ECONOMIC AND SOCIAL EFFECTS OF MOBILE PHONE USE IN MOROCCO[1]

Hsain Ilahiane
University of Kentucky

John Sherry
Intel Corporation

Mobile phone ownership in Morocco has leapt from zero percent to two thirds of the population in less than ten years of commercial availability. This rate of penetration underscores the degree to which the mobile phone has become part of everyday routines and serves various communicative needs (ANRT 2007). Ethnographic research among urban laborers indicates that mobile telephony is a resource for human agency and action, and its use has resulted in greater personal income by increasing economic activity and enabling informal income-generating possibilities. (Mobile phones, income-generation, social networks, Morocco)

The cell or mobile phone goes by many names around the world and in nearly two decades has become essential to billions of people. As a portal for communications, asynchronous messaging, entertainment, and information, the mobile phone has become the manifestation of the "digital age" for many of the world's poor. Amid the growing body of literature on the cultural effects of mobile telephony in affluent countries, little attention has been given to technological adoption as a direct outcome of socio-economic needs and behavior in the developing world.

The economic and social impacts of mobile telephony in Morocco are an example of the correlation between socio-economic need and technological adoption. Between 1998 and 2007, the country has gone from no phone ownership to 20.5 million subscribers; around two-thirds of the population. This adoption rate is the result of two contributing factors: the economic reforms undertaken by the state in the mid-1980s, and the ease of use and creative entrepreneurial deployment of mobile phones. This penetration underscores the degree to which this new technology has become part of everyday routines and serves various communicative and economic needs (ANRT 2007). For example, Maroon (2006) and Bowen et al. (2008) describe how the mobile phone affects gender communications in and outside the home, and equips users with ways to evade the religious and cultural taboos associated with sexual behavior without breaking the rules.

This article is concerned with how urban skilled and semi-skilled laborers use the mobile phone to organize their work. Its use increases productive opportunities by expanding social networks, reducing risks associated with seeking employment, and enabling freelance service work (*bricolage*) which increases income.

THE MOBILE PHONE

With the privatization of telecommunications in the Global South and the availability of inexpensive mass-produced mobile phones since the late 1990s, it is now common practice in world development circles to distinguish between information-poor and information-rich societies, each group showing distinctive indicators linked to the availability of mobile digital technologies. Since the publication of seminal articles by Ball (1968) and Aronson (1971), and the edited collection by de Sola Pool (1977), few studies on the history and development of the telephone appeared until the 1990s (e.g., Fisher 1992). Current studies on mobile phones are mostly centered on its social dimensions in affluent regions such as Scandinavia, North America, and Japan. These studies deal with a wide range of issues and include how mobile phones have destabilized personal and communal space (Sherry and Salvador 2001; Ling and Pedersen 2005; Glotz et al. 2005; Kavoori and Arceneaux 2006); how digital technology invades public settings, as in transportation and schools; how youths pattern voice and text messaging to escape parental or societal monitoring (Ito et al. 2005; Katz and Sugiyama 2005; Ling 2004, 2008); and how the capabilities of mobile phones extend to entrepreneurship, banking, e-learning, and health delivery systems and become an instrument for political mobilization (Goggin 2006; Donner 2006, 2008).

On income-generating opportunities related to cell phone use in Jamaica, Horst and Miller (2005) write that its primary use is to maintain and refresh local and non-local networks in order to cope with economic uncertainty. To "link up" is the way Jamaicans keep personal and kinship networks active and tapped into when social and economic needs arise. This includes facilitating the participation of emigrants in the lives of their children, regular transfers of remittances, explorations of transnational marriage, and pursuit of sexual relations.

Samuel et al. (2005) examined the use of mobile phones in South Africa, Tanzania, and Egypt and found that 60 percent of the surveyed micro-entrepreneurs in each country reported that the mobile phone has contributed substantially to their business profits. In Rwanda, "micro-entrepreneurs use their mobile phones to increase the frequency of their contact with friends, family, and existing business contacts and to facilitate new contacts with business partners, suppliers, and customers" (Donner 2006:14). Molony (2008) found that mobile

telephony has a limited role in the economic and social lives of Tanzanian workers because they prefer face-to-face communication in their daily activities.

Townsend (2000), an urban planner, states that mobile phone communications are constantly reconfiguring the way in which urbanites deal with spatial and temporal constraints of the urban environment and that "the mobile might lead to a dramatic increase in [urban] . . . activity and productivity" (Townsend 2000:14). As a device used for the micro-management of time, the mobile phone fosters a "*carpe diem*" attitude towards manipulation of opportunities in different locations and succeeds in fusing chaotic urban interactions and disjointed networks into coherent and centralized sets of activities.

Missing in much of the prior research is a focus on the economic and social impacts of mobile phones on individual users. Many among those who informed this article see the world as consisting of those who are poor and submissive, with limited economic mobility, and those who are rich and have unlimited opportunities. Choices made by the urban poor are aimed toward escaping the grinding poverty of slum dwelling, unstable employment, and unpredictable urban transport systems. Their choice of technology investment is to directly support their aspirations. Evidence suggests that mobile phones make a financial difference in the lives of users. As will be discussed, the *passe-partout* mobile phone is used to both intensify and extend local and non-local forms of communication. In so doing, users have been able to create and sustain social ties, thus providing economic opportunities that would otherwise be impossible.

The Mobile Phone in Morocco

In the 1980s, facing a negative balance of payments, severe budget deficits, and the burden of servicing international debts, Morocco subscribed to the World Bank and International Monetary Fund packages of structural adjustment policies known as the "Washington Consensus" (Williamson 2000; Rodrik 2006). This led to a fundamental shift from the state-based economy planning to a free-market strategy in which Morocco opened state-run monopolies to foreign competition. In the mid-1990s, recognizing the importance of promoting high-tech industries for their potential to create jobs and revenues, the state revamped its tariff regime and established a new administrative framework for the rapid adoption of information technology. The Moroccan government has since then increased its investment and adopted policies favoring the use of mobile technologies such as wireless telephony, computers, and the internet to boost business, enhance efficiency, and accommodate to the new international requirements of E-commerce with the European Community (Hajji 2001).

No sector of the Moroccan economy has felt the force of these measures more than telecommunications. Morocco's Post Office and Telecommunication

Act of 1997 created a favorable business climate for the liberalization and privatization of the telecommunications industry. In 2000, French media and telecommunication group Vivendi Universal paid US$2.4 billion for a 35 percent stake in Maroc Telecom, which was increased to 51 percent in 2004. The Médi Télécom consortium paid US$1.1 billion to acquire the second GSM license. In 2007, the nation's third telecommunications company, Wana, a subsidiary of Omnium Nord Africain (ONA), entered the telecommunications market (Ilahiane and Sherry 2004; ITU 2001).

One of the most significant changes in the telecommunication deals in Morocco is known as "the new culture of the market." As one Moroccan tele-communications official put it, "by catering to the diverse needs of consumers, the new Telecom operators have been successful in fostering not only a culture of 'consumer is king', but also managed to smooth the transition to getting consumers used to the idea of new technological features and types of mobile technologies." Adoption rates of cell phones in Morocco, for instance, are pegged directly to the prepaid calling cards and plans. Even when these plans expire, they still allow customers to receive calls, thus providing a crucial bridge in service and marking an important innovation in a culture once dominated by state bureaucracies. To obtain a land-line subscription, state bureaucracy required a regular salary to pay the monthly subscription and the application for phone service took an average wait of about six to seven years. In addition to the inefficient and time-consuming workings of state bureaucracy, the requirement of a regular salary made it difficult for the majority of the people to have access to phone lines, given that the country has had high levels of unemployment and a large percentage of its active population has been engaged in the informal sector.

The success of mobile telecommunications in Morocco owes something to the informal sector as well, particularly the informal markets (*Joutias)* that promote and make electronic goods accessible to consumers. The Joutia shops and street vendors of mobile phones trade mostly in smuggled and used electronics. For a very large number of the population, the Joutia is the place for buying and selling high-tech goods. These often are available as soon as they are released in Europe or North America, at prices that attract farmers, skilled laborers (*hrayfiya*), doctors, and even government officials. An informal economy in information and communications technology has been well established in Morocco. Places such as the Darb Ghallaf in Casablanca have become renowned as sites that receive the latest technologies before they hit other markets. Even with a minimal level of education and income, artisans, peasants, plumbers, carpenters, maids, mechanics, and taxi drivers are the beneficiaries of these new technologies and go to the Joutia to make their purchases (Ilahiane and Sherry 2008).

The uptake of mobile phones has exceeded even the most optimistic market projections, given that the country is classified as low-income, with an annual per capita income of US$1,200. Morocco has 20.029 million mobile subscribers, up from 16.005 million at the end of 2006 and 2.550 million in 2000. Mobile penetration has reached 65.66 percent of the population, and only about 4 percent use postpaid services, while the rest are prepaid (ANRT 2007).

RESEARCH METHODS AND FINDINGS

Research for this article on mobile-phone use and its effect on economic productivity among skilled and semi-skilled urban micro-entrepreneurs was conducted in a shanty town near Casablanca called Mohammedia. This study examined how the mobile phone creates and augments business opportunities and social networks. It also investigated daily calling practices by analyzing incoming and outgoing logs of voice calls, the proportion of personal and business voice calls, and landline phone usage. In addition to participant observation, structured interviews were conducted with 32 micro-entrepreneurs in the summer of 2003, recruited via a snowballing technique. In Moroccan Arabic micro-entrepreneurs refer to themselves as hrayfiya or those with *harfa*, a skill or trade. They include plumbers, carpenters, electricians, tilers, maids, and construction workers.

The interviews covered demographic and socio-economic characteristics (residence, household size, occupation, gender, age, marital status, years of education, and ethnicity), as well as an inventory of communicative technology (bicycles, mopeds, cars, radios, televisions, fax machines, satellite dishes, personal computers, access to the internet, mobile and landline phones, mobile-phone fees, mobile-phone brands, and name of mobile-phone provider). The daily frequency of personal and business voice calls, the annual income difference before and after the use of mobile phones, and the contribution of freelance service activities to one's annual revenue were also studied. Interview data included the type of person, or call-partner, with whom each communication was made (family, friend, neighbor, supplier, employer, employee, or business partners), the content of that call, and its place of origin. The interviews, conducted in Moroccan Arabic and Berber, included questions on users' attitudes towards the transformative qualities of the mobile phone and on stories about its economic multiplier effect and delocalization of business networks.

Of the surveyed sample, 26 participants were men and 6 were women, with a median age of 31 years. Most were schooled in Quranic or in modern educational institutions. Four were illiterate, eight attended secondary school, and none had further formal education. Twenty-four were Arab and eight were Berber. The

respondents included seven plumbers, three carpenters, six ceramic tilers, four construction workers, five electricians, and seven maids.

How mobile technologies related to other means of social contact were explored. This included identifying the mean number of bicycles per respondent surveyed (1.5), mopeds (1.3), video players (1.03), radios (1.5), televisions (1.25), and satellite dishes (1.5). While ownership of traditional forms of mass media appears to be fairly ordinary, the average number of mobile phones per respondent is 1.3 and the number of mobile phones acquired over the last five years was 3.0. While none owns a personal computer and access to the Internet was negligible upon calculation, all respondents had mobile phones and one respondent also had a landline at work.

Quantitative evidence on usage patterns of mobile phones for personal and business calls shows a monthly mean of 38.06 personal calls and 102 business calls per respondent. The analysis also shows that respondents spend a monthly average of 130 Moroccan dirhams (US$13) on prepaid calling cards, and about 77 Moroccan dirhams (US$7) on public (*téléboutique*) phones. On average, respondents spend about 4.8 percent of their monthly income on telecommunication fees, 3.8 percent on prepaid calling cards, and 1 percent on public phones.

SOURCES OF ECONOMIC ADVANTAGE

Network Expansion and Activation

The mobile phone has been commended by respondents for making available financially rewarding bricolage jobs as well as contributing to the bottom line of their businesses. They also emphasized its help in expanding the size and scale of their operations. This has also been reported by Rwandan micro-entrepreneurs who use the mobile phone to increase their business contacts and to facilitate new contacts and leads with business partners, suppliers, and customers (Donner 2006). Granovetter's (1973) suggestion that when seeking jobs or political allies, distant acquaintances are more valuable than one's ties to intimate friends or relatives who operate in the same social and economic niche seems to hold true among the Moroccans. Respondents illustrated this point in many stories about how the phone is a means of staying in touch (*tawassul*) and remaining up to date on what is happening in the economic scene. One electrician said, "When I met Youssef, we worked on a job together in Meknes [210 kilometers from Mohammedia]. He was a nice guy, but after the end of the job, the relationship was over. Now the phone allows us to keep in touch. I have him (meaning his number) in my phone and he has me in his." A plumber remarked, "One week I had

nothing to do. I called my friend in Fez. He knows I'm a good worker; he told me there is work."

Locally, the mobile phone appears to augment relationships with worker friends. It is a channel by which to refresh and extend relationships. Strengthening ties depends on a mélange of place-based and interest-based networks. An example of this is a plumber who also owns a small plumbing supply shop. He has ties with carpenters, plumbers, electricians, masons, roofers, tile makers, and maids. The mobile phone enables him and his contacts to respond rapidly to a need or opportunity. The plumber himself occupies a privileged position within his network by virtue of his store. It is where people go when they do not know where else to turn for help with their household building needs and plans. The plumber keeps and manages a directory *(kunash)* listing names and mobile phone numbers of skilled laborers. He also tells customers about the location and the availability of any of his associates; in short, he matches service seekers with providers.

The plumber's own network of relations consists of place-based and interest-based interactions, occurring at the café, soccer field, mosque, and job sites. At these locations, working relationships and bonds of trust are formed, and information about opportunities is exchanged along with verbal banter and teasing, where discussions about the relative merits of techniques, tools, other workers, and clients take place.

Building on Gittel and Vidal's (1998) differentiation between bonding (inclusive) and bridging (exclusive), Putnam (2000:13) argues that while bonding social capital shores up narrow and local interests, bridging social capital can result in extensive and broader forms of reciprocity and networking. The time and space compression of the mobile phone aligns complementary sources of employment, such as shopkeepers, worker friends, and neighbors. It speeds up urban interactions and fuses disjointed networks and activities into coherent and centralized sets of activities (Townsend 2000). It simultaneously bonds and bridges users along and across close and distant social and economic dimensions. This is why the mobile can provide social and economic benefits.

New technologies do not necessarily succeed by displacing other modes of contact. The plumber's modest store illustrates how new technologies instead add to existing systems. Previous means of connectivity, such as bicycles, mopeds, and public transportation contribute to the viability of social networks. The mobile phone provides the plumber's customer an instant connection into a network of vouched-for contacts, and gives the plumber a chance to make another sale, as he might supply the contacted workman. It also gives the plumber an opportunity to enhance his social capital or his prestige within the network and with those whom he has referred. Mobile phones thus enhance, rather than displace, others in a network.

Bricolage

An easier access to social networks enhances the ability to engage in what Moroccans call bricolage, which is augmenting one's income by freelancing in supplemental labor. Bricolage jobs for skilled laborers include home repairs and improvement, and usually occur after normal work hours. Such projects range from fixing leaking water pipes to installing water heaters to major renovations. Bricolage accounts for 31 percent of a respondent's monthly income.

Bricolage is not only for semi-skilled laborers; many maids live with their employers, some of whom report that the mobile phone enabled them to "get out of the house," at least virtually, by calling their parents and friends, something they could not previously do. The mobile phone also helps many of them serve other households, allowing them to be more fluid in their location and engagement of work. Just like the semi-skilled laborers, the mobile phone allows them to augment their income by moonlighting.

Employment Seeking and Entrepreneurial Impulses

All the respondents stressed the importance of owning a mobile phone, and emphasized that having one gave access to job opportunities. For these reasons, many respondents said that they did everything they could; even borrowing money from relatives and friends, to buy a mobile phone. One carpenter declared, "The mobile is very important for the hrayfiya community in terms of communication inside and outside Mohammedia, you are here and there at the same time. The mobile brings work and moves you forward here or anywhere else where jobs are available; that is the secret of the mobile." One plumber said:

It is my lifeline to earning my bread and to keeping in touch with my family and friends here and in other places. In addition, you must get one as employers and potential employers always ask for a mobile phone number; with it I have increased my economic earnings. . . . There are five pillars [in Islam], but the mobile phone is the sixth pillar of Islam.

One of the mobile phone's benefits is that it lowers the cost and risk of finding work. The mobile phone has enlarged the distance these hrayfiya travel to find work. One plumber traveled from Mohammedia to the city of Dakhla (2000 kilometers away) where a company had a contract to build schools. When one employee (a plumber) was let go, he called his plumber friend to find him a new job and was soon working again. The mobile phone is advantageous for the worker and the hiring party, especially in the case where a construction company does not want to keep a regular workforce in order to save money.

Consider the situation of a 54-year-old master tile layer. One of his dreams was to expand his operations and "export" his skills beyond Mohammedia, where there is more money. Many attempts to do so failed because of constraints and costs associated with transport, supervision efforts, and communication. Only with the emergence of the mobile phone could he envisage working "here and there." With a mobile phone, long experience in tile work, and a good reputation, he finally became a contractor, and today has three work crews in multiple sites in Mohammedia and Rabat. The mobile phone has enlarged his circle of opportunities. In his opinion,

it is like a saint to whom you go to solve your problems and concerns, and it works miracles for you. It is a blessing (*baraka*) that I can sit here in Mohammedia and check on my associates and get information on their progress. There is nothing like it and the money is good.

COMPARING RESOURCE COSTS

How does the mobile phone compare as an investment if other options are available at lesser prices? To answer this question requires some indirect evidence, which comes by way of the rapid adoption of snowmobiles by the reindeer-herding Finnish Lapps (Pelto and Müller-Wille 1972). The snowmobiles were used to round up reindeer herds and to carry food supplies, firewood, and water. In contrast to the slowness and difficulty of the dog sled and reindeer travel, the snowmobile shortened travel time. "Expeditions to the stores or trading posts that in earlier years required a two-day round trip can now be made in a few hours" (Pelto and Müller-Wille 1972:173). Early adopters of these machines were able to speed up reindeer herding activities, intensify social networks, and also make money by selling transportation services to people. Despite snowmobiles being very expensive, the Lapps were willing to risk the depletion of their capital assets to acquire them.

Although the snowmobile and the mobile phone share several mobility properties such as coordination, speeding up, and delocalization of economic activities, the mobile phone is different in many ways. First, while the costs of owning a snowmobile, a tractor, or other form of transportation has continuously risen, the direct costs of mobile phone ownership have decreased considerably as a result of the opening up of the Moroccan telecommunications markets, prepaid usage options, user cost-reduction techniques (i.e., beeping), and the generally declining cost-per-capability ratio associated with electronic goods. As a result, both the initial capital investment and continued operation of mobile phones are well within reach of many people. With many technologies, the competitive advantage bestowed by an investment decreases as others in a system adopt a similar technology. With information and communications technologies

(ICTs), the value of the investment depends directly on the number of other users, and increases exponentially with the addition of new participants as other participants in an economic system acquire the technology.

Another element to consider in comparing mobile phones to other technological investments is that its use still primarily involves human conversation, allowing users to conduct many types of transactions. Mobile phones enable users to obtain, exchange, and manipulate information. Increasingly, users are enabled by mobile phones to focus, search, and extract useful and up-to-date market information from social and business networks. Users are also able to make tentative decisions much easier than before, and are less constrained by time and place in doing so because they can give the order to "move now!" or "hold for later." Human conversation also helps to explain the advantage of the mobile phone when compared to, for instance, personal computers. Though newer technologies, like smart phones, have the power to run numerous enterprise applications, they may not be a natural progression for people who are not familiar with sophisticated business tools. While other uses, like texting for fund transfers and payments, offer great promise, the phone's utility will always be anchored in human conversation.

MOBILE PHONE TECHNOLOGY AND ECONOMIC STRATIFICATION

While cognizant of its economic benefits, there were undeniable consequences of mobile phone access and use in terms of power relationships. One carpenter, when asked about the social and economic inequality implications of mobile-phone use said:

A good reputation, trust, and seriousness are what actually distinguish one skilled laborer from another. Now, with the mobile, those who do a good job and have good social relations, and work with good intentions tend to get ahead of others. The mobile phone alone is not enough. One has to be skilled in his trade and must know how to deal with people.

Stratification is nonetheless implicit in mobile-phone use and perhaps best enhances the earning potential of those who have some comparative advantage. While the store owner increases his power and status by virtue of his multi-stranded social relations and his physical location, the disadvantaged in this changed environment include the day laborers who, lacking specific skills, do not stand out as contributors in a network of providers.

Some respondents saw mobile phones as a means of control, an annoyance, and a "headache." One master builder articulated this sentiment clearly:

The mobile phone gives more power to the people who have the means of production. This mobile phone means that I never have a religious holiday or sleep well. The owner, a bank manager in this case, in his pajamas in his villa, can call me, summon me, and call me to fix a problem on the Day of Sacrifice. What is there to be liked about the mobile?

The mobile phone also affects the productivity of labor to the advantage of the owner:

In the old days, when we ran out of cement and iron rebar, work would stop; we would have some down time. Now, the boss tells me that as soon as we are running low on supplies, to beep him, and he will make sure that new supplies are purchased from the market and delivered to the work site on time. So, we are now working harder, and getting paid for fewer hours.

Another aspect that pains the master builder and his carpenter associates is the real or imagined surveillance and intimidation that the mobile phone presents: "You never know when the boss is watching you. Is he in his villa? Is he on the road? Is he hiding just around the corner in his car or behind that little hill? He might call you from somewhere just near the work site." Before the mobile phone, the master builder had an easier life, but now he must hustle, speed up work tasks, and has no tranquility. He added, "even if I didn't buy a mobile phone, the owner would buy me one. The mobile phone works for the people with means and money, not for us poor people." He is subsidizing the banker, in a way, because it allows the banker to parallelize his operations by enabling him to inspect the building site while conducting his banking business, and thereby decrease the production time of his villa.

Just as the mobile phone reduces the costs and risks associated with travel to job sites and personal networking, it also enables greater flexibility in labor selection (and hence, less commitment to any individual worker), easier surveillance, and parallelization of effort. Such benefits favor those who are financially well off. The mobile phone fits the Moroccan way of doing business. A bureaucrat remarked that the supervisors "yell on the mobile at their workers, 'did you do this?', 'Did you take care of this?', 'Why didn't you do this?' It's part of the culture of fear and intimidation." Even the master builder has such traits to assert his dominance over the laborers and maintain his reputation as a master builder. "You don't question him, but if you don't like him, you can always move on." In this way, the mobile phone has not changed labor relations.

CONCLUSION

The use and importance of mobile phones in urban Morocco has shed light on the growing need for technological adoption to keep up economically in a quickly developing world. This article demonstrated how mobile phone users

increase income, improve business operations, and strengthen social relations. The rapid adoption of the mobile phone is due to the telecom operators' innovations and marketing strategies designed to accommodate the irregular and unpredictable cash flow of the poor. The ability of the informal sector to supply used and cheap mobile phones has also aided in their prevalence.

As a tool that allows a more flexible, self-organizing approach to matching labor suppliers with work needs, the mobile phone starkly differs from top-down development programs and other capital intensive technologies, such as personal transportation. The mobile phone enables a great degree of agency among individuals in identifying and capitalizing on work opportunities by enhancing their ability to both nurture and tap into social networks more fluidly. This reduces risks, enables free-lancing and moonlighting work, and enhances their social standing.

With regard to the importance of social networks, this research has suggested that the networks energized by mobile phones depend at least partially on place-based interactions. Yet, the mobile phone can overcome the limitations of physical space, enabling workers to travel to far-flung job sites. A tension seems to exist between place-based interactions, which deepen social relations, and place-independent interactions, which enable individual opportunities. Additional research might explore how people manage this tension, especially in places such as Mohammedia where it seems that to neglect one's local network may pose economic risk. Many questions remain, of course. This research suggests the need to explore the role of the mobile phone in the economic lives of individuals in other studies.

NOTE

BIBLIOGRAPHY

Agence Nationale de Réglementation des Télécommunications (ANRT) (National Telecommunication Regulatory Agency). Le Rapport Annuel 2007 (The Annual Report 2007). http://www.anrt.ma/fr/admin/download/upload/file_fr1525.pdf.

Aronson, S. 1971. The Sociology of the Telephone. International Journal of Comparative Sociology 12 (3):153–67.

Ball, D. 1968. Toward a Sociology of the Telephones and Telephoners. Sociology and Everyday Life, ed. M. Truzzi, pp. 59–75. Prentice-Hall.

Bowen, D., A. Green, and C. James. 2008. Globalization, Mobile Phones and Forbidden Romance in Morocco. Journal of North African Studies 13(2):227–41.

Donner, J. 2006. The Use of Mobile Phones by Microentrepreneurs in Kigali, Rwanda: Change to Social and Business Networks. Information Technologies and International Development 3(2):3–19.

———— 2008. Research Approaches to Mobile Use in the Developing World: A Review of the Literature. The Information Society 24(3):140–59.

Fisher, C. 1992. America Calling: A Social History of the Telephone to 1940. University of California Press.

Gittel, R., and A. Vidal. 1998. Community Organizing: Building Social Capital as a Development Strategy. Sage Publications, Inc.

Glotz, P., S. Bertchi, and C. Locke (eds.). 2005. Thumb Culture: The Meanings of Mobile Phones for Society. Transcripts.

Goggin, G. 2006. Cell Phone Culture: Mobile Technology in Everyday Life. Routledge.

Granovetter, M. 1973. The Strength of Weak Ties. American Journal of Sociology 78(6):1360–380.

Hajji, N. 2001. Insertion du Maroc dans la société de l'information et du savoir: pour une nouvelle vision (Insertion of Morocco in the Information and Knowledge Society: A New Vision). Afrique Orient.

Horst, H., and D. Miller. 2005. From Kinship to Link-up: Cell Phones and Social Networking in Jamaica. Current Anthropology 46(5):755–78.

Ilahiane, H., and J. Sherry. 2004. Mobile Phones, Globalization, and Productivity in Morocco. Information Technology, Globalization, and the Future. Intel.

———— 2008. Joutia: Street Vendor Entrepreneurship and the Informal Economy of Information and Communication Technologies in Morocco. Journal of North African Studies 13(2):243–55.

International Telecommunication Union (ITU). 2001. Effective Regulation. Case Study: Morocco 2001. http://www.itu.int/osg/spu/casestudies/#regulation.

———— 2008. Online Statistics. http://www.itu.int/ITU-D/ICTEYE/Indicators/Indicators.aspx.

Ito, M. 2005. Introduction: Personal, Portable, Pedestrian. Personal, Portable, Pedestrian: Mobile Phones in Japanese Life, eds. M. Ito, D. Okabe, and M. Matsuda, pp. 1–14. MIT Press.

Katz, J., and S. Sugiyama. 2005. Mobile Phones as Fashion Statements: The Co-creation of Mobile Communication's Public Meaning. Mobile Communications: Re-negotiating the Social Sphere, eds. R. Ling and P. Pedersen, pp. 63–81. Springer.

Kavoori, A., and N. Arceneaux. 2006. The Cell Phone Reader: Essays in Social Transformation. Peter Lang.

Ling, R., and P. Pedersen, (eds.). 2005. Mobile Communications: Re-negotiating the Social Sphere. Springer.

Ling, R. 2004. The Mobile Connection: The Cell Phone's Impact on Society. Morgan Kaufmann.

———— 2008. New Tech, New Ties: How Mobile Communication is Reshaping Social Cohesion. MIT Press.

Maroon, B. 2006. Mobile Sociality in Urban Morocco. The Cell Phone Reader: Essays in Social Transformation, eds. A. Kavoori and N. Arceneaux, pp. 189–203. Peter Lang.

Molony, T. 2008. Running Out of Credit: The Limitations of Mobile Telephony in a Tanzanian Agricultural Marketing System. Journal of African Studies 46(4):637–58.

Pelto, P., and L. Müller-Wille. 1972. Snowmobiles: Technological Revolution in the Arctic. Technology and Social Change, eds. H. R. Bernard and P. J. Pelto, pp. 166–99. Macmillan.

Putnam, R. 2000. Bowling Alone: The Collapse and Revival of American Community. Simon & Schuster.

Rodrik, D. 2006. Goodbye Washington Consensus, Hello Washington Confusion? A Review of the World Bank's Economic Growth Reforms in the 1990s: Learning from a Decade of Reforms. Journal of Economic Literature XLIV:973–87.

Samuel, J., N. Shah, and W. Hadingham. 2005. Mobile Communications in South Africa, Tanzania, and Egypt: Results from Community and Business Surveys. http://www. vodafone.com/etc/medialib/attachments/cr_downloads.Par.78351.File.dat/GPP _SIM_paper_3.pdf.

Sherry, J., and T. Salvador. 2001. Running and Grimacing: The Struggle for Balance in Mobile Work. Wireless World: Social and Interactional Aspects of the Mobile Age, eds. B. Brown, N. Green, and R. Harper, pp. 108–20. Springer.

Townsend, A. 2000. Life in the Real: Mobile Telephones and Urban Metabolism. Journal of Urban Technology 7(2):85–104.

Williamson, J. 2000. What Should the World Bank Think about the Washington Consensus? World Bank Research Observer 15(2):251–64.