

Using Information and Communication Technologies to Support New Global Societies

Today, migrants can count on the availability of information and communication technologies (ICTs) as powerful tools to mediate their trajectory of life.¹

This paper examines the use of ICTs by some of the vast population of multi-cultural, multilingual, and multiethnic migrants living in Europe, Asia, Australia, the Americas, and Africa. Drawing from recently published studies by the Pordenone Group of Scholars,² this paper explores how internal and external migration is consistently transforming societies across the globe. Many of the millions of people who have moved from their birthplace now use mobile phones and the Internet to maintain familial, religious, political, linguistic, commercial, and cultural connections, regardless of their whereabouts. The role these migrants play in the construction of new societies using this connectivity is significant and transformative, such as their contribution to innovative business and entrepreneurial activity. Using examples from the everyday experiences of migrants, this paper provides a glimpse of the many different circumstances in which migrants use ICTs to maintain their lives.³ In so doing, it aims to provide a view of migrants worldwide from the perspective of their use of ICTs, thereby offering new knowledge about “a body of humankind on the move with a mobile phone in their pocket or access to the Internet to guide them.”⁴

The reasons people migrate are manifold, but it is not so much why someone has migrated that is explored here but what happens after they have moved. Once in their new home, the migrant must establish and sustain a new life and perhaps also support their family, whether they are with them or left behind in the homeland. The new social ecology of the migrant is examined here, first with regard to how they maintain communications with their home and the emotional effects this may have on them and those left behind. The paper then explores the growing recognition of the positive contributions migrants make in the business community, as well as how they have appropriated the ICTs and are using them to define their identities. The paper includes illustrations from our studies, which cover all

Jane Vincent is a visiting fellow with the Digital World Research Centre (www.dwrc.surrey.ac.uk) in the faculty of arts and human sciences.

the continents, and considers future opportunities for innovation and commerce that might be enhanced or in some way impacted by the new global societies.

KEEPING IN CONTACT WITH HOME

Stories and myths carried down from past centuries of migration provide a strong folk memory for new migrants of the present day, not least in perpetuating the nostalgia they feel for home. Traveling to make a new home elsewhere may be a joyful decision, but it might also entail great hardship and come at considerable cost to the migrants and those left behind, who may have paid in cash as well as emotionally to give a family member a new chance in life. Migration is not only about making a great journey across continents to flee oppression or for survival; it can also be about making a relatively short journey from the countryside into a town in search of economic prosperity and new opportunities. Whatever the reason behind a move, there is most likely a desire to keep in touch with those left behind, and finding effective ways to manage emotional family ties and the wrench of separation frees the migrant to make their way in their new homeland. In this section, I explore some of the ways the migrants in our studies have maintained their emotional bonds with their home and family.

Looking first at the history of communication between migrants and the friends and family left behind, one can begin to see how the new communications technologies in use today can support migrants' emotional ties. The availability of ICTs and the pace of technological development—from the early post and telegraph to the telephone to the ubiquitous Internet and/or mobile phone coverage—have changed the mode of keeping in contact, particularly over the last decade. The expanding geographic rollout of mobile phone and wifi networks now easily provides for those who need to stay in contact when away from home. Communications companies initially provided their service primarily for mobile workers who made a daily commute or business trip, rather than for those who were permanently relocating. In the UK, for example, the first public mobile phone coverage was provided in 1985 for people working in the oil industry in Scotland and offshore in the fisheries, as well as in the financial district of London.⁵ However, it is now people who travel for business and holidays, migrant workers, and the immigrant diasporas that will de facto push for the availability of services in ever more places, including ports of entry, entertainment venues, international sporting events, holiday resorts, commercial centers, etc. The availability of smartphone applications in all these places shows just how appealing the new ICTs are to all, regardless of whether they are a migrant, a visitor, or a native of a particular place.

This mobility in the use of communications by the general population is to some extent reducing the differences between users of ICTs, not least between migrants and non-migrants. With a mobile phone or Internet access, one can make contact with home from almost any location in the world, a significant change from even the recent past, when moving to a new country meant that telephone

contact was possible primarily via public phones or in the workplace. Personal phone contracts in the UK and many other countries were not permitted, regardless of financial status, unless a person had a bank account, and even then it was often only possible if one had a permanent address and at least six months' residency. Nowadays a person merely needs an email account or a SIM card from a local mobile phone operator to be connected to home immediately upon arriving in a new country.

In the past, contact between migrants and those they left behind was maintained mostly by paper mail. This handwritten communication was significant: it did not simply convey information but replaced face-to-face communication with a sense of personal contact through the familiarity of the handwriting and the feel of the paper on which a letter was written. Indeed, the sight of a loved one's handwriting could convey a more multisensorial experience than the words alone, and the emotion conveyed was something that today's texts or email cannot so easily provide. Pui-lam Law and his team have studied Chinese internal migration in the Guangdong province for 20 years, and have observed many of the transformations occurring during this period in the attitudes and behaviors of the different waves of migration.⁶ For example, some of the workers Law interviewed for his latest study had their family at the top of their mobile phone contacts list, but this did not necessarily mean they called them most often or even called them at all. The availability of mobile phones and Internet cafés has transformed these migrant workers' mode and frequency of contact with their families. Services related to job information and playing Internet games now often occupies their spare time, which distances them from the affection inherent in interacting directly with their family members, which had been manifest in the letters and phone calls that today are no longer so prevalent.

Cheng studied the migrant workers in the Pearl River Delta who float between jobs and never really settle down. They used the social network QQ to maintain relationships and establish their status in this virtual world, even when they never really found time to create the same links in their face-to-face workaday life:

Mobile QQ as a technological communication innovation fills this gap, and some workers have started to adopt this kind of technology to escape the boredom and sadness of a dull and aimless working life. The paradox is, however, that the more they adopt and are addicted to cyber relationships, the more likely it is that they will feel lost and withdrawn from the real world in which they are living.⁷

The notion of losing the intimacy of face-to-face contact by essentially living in a virtual world has also been explored by Turkle, who suggests that we are on the cusp of "the robotic moment."⁸ However, she also says that the more time we spend with our mobile phones and computers, the more likely we are to come to realize the importance of keeping face-to-face connections alive.

Evidence from other studies regarding mobile phone use shows that for some people the mobile phone has almost become a substitute for the presence of others

or a means of bonding with a new group of migrants. For example, in their respective research in Europe, Lásen and Vincent found that people fondle the phone when thinking of a close loved one. Evers and Goggin, who studied newly arrived and established migrant men living in Sydney, Australia, most of them from African countries, had similar findings.⁹ Many of these young men have spent a lifetime in refugee camps, frequently moving and being moved on by people who misunderstand them and believe them to be a threat. Like the native mobile phone users examined by Vincent and Lásen, for these men the mobile phone is crucial to their intimate daily life. However, it is also key to the development of their new migrant identity:

Mobile phones are part of a masculine bonding that is crucial to coping with resettlement. [They] have a passion for their mobile phones that goes beyond simply need. The young men are intimately connected to their phones. They compare their phones, play with them, swap them, compare and share what's on them and always guard them with vigor . . . When playing football some of the young men will not put their phones down and will carry the phone in their hand, music on.¹⁰

While the mobile phone has become critical to the affective bonds between these young men, Evers and Goggin also noted that their phone calls home can be traumatic and carry quite an emotional cost. Thus the mobile phone at once provides both the comfort of intimate friendship with those who are present and the pain of keeping in contact with loved ones who are absent. Again, this experience is similar to that of native users but certainly more poignant when those absent most likely will never again be present. Although ever in reach by the touch of the mobile phone, once the call is completed the reality of separation and isolation is forced into sharp focus. The strong emotions discussed in Evers and Goggin's work are different from the response to separation found in Law's and Cheng's studies on mobile phone use in China, where emotions are not confronted in the same way.¹¹ Nevertheless, managing emotion in mediated communications was a factor in all the studies presented here. The loss of the comfort brought by the familiarity of a handwritten letter is perhaps more than compensated for by the emotional connectivity made available at all times by ICTs.

MEDIATED EMOTIONS

Emotions mediated via ICTs as highlighted in these examples were explored by Vincent and Fortunati and other members of the Pordenone Group. Their findings suggest that emotional ties between family members are managed similarly via the mobile phone and the Internet, whatever the distance apart and however long the separation.¹² Thus, using ICTs to manage the emotional aspects of migration is not unique to these groups of migrant users. Indeed, in our studies of emotions and ICTs, we found that people used their mobile phones to create, live, and relive "electronic emotions"—that is, the emotions enabled and conveyed by machines.

While some present-day migrants may have had ways of maintaining constant and instant contact with family and friends before they emigrated, they might feel these electronic emotions more keenly in their new world because the “always-on” aspect of mobile phones is a constant reminder of the possibility for immediate contact.

An example of this constant connectivity can be found in the experiences of Filipino overseas workers, for whom maintaining contact with those they cherish is extremely important, as noted in Pertierra’s study of migrants from the Philippines.¹³ He identifies how mobility and new media create opportunities for Filipinos living overseas to keep in touch, as well as for those left behind. Unless they are in a professional class, Filipino workers do not enjoy an affluent lifestyle, and there is little private space in their homes. Therefore, the mobile phone has become the place they go for privacy and intimacy, as text messaging enables personal ties between users who might otherwise have no such connection. Internet cafés are also used to a great extent to establish and conduct real and virtual relationships:

The normal constraints of gender, class and generation are suspended in the café, allowing alternative relationships, both real and virtual, to develop. Like the London coffee houses in the 17th century, Internet cafés facilitate communicative exchanges in the real and virtual worlds.

Keeping family connections active is important in the Philippines, including the mortuary rituals that are so important for making funeral arrangements. It is at times of bereavement that the isolation and distance from home is most keenly felt. However, the introduction of broadband connectivity in Manila’s funeral homes has helped assuage the guilt felt by those not able to attend a funeral, as relatives living abroad can now participate in funerals, if only via a digitally mediated link.

Notwithstanding the negative effects of being immersed in a virtual world of social media, it would appear that the studies of ICT use explored here show in general that social media can make a positive difference in the well-being of migrants, and for those who receive their communications in the homeland. Keeping in touch is thus not simply a matter of supplanting letters with electronic messages; in this media rich world, there are many ways to stay connected and to continue to participate in day-to-day home life—or, if desired, to retreat to the cyber world of virtual relationships.

CONTRIBUTION OF MIGRANTS

Thus far I have discussed the migrants who want to stay in touch with relatives and friends left behind and to maintain their identity with their homeland, as well as some who have become immersed in the social media of their new communities to the exclusion of those left behind. Many migrants remain linked to their country’s diaspora, send money home, visit home regularly, and carry on their lives in

both their original home and their host country.¹⁴ There are, however, migrants who leave their country of origin behind forever and begin a new life in their adopted country. History offers many examples of how migrants, far from staying in the background of their adopted country, have been at the forefront of innovation, academic success, new technologies, and industry. Indeed, we only need to look at today's university professors and industry leaders to see the multinational presence of migrant workers. Sombart, writing about this subject over a century ago, argued that migrants provided great leaps forward in technological innovation;¹⁵ for example, Marconi, Einstein, Fermi, von Neumann and Wittgenstein were all migrants:

Migrants' contribution applies as much to the Arts as to the Sciences. African musicians, Jewish refugees, Soviet dissidents and Asian intellectuals have not limited themselves to "integrating" in the host culture and society but they have enriched and reoriented many contemporary societies and cultures.¹⁶

While one can point to particular individuals for the impact their inventions and entrepreneurship have had on society, academia, or the business world, migration can also have a broader impact on society. Hunt and Gauthier-Loiselle examined data on the patent applications of U.S. college graduates from 1940 to 2000.¹⁷ They found a direct correlation between immigrant science and technology graduates and new patent applications that "implies that the influx of immigrant college graduates in the 1990s increased the US GDP per capita by 1.4- 2.4%."¹⁸ They further suggest that immigrant graduates have greater inventive ability than native science and technology graduates; therefore, a policy of substituting immigrants' skills with native skills would be unlikely to achieve the same result. This is borne out by a report from the U.S. Fiscal Policy Unit, which shows higher rates of business ownership among migrants than natives.¹⁹

Research in Australia, the UK, and the U.S. has shown that the contribution immigrants are making to new businesses and entrepreneurship is higher than that of the native population. In Australia, this has led to schemes to fast track the immigration of certain business entrepreneurs to address particular skill shortages. The UK and U.S. studies show that migrants are more likely to start up businesses than lifelong residents; for example, the immigrant share of small business owners in the U.S. is 18 percent of the total, which is higher than the 13 percent share migrants have in the overall population; the immigrant presence in the workforce is 16 percent.²⁰ Levie and Hart's UK studies found that nascent entrepreneurship and successful business startups were more likely to come from immigrants, in part because of their ability to access international markets.²¹ Levie and Hart's studies also noted that being a migrant but not of any particular ethnicity was the differentiator for nascent entrepreneurs, thus innovation and new businesses emerged not as a result of race or nationality but because certain individuals were making their way in a new community—and country. The use of ICTs is not specifically addressed in these innovation and migration studies, but it is likely that

establishing a new business is much the same for migrants and natives, although for migrants, transacting business across the globe has, of course, been made simpler with ICTs.

As Goggin has shown in his research exploring the intersection of mobile phone development and Australia's relationship with Asia, the growing migration from Japan and China has reoriented Australia more toward Asia and the Pacific and away from its former colonial links with the UK.²² Much can be written about culture and the multinational societies populated with migrants and their descendants. Mantovani highlights the dilemma of second-generation migrants, who are not fully accepted in their parents' adopted country or in the country their parents left behind.²³ While this might create political and religious tension for some, it leads others to join in constructing new communities that have intercultural richness and common values. Nevertheless, many in these new communities do maintain links with their homeland while establishing a new life in their adopted country. Use of the Internet and smartphone apps can help them to manage their transition into the life of the migrant; for example, Steinbock offers an iPhone app called Migrant & Asylum Rights, and Cardoza Inc. offers a national education program app for migrant children—just two of many developed for immigrant communities and new migrants.

Mobility in the day-to-day life of migrants often is negotiated in a new language; migrants must learn the language of their adopted country, and English is a bridging language for many. Bortoluzzi has explored the concept of “englishes,” or the existence of multiple versions of English.²⁴ The computer program being used to write this article offers 18 versions of English, and there are many more available worldwide. Following Kachru, Bortoluzzi shows how current English language usage has developed.²⁵ Originating in Britain, it extended out across countries that adopted English as their first language, on to those who learned it as a foreign language, and eventually to those who use it only to read certain books or to access the Internet:

Englishes have migrated far and wide with multinational organizations, business and service-based economy, banks, international publishing houses, media channels and so on. The consequences of this diaspora of Englishes from the native speaker center(s) to the non native speakers periphery and back is a continuous movement of interests and ideas which has contributed to the present status of the most learned foreign second language in the world.²⁶

Thus, not only people but also language is migrating globally, particularly through commerce, as English is the common language for so many businesses. Innovative new apps such as “sayhitranslate” enable quick, albeit not always perfect, translation of many more languages, which perhaps indicates that mobile devices will be used as universal communicators through universal translation functions.²⁷

“POLYMEDIA”: MULTIPLE INTERCONNECTIVITY

It is evident from the experiences of the migrants already discussed in this paper that the ubiquity of mobile phones and Internet access has had an important effect on what it means to be a migrant in this second decade of the 21st century. Mobility is now a concept that can apply to anyone, as roaming the world with a mobile phone and picking up the Internet wherever there is wireless connectivity is commonplace, not just for migrants but for all who travel from home. This means the migrant is not necessarily identified by their mode of communication or lack of access to some types of communication. In fact, as Kluzer and Codagnone point out, many migrants use more ICTs than locals, which eases the migrants' integration into their new homes.²⁸

What it means to be a migrant is often defined by the media, but whereas a migrant in the past might be misrepresented, the Internet has given migrants a new relationship with the media that allows them to be “the creators of the media themselves.”²⁹ As Madianou and Miller have identified in their concept of poly-media, “media” now refers to multifaceted interconnectivity, to the plethora of media that include social network sites, YouTube, blogs, webcams, and more.³⁰ Social media can quickly extend the reach of a community from a few local links to a global presence. Examples of this are manifold, such as Garbin and Vásquez's study of the Pentecostal community in London that maintain links with its spiritual leader and fellow congregations in the Democratic Republic of the Congo through websites, television, radio, and even mobile phone messages that are transcribed, translated, and printed onto leaflets.³¹ One particular “megachurch” in the UK has an outreach program that has a website at its core. It is using this website to “build a church without walls,” which will extend its reach via television and radio stations around the world to 217 countries.³² Internet links can facilitate a special bond between these religious communities, as exemplified by the audio connection made between the spiritual leader in the Democratic Republic of the Congo and a new place of worship in London.

GLOBAL SOCIETIES: THE CONNECTED GENERATIONS

In exploring ICT use by migrants on five continents, the Pordenone Group has shown how migrants adapt to their new communities while keeping in touch with their countries of origin. The migrant workers discussed in this paper are connected to their homelands via mobile phones and the Internet, and there is nothing to suggest that this kind of connectivity will not continue to grow apace. As new technologies are developed and mobile phones gain ever greater capabilities, having an email address and a SIM card will probably be the minimum requirement for a new migrant. Recent research for the GSM Association highlights the growth of machine-to-machine connectivity, low-cost cellular technology, and a general increase worldwide of ICT access, which can only create more opportunities for innovation in the migrant communities.³³

New global societies that are connected via social media, mobile phones, and the Internet are clearly increasing rapidly. What is apparent from the studies discussed in this paper is that migrant communities around the globe continue to have a voracious appetite for ICTs and that ease of access to ICTs has transformed the lives of many people who find themselves in a foreign environment. These people can leverage business opportunities in their new communities and also maintain a business in their home country. Maintaining emotional and affective contact is facilitated by ICTs, which can enable a recent migrant to help manage home life even across continents.

Looking to the future, there are many routes the new migrant communities can follow with their use of ICTs. Virtual global societies are already emerging in which migrants can immerse themselves to escape the dullness of their new life, or they can use them to enhance their lives, as did the Filipinos finding new intimacies in a virtual domestic space. While there are obvious opportunities for migrants to use ICTs to avoid learning a new language and the culture of their adopted country, it appears that ICTs are used in much the same way by migrants as by the native population. The mobility afforded by mobile phones and wireless Internet frees everyone to move around and conduct their business as they please, which suggests that what it means to be a migrant is no longer defined by deficiencies in access to communications. Many migrants today demonstrate a more robust use of ICTs than that of natives, including Web 2.0, satellite and mobile phones, television, and connectivity on the Internet via services such as Skype or ooVoo. Future global societies—real and virtual—populated by migrants are likely to be framed by a new socio-technical system co-constructed by migrants and natives that will support the mobility of peoples' lives and accommodate their varied cultural identities. Developing a new social ecology such as this clearly will create many opportunities for migrants and non-migrants alike, who will continue to innovate and develop new products, new technological capabilities, and new ways of keeping their global societies connected.

-
1. Leopoldina Fortunati, Raul Pertierra, and Jane Vincent, "Introduction," in *Migration, Diaspora, and Information Technologies in Global Societies*, ed. Leopoldina Fortunati, Raul Pertierra, and Jane Vincent. New York: Routledge, 2012.
 2. This group was brought together in 2008 by the COST Action 298 Participation in Broadband Society. COST—the European Cooperation in Science and Technology—was established in 1971 by the European Union to foster multidisciplinary research among scientific communities worldwide. Information available at <http://www.cost.eu>.
 3. These examples are taken from the publication (Fortunati, Pertierra, and Vincent 2012) that was the final product of seminars on Migration and ICTs and Emotions that were hosted by the University of Udine and the COST Action 298. There were 28 authors, some of whom are cited in this paper. However, I would like to acknowledge them all for their contributions, in particular my fellow editors, Leopoldina Fortunati and Raul Pertierra, who have supported me in writing this paper.
 4. Fortunati et al., "Introduction," p. x.
 5. Jane Vincent and Richard Harper, *Social Shaping of UMTS: Preparing the 3G Customer*, Report 26, Universal Mobile Telecommunications System Forum, 2003.

6. Pui-Lam Law, "Migrant Workers, New Media Technologies and Decontextualization: A Preliminary Observation in Southern China," in Fortunati et al., *Migration, Diaspora and Information Technologies*.
7. Chung-Tai Cheng, "Floating Workers and Mobile QQ: The Struggle in the Search for Roots," in Fortunati et al., *Migration, Diaspora and Information Technologies*, p. 229.
8. Sherry Turkle, *Alone Together: Why We Expect More from Technology and Less from Each Other*. New York: Basic Books, 2011.
9. Amparo Lásen, "The Social Shaping of Fixed and Mobile Networks: A Historical Comparison," in *Understanding Mobile Phone Users and Usage*, ed. P. Gossett. Newbury, United Kingdom: Vodafone Group, 2005; Jane Vincent, "Emotional Attachment and Mobile Phones," *Knowledge Technology, and Policy* 19, no. 1 (2006): 29-44; Clifton Evers and Gerard Goggin, "Mobiles, Men and Migration: Mobile Communication and Everyday Multiculturalism in Australia," in Fortunati et al., *Migration, Diaspora and Information Technologies*.
10. Op Cit, 2012, p. 211.
11. Cheng, "Floating Workers and Mobile QQ."
12. Jane Vincent, "Living with Mobile Phones," in *Mobile Media and the Change of Everyday Life*, ed. Joachim Höflich, Georg Kircher, Christina Linke, and Isabel Schlote. Berlin: Peter Lang, 2010.
13. Raul Pertierra, "Diasporas, the New Media and the Globalized Homeland," in Fortunati et al., *Migration, Diaspora and Information Technologies*.
14. Pertierra, "Diasporas, the New Media and the Globalized Homeland"; Heike Mónica Greshke, "Make Yourself at Home in www_cibervalle_com: Meanings of Proximity and Togetherness in the Era of the 'Broadband Society,'" Heather Horst, "Grandmothers, Girlfriends and Big Men: The Gendered Geographies of Jamaican Transnational Communication," in Fortunati et al., *Migration, Diaspora and Information Technologies*.
15. Werner Sombart, *Der moderne Kapitalismus*. München and Leipzig: Duncker and Humblot, 1902/1927.
16. Fortunati et al., *Migration, Diaspora and Information Technologies*, p. 3.
17. Jennifer Hunt and Marjolaine Gauthier-Loiselle, "How Much Does Immigration Boost Innovation?" IZA DP No. 3921, 2009. Available at <http://ftp.iza.org/dp3921.pdf>. Accessed August 16, 2012.
18. Hunt and Gauthier-Loiselle, "How Much Does Immigration Boost Innovation?" p. 21.
19. Report from the Fiscal Policy Institute's Immigration Research Initiative, June 2012. Available at <http://fiscalpolicy.org/immigrant-small-business-owners-FPI-20120614.pdf>. Accessed August 16, 2012.
20. See xxii
21. Jonathan Levie and Mark M. Hart, "The Contribution of Migrants and Ethnic Minorities to Entrepreneurship in the United Kingdom," in *The Dynamics of Entrepreneurial Activity*. Oxford, England: Oxford University Press, 2011, pp. 101-123.
22. Gerard Goggin, "Reorienting the Mobile: Australasian Imaginaries," *The Information Society* 24 (2008): 171-181.
23. Giuseppe Mantovani, "New Media, Migrations and Culture: From Multi- to Interculture," in Fortunati et al., *Migration, Diaspora and Information Technologies*.
24. Maria Bortoluzzi, "From English to New Englishes: Language Migration Towards New Paradigms," in Fortunati et al., *Migration, Diaspora and Information Technologies*.
25. Braj Katchru, *The Other Tongue: English across Cultures*, 2nd edition. Urbana: University of Illinois Press, 1992.
26. Bortoluzzi, "From English to New Englishes," p. 39.
27. See www.sayhitranslate.com. Accessed August 16, 2012.
28. Stefano Kluzer and Cristiano Codagnone, "ICT Adoption by Immigrants and Ethnic Minorities in Europe: Overview of Quantitative Evidence and Discussion of Drivers," in Fortunati et al., *Migration, Diaspora and Information Technologies*, pp. 189-203.
29. Daniel Miller, "Mediating a Restless World," in Fortunati et al., *Migration, Diaspora and*

Using ICTs to Support New Global Societies

Information Technologies, p. xiv.

30. Mirca Madianou and Daniel Miller, *Technologies of Love: Migration and the Polymedia Revolution*. London: Routledge, 2011.
31. David Garbin and Manuel A., Vásquez, “‘God Is Technology’: Mediating the Sacred in the Congolese Diaspora,” in Fortunati et al., *Migration, Diaspora and Information Technologies*.
32. Garbin and Vásquez, “‘God Is Technology,’” p. 161.
33. GSM Association, *Experience a World Where Everything Intelligently Connects: The Connected World*, 2012. Available at www.gsma.com/connected-life/.