificial crisis and “continuous partial attention” that requires persistently switching attention to items of higher demand, while steadily consuming staggering amounts of media and communication (Watkins, 2010). This leaves many individuals with divided attention, feeling overwhelmed, over-stimulated and unfulfilled that temper the benefits (Watkins, 2010). The more Sceptical Bauerlein (2009) even goes so far as to refer to today’s young smartphone users in the USA as “the dumbest generation”, concluding that the future of the superpower is actually in jeopardy since the bulk of its young adults are anti-intellectual; uninterested in the world; deficient in English; and unable to think critically. He attributes this state of affairs to their under-use or misuse of ICTs.

**ICT and Women’s empowerment**

Polletta and Jasper (2001) see collective identities, such as gender, as a kind of shared status that cultivates positive in-group feelings based on creating shared meanings, experiences and/or goals. As reported by the International Federation for Human Rights (FIDH) and supporting NGOs in “Keeping Women Out – Sexual violence in the public sphere” (2014), the failure to address violence against women has been a major obstacle to women’s participation in public life and encourages human rights violations. Egyptian
women’s non-participation created a discrepancy between their constitutional rights and social reality that initiated a grassroots movement prompting online activists to utilise mobile phone technology to monitor, document and amplify awareness of sexual harassment in their communities, support each other in confronting this issue and their attackers, challenge cultural complacency, expose the men who are harassing them, and to break the silence around this crime (FIDH et al., 2014; HarassMap, 2015; Skalli, 2014). The high rate of mobile phone use and the advent of the new crowdsourcing data collection techniques enabled through free applications such as Frontline SMS and Ushahidi (Skalli, 2014; Young, 2014), along with a $300,000 grant from the Canadian International Development Research Centre (International Development Research Centre [IDRC], 2012), enabled the creation of HarassMap.org that in turn could maximise the potential of new communication technologies (Skalli, 2014). The challenge of collecting sensitive data on gender-based violence was overcome utilizing this new technology through mapping, SMS texting and anonymous reporting in tandem with social media under the hashtag #MeshSakta or #NoSilence.

Focus groups held by the GSMA (Special Mobile Group Association [GSMA]; 2015) investigating emerging markets and underserved populations discovered that, in Egypt, rural women with less education only saw the benefit of ICTs for urban employed women or those involved in tertiary education. Interestingly, this lack of perceived value was one of the important barriers highlighted in a previous GSMA (2010) report. The reports also noted that 22% more women than men claim that requiring identification is a barrier in Egypt (GSMA, 2010, 2012, 2015). NGO field observations (GSMA, 2015; Goetz & Hassim, 2003) propose that this may be due to the fact that women have less access to the necessary documentation than their male counterparts. GSMA (2014) and Castells (2007) report that research into the gendered use of mobile phones finds that women tend to acquire mobile phones for security,
social networking and to “extend their private lives into the public world” (Rakko & Navarro, 1993, 155, as cited in Castells, 2010, 46). Men obligated to fulfill their gendered role in society (i.e.: as protectors) are usually the one to purchase a mobile phone for their mother, daughter, sister, or wife that may seem helpful or progressive but in many ways sustains gender inequalities (Castells, 2007). Wallis (2015) found that urban working women in China, who were relatively immobile due to work and confined social worlds, leveraged mobile phones to achieve virtual mobility to stay connected with loved ones, enjoy different forms of entertainment and participate in a burgeoning consumer culture in agreement with the findings of Castells (2007). Like their far Asian counterparts, some Arab women work, while many others choose instead to raise a family, but there is a growing recognition that women’s participation in the economy is integral, both in paid as well as unpaid work, as crucial for reducing poverty (Overseas Development Group [ODI], 2016).

Pointing to the disenfranchisement of such a homogenized group as “Arab women” a UNDR 2002 report observed, “no society can achieve the desired state of well-being and human development, or compete in a globalising world, if half the people remain marginalised and disempowered”. Lila Abu-Lughod (2013) argues that gender inequality is a global issue not unique to the Arab world and cannot be blamed on religion alone, as poverty and authoritarianism produced out of global interconnections also implicate the West. Rizzo et al. (2007) underscore this point with research revealing more complexity and division between Arab Muslim majority nations regarding women’s rights than between Arab nations and the West. When Arab women are essentialised by occident media as victims of Islamic patriarchy with a deficit of rights, Abu-Lughod (2013) points out that occident narratives often confuse the headscarf or hijab of Islamic women with a lack of agency. She calls attention to the fact that women everywhere have codes of dress related to their socially
shared standards, religious beliefs, and moral ideals (Abu-Lughod, 2011). Although Nobel
Prize winner and hijab-wearing Mala Yousafzai being shot in the head by Pakistani
extremists for demanding her right to an education has helped create such essentialist views
of Muslim women, on the whole, the teachings of Islam are actually not at odds with
education of girls. In fact in many Arab countries, like Egypt, there are more women than
men in universities, with a higher rate of women in engineering or medicine than in the USA,
and this goes unreported by the mainstream media (Abu-Lughod, 2011; Najmabadi et al.,
2013).

The discourse of gender equality in the Arab regions has been continuously shaped by
the cultural and ideological forces of both international development policies as well as local
traditions, in addition to Western European colonial perceptions of women’s rights (Megahed
& Lack, 2011; Najmabadi et al., 2013). After the defeat of the Ottoman Empire in World War
I and the dominance of Arab-Islamic ideology, authoritarian and segregating colonial British
rule implemented and managed secular European systems of education and administration, in
English, alongside left-intact traditional religious institutions (Megahed & Lack, 2011). The
devaluation of local language, culture and traditions inspired, activated and articulated Arab
nationalism and the struggle for independence from both Ottoman and occident rule
(Megahed & Lack, 2011). “[Islamic] Women became one icon of the (anti-) colonial
struggle”, where occupying public spaces wearing occident garb and attending university
were seen as both contributing to their emerging nation and as victims of colonial immorality
and corruption (Najmabadi et al., 2013). Although technically independent of foreign
occupiers since the 1950s, Egyptians continues to experience foreign influence of their
politics and economics through participation in global trade, cooperation, and development,
as well as through agreements with organizations like the IMF, UN as well as the World
Bank (Mater, 2016). There has been a strict paternal-military model of authority backed by western powers that has offered no space for participation, active citizenship, or dissent while implementing neoliberal, free market ideologies administered by international institutions in the restructuring of Egypt advocating to "stabilise, privatise and liberalise" (Eltahawy, 2016; Shenker, 2016). As a result, many public institutions were sold at below-market values that has impoverished the majority (over 80% live on $135/month) of Egyptian citizens, while the cost of living has skyrocketed so that even in the lowest income neighbourhoods rent is formidable ($100/month or more for basic 2-bedroom, 1 bathroom flat) in the name of modernization: “progress”, “innovation” and “efficiency” (Eltahawy, 2016; Shenker, 2016). There now exists a profound gulf between the affluent, who conduct themselves as if nothing has changed, and large swathes of the populace for whom everything has changed (Shenker, 2016). This is the common factor among popular Castes that stems from the relationship between globalised financial markets and the diminishing autonomy of citizens in recent years (Castells, 2016; Shenker, 2016).

In spite of the pervasiveness of occident media and ICTs, along with the universality of their pop culture, two decades of research by the World Values Survey (WVS) indicates that the value systems of the economically dominant societies, or high income countries (HICs), are growing further apart from LMICs due to major religious and historical differences (Inglehart & Welzel, 2005). Although they actually recognise the incredible complexity and diversity in Islamic societies, analysis by WVS scholars have discovered that these states tend to have more emphasis on physical and economic security; along with traditionalist values of religion; family; nationalism; narrow gender roles; and respect for authority; with less interest in or tolerance for individual freedoms or expression; any deviant behaviours; politics, environmental protection; and reproductive rights when compared to secular HICs (Inglehart
& Baker, 2000). WVS see adherence to traditional values as markers of obstructions to democracy and equality where secular views are considered threatening and men are deferred to for employment, education and political leadership in the face of scarcity or lack of security and yet they found that the majority of Egyptians support a secular government and the idea of democracy but not gender equality (Inglehart, 2007).

Inglehart and Norris (2003, 2007, 2012) argue that the core clashes between Arab and non-Arab cultures are around social issues such as gender equality, not political concerns, and yet Rizzo et al. (2007) found that there was less difference between Arab and non-Arab nations around gender equality than within the Arab states themselves, even within individual nations. More progressive occident development organizations, such as Oxfam, argue that radical redistributions of power, opportunities, and assets are needed to break a cycle of poverty and inequality in order to give disenfranchised people, like young women, more autonomy (Green, 2012). Oxfam’s senior strategic advisor, Duncan Green (2012) emphasizes that one of the key forces driving socio-economic transformation is active citizens, as people need control over their own destinies, while holding both the state and the private sector to account. The IMF, the World Bank and UN Women (UN, 2016) declare that an economically empowered woman is one who has both the ability to succeed and advance economically with the autonomy to act on her own economic decisions (Badran, 2008). This is contested by critical economists who suggest that this could lead women into believing in a false dichotomy of either choosing to cooperate with, or resisting, occident hegemony (Shenker, 2016; Rizzo et al., 2007; Shively, 2006). Many Egyptian women with status end up falling in line with this thinking, and are seen as “Westernised”, or “cosmopolitan”, when they articulate worldviews that mirror extreme occident beliefs and values. They perfectly illustrate how humans tend to imitate the behaviour and actions of the people they wish to
emulate in order to be seen by others in the same light and therefore their disparaging views of other Egyptians are acceptable by virtue of their shared birthplace, to the point of receiving accolades from Westerners for fitting in so well into a “global society”. It is perhaps predictable as their high degree of access to, and implementation of, foreign education, media, and language, causes them to internalise and reproduce such subjective world-views that they feel will liberate them from their traditions, but in the end it can be just a different form of oppression (Mosse, 2001).

For over 2000 years of foreign rule, there has been a strict paternal model of authority with little, to no, participation, active citizenship or dissent in Egypt which has been maintained by the contemporary patrimonial Egyptian leadership through the support of a powerful military (Shenker, 2016; Verme et al., 2014). These leaders, who by virtue of their position have been complicit in maintaining the social inequalities, have all been publicly praised and supported by powerful occident leaders and organizations (Shenker, 2016). The state has built access to the Internet in the nation in a way to ensure infrastructure control through a bottleneck in central Cairo that allows for the entire network to be shut down when the government deems this necessary (Richardson & Brantmeir, 2012). The role of the state should be to promote ICT access (Deibert et al., 2010) and yet access to the Internet and mobile messaging was entirely blocked during the 2011 uprising and is often blocked in certain areas where they deem a security threat (Rannard, 2015) such as an insurgency by Da’ish\textsuperscript{4}, their affiliates or the outlawed Muslim Brotherhood. The 18-day Egyptian revolution in 2011 illustrated the power of ICTs to facilitate social campaigns and connect, network, raise consciousness, mobilize as well as transform mind-sets (Georgy, 2016; Richardson & Brantmeir, 2012). This has led to an attempt toward restricting and controlling ICTs through

\textsuperscript{4} al-Dawlah al-Islamiyah fi al-‘Irāq wa-al-Shām. Daesh/Da’ish (داعش) also known in occident media as IS or ISIS
monitoring, recording and tapping of both fixed-line and mobile phones by security officials, something actually, publicly confirmed by the Egyptian Ministry of Telecommunications and Information Technology minister (Deibert et al., 2010). Therefore many zealous ICT users, media editors and journalists in Egypt have suffered at the hands of the security forces, accused of “offending the state institutions, destabilizing public security and inciting others to demonstrate or strike” before and after the uprisings (Deibert et al., 2010; Shenker, 2016). As Deji Olukotun, Senior Global Advocacy Manager at Access Now confirms: “Internet shutdowns are a crude instrument that clearly violate the right to freedom of expression. They prevent people from accessing vital emergency services and cut off crucial forms of communication...Shutdowns don’t help victims, protect rights, or restore order” (Rannard, 2015).

There are only three-licensed telecommunication service providers (TSPs) for mobile phones in Egypt, all of which are bound by article 67 of the Telecommunications Regulation Law (No. 10 of 2003) to kill signal to particular regions or areas on notification by the state for “national security” reasons (Association for Free Thought & Expression [AFTE], 2015).

The data from this project substantiates many of these findings, even those seemingly in opposition to each other bringing to light the complexities inherent in the development of technology by one group and the diffusion and adoption of another. Narratives of how young women are using their mobile phones will show that they are subject to the male-occident, business-minded ideologies they are infused with throughout their development, but have the agency, skills and abilities to adapt to them or innovate. Low rates of economic or political participation can be transformed through ICT usage, if the right motives, goals, tools and ability to surmount the obstacles exist. The perspective of ICT as interpreted from the standpoint of young Egyptian woman offers stronger, more objective data regarding the utility and impact of mobile technology than the qualitative research conducted by the
government or telecommunication industry.

3. Research approach

This project builds on the research of Mona Badran (2008, 2012) who conducted an empirical study on the impact of ICTs on women’s empowerment and the digital divide in Egypt and Deborah Wheeler’s (2007) ethnographic investigations of empowerment and Egyptian women using Internet cafés. Badran’s early study (2008) reports on the pre-revolution government initiatives such as free Internet; PC for every home, reduced broadband prices, training and other e-strategies that were designed to increase the capacity for civic participation and a knowledge-based economy. Badran found that these initiatives contributed to the access and/or ownership of ICTs by women, who were in turn, more likely to be economically empowered and engaged. Badran’s later study (2012) emphasised an understanding of the digital divide and the process of diffusion in LMIC to adequately formulate the best policies on mobile technologies. She found that only 7.5% of young people were accessing ICTs from home or Internet cafés, primarily for general knowledge and social networking, as well as entertainment, education and news (Badran, 2012).

Wheeler interviewed 25 women in Cairo and was able to identify three ways that mobile technology contributed to their empowerment that were defined as “any process that enables ‘autonomy, self-direction, self-confidence, [and] self worth’ (Narayan, 2005 as quoted in Wheeler, 2007): (1) better access to information and professional development; (2) expanded social networks and social capital; (3) greater social and political awareness. To garner narratives of how women use and interpret the impact of mobile technology in their lives, this project passed a university research board’s ethical review in order to go forward in collecting data from face-to-face interviews and mobile usage diaries (see Appendix B) from young, female mobile phone users in Cairo. The goal of the research was not to explain the
mobile experience of all Egyptian women, but to focus on the experiences of about 25 young urban Egyptian women in order to “[d]o less, more thoroughly” (Wolcott, 2009). Although this limits the data produced, it makes a small but important contribution to the gap of knowledge in this area that moves beyond measuring human development on a macro-level by providing in-depth knowledge of the idiosyncrasies involved in women’s use of mobile technology on a micro-level (Deacon et al., 2007; Silverman, 2013). A study of a widely used technology focusing on such a small segment of society cannot of course reveal every aspect of how the technology is used, but understanding mobile phone use in mediating interpersonal communication on such a micro-level is still crucial to understanding how access to ICTs can benefit women’s empowerment. According to Neuman (2011) the unit of analysis can be parts of social life that are under consideration that provide key insights to developing concepts. In this study the units of analysis were individuals around which the conceptual framework, data collection techniques and sample size were formed (Neuman, 2011). Keeping the interviews relatively semi-structured in nature offers the researcher both a framework within which to maintain a focused dialogue while providing enough flexibility to go beyond the structure and probe into whatever angle that is deemed important for the participant that provoke insight into their experiences with mobile technology (Deacon et al., 2007; Silverman, 2013). The mobile phone diaries documenting usage for four days over a one-week period were adapted from the work of Mizuko Ito (2010) and Cara Wallis (2015) who investigated technology and young women in Asia (see Appendix B).

Primary original data was collected through qualitative semi-structured in-depth interviews with 20 young Egyptian women between the ages of 21-26, Participants were recruited in-person, and by email invitations, through colleagues and academic connections who circulated invitations among their professional and university networks both online and
offline. Of the 20 in-depth interviews, ten were conducted face-to-face and ten were conducted online. As the interviews were semi-structured, the order and protocol varied over the course of the study. Participants were asked general questions such as: “Explain any physical or mental challenges you feel you have experienced in accessing or using your mobile device”; “Tell me about your favourite applications on your mobile, and why”; “Do you feel your mobile device helps you be more independent?”; “Do you see your mobile device having any affect on your education/career opportunities”; “Can you share with me your feelings about being connected 24/7 and any issues you have encountered around that?”; “Can you utilize your device to participate in public life, at school, work and/or your community that you are aware of and do you apply any of them yourself?” (see Appendix A for more about the interviews).

Decisions were made regarding whom to interview along with processes and settings according to the purpose of the study. In the words of Miles and Huberman (1994), it is not possible to study “everyone, everywhere doing everything” (27). These questions lead to a selection of samples from a large pool with particular characteristics (Braun & Clarke, 2013; Neuman, 2011) such as young women who own and use mobile technology, who are university educated, and had the ability to be interviewed in English. Utilising a type of non-random “purposeful sampling” referred to as “snowball sampling” or “chain sampling” (Braun & Clarke, 2013; Merriam & Associates, 2002) the researcher invited participants who were most likely to aid in theoretical development as the researcher has no institution or affiliated organization from which to draw aid. Therefore, from the researcher’s personal networks developed over the previous 18-months, as an active resident in Egypt, potential candidates were approached and women were invited to participate based on their willingness to discuss mobile technology who fit the citizen, gender, and age target range. Potential
participants were purposely skewed in favour of gender and ethnicity (expatriates or new immigrants or refugees were not approached) as well as in terms of their social position and level of literacy or education to ensure they had already met the basic challenges of overcoming the digital divide. The results were university-educated participants, between the ages of 20\(^5\)-26, who were citizens of Egypt. Young women were chosen not only because they are seen as the most disenfranchised group in the Arab world, but because they have also likely had the most exposure to mobile technology within their lifetime (Castells, 2007) and are at a stage in their lives where they are developing their careers to provide for the nation's future. Rizzo et al. (2007) also suggests that advantaged groups in a society are the most likely to be educated and politically active.

Prior to each interview, participants were informed of the purpose of the study and assured of their anonymity and each participant showed their verbal or written consent for the interview. Each interview was conducted in a quiet café or lounge in a campus with only the participant and researcher present. Each interview lasted from 60-90 minutes and was audio taped for transcription into verbatim. Recorded interviews were transcribed and these transcriptions were analysed based on the recommendation of Creswell (2007) and Moustakas (1994). The transcriptions were carefully reviewed and all significant statements extracted. The remaining statements were used to formulate phenomenological and psychological meanings, which were organized according into motives, tools (applications), goals and changes. The central aim was to discover if the potential power of mobile devices to undo power relations were actually being harnessed in a way that improves agency, political engagement, economic participation, and equity, or any other socioeconomic gains.

Interviews. To find out if employing mobile devices lessens the digital divide and

\(^5\) 18 is the age of majority in Egypt
enhances personal development, open questions were designed around four themes to elicit self-reflexivity in the respondents, in other words, to make them consider why they use the technology as they do. Once participants signed or voiced informed consent, a semi-structured interview was scheduled that allowed the flexibility for respondents to talk about what was important to them about their mobile phone usage, while maintaining focus on responding to the research questions. The interviews were conducted, in English around four general themes: (1) motives; (2) applications; (3) goals; and (4) changes (benefits or challenges), in addition to some initial questions to get them talking about something simple, to build rapport and comfort levels. So, the interviews began by asking background information about the participants (i.e.: age, job/major, experience of technological product or service, etc). To address the first theme discussions were initiated to find out what their motives of using mobile technology functions beyond calling or MMS/SMS were. Following these questions, the interviewer shifted to the next theme using a questions such as, "When you think about empowerment and your mobile phone, what comes to mind?" This quickly led to a deeper conversation on how they are using mobile phones to access and use information toward improving their equity, socio-economic growth, self-sufficiency and self-determination. Participants describe their actual experiences or episodes related to their mobile phones and their experiences. This included a dialogue about the top goals/behaviours they accomplish with a mobile device. Afterwards, talk centred around specific obstacles/challenges/aversions [physical and abstract] perceived due to age, gender, class, race or religion regarding the use of their mobile phones, as well as any benefits. In this way the attitude and use of mobile technology in the everyday lives of the participants was recorded in detail in the participants’ own words. Once interviews were completed they were transcribed and anonymised.
Usage logs. For each part of the day (4x per day) over a 96-hour period, participants were asked to record all the features and functions that they used in one of four specific time periods (morning, afternoon, evening and night) and to add notes on any specific thoughts, challenges, or gains that came to mind (see Appendix B). Only 5 of the 20 women interviewed completed a mobile diary. Once received, the logs were also stripped of any identifying information to ensure they were anonymous. The data was integrated in with the interview transcriptions under the four general categories.

Follow-up. A few follow-up questions were conducted with some participants by email to clarify any communication issues in addition to generating deeper insights into important instances of communication and any trending usage related to the logs. All notes, documents, and recordings have been rendered unidentifiable and given a number where a name was previously associated. The data is stored on a password protected and encrypted external hard drive, kept in a fireproof, locked cabinet where it will be archived for a minimum of six years or until there is no longer any interest in this project, then it will be securely destroyed.

3.1 Data Analysis

As part of the data analysis process, the researcher identified four themes, as reported in the previous section. The analysis was truly initiated during the interview process as the researcher was constantly deconstructing and interpreting the received responses under the four themes (Silverman, 2013) while taking notes and formulating questions. The interviews, logs and notes were all indexed, categorized, coded and themed according to the research questions (Deacon et al., 2007) with a deductive approach applied to the process to recognise and make note of any common patterns of behaviour (see appendix A for more details). Evidence of agency was primarily sought out in addition to any form of self-development throughout the narratives. These narratives were further scrutinized for any factors
contributing to, or countering inequality or the structural conditions within which opportunity and status are shaped, with an eye to how global or governmental forces impact the built environment in a way that illuminates the subjective knowledge of the user’s experiences. In this way the research was able to uncover a multi-perspective understanding on a micro-level of the how and why these particular young women use their mobile technology. A systematic account of the narrative data was then summarized and the correlations are discussed here below as results and their significance interpreted in the discussion that follows under patterns that facilitate or frustrate empowerment (Booth et al., 2008; Deacon et al., 2007; Merrigan et al., 2012).

3.2 Pragmatic limitations

Much thought and effort went into the design and planning for data collection, nevertheless, there were many things that did not go as planned. Interview methods had to be altered for example, as although the advantages of face-to-face interviews made this the primary condition to strive for, it was so difficult to meet with participants in person, in a safe, private location at a convenient time; other methods were found to better suit both the participants and researcher. Therefore, only half of the interviews were conducted face-to-face, whereas the other half were conducted through online applications such as WhatsApp, Messenger, Skype or Viber, or voice calls through mobile phones. Interview questions were semi-structured (see Appendix A) allowing for the participants to freely express themselves within the scope of the research question. According to Seale (2012) being face-to-face allows for complex questions to be fully explained or include visual aids and more scope to ask unstructured questions since responses are verbal. While this was found to be true, it was also found that this could be easily reproduced virtually. Seale (2012) also emphasises that participants in face-to-face sessions are less likely to be put off by the length of the interview,
although they are longer than self-completion techniques and the researcher has more control over the context or environment in which the interview takes place. The difficulties meeting face-to-face in Cairo for busy women revolve around work, family commitments, prayers, and necessary errands, which is all affected by transport method and time-schedules. Almost all of the participants relied on public transport or car services (i.e. Uber or Careem) and with one exception all were unmarried and living at home. Therefore, being out too early or too late was not an option, and avoiding peak hour traffic was always a top priority as Cairo traffic, like most cities outside of occident societies, can put people behind not just a few minutes, but several hours in their schedule. This is a consideration usually overlooked by many researchers, but was essential for this study. Although meeting face-to-face did indeed provide more control over the context and environment for the researcher, meeting virtually required both the researcher and the participant to be in a quiet, uninterrupted, safe and convenient space that was preferable to being in traffic for an extra 3-hours or in the public spaces that were the alternatives, such as a coffee shop or university campus social area. Interestingly it was also found that the face-to-face interviews were the ones most likely to be brought to an abrupt halt and the virtual interviews that were more comfortable and relaxed, due to time concerns for dealing with traffic or making it home before dark. Of the 20 participants, only 5 completed the diaries. There was no information made available as to why the remaining 15 were unable or unwilling to complete the diaries.

Emergent interpretation of the data did not consider a narrative analysis since the purpose of the study was to explore a single phenomenon, whereas a chronological history of individual lives is not perceived to add value to this study. The researcher was also limited by international security threats to contain the study within the urban zone of the Cairo metropolis at this time, which also targeted more literate users than from rural areas.
Research work is always further limited by the appropriate scope; time (400- hours); and information (language) resources available to the researcher. Concentration was on discovering whether or not the average user is engaging with ICT in a locally beneficial way, such that it is not the ICT that is the focus but the ways in which it can be used. Hence, the implication of mobile design is of interest; however, other aspects of the telecommunication industry are not included. Literacy and competent use of mobile technology were required by the sample in order to ensure participants could carry out the log work independently. One of the assumptions of this research is that it does not take into account the limitations of the social psychology of group dysfunctions that can negatively affect the collective decision-making (Mosse, 2001). It is unlikely, for instance, that research participants would discuss anything that is combative, hindering, or threatening to the current governmental administration as they are subject to the internalization of dominating world-views perpetuated from the wider socio-political, cultural environment and may fear negative repercussions.

4. Results

Dialogue around each participant’s motives for using mobile technology through specific applications to achieve personal goals was organised by themes (see table 7 in Appendix A for details) under their perceived challenges (frustrating) or benefits (facilitating) towards empowerment. This revealed some mobile usage behaviours under the categories of connectivity, accessing information, self-development and hegemony. In discussions of their actual experiences with mobile phones it was discovered that women staying online and updated through ICTs on their mobile device stay better connected to their families for example, as well as services, while building a shared perspective of harassment online. Young Egyptian woman experience more autonomy, socio-economic change and a wider
sense of community through particular issues facing their group (i.e.: sports, reproductive health, education, employment, independence, politics, etc) when they are able to access and share information. Creative usage can help maintain a consistent sense of culture and tradition impacting socio-economic transformation in a way that both embraces and rejects ICTs. The challenges and rewards of globalisation influences (hegemony) through mobile technologies however, can reinforce dominant ideologies through content and design that can lead to a false dichotomy.

![Figure 2: TSP utilized by participants](image)

Basic demographics and details were garnered for some background, and it was revealed that some of the participants are financially independent, although all live with family, and all are either at university or have recently graduated. All of the women had access to ICTs through one or more mobile devices such as tablets, smartphones, laptops or phablets. About 40% have access to a tablet, otherwise all women have two mobile technology devices: their own smart phone (see applications used in Appendix C) and a
personal laptop. Most paid from £5.00/month for 150 MB and up, for data packages on their phones to access the Internet and/or social media when no free Wi-Fi is available, in addition to the cost of calling and texting bundles. A few used a mobile USB stick to have access to the Internet anywhere-anytime while a few felt their connections at work/school and home were sufficient instead of connecting on their mobile phones for cheaper data rates. Two participants occasionally used a tablet for entertainment purposes only (playing games) or when their other devices were not available. Another one never uses data on her phone due to the cost and distraction it causes for her. It was noted that through activities reported in the interviews and the few (five) diaries that were kept, 18 out of 20 participants were most active in the evenings between 17:00 – 23:00 with only three completely turning their phones off at night from 00:00 – 05:00. The women used the TSPs at the same rate as their market share (see figure 2 above). After a flurry of mergers and acquisitions, there are now only three three-licensed TSPs for mobile phones in Egypt: Vodafone Egypt, Orange and Etisalat Misr, along with five Internet service providers (ISPs), four of which are subsidiaries of Telecom Egypt (TE) and the TSPs (Joseph, 2016; World Bank, 2016). TE (80% government owned) also owns 45% of Vodafone (with have four directors on the TE board), which is the current market leader with 44% market share, followed by Orange with 32% and Etisalat with 24% (Deibert et al., 2010; Salah-Ahmed, 2015). All of the ISPs are dependent on TE for the infrastructure, which is affected by government manipulation to throttle data, censor or block access to some sites and even inject advertisements and malware (OONI, 2016).
4.1 Facilitating empowerment – Transformist-Positivist view:

Participant narratives around motivations for their usage of mobile phones reveal their success implementing technology to achieve personal goals through particular applications that can instigate change (see Appendix C for a detailed list of applications used). The most common smartphone applications, for example, were messaging applications utilised for avoiding expensive communication charges by using less expensive or free Wi-Fi connections (see figure 4).
Other top applications were for communicating, (see figure 5) sharing knowledge, photos and music, along with applications for business, health, culture, religion and transportation (see appendix C for details). These applications maintain an anywhere, anytime, always online type of telecopresence with others, allow participants to stay connected with their favourite people, share and access information and knowledge, or find other ways to use mobile technology to improve their autonomy and equality in a way that impacts positive socio-economic change that can undo power relations, improve agency, and enhance marginalised voices.

![Graph showing most popular applications among participants]

**Figure 5: most popular applications among participant**

### 4.1.1 Staying connected & updated: the positive attributes of a ceaseless telecopresence

The participants reported to feeling comforted by a ceaseless telecopresence, feeling that it improves connections while offering increased safety and security. The always-on, anywhere, anytime connections provides a sense of safety and security for many women. All women kept in touch with their favourite people, including those overseas or out of town, by calling on their mobile phones or texting via FB messenger or WhatsApp on a regular basis.
The mobility of the device was as important as the constant connection to improve asynchronous messaging with favourite people, especially those in other time zones. In this way it helps to reassure everyone that a quick message can communicate one’s well being, for any concerned party, in a matter of minutes. So they all highly valued being able to connect with people whenever, or wherever they were. In this way, a telecopresence allows the young women more freedom and independence, since their families feel reassured that through their mobile phones, their safety and well being can be confirmed at any given moment, they are more comfortable for the women to venture out unaccompanied, over greater distances, and for longer time periods. One of the participants we will call “Ms. G” tells of how she was invited to compete in a swimming contest outside of Egypt:

I deserve it I am a good athlete and it is good to be in the competition – so he said he will put on the roaming for me so he can stay in touch with me and he allowed me to travel with my coaches – so there was this supervision – but I was so shocked he let me go and this is due to the mobile phone!...my dad is very strict – so thanks to that phone I could go.

This shows how important telecopresence is for both parties to feel a sense of safety and security, values that are very important in this society, along with the sense of family, narrow gender roles and respect of authority (both formal and informal) that are also satisfied through this usage of the mobile phone. Although this may seem like an indulgence into personal freedoms or interest, it would not seem like that to a proud father whose daughter is representing her country as an athlete aboard, in this way it would be seen as benefiting to the greater good and a patriotic act, another important value.

Six other women also said that they do not fear travelling or visiting new places alone because they can call someone for help anytime, and/or use their phone to help them. If they
are lost or cannot find transport home they can send their location via GPS to a car service, like the Egyptian start up company Ousta, to come and pick them up. Again, in this way they satisfy the important values of physical security while staying connected to family, and maintaining expectations of their gender roles.

Another way the ubiquity of the mobile phone is put to good use is by having the ability to carry around lots of important information, all the time, like medical or work records. One of the participants felt that the Medical ID application on their iPhone enables women not only to realise more independence but equity as well, especially women with different abilities, when they are able to go out into the world, and have more experiences without the anxiety.

For example, Ms. G also had a lot of anxiety about going out on her own, which would be very limiting to her independence but was torn between maintaining security on her phone in case of theft and providing access to her important medical information for first responders in the event of mishap, but a new application on her phone helped ease her fears: “...I am always suspicious about what will happen and before that I was always thinking – what if I got into an accident and people, like the ambulance, wanted to call my parents, and they couldn’t because my phone is locked – so when they did the medical ID thing I was very happy. It really calmed me down.”

Having her work records with her enabled another participant “Ms.M” to avoid cancelling time set aside for seeing her parents outside of Cairo for the weekend:

...well it happened that I was in Ismailia at the weekend and I forget to send my supervisor my time sheet- umm – and I have to do this – I can’t get back to Cairo to do that because it is going to take the whole day long – it was so easy to email that instead.
In this way she was able to satisfy her family’s expectations according to local traditions as well as her work commitments, according to occident business standards.

4.1.2 Accessing information: autonomy, equity & socio-economic change

All of the participants found access to ICTs through mobiles mostly beneficial by helping lower different types of expenses and risk, while improving their mobility, knowledge, independence, and quality of life. Fifteen out of the twenty women interviewed experienced somewhat confined social worlds, for different reasons, but were able to maintain virtual connections to the world through mobile phones. Whether they spend long hours at work or school and commuting, or give in to someone else’s expectations of what is or is not appropriate for her, there is only so far and so often a young woman can venture out on her own in Cairo. Many single women do not like to go out alone in order to avoid things like being a target of harassment, or just the gossip that might result, for example. Mostly it is just avoiding the traffic, where you can end up being delayed for hours.

Whatever the reason, the young women interviewed leveraged mobile phones to achieve virtual mobility whenever necessary to stay connected with their favourite people, enjoy entertainment, and participate in consumer culture. It has been a common practice in Egypt for some time for example to be able to order just about anything and have it delivered to your door, like groceries, and sundry items such as bottled water, pharmacy products and cigarettes in addition to drinks, sweets and various home-cooked or restaurant prepared foods. Since the majority of the workforce is male this limits women having to travel or shop in areas that would increase her risk of harassment or dealings with men for pious women and yet this may also contribute to women’s lack of participation in the public sphere (Assaad & Krafft, 2015). Many interviewees remarked on the fact that there are many more services and shopping opportunities being offered online recently for Egyptians and now there are private
cars offered for transportation that are accessible through applications too (i.e: Uber, Careem, Easy Taxi and Ousta).

The number of new and used items for sale through social media platforms has also increased according to some of the participants interviewed. When asked if they buy anything online one participant, “Ms. Z”, remarked:

Yes, a lot! I bought lots of stuff that I don’t want anymore at online stores like there are millions of them on Facebook and Instagram and I put a lot of accessories that I want to sell on there too - it was so easy...you just contact somebody you see in Facebook or whatever, that has something for sale, then you agree to buy the things and they can send someone to your home to deliver that and receive payment or there is also a company that can deliver this stuff.

This is a popular method to offer items for sale that are not common or available locally, creates work for a delivery agent on a small motorcycle and helps more people avoid being in traffic. Previously you would have to know what specific item you wanted, and the phone number of the shop to order through the phone, but now there an increasing number of applications that will not only let you browse for choice, see prices and order online, you can also do so in two or more languages and send your precise location for your delivery. Over half of the participants felt that the time shopping online was only minutes compared to the hours it would take to travel to a mall and fight traffic as well as crowds. They felt the time saved was precious as it allowed them more to spend more time with their families or meeting friends.

Access to knowledge and information is an important element of empowerment. Due to mobility, cultural or economic challenges, many women felt that connecting to a virtual world through their phones helps improve their autonomy. In this way they are also extending
their private lives into the public world or leveraging ICTs for virtual mobility as reported in other studies. This also highlights the skills and literacy needed to access ICTs as most information is in Fusah or English.

To quote one participant, “Ms.X”:

...I can get any information I want from Google, I don’t need anyone to tell me what I want to know, and I can check up whether what people are saying is true or not by checking Google too” and “Anything I don't understand I can watch videos and figure out how it works…. 

While this is facilitating autonomy and social change on one level that is improving equity, at the same time since the majority of the content is in English, it is promoting occidental values and taxonomies, that privileges some types of knowledge over others and devalues local knowledge.

But Ms.X is very savvy, she uses her access creatively by accessing both locally-produced knowledge via her peer network, as well as occident-produced knowledge, as she explains:

...sometimes I don’t know how to use something, but I ask my friends on Facebook, or I search it, or I watch the videos, so these days you can know anything you need to know, Google and Facebook solve everything! I have found helpful new formulas for excel spread sheets, or learned how to make Google forms for example. This is very helpful when you create an event, there are Google forms, so how to contact with people who want to attend your event, so I create a form in Google, and I put the link in the event online and when they enter the link they save their contacts and when they press submit, they have their contacts and I can call them, and that’s how we connect. Thanks to my friends on Facebook I found out how to do that.
Several other women concurred that they used similar methods.

The Internet was also used to show portfolios, advertise skills or find/share job postings using recruitment applications like Wazzuf.net (in English), another Egyptian innovation which is connected to LinkedIn.com (in English) and Facebook.com (in English), or through groups like FemiHub (in Ameya) and haad yaaraf (in Ameya) which is also a great way to tap into local knowledge and networks. Looking for opportunities online also opens up a world of possibilities beyond Egypt, as one of the university design students, Ms. Q put it:

On the Internet I can be inspired by the work of designers around the world and I have an online portfolios on behance.net [multilingual but no Arabic], synched to a myportfolio.com website, connected to my profile on LinkedIn.com and Facebook.com.

In fact all of the women interviewed used their mobile devices to integrate their work and studies with their community and home life on a daily basis. The working-women interviewed used their phones to operate and communicate around a second job or work in addition to studies or to maintain communication around their main job outside regular hours. About half had work outside their regular work or studies, one as the aforementioned roller-skating coach to young girls, others freelance or operate their own small business.

Ms. X juggles responsibilities at home and school around a fulltime job and a budding new business so she makes use of mobile technology while she commutes: “I record all my calls because I forget all the time so I re-listen to my calls”. She also uses the time on public transport travelling from one job to another to communicates with clients and organizes workshops on her phone. Such tasks would not be possible for her using fixed-line communication and as her commute is significant, it is an efficient use of the 4-6 hours spent
sitting on a bus each day which means when she finally gets home at the end of the day she can be fully present for her family in the little time she has with them. “I only eat and sleep at home! I leave at 07:00 and don’t come back until about 23:00 to eat and play with my dogs for 2-hours then go to bed, but I wake up for Fajr [dawn prayer]”. This is pretty normal in Egypt, where everyone seems very sleep deprived staying up late and having to get up early in the morning due to spending 2-4 hours on a daily commute, in addition to getting up for prayers. So having a device that goes with you that allows you to send urgent communications anywhere, anytime can be important. It gives others the flexibility to work or study from home, or while travelling.

4.1.3 Creative use: exercising autonomy over new technology

All felt their mobiles were necessary tools in today’s connected world whether they liked them or not, so they found creative ways to blend what they like with what they do not. Three quarters of the women interviewed estimated that they spent from 9-15 hours on their phone daily but actually put it away and silence it when they meet people face-to-face, which they also all do on a regular basis. Interestingly, although all the women send and receive PDF files (soft copy) for work or school, but they all preferred a print out (hard copy) to read anything of any great length and taking notes manually. Although all had laptops, they mostly preferred to use paper and pen for any note taking, this attitude was summed up by one participant we call “Ms. Z”:

I take notes by hand because I am a hard copy person, I am not a soft copy person, like when I have readings I print them out and highlight them but for my own notes but writing things in my own words I will use the laptop.

When asked about reading for pleasure, all mentioned that they enjoyed reading when they were younger, but now do not read unless they have to, so they did not use any reading apps
like kindle. They prefer watching YouTube and listening to SoundCloud over reading books or watching television because they can choose what they want to see or hear and when.

Despite continuing to cling to some old ways, when asked if they would prefer to return to a time when there was no Internet or computers, or mobile phones and they would have to go to the library, or use a real camera, a hand-held calculator, or a landline phone for example only two of them liked that idea. Another admitted it would be difficult to make the adjustment, but that over time they would get used to it just like it was for adopting the mobile devices. In this way there tends to be a lot of blending of old ways with the new technologies. When asked how mobile technology changed her life, Ms.M responded:

I was very isolated. I was not able to talk to my family when I want because I don’t have a landline...so I think having a mobile phone is better. The landline is too expensive because you have to pay every three months even if you use it or don’t use it and it is only in the house – but here [pointing to her mobile phone] if I don’t use it, I can just leave it like this, like a dead body you know and it doesn’t cost anything! I just put 10 to 20 £E (USD$1-2.25) on that and use it however....

Another participant, Ms.B, pointed out that it would be difficult for her “…to go on the bus with a real book and it is difficult to search for things, in a PDF you can just do CTRL + F and find what you need and khalas [that’s it] but you cannot do this with a real book!”

Facebook is used slightly differently in Egypt compared to elsewhere and has the most users in the Arab region (TNS Global, 2015). For example, in 2013, SocialBakers found that Egyptians made an average of 54 million posts to Facebook per month, so it was considered to be the second most “Facebook addicted country” in the world, although it has significantly fewer users (only 31% of Egyptians are online according to UNDP, 2016) but they contributes much less content in a digital landscape dominated by the West (ITU, 2014,
2016). Apparently there was a spike of 41% increase in Facebook users in 2013 according to the digital consulting company e-Marketing Egypt, that also reports that 31% of Egyptians, or 30 million, are now online according to their (2016) “Online Competitiveness Intelligence Research”. The participants surveyed all agreed that to find out what is going on in Cairo, you really have to be a member of one of the many group pages in Facebook, otherwise you miss out. Not everyone is the reported median age of 22 usually found on Facebook, they are every age, but most of the users are under 40, but only because the median age is 25 (TNS Global, 2015). One participant we call “Ms. F” expressed its importance for her, this way:

…it is almost like the new Google, I search for news on there now, and events, and there are groups for everything and you can know everyone’s’ life story! I want to know about everything!

Although all participants were all aware of productive business applications that were possible to use on their smartphones, such as spread sheets or word processing, they felt that the keyboard and larger screen on their laptops was a much better platform for completing “serious work”. As Ms.M re-counted:

So I went to a Cyber café and I emailed the whole [timesheet]...And since that day I take it [laptop] every day with me everywhere! ...I know I can use my phone, but I don’t have a data plan and I don’t feel comfortable with [working on] that on the phone because it is too small! I prefer to see what I am doing, with the bigger screen and to do it with my fingers and feel comfortable with that, you know here [showing her phone] I have to do it like that [using her thumbs] and it is not comfortable ok.

Other participants agreed that using their smartphones to edit papers or look at spread sheets, although they were aware it is possible, they felt it was just too awkward to be practical.
4.1.4 Circumventing patriarchal authority & harassment

ICTs have the capacity to help level the playing field and resist hegemony in many forms. As men find ways to sexually harass women online or offline or both, women have found ways to deal with it by also using the new technology. As reported by FIDH (2014), the failure to address violence against women has been a major obstacle to women’s participation in public life and encouraging human rights violations. One of the young women interviewed was actively involved with an online anti-harassment initiative called HarassMap.org. Each time a woman refuses to remain silent and says “no”, another woman will be encouraged to do the same. In the same way that groupthink can encourage harassment, this form of peer pressure can be utilised to enforce the idea that harassment will no longer be tolerated. Each report and public posting to HarassMap is a statement that sexual harassment is a problem, that it affects everyone, and that it is not acceptable in Egyptian society (HarassMap, 2015). In this way the campaign also works towards breaking stereotypes, shaming perpetrators, raising awareness and providing support for victims.

Although HarassMap applications and the #MeshSakta campaign utilise a variety of social media platforms, as well as offline public outreach for broad exposure (HarassMap, 2015) only one other young woman had heard of it but had not used it, whereas none of the other women were even aware of it. All were interested in it once they learned about it.

Participants were unanimous in their voice as Egyptian women who were well known for their inner strength and resourcefulness. As proof of this, one participant, “Ms. R”, pointed out that “we [Egyptians] have a Facebook page named "haad yaaraj" [anyone know?] Where girls post any question and get a million replies on it immediately. It is so useful”. It is not unlike Yahoo Answers, but it is in Ameya, and generally organised by geographical location, creating private communication spaces online using Facebook groups
that only allow women to join, for collaboration and support. Two other participants shared information about FemiHub as another example of women organizing themselves on Facebook specifically to provide support and assistance for women’s independence. They focus on posting safe housing and employment notices but like *haad yaaraf* there are also questions posted. In this way women help each other to find the resources they need and report the places or people to be avoided. They also post about women only events, beaches and gym sessions and the like.

All of the women interviewed also used an application to evade harassment on their phones called TrueCaller which allows them to not only screen their calls, but to block them and share their experience with others as well. All the women have experienced a time when they felt it necessary to block someone from being able to call them on their phone, sometimes it was people they knew and no longer wanted to communicate with, like an ex boyfriend, but usually it was due to receiving random calls by men trying out different numbers to find a woman to speak to and harass. All the women felt this was a form of harassment and unwanted as it often involved explicit language and sexual suggestions. As Ms. Z summed it up:

... this is very common in Egypt if you are a lady, I think they have nothing to do with their day except to call me and harass me so I block them. So blocking is useful! I think this is the only place I have ever heard about men just calling random numbers until they find some girlish voice to talk to, some lady, and then *khalas* (that’s it)! They will never stop calling you! Thanks to the blacklist!

So the application TrueCaller is very popular, as it very helpful. It draws on a database of voluntarily registered mobile and landline numbers that are freely remarked on by any
connected user. So if someone is calling and harassing women, they cannot only block the number from calling their phone, they can also report on his profile that he is a “spammer”.

Many women also found creative new ways to bypass or outmanoeuvre authority, whether local or national or international. Ms. X for example, used her mobile phone to keep abreast of the security and risk situations through her peer network to avoid being questioned or arrested by the police for taking part in the national uprising or for her dissent. She literally keeps her phone on 24/7 and uses it to screen calls along with checking and sharing urgent information instantly within her peer network regarding arrests or releases, as well as any new potential threats. One of her online connections was recently arrested for posting anti-government propaganda, and her peer network spread the news quick enough to lead to the immediate deactivation of all their connecting social media profiles in order to avoid association and the likely interrogation that would follow. She feels it is therefore necessary to keep her phone on 24/7 although she recognises how tethering it is: “

..it just keeps me attached to what’s going on - it’s not just my job– but like what is happening in our country - who did what – we have a very complicated political situation right now in Cairo – so it keeps me up-to-date – I have a lot of friends who were in prison and they got out – so I have to be in contact with them – I have to know what is happening … I keep involved in all of this!

In this way the constant connection is a consistent stream of information and connection to stay aware and to stay safe at this difficult time for youth in Cairo. She gets news updates on Twitter but prefers Facebook to know if her favourite people are okay saying: “... it’s not more important than my job – but I like to know what is happening, what my friends are doing, and that everyone is okay.”
In deeper conversation with Ms. G it was discovered that she had two phone numbers. Some areas of Cairo have better service than others depending on the carrier, so it is quite common to have two SIM cards or two different numbers, but for MS. G it was a means to circumvent informal authority:

When I had my boyfriend my dad didn’t approve of it and my phone is on my dad’s account so he can get every detail – so I had to sneak around because I was not 18 yet so I asked my sister - could you please help me – can it be on your name please!

Previously one had to be at least 18-years of age to purchase a SIM card, but now “anyone can get one from anywhere” she says, but you still have to show state identification and have it registered to your SIM card. She added that her behaviour was normal in her country because “Egyptian ladies have always been known for their strength and empowerment”.

Others echoed the sentiment repeatedly in similar ways, “Egyptian women are strong and united”.

4.2 Frustrating empowerment – Sceptic-Continuist view:

Participant narratives around mobile usage also reveal their struggles with implementing innovations that embraces the new technology while still maintaining what they feel are important traditions. The applications that maintain a telecopresence with others for example, can also impede participants’ wishes to maintain healthy lifestyles or relationships, avoid becoming overwhelmed with information, or find other ways to use mobile technology to undo power relations, improve agency, and enhance their participation of their social-world.

4.2.1 Disconnecting & indolence

All of the women felt that mobile technology is reshaping our social worlds in many ways, some positive as pointed out above, and some negative as outlined here. As previously
discussed, there are many positive attributes for the new ubiquity of mobile phones, however, two of the women explained how they felt that this technology could also encourage indolence or even disconnect us from our favourite people. As Ms. Z expressed it:

…technology actually disconnects us… like I am on my phone and my mum is on her iPad and my brother is playing games and the TV is on – we don’t really talk unless there is something specific to talk about but we are all sitting in the same room…

Another woman, “Ms. D” pointed out that we have less need to cook, drive, visit the library or shop as we can just “pick up the phone and arrange stuff through an app”. We also have the new ability to be more independent and know (passively) what is going on with our favourite people through social media. They point out for example that if we can check the social media updates of a group of friends or send a message to them on WhatsApp, in the comfort of our homes, then we may not be as motivated to connect as often in face-to-face meetings as it requires facing crowds of people, heat, filth and incessant traffic. Ms. G wisely articulated that a 24/7 connection is:

...a bad thing and a good thing – for example now I cannot sleep without holding my mobile phone – it used to be my teddy bear but now it is my phone – the bad thing is that there is no family social life, the sleeping decreased. So it is a good thing and at the same time a bad thing *yanni* [meaning] sometimes I miss my mum! Like she is in the next room and she will call me on my mobile phone, she will call me when she wants me and say “*taal/” [come!], she will call me to ask me to get her whatever – even if she is in the next room – that a good thing and a bad thing – it’s easier for her but it made us a bit lazier – because you don’t need to go out and meet your friends you can just talk to them on WhatsApp and check their pictures to know they are okay – that they
are getting engaged or married or whatever...and that is a bad and a good thing – you can never tell!

All women felt that some traditions were important to maintain, even with the convenience and timesaving abilities of the new technology. Face-to-face and oral communication is so important in Egyptian Arab culture, so if you are texting someone you are close to, instead of calling them or meeting up with them in real time, they will take it as an insult. Ms. M illustrated the importance of face-to-face in her narrative:

You know it was funny because when I was trying WhatsApp and trying to be that every day WhatsApp person my like my older sister, and then she called me and said ‘you know, you never call me!’ Even I am talking to her everyday on WhatsApp – so it is not for socialising – I have to call! She also doesn’t like just texting, maybe with another person but not with me!

Expectedly, all participants preferred to meet with their favourite people in person on a regular basis, however, when that was not possible they would use mobile applications to video chat or message with their friends or family if they were overseas. In fact many felt that texting was not real communication. Ms. M explained this well:

…it's not that effective you know? It’s just chatting. If there is something serious we have to talk about we have to call. Otherwise it is just about “Hi ya kuky!”, “How are you today?”, “I am fine” – every day we just say the same thing for each other, it's not working...I love people really, I love to see them, and talk to them face to face! And go outside to meet them - not just text them on WhatsApp or whatever, like my mother or my sister, o! – Even the friends who are outside of Egypt, I would like to Skype with them, but it is important to see their faces!
Interestingly Ms. X, one of the woman who can’t put her phone down and has it on 24/7 does not like to shop online because:

I don’t think it is real! – When the things come by mail it is never what I asked for!
But my boss only does shopping online. He never thinks about going to the store anymore because it is too convenient to shop on the Internet and we are always arguing about that because I am not convinced with that! ...But he is very happy with the stuff he orders...like, everything, electronics, bags, clothes, watches, but he just looks for what he needs and buys the first one he see, he doesn’t care about variety.
Not like me! I enjoy going from shop to shop to see the variety and to compare the prices and the colours, and the sizes and the…ooooops sorry! [her phones goes off…she apologizes].

4.2.2 Doltish: Divided attention, feeling overwhelmed, over stimulated and unfulfilled

The mobile phone also appears to be critical for integrating work and private life when so much time is spent on the move or away from home in Cairo, but there are also challenges connecting to the never-ending, massive amounts of information now online that, as Ms. Z put it: “…you think that you are going to just check Facebook for five minutes then you end up chatting or listening to music or something for hours…”. Ms. Q, who is a teaching assistant for design students at the German University in Cairo, felt strongly about this, saying:

The mobile phone is so ubiquitous in the lives of these so-called digital natives, that they would be completely lost without them. I doubt they could read a map for example, or use a real camera for example, two things I find much more satisfying than using an app on my phone
Another participant, “Ms. R” observed that “…we are too dependent on our phones to carry all our data around with us as everyday”. Ms. Z dropped her iPhone in the WC by accident, which damaged her phone, losing all her data and contact information in the process, which she did not have backed up anywhere else. She felt very “disconnected” and ”unplugged” from her social world. What seemed equally worse for her though was being forced to use a basic phone (no applications or internet connection) or landline phone temporarily:

I felt so lost and like every other phone that I use is annoying me off because they are so slow! And I lost all my data because I couldn’t remember my iCloud password! I am really annoyed that I lost everything! And I cannot recover that because Apple deletes everything and I cannot access that because I have no password for that!

By “have no password” she meant that she cannot remember it and had failed to recover it.

Ms. X had a similar experience when her phone was stolen right from her hands in mid-use one afternoon:

When my phone got stolen I lost everything, my contacts, my pictures, everything so I learned a lesson and backup everything on Google drive to make sure I don’t lose it again. For two days my life stopped – I felt like I was in the middle of the desert unable to contact anyone!

Many pointed out that the always on, anywhere, anytime technology enables our desire for distraction from the uncomfortable and “we get kicked out of class or told to turn off our phones so I just put it on silent [mode] because I get really bored in lectures and like to play games and stuff” admitted Ms.Z. While Ms. C and others think it is causing dependency and addiction because they cannot bring themselves to turn their phones off, ever: “…just in case anyone needs to call me and if I am awake I will notice!” This is not unusual in Egypt as there does not seem to be any etiquette around limiting call times at night – it is often
assumed that you will be up late as this is the norm here – even among people who have to
wake up early for work.

Even when Ms. G realised that the unending connectivity was harming her she was
loathe to shut it off completely because she is too dependent on it for her daily routines:
“Recently, … because I used to wake up with a headache … I searched and I found that is
because of the mobile phone…so I put it on airplane mode at night...because I need the alarm
in the morning!” Ms. X admits: “... it never leaves my hand! It’s a problem! I stay up too
late, I wake up late, I get to work late – it’s an addiction actually”. This same participant used
a special application to be notified of *fajr* which is the dawn prayer for Muslims that is before
sunrise, usually between 03-04:00hrs but she goes back to sleep again afterwards because
“it’s too tempting not to!” she says. When asked if she has been keeping her phone on 24/7
for a long time, she answers in a very quiet voice: “yesss for a long time…but before having
my private business it wasn’t that much, but it has risen with all the communication I have to
do with follow up for my workshops and with my colleagues, so it has really risen because of
this”. In order to ensure her connection and ability to work anytime anywhere, she carries a
rucksack with her in which she always has her laptop and a portable power bank to charge
either her mobile or her laptop in the event she does not have access to a power outlet when
needed. When asked how this has affected her life Ms. X answers:

I don’t spend much time with my family, yes, and it has been obvious, because my dad
will be angry with me until I drop the phone – even my boss has taken my phone from
me on some days and gives it back when we are finished working for the day – he is
like, ‘what’s going on [X]!? Turn the phone off!’ ... but he’s right ... I know I’m bad.

When asked if her father ever restricted her use of her mobile phone, she reacted strongly
with: “No, no, NO! he CAN’T DO THAT!” Ms. G confided that her father did:
he stopped me from using my phone once, because I was 14 and I have my boyfriend and he was distracting me from studying because I was on the phone all night and I didn’t get any sleep – so my dad was like “give me the phone you are not going to use it. You are going to study and focus on your study!” - so that was a thing, and he said he was going to do it for a month, but I was so good in the first week I got it back.

The woman indicated that she would like to actually use a paper and pen to write a letter to her grandmother who lives overseas but does not feel she has the adequate time or skill to complete the task, although she felt it would be appreciated and more familiar for her grandmother.

There also seems to be either a manifestation or enabling of compulsive, addictive behaviour. Ms. M was also one of the participants who had her phone on 24/7 and mentioned:

I hate seeing the notifications! I like a clean phone! I like to delete everything I don’t like so much traffic and when I finish a conversation I delete it. I only keep photos and important conversations. I tried to mute the conversations for a while because I did not want to hear any notification sounds but, ummmm, consciously you HAVE to check it… I don’t know why! So if it is going to control my life, no!. So I just delete it…. And I think I am happier now!

Ms. G suggested everyone should visit the seaside a few times a year where:

There is this place in Egypt called Ras Shitan [Moon Island] where there is no power supply, no electric lights, no services, you have to just do everything on your own and switch off your phone and relax! I think every now and then we need to do this. Just keep everything away, to relax and enjoy the beach, and enjoy the sun, and everything. However once you get back, you’ll find millions of emails and notifications and missed calls! So it’s like, eh ok yanni, I think about it like I need a
vacation however when I come back I will be even more loaded so the effect of the vacation will go! So no, I don’t need a vacation, khalas, stay this way, it’s better.

So in the end, most seem to just give into being tethered, whether they like it or not.

There is also possibly a higher level of distrust of people we do not know since online we have a greater possibility to connect to strangers and yet like many other sociable young Egyptians, they do not feel the need to make their profiles private. So there is a concern for example about “kids [who] like to take screenshots of pictures or conversations, or Photoshop photos and publish them, and it creates problems – there are many, many, negative effects of using technology like pranking people for example” explains Ms.Z. Although there is concern for strangers who might take screenshots or download photos and edit them in a way to make them humiliating or embarrassing if they were to be publicly published, this does not alter how the phone is being used or the privacy settings they employ. As Ms. E summed it up however: “…it is not the device itself that is bad it is the people that use it”.

Passwords were a consistent issue with all participants, developing good ones to be secure but trying to remember them or recover them seemed to lead to more frustration as almost all have abandoned accounts and have had to re-create new ones in order to continue using services like iCloud, Google (necessary for syncing phone data with online backup systems), Twitter, Instagram, Snapchat, Facebook and so on. A few make a habit to delete all conversations when they are completed and even their photos once they are shared or backed up to the cloud. As previously iterated, Ms. X had her phone stolen recently, while Ms.Z lost hers down a public toilet, but both felt completely lost without their connections and their inability to connect with their favourite people or check emails, and likened it to “… being alone and lost in the middle of the desert….”. Neither of them were able to recover their lost
data either due to lack of backup or the inability to remember or recover file storage passwords.

4.2.3 Throttling capacity: State diminishes opportunities for empowerment

All participants observed the disempowering practices and policies of the state in control of infrastructure and telcos. There were many challenges faced by participants using the devices as desired, like streaming video, activating roaming, using 4G phones or having a data plan due to their expensive nature. Egypt was a leading and quickly expanding Internet market in Africa in terms of users, international bandwidth and services offered between 2004-2011 (Deibert et al., 2010; Salah-Ahmed, 2015). Unlike other Arab nations the International bandwidth\(^6\) market and VoIP telephony was liberalized early in 2000’s attracting over 200 service providers and by 2011 Egypt had some of the least expensive access in Africa (Deibert et al., 2010). Like many sectors of the economy, it hit a roadblock in 2011 and has not recovered (Salah-Ahmed, 2015). By 2015, citizens began complaining en masse due to the steady deterioration of mobile and Internet services, for rates well above the global average\(^7\) without promised upgrades such as 4G\(^8\) or fibre optic cables (Salah-Ahmed, 2015). Ms. S related for example: “I don’t have internet when I travel, because roaming is too expensive, so I can’t use all the features of my mobile phone and end up just using it to play games”. All expressed their frustration with what they termed as “terrible Internet service” for the cost but felt that this was simply due to their status as a developing nation and not because of any incompetence or mishandling by the state. While Telecom Egypt is upgrading the infrastructure from copper wire to fibre optic, they are only applying that to the end access points, not the backbone, and since it's the only company approved by the state to

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\(^6\) the amount of data that can flow in a given time

\(^7\) the global average cost of internet per mbps is $5.58USD (EGP50) but Egyptians paid $16.83 (150EGP)

\(^8\) the fourth & current generation of telecommunication technology for mobile networking
provide infrastructure, this creates another bottleneck for optimization of services (Salah-Ahmed, 2015). By 2016, the rates improved, but ookla.com and akamai.com were still rating Egypt poorly at 2.7 Mbps compared to the global average of 32.5 Mbps for peak connections. The ministry of communications and information technology (MCIT) promised to somehow increase Internet speeds by up to 4Mbps by 2016 to meet a minimum global performance index standard⁹ (Salah-Ahmed, 2015). However, the researcher found that although a minimum 4Mbps is assured, testing through speedtest.net (ookla.com) reveals an actual speed of 1Mbps (see figure 6 below).

![Speed Test](image.png)

*Figure 6: researcher’s screen capture of speed test in Cairo (27.12.2016)*

There have been some small concessions realised with the 3 TSPs competing in the market as Ms.G explains:

> When it first started it was Click not Vodafone – and then it was upgraded to Vodafone – but it was the same company – they just changed their name – my dad chose them because there was some kind of offer for employees at the bank he was working in and he thought why not try it, and back then a SIM card was 2000£E (USD$225 or USD$271 with 20% inflation) for example – which was very expensive and now it is only 20£E (USD$2.25).

To put this in perspective, the average minimum wage for 80% of workers in Egypt is about 1500£E per month (USD$168.95), so it is understandably a significant cost that people

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⁹ Egypt is currently rated at 2.7 Mbps compared to 32.5 for global average peak connections (2015-2016) reports by ookla.com and by akamai.com for
struggled with. Ms. G also relayed an anecdote of an older woman colleague to illustrate how much things have actually improved:

[My colleague] used to work in the [athletic] club for only 250£E (USD$28.16) and she badly wanted to buy a mobile phone – and back then a phone was like 1200£E (USD$135.16) – so she saved for the phone but then she ended up walking around with the phone and no SIM card because it was so expensive! I swear! I couldn’t stop laughing! Then the SIM card was also 1200£E!. But when the competition started between Mobinil and Vodafone they started to lower the prices and then when Etisalat came in Egypt they say “they ate the market”.

High levels of multi-SIM ownership in Egypt accounts for an incredible 113% diffusion of mobile phones that is 15% above the global average (GSMA, 2016), coupled with the competition created dramatic reductions in cost as evidenced by the fact that a new SIM card from Vodafone costs just 5£E (USD$0.56) now. Ms. J told how:

At home in the suburbs my Mobinil SIM works best – but where I go to work in the city they have less coverage there, so then I use a Vodafone SIM there. So I have a dual SIM phone now, which is great because before I had to keep switching out the SIM cards when I was on the bus home.

This also creates added expense in acquiring SIM cards, used to authenticate and identify subscribers of mobile telephony devices, and maintain two prepaid accounts. Although SIM cards are now available to people under 18 years of age, the state still requires the TSPs to register a user's betayiq or national identity card. Women can be added as dependents of their father's or husband's national identity card and are less likely to have a driving licence, or to be registered as the homeowner or bill payer, and therefore regulation like this can disproportionately affect women.
All Egyptian men over 16 are required to have a *betayiq*, however adult women, like children, as a dependent of their fathers or their husbands have their capacity for equity, independence and autonomy seriously curtailed in this way as they are forced to ask their fathers or their husbands to purchase a SIM card for them. Some women do not even have that, if their fathers did not register their birth. National ID cards are at the core of many women's issues in Egypt as it is essential for women to participate in public life, such as the right to vote, to get legally married, register children at school or apply for employment, access government, educational, medical, financial, legal, real estate or other services or to be full citizens with rights and responsibilities, and yet millions of Egyptian women are denied their right to this (UNDP, 2011). In fact several women interviewed disclosed that their SIM cards were previously purchased under their father’s name and documentation due to age or lack of *betayiq*.

Another important issue that stems from state control of infrastructure, policies and procedures, are the rolling power blackouts and the ever growing cost of electricity, as a couple of the women pointed out, being able to afford to charge your phone and being able to actually recharge it when you need it are problems in Egypt. When discussing limits to the access, or functionality of mobile phones, many participants lamented the lack of consistent power, either from not being able to charge the phone when out of the house all day or due to power outages that typically last from 1 to 3-hours. As a high school student shortly after the revolution Ms. L recounted:

We experienced some terrible, long blackouts a few years ago [2012] – it was so hard! – When my laptop was not charged, I could not charge my phone and I was like Oh my God! Now I have nothing to do! How can I finish my homework!
Being away from home for the bulk of the day and not having your own vehicle, also means being away from the ability to charge your phone. The researcher observed that it was therefore not uncommon to ask for help to charge a phone wherever you happen to be for the moment: department store, café, or supermarket; everyone seems sympathetic and willing to help if possible. To avoid this issue two of the women interviewed carried around a power bank with them, which was an additional expense for them but they were terrified of what would happen if their phone went dark.

All participants interviewed were concerned with issues of security and safety in Cairo on some level, and that the state was failing to take care of it, they were all discouraged from using expensive phones, tablets or laptops in public places, feeling that it would make them targets for assault and theft. This severely limits the capacity for a smartphone to be useful anywhere, anytime when basic phones are used instead. As mentioned previously, Ms. X actually experienced a mugging for her phone so will only use the most inexpensive phone available with no data access to avoid repeating the formidable expense and hassle she experienced as a result.

Worse than not providing adequate security however, the state is being responsible for actively violating it. The Egyptian minister of telecommunications and information technology publicly confirmed that security offices monitor, record and tap both fixed-line and mobile phones (Deibert et al., 2010). This is common knowledge in Cairo, and all the women interviewed had an awareness and concern regarding state access to their calls. Some actively chose to use applications such as Tor, VPNs, Signal (now blocked) or WhatsApp that offer message encryption; others felt it was a futile effort after many VOIP services were blocked in 2015 (Hamama, 2016; Moon, 2016). After learning that security forces have the ability to hack into laptop and phone cameras, Ms. M admitted:
…The first time I got a phone, I don’t know why, but I am always thinking that someone in some place is using this device to spy on me!” I don’t know why! So you know when I am in the bedroom with my husband I have to put it outside! And I ask him also to put his phone on the outside! I don’t know why and also when I am talking with my friends face-to-face I am always checking my phone to see if it is logged on or not, to see if I am calling someone by accident or not! And he is going to listen to me it happens!

Some participants disliked being pressured into using Facebook or Twitter by the peers, as Ms. P described:

I don’t know I just didn’t get it [Twitter] and I don’t tell people what I am doing every minute of the day, so I would rather have Facebook, it is more convenient and if I want to write something I can write what I want, but Twitter is good in seeing the news, but I can’t stand all the notifications I get!

Another way that the interference of the state in mobile telephony is disempowering is the control it has over access. As emphasised by Ms. X:

Do you know what is going on here right now? People are getting arrested for their opinion on Facebook, with no warrant, with no legal document, nothing, when one of our friends gets in trouble – we all go and deactivate our accounts because if he says anything then they could be lead to us! (Phone goes off again – she turns the sound off & ignores it) we are all frightened because we don’t have the right to our privacy or to have freedom of speech. [The Internet] is one of the only ways we have of free expression, like with blogs and graffiti but now we don’t even have that.

Indeed, many netizens, media editors and journalists have suffered harassment, intimidation and imprisonment by security forces, accused of “offending the state institutions,
destabilizing public security and inciting others to demonstrate or strike” (Deibert et al., 2010). Egypt ranks #158 out of 180 countries on rsf.org in the 2015 World Press Freedom Index. She insisted that it was not just blogs and social media being monitored:

...everything is, as long as you are online you are violated. Someone told me that the government listens to all phone calls in Egypt... Every smart phone but not the basic phones because they have no Internet access or the Blackberries.

In fact, under a new audio-visual law designed to mitigate voices of dissent or opposition, any citizens, broadcasters or journalists who utilize new or traditional media forms to damage “social peace”, “national unity” “public order or “public values” are subject to arrest (Deibert et al., 2010). The result has been the closure of many NGOs, newspapers, magazines, and TV channels in the last decade. This law has also been implemented to limit usage of mobile devices in the interest of protecting public security, such as blocking anonymous subscribers in May 2008 and shutting down mobile and internet service completely in January 2011 (Deibert et al., 2010). Ms. X deactivated her Facebook profile last month out of fear she says:

I do that a lot - every one of my friends called me to tell me that they deactivated their account – I have to keep a low profile [online] - so I didn’t open [Facebook] for a long time, ao I lost my password, and now I have to make a new [profile]. And then I have to find all my friends again, and for what? I mean, I know Facebook does that for my safety, (phone bleeps for the umpteenth time since the interview began and she quiets it, but does not turn it off) but it’s nonsense. I think its going to be okay someday though, insha’Allah (God willing)!

Ms. M confirms the surveillance:
I don’t like it but sometimes when I call someone – a notice appears stating that the call is “forwarded” – so of course someone is listening – someone is hearing this so I don’t feel comfortable and it doesn’t make me feel safe…. 

There were also concerns about other types of privacy and security issues, like what applications to use or where to save data, due to threats of hacking, theft and possible access by government. Ms. G explains:

Like 10-15% of my friends have had their Facebook or Instagram account hacked… the hackers made posts with unbearable words - messages and pictures of my friends - it was not at all good - so people got shocked - like how come they say that creepy stuff? And then after a while they figured out it was not them. So it’s not nice…and I am always scared of that, so I always try to do strong passwords. I am also scared to give my credit card numbers online…. So I worry about privacy a lot.

According to some recent (2016) probes by the Open Observatory of Network Interference (OONI) designed to detect Internet censorship, traffic manipulation and signs of surveillance, around the globe, there are many reasons to be concerned about security in Egypt. Reports reveal that Egyptian ISPs: TE Data, Noor and Vodafone, have all been involved in blocking access to certain websites, disabling the HTTPS security feature, injecting pop-up advertisements into the browser interface and disseminating malware (OONI, 2016).

4.2.4 Inculcated: Reinforcing hegemony and technical determinism

Although almost half (40%) of the women had some kind of technology training at high school or university and felt that their peers, search engine results and online videos were sufficient resources for acquiring the necessary skills to use any mobile technology or application, most of the women said they did not feel that comfortable using technology (see figure 7 below). Although all participants seemed equally as productive, Ms. H expressed it
as: “I know what I need to know, to get stuff done, but beyond that I am not interested in technology”. Younger and older brothers or husbands were always perceived as being more skilful with mobile technology because they were seen as “more interested” in it. There is ample evidence in social psychology research to suggest that negative expectations and perceptions of gender can contribute to behaviour consistent with such perceptions, regardless of their accuracy (Dijksterhuis & Bargh, 2001)

![Pie chart showing comfort levels with technology]

Figure 7: participants' comfort level with technology

All of the women started using a mobile phone by the time they were 11 or 12 due to a gift they received from someone in their family. Laptops and mobile phones are seen as significant expenses to acquire and to operate by all women regardless of resources or status. Being of the “middle class” is very meaningful in Egypt, as the disparity between classes is very pronounced with the upper classes particularly contumelious, derisive and unforgiving towards others. A few of the women consistently obtained the latest version of their phones, like Ms. Z, who sometimes sells the old one first, but since they were saving up money for acquiring and operating their first car they have unhappily had to make do with their old
version devices. Ms. A requested a mobile phone in the 6th grade and was provided with one as a reward for the successful completion of the school year with good grades. When asked why she wanted a phone at such a young age when phones were not as prevalent as they are today, and if it was to connect with her friends, she explained that it was not about practicality at all, just a sign of status for an eleven-year-old.

All of the women use Ameya predominantly however they are forced to use English or Fusah online, as there is very little content in Ameya. There are a number of blogs reported by the Egyptian Cabinet Information and Decision Support Centre (IDSC) that communicate in Arabic (77%), English (10%) or both (21%). The majority of bloggers are young adults under 30 who account for more than 30% of all blogs in the Arabic language, comprised of 1/3 female and 2/3 male authors (Deibert et al., 2010). In fact, most of the women reported that despite living in an officially Arabic-speaking country most were educated in another language at private schools while a few learned them at University. So they could also access some content in Greek, French, Spanish, German, or Japanese. Ms. K put it this way: “I only use English [online] because the Arabic I speak is Egyptian [Ameya] not Fusah and everything online is in modern standard Arabic [Fusah].” All the young women, with one exception, have acquiesced to the idea that their native tongue is somehow inferior to other languages, but especially to Fusah. An attitude that can be summed up by the words of one participant: “I went to international school, not Egyptian school, so I can function on a daily basis in Ameya but English is the language I use everyday for school and the Internet. I took Fusah in school but I cannot translate from English to Arabic because I don’t know Fusah well enough, and it has to be Fusah, because Ameya is not the real Arabic.”

The women were united in their perception that using mobile technology was expected, and not really optional any more. As one young woman put it: “…of course, the
more we grow the more we have to cooperate with technology - everyone has to use a mobile and a laptop for work…”. Technology can also be disconnecting if you do not know how to use it well. Ms. M explained that:

I was using the WhatsApp and Facebook also, my husband did this for me and then the Messenger (for Facebook) but it was too heavy for my phone, so I delete it and I stick with WhatsApp for awhile, and then when one day when I opened it, it said it was a very old version, so I have to update it, but I can’t update it! I don’t know how! So someone recommended that I should delete it and download it again – so I did… but I don’t know how to download it again. So now no WhatsApp and no Messenger on my phone, but that is okay!

And yet all participants had someone close to them who did not own a mobile phone or know how to use one very well that prevented the participants from communicating with them as often as they would like. Such as living far away from the people you want to connect with for example, and they don’t know how to use technology well enough as Ms. M discovered: “I have to call my family, especially my mother, she hardly knows how to send an SMS! So Skype is not possible with her!”.

Not all women have data plan on their phones to access the Internet, the oldest participants were 24 and 26 and they felt pressured into using the technology:

Sometimes I do [have data] and sometimes not, I do not like how the technologies rule your life so I prefer not to have the internet on my phone, but sometimes my director influences me to use WhatsApp which is something I don’t like – but I did it for two months I think and then I decided no!, not anymore!…because I didn’t like it at all, you know like everyone is talking all the time and telling you whatever all the time on the group messages they add you to without asking…some people just saying
like “Hi ya kuky” and then ding, ding, ding, ding, ding… (imitating the notification sounds of her phone) it makes you crazy.

One participant was more active in the afternoons and chose to switch her phone off most nights and on a weekend evening. The most utilised application (see appendix C) by all but the one participant, who preferred texting, was calling and chatting online

5. Discussion and conclusion

The January 25th, 2012 uprising was also a revolution for Egyptian women in that they increased their participation in the public sphere both online and offline (Castells, 2012; e-marketing Egypt, 2016). Perhaps this was an attempt to reclaim some of the freedoms and respect that is perceived as prevalent under the influence of a modernised Egyptian monarchy and the British occupation that many lament as lost during the rise of political Islam over the past three decades. One of the many changes that came under Nasser was the opening of emigration and the ability to work overseas. Many women felt that since the men in their families were forced to find work outside of Egypt, like the 1 million or more who ended up in the gulf states, that they brought political Islam and their conservative systems home with them. Yet, this does not explain then why there is not an equally alternative influence from the over 1 million or so who went to the USA and Europe. In a post-revolution Egypt, author Mona Eltahawy poignantly reflects in her work “Headscarves and Hymens” (2016), that it is an inner “personal revolution” that reconciles with the outward political revolution that is required from the “tyrannical forces of tradition” by both sexes that will liberate Muslim women. Eltahawy also asserts that if the economically independent and educated women of Egypt do not “push against the system, if they do not recognize the levels of privilege that

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10 VOIP calls are technically not allowed as they are competition with the National Telecommunications company and there has been controversy over allowing the use of applications like Viber, Skype, WhatsApp, etc that circumvent the charges for calls and texting on mobile carriers when one has access to free Wi-Fi as reported on October 6th, 2015 in Mada Masr.
cushion them, and that this privilege obliges them to push against cultural barriers, then what chance do our societies have?” (2016). When Egyptians marched for “Bread, Freedom and Social Justice” were they ready to accept all forms of freedom, such as women’s freedom or individual freedom, like her freedom to marry or not marry, or to bear children or not, or to pursue a career or not, as she sees fit (Castells, 2012)?

The public backlash and resulting political instability that has ensued since the revolutions continues the marginalization of women and youth, especially online with bloggers and page admins being arrested (Castells, 2012). This situation continues to hamper overall national development. The threat of sexual assault is still actively utilised to subjugate women and limit their desire or ability to participate in the public sphere, which is why many feel it is safer to participate online. Women who do not travel by private car feel that having and using expensive smartphones away from home, increases their risk of assault or larceny, especially when they take public transport. The mobile devices can also provide another platform to intimidate, harass and subjugate women. This means that mobile phones provide less autonomy and more subjugation on one level, but more autonomy and circumvention on another when they are able to use it to take up fighting an issue for themselves such as using HarassMap or creating a blog. It is also more common for young women (but not young men) to have the use of their mobile phone monitored and their ability to participate in public life controlled by their families, who want to protect them from harassment and untoward admirers in addition to “protecting” their family honour. That said, most of the young women interviewed were all aware of how to circumvent such control, and how to use applications to increase their independence. Such as how one young woman interviewed admitted to convincing an older sister to procure an additional SIM card for her so that she could thwart
her father’s censorship of an illicit relationship and communicate with a young man without
his phone number being listed on the invoice her father receives.

Mobile phone applications enable the use of technology productively to maintain
work or study networks, facilitate work/study while making long commutes and access to
information and knowledge sharing to assist work/study away from home/work/school. As
with public spaces (Najmabadi et al., 2013), men dominate sports in Egypt, so the
participation in sports either as an athlete, or as a spectator/supporter or even as a coach is
helping to break boundaries and old perceptions. Mobile technology not only enables young
women to procure equipment not available to them in Egypt, it also provides a platform from
which to share knowledge, access import information, and publicize Arab women in sport, as
well as engaging with other women interested in sports (in and outside the Arab world) and
providing role models for younger Egyptian girls

Women are using mobile technology in many gainful ways, such as through
maintaining employment in one or two sectors while staying connected to family for safety
and security, promoting their work through portfolio presentations online; accessing
applications and websites to apply for scholarships or employment; accessing general
knowledge for any desired personal development and social change; and sharing with others
for socio-economic change such as sharing information about reproductive health or female
genital mutilation (affecting some 90% of the female population in Egypt), while improving
knowledge for all. In this way mobile technology can be seen as increasing independence and
participation in the local and global socio-economic spheres but lack of essential services and
the reinforcement of hegemony encourages women to believe that their most valuable
contribution to society is to stay at home, as reported and predicted by Castells. This makes it
difficult to assess whether or not that the women who say they are choosing to stay at home
over a career, are actually making that their choice and not acceding to an enforced obligation. Many want to pursue further education or training or careers but are either not taken seriously and expected to be married with children by 29, or are forbidden to do so by their fathers. Egyptian women experience more limits and challenges to their autonomy without their phones and they generally see themselves as strong-willed and independent.

Mobile devices can be either a useful tool or a time-consuming distraction away from things that matter, but there is tremendous pressure to connect from family and friends who demand to know where they are and what they are doing and if they are safe, which can be both subjugating and liberating. Traditional Egyptian ways also have great value to many participants - so there were participants who felt they were forced to use new technology but didn't like it or feel it was compatible with their Egyptian values and practices, while others tried to integrate what they like about the old ways with what they like about the new, and in this way they both accept and resist the dominant values imposed on them. Mobile devices are perceived as creating social change that is both positive and negative by participants, as it can be just as disconnecting as it is connecting. They see that mobile technology is keeping them connected to their favourite people during crisis and to the global diaspora in search of employment and/or better opportunities &/or experiences. And yet they are aware that they often lack motivation to talk to someone face-to-face, even when they are in the next room, when they can just send a quick text.

Smartphones are seen as devices that can be accessed in their mother tongue and are compatible with their beliefs and values whereas tablets are just for fun (no one in the group used them for reading) & laptops are seen as work devices that through their design and expectations reinforce occident ideas of work and structures. All the women interviewed are part of families that have one or two professional parents and access to resources so they all
had the opportunity to be early adopters although some of them chose to be late adopters and two were even "by-force laggards" meaning that they do not like or want to use the technology but feel they have no choice due to the expectations of work and school that are based in occident dominant ideologies. Access to technology is important for their personal development but comes at the price of freedom of expression and lack of privacy – either online or offline (perceptions of social media & police monitoring). An unstable/authoritarian state is not supportive of development and access to ICT is limited even for those who can afford it. Security is also an issue as it is either not enough or so restricted it prevents access. The state has access to everything – so there is no such thing as digital privacy. Maintaining data like photos or contacts is also difficult if there is no privacy and no data connection to synchronise back-ups and the device is lost or stolen – and then the issue of security is reintroduced. If there are any creative works or photos then personal and intellectual property rights are at risk...there are no servers in Africa or the Arab states so everything has to be mirrored from mainland Europe - like everything in Africa, telephony is underserviced even for affluent neighbourhoods and the areas that have high paying subscribers, and for the state things like 4G or broader bandwidth are not priorities when you have Da’ish invading your borders. Most participants subscribe to the stereotypes of dominant ideologies such as through melodramas on TV. Mobile technology actually maintains exposure to repeated messaging of hegemonic ideologies through entertainment, advertising, music and social media. There is significant valuable knowledge that could be shared and archived if there was less hierarchy of language not only on a global platform but also within Egypt itself by supporting more content in Ameya.

Not all participants aspire to careers and all respect any woman's choice to devote themselves to the unpaid work of caring for the family and the home. Technology plus
agency means women are inventing their own ways to combat violence and harassment in the absence of state enforcement - through online platforms to raise awareness, inform and educate. As previously stated economic growth is important but is not the aim or metric of socio-economic transformation whereas levels of political participation, personal security and justice are. That said however, there were many services and features that the participants noted were *not* available to them that they would otherwise take advantage of as they have been reported in other similar regions as being foundational to socio-economic transformation. For example the ability to access healthcare and more education; or to do online banking; or transfer money; mobile voting and other civic transactions like receiving benefits or paying school fees; and receiving notifications through mobile technology. There is no system to apply for a renewal of driver’s licence or registration online, national identification, visas or any government documentation that maintains continued opportunities for corruption and fraud. Even the simple act of recharging subscriber phone credit must be purchased in person and cannot be done over the phone or by the Internet as these types of transactions are seen as an opportunity for fraud. Even access to innovative mobile technology hardware designs is limited.

As predicted in the literature, the young women interviewed are using mobile phones to stay connected with their favourite people while being aware of their lack of privacy in doing so. They also favour texting over calling and expect replies within seconds. They perhaps exert more effort than occident young people to connect to others due to their strong belief in the importance of face-to-face connections. All felt the burden of being tethered but coped with it differently, ranging from disconnecting to putting up with the 24/7 flow. They can definitely not be considered deficient in intellectual or language education or lacking in critical skills or interest in the world in comparison to their US counterparts as suggested by
Bauerlein (2009). They have illustrated that they do indeed learn from the innovative utilities or peer-based social media; they share their cultural and knowledge productions with the wider world. However using ICTs to reimagine their creative and civic identities does not seem to be within their purview.

Although the women interviewed appear to have internalised typical gender tropes by thinking they have no capacity for technology, regardless of their level of training they all appeared to cope with new technology fearlessly and felt they could accomplish anything they needed to with the help of their peer network and online videos. Fear of harassment, violence and family dishonour, as well as a lack of opportunity and knowledge, keep the majority of women interviewed from participating fully in the public sphere. Even with more education, skills and resources than average, participants divulged facing the same key barriers as most women from LMICs outlined in the GSMA studies, as well as exhibiting similar patterns of behaviours as women in the afore-mentioned studies by Castells.

None of the women interviewed felt that they required any assistance from transnational organizations or agencies. With the exception of one woman who was from a displaced Armenian family, all the women interviewed identified strongly as Egyptian, and to them this meant they were super resilient, strong-willed, independent-thinking, educated, clever, and talented young women, regardless of their mixed ethnic backgrounds, religions or foreign influences. Even in this small group the researcher could not fit them into a homogenised grouping to fit the international ideas of “Arab women”. Some wore a hijab and some did not, but all followed their own “dress code” whether Muslim or not, that fit into socially accepted standards and local young women’s fashion trends. All perceived themselves in general as having agency, especially regarding economic issues, while acknowledging the limitations of that within the parameters of a patriarchal society, not
unlike those of the west and yet different in many ways. Interview results reflected the WVS findings in that there are different cultural expectations in Egypt compared with occidental countries with more emphasis on community and family values, a greater submission to hierarchies of authority that make deviance less likely and adherence to traditionalist values more likely, including narrowly defined gender roles, even among those who support the convictions of the revolution. With recent seditious events and rising costs many Egyptians are convinced by assertions that while the government is committed to “upholding the values of democracy” physical and economic security must take precedence over the “occident perspective” of individual freedoms or expressions to maintain national security & stability (Al Ahram, 2016). This is also evident in the fact that although all of the women interviewed had more freedoms, resources and education than the vast majority of women in Egypt (Unicef, 2016; UNDP, 2016), with occident ideals of lifestyle, only a few had any drive or ambition to be “active citizens”. They are all well aware of the injustices, inequity and poverty that exists and yet somehow they seem slightly removed from it as most feel they are not directly affected with the dramatic events exhibited in the media, other than harassment or paternal authority. They see the actions of other young people fighting for rights and justice as a vain attempt to instigate change that only ends in exile, arrest or worse.

Encouraged by the Arab Spring, more individuals in general, including youth and women in particular, have found the courage to stand up and speak out for an end to inequities and injustices, including some of the women interviewed. Participants all believed that technology is an asset in facilitating change, although not everyone could articulate exactly how. While it cannot be said that the participants were actively resisting hegemonic messaging per say, they were not fully cooperating with it either. There was unmistakable parroting of patriarchal conditioned beliefs, such as an overarching sense that the work or
opinion of their fathers, brothers or uncles was more important than their own contributions, opinions or goals. There was also a lower sense of self worth by women who were not married or courting a fiancé. Participants felt they had a choice whether to pursue a career or aim for marriage and raising a family, saying they were of equal value, and yet there seemed to be a slight note of disdain detected for women who “merely stay at home” in our discussions for some. In this way they are actually participating in their own oppression by unconsciously reinforcing hegemonic notions career women versus the cultural lauded position of stay-at-home mother.

Figure 8: categories of empowerment & inequity met by mobile phones

Design of our artefacts has a big effect on our world and since ICTs tend to be developed outside of West Asia and North Africa industry tends to leverage dominant paradigms of knowledge, occupations, culture, lifestyles and languages that can be oppressive or unhelpful for people in countries like Egypt. Development is transformational, but it is

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11 WENA purposely avoids the heavily biased and pejorative term “Middle East” and provides more accuracy
expected to conform to the dominant ideologies where particular ages, races and genders have the most privilege. The empowerment of women as well as access to ICT can mean different things to different women in different contexts. This study determined that harnessing the power of mobile devices does have the capacity to impact women’s empowerment in post-revolution Egypt by utilising practises and applications that tackle underlying socio-economic, political and cultural causes of inequality (see figure 8 above) toward sustainable development. As mobile phones become more and more normalized within our life-worlds characterized by a consistent telecopresence, it is evident from this research that it has the potential to both facilitate and frustrate young women’s empowerment in Egypt. Although it appears that inroads of individual development, into equity and autonomy along with socio-economic gains are limited for Arab women in Egypt, whose lives and social settings are diverse, the overall picture that emerges is one of some expanded choices and small gains in power through mobile technologies. Yet these gains are relative to the other choices for women in what is a LMIC, patriarchal society. Nevertheless, Egyptian women’s struggle for empowerment challenges many neoliberal norms that can lead to broader socioeconomic and political transformations. And, that although there is plurality among women, there does seem to be enough that is broadly in common to generate some common targets regarding women and technology. This can be accomplished through enforcing the new Egyptian constitution that protects gender equality, minority rights and citizen inclusion in decision-making processes and institutions. However what “women’s rights” looks like beyond that, should be up to the women themselves to decide, not their fathers, husbands, uncles, brothers or sons, any more than foreign industries or agencies, no matter how well meaning.
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Appendix A: Interview coding index

This study examined four primary research questions, all of which involve the perceptions of users regarding their mobile phone use: The central aim is to discover if harnessing the power of mobile devices can impact empowerment:

1. What are the motives of using mobile technology functions beyond voice/other ICTs?
2. How are mobile phones being used as a tool to access and use information to improve self-sufficiency, socio or economic growth and/or self-determination?
3. What are the top goals/behaviours accomplished with a mobile device?
4. Are there any challenges and/or particular barriers faced using/wanting to use mobile devices?

General interview themes

01. Discuss background & general demographics to break the ice
   a. Discover the overall perception of technology & utility of device

02. Talk about use of mobile technology in general
   a. Including motivations, influences, challenges & aversions

03. Dig into public/private relationships & power structures there
   a. Including self-sufficiency

04. Explore socio-economic growth & change
   a. Delve into women’s perspective & issues affecting mobile technology
<table>
<thead>
<tr>
<th></th>
<th>Motives</th>
<th>Applications</th>
<th>Goals</th>
<th>Challenges/benefits</th>
</tr>
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<tbody>
<tr>
<td><strong>TRANSFORMIST</strong></td>
<td>• Connect with favourite people &amp; new people for sharing/ marriage options</td>
<td>• Truecaller • Facebook • Instagram • WeHeartIt • Messenger • WhatsApp • Viber • SnapChat</td>
<td>• Independence • Share &amp; access knowledge &amp; info</td>
<td>• Surveillance/censorship • Not “real” • Build new relationships &amp; • Maintain old ones • Increase privacy • Improve resources</td>
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<tr>
<td><strong>SCEPTIC</strong></td>
<td>• Constant connectivity • Entertainment</td>
<td>• Facebook • Twitter • YouTube • SoundCloud</td>
<td>• Virtual mobility • Safety • Security • Convenience</td>
<td>• Lazy/distracting • Disconnecting/controlling • More exposure to dominant ideologies • Over-stimulating/semi-crisis/semi-alertness • Security/safety • Less lonely/time-saving</td>
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<tr>
<td><strong>CONTINUIST</strong></td>
<td>• Independence • Safety • Health • Spirituality • Memory</td>
<td>• HarassMap+ • PeriodTracker • Nike training club • MediAlert • MuslimPro • Wazzuf+ • Automatic call recorder</td>
<td>• Share &amp; access knowledge &amp; info • Improving equity &amp; opportunity specifically for women</td>
<td>• Lack of local language • State policies &amp; practises • Peer networks • Knowledge/info sharing • Perform duties on time • Self-directed, self-development • Maintain health</td>
</tr>
</tbody>
</table>
| PROVISIONALIST | • Avoid harassment  
• Independence  
• Tasks/errands  
• Expenses  
• Time  
• Risk | • Trucaller  
• Ousta +  
• Drinkies +  
• MWord +  
• FemiHub+  
• iCloud+  
• GPS  
• eMail  
GoogleDocs+ | • Socio-economic changes | • Work anywhere, anytime (+/-)  
• Control over personal comms/eliminate spam  
• Save time/money  
• Improve independent/safe travel  
• More productive/less worries |

*Figure 9: interview coding index*
Appendix B: participant mobile usage log template

For each part of the day participants were asked to tick all the features that they used in the specific time period and to summarize in a notes section their thoughts about their usage, such as why they utilised the feature or what they gained or failed to gain from a function, along with any any surprises or discoveries they had creating the diary.

Figure 10: Participant mobile usage log template
Appendix C: Glossary of Applications used by participants

C.1 Calls & SMS/MMS & messages

WhatsApp /Messenger – cross-platform multi-media messaging/calling using the Internet with Phone and/or social media contacts

Viber/Skype/imo – cross-platform multi-media to share photos, videos, text messages, video calls & voice calls using the WiFi

TrueCaller – detects the unique IMEI# of the caller’s device & uses crowd-sourced data to ascertain identity of caller

C.2 Social networks

Facebook – the world’s largest social media platform to connect people

Facebook lite – lighter version for reduced memory and data usage

Twitter – microblog of in-the-moment updates

Line - cross-platform multi-media to share photos, videos, text messages, video calls & voice calls using the WiFi

SnapChat - video based social network platform

Instagram – image based social network platform

Tinder - meet new people (dating app)

Mico - meet new people (dating app)

Azhar - meet new people (dating app)

C.3 E-mail

Gmail - email application for mobile
C.4 Internet

Utilities

DU battery saver & fast charger - battery optimiser

AppLock - adds security passcode for each individual app

Superbright LED Flashlight - use mobile camera flash - also strobes

Shopping/services

OLX Arabia - buy & sell gently used items

Souq.com - buy & sell gently used items

Yumamia - another Egyptian innovation to order home-made & local meals

Otlob - order meals from chains

Drinkies - order alcoholic beverages

ElMenu - browse menus of local restaurants & order take-away

Safety/Assistance

Yalahwy - sends location to favourite connections

Harassmap - action/report/help regarding sexual harassment

FemiHub - safe employment & housing for single women

7ad y3raf - peer support network

Photo/videos

CandyCamera - camera filters

Retrica - camera filters

PicsArt Photo Studio - camera filters

B612 selfie - camera filters

Google photos - cloud back-up of photos & videos

BeautyPlus - selfie editor - camera filters
Youcam makeup - makeover camera filters & makeup tutorials

Work/Study

Automatic Call Recorder – records and archives calls

Microsoft Word- word processing

Hola launcher - simply, organize & personalise phone, Google’s best app of 2015 award

Dropbox – synchronized cloud storage service

Google maps – GPS based mapping application

Google Drive– synchronized cloud storage service

Google Docs – creates, archives & shares word processing, presentation or spreadsheet documents

G-mail – Google email

iCloud – synchronized cloud storage service

Shareit - super fast cross-platform file transfer

Translate - machine translation in 90+ languages

Religion

Fajr up - Islamic application for Fajr ((Muslim pre-dawn prayer) - Islamic mobile applications generally alert users to the 5 daily Salahs (prayer times) as they change slightly depending on date and geography (location of the sun), and the Qibla (the direction of the Kaba in Mecca for prayer)

Entertainment

SoundCloud – audio based social network platform

YouTube – video based social media platform

We Heart It – image based social media platform

Shazam - matches input with music database & discover new music
Candy Crush Saga - game

Bubble shooter - game

Keyboard - emoticons

Transportation

Uber – transportation network of private cars and drivers for hire (American)

Careem – transportation network of private cars and drivers for hire (Emiratian)

Easy Taxi – online taxi booking service (Brazilian)

Ousta – transportation network of private cars and drivers for hire (Egyptian)

Bey2ollak - user-based traffic advice & information

Health

Period Tracker – application for tracking menstrual cycle

Nike & Training Club – application for sports training