

FUOYE
Journal
of
COMMUNICATION

VOL. 3, 2019 ISSN: 2630 7316



Published by
DEPARTMENT OF MASS COMMUNICATION
FEDERAL UNIVERSITY OYE-EKITI

Use of Information and Communication Technologies in Creating an Inclusive Participatory Environment for Migrants: An Enumerative Review

Abdulhameed Kayode Agboola & Gloria Eneh Omale

Department of Information and Media Technology
School of Information and Communication Technology
Federal University of Technology, Minna
a.agboola@futminna.edu.ng

Abstract

This paper discusses the links between the use of ICTs for attainment of human development and how it helps migrants to blend and contribute to the development in their host countries. It looks at roles of ICTs on migration opportunity and its outcomes. As guiding questions, the paper provides explanations to the following questions; In what ways are migrants making use of ICTs in their host countries? What important roles have these technologies come to play in their lives? What are the positive and negative implications of the ICTs' roles in human mobility? How are ICTs used in both regular and irregular migration; in maintaining family relations, in sustaining cultural identities, and in supporting a family from abroad and in creating an environment of inclusiveness for migrants in their host countries? Using secondary data, the paper posits that ICTs have not replaced older forms of communication, but that they have greatly increased the range of available options for communications and they have created a lot of job opportunities and an inclusive participatory environment for migrants in their various host countries. The paper concludes that governments and civil society have roles to play in working to increase access and use of ICTs. The paper recommends that the skills necessary for use of ICTs and the infrastructure necessary for their access should be made available in all countries of the world.

Keywords: ICTs, migration, job opportunity, participatory environment, inclusiveness

Introduction

International migration has steadily increased to become a significant trend not only in Western societies but generally all over the world (Massez, Arango, Hugo, Kouaouci, Pelligrino & Taylor, 1993), stirring scientific interest. For example, Urry (2010) implores sociology to redraft its perspectives by traversing from the thinking that social is always means to society to a new meaning of social as mobility; Urry (2010) now describes the new discipline as "mobile sociology" instead of the obsolete social for society and sociology as its discipline. This will highlight the

estimated 215 million people are on the move (World Bank, 2011), accounting for an 11% rise on average from 2002 to 2007 (Organization for Economic Cooperation and Development, OECD, 2010).

From time immemorial, international migration always implies disconnection with the homeland and the state of 'uprootedness'. When people moved abroad, they temporarily lose contact with their relatives back home and majority of their social contacts. The process of communication with social contacts, that is, those who were left behind becomes slow. It often takes months before a letter can arrive at its destination. Therefore, the pace and character of interaction within transnational populations has changed drastically since the beginning of 20th century with the development of the new Information and Communication Technology (ICT). New ICT such as mobile phone allow instant communication via calls, text messages and email. Vertovec (2004) explains that cheap international calls play the function of 'social glue' binding migrants to their families and friends creating constant involvement in their life.

In the Informational Age the speed of communication has changed unimaginably, the everyday life of millions of people living across the world (Castells, 2000; Wellman, 2001). The Internet from a closed net used by a small group of scientists has developed into globally spanning web that allowed not only easy consumption, but also effective production of media content (Collin & Karsenti, 2012). Therefore, this paper critically discusses some issues surrounding migration and the use of Information and Communication Technologies by migrants, the roles ICTs play in their lives, its implications on human mobility and its roles in maintaining family ties, sustaining cultural identities and creating an inclusive environment for migrants in their host countries.

Statement of the Problem

According to Diminescu (2005), migrants have traditionally been perceived as uprooted individuals who must overcome a series of breaks with the past. However, the new image is that of connected individuals (the "connected migrants") whose mobilities are parts of a continuum. This new perception is made possible by ICT, which allow us to develop an all inclusive cosmopolitan point of view for now and later, rather than an exclusive vision based on neither of the angles. This contradicts with the view of the migrants as lacking, torn between two realities and never truly belonging to either one (Sayad, 1999).

Despite the fact that the importance of ICT is widely acknowledged in the studies on migration, contemporary social science still seeks to embed theoretically their convergence into the framework of 'network society'. It is based on this that the paper aims at discussing some issues surrounding migration and the use of

Information and Communication Technologies by migrants.

Objectives of the Study

The objective of the paper is to discuss extensively the ways ICTs are put to use by migrants and its implications on their lives when they are in their host countries. Therefore, for the purpose of proper enumerations and to provide direction for intellectual discourse on the subject, the paper discusses the following issues, namely: the ways in which migrants are making use of ICTs in their host countries; the important roles that ICT technologies have come to play in their lives; the positive and negative implications of the ICTs roles in human mobility; and how ICTs are used in both regular and irregular migration, in the sense of maintaining family relations, in sustaining cultural identities, and in supporting a family from abroad and in creating an environment of inclusiveness for migrants in their host countries.

Methodology

This discursive paper is based on content analysis. According to Asemah, Gubawu, Ekhareafu and Okpanachi (2012) content analysis is an analysis based on the manifest content of the mass media message. Wright (1986) describes content analysis as a research technique for the systematic classification and description of communication content according to certain, usually predetermined categories (Cited in Asemah, et al., 2012). Ajala (1999) also defines content analysis as the systematic objective and quantitative procedure devised to examine the content of recorded information. Looking at the meaning of content analysis, it can be used in research project that seeks to describe and explain communication.

Therefore, this paper reviewed literature on Information and Communication Technologies use by migrants when they are in their host countries. The main sources of data for the study included a review of existing secondary data on information and communication technologies use by migrants to make deductions and inferences about ICTs use by migrants.

Information and Communication Technologies and Migration

According to Internet Telecommunications Union (ITU) (2006), Information and Communication Technologies (ICTs) have drastically changed the world in which we live. With increased interconnections in financial markets, media, knowledge sharing and archiving, billions of people around the world today are logging on, surfing the web, browsing, and posting information that is accessible irrespective of geographic location or time. Linear patterns of information sharing have effectively been replaced by circular patterns of information gathering. This is the Information Age (Castells, 2000). This transformation does not reach the entire world's population but for instance, in little more than two decades, public use of the Internet

has grown from a small network of academics in the United States to include more than 20% of the world population. The region with the largest online community is now Asia and China ranks second in the size of national online communities around the world (Hamel, 2009).

The Information Age: Some Theoretical Foundations

The Origin of Information/Knowledge Age

According to Stehr (2004) relating from John Stuart Mill (1806-1873) who affirms his conviction that progress is possible in society as the result of the intellectual accomplishments of his own age. But progress and the improvement of social conditions are not. Mill argues that, the outcome of an "increase in wisdom" or of the collective accomplishments of science are rather linked to the general diffusion of knowledge throughout society as Mill wrote in 1831 that, as a result of ICT innovation, people can now reason more about various affairs of human beings, though their reasoning may not be that better. Vast and variety of issues are now being discussed more and for longer period than before, and by more people. These discussions have gone into every part of the society, therefore knowledge has become proliferated among people therefore we now have fewer number of illiterates in the society.

Mill observed that the mid-nineteenth century was a period of profound moral and political transition which was beneficial consequences for society as increased individual choice for a greater number of people will be the result of a broader diffusion of knowledge and education but not necessarily scientific knowledge in the narrow sense of the term resonates with the idea of modern society as a knowledge society.

In essence, the idea that we have begun to live in an information age often refers to the same historical period, yet the notion of the information age emphasizes the growing presence of certain technical devices and tools in society that allow the much more rapid communication of information and knowledge than was the case in previous periods. Thus, it is argued that the modern information age began with Samuel Morse's invention of the telegraph transmitter and receiver in 1837. It was the first instrument to transform information into electrical form and transmit it reliably over long distances (Darnton, 2000).

Stressing further Stehr says that the promise of more knowledge and information cannot really be separated either from its counter image, for example from the fears and the darkness associated with a lack of knowledge or, from the allegedly mistaken or false use of knowledge even when it is available in abundance. The general point here is that much is gained from an analytical point of view that

confronts a particular perspective with its opposite, its negation or competitor. Such conscious confrontation also serves, as a useful reminder that knowledge tends to be contestable and is developed in response to contenders that after a time may only be implicitly accessible, especially as a certain form of knowledge acquires authority and power. The mixture of fears and warnings with blessings and compliments exhibits a trait of virtually all forms of knowledge, namely its controversial nature and the fact that it was, and is, developed in opposition to other forms of knowing. The exclusion of other means and purposes is inevitable. In the case of knowledge, the contestable context is provided for, on the one hand, by arguments that question or promote knowledge per se and, on the other hand, by opinions that at times differ sharply on the uses to which knowledge ought to be put. In contemporary society, doubts about the social consequences of knowledge are bound to give rise to a new field of political activity, namely knowledge politics concerning with the regulation and control of new knowledge and technical artifacts (Stehr, 2004).

Another scholar, Hamel (2009) opines that as a result of the development of ICTs, the world is going through a major shift. The Information Age, otherwise referred to as the network society, is a contemporary meta-narrative that guides many studies in all fields of the social sciences. As a theoretical space within which to conduct contemporary research, the Information Age suggests we are moving beyond the Industrial Age and into an era where the sharing of knowledge and ideas is the new driver of power and the world economy. As tools that allow immense exchanges of information, ICTs impact many realms. The use of Internet in the quest to promote and defend human rights, international law, and democratic governance, is well documented and is perhaps the strongest asset for civil society struggles around the world today and one of the most positive examples of the space of flows.

Civil society groups and in particular transnational advocacy networks, including communities in Diaspora, have been some of the most active users of ICTs such as the Internet for information sharing, mobilization and social change (Norris, 2001). Civil society groups who are present online are powerful actors and facilitators that promote interaction, deliberation, and the sharing of information, effectively expanding the concept of public sphere (Bohman, 2004), and creating what Norris (2001) refers to as *communities of choice*, in contrast to the traditional *communities of places* that we all know and experience.

In What Ways are Migrants Making Use of ICTs in Their Host Countries?

ICT support the development of networks and forums that help immigrants define their cultural identity within their host country, empowering them to become active citizens. Especially for young immigrants, ICT provide resources and networks, that allow them to discover and develop their cultural origins, to take on what has become their second identity as part of the host society and to express themselves as

vital members of their host country's society. ICT promote the exchange of intercultural experiences and increase self-confidence by giving immigrants a voice and making them heard.

Recent research undertaken at the Institute for Prospective Technological Studies (IPTS) shows that Information and Communication Technologies (ICT) can effectively support the social and economic integration of immigrants and ethnic minorities. In particular, the fact that the internet has become a multilateral platform for knowledge exchange, which supports more dynamic and participative modes of interaction and enables vast resources of knowledge being set up and adapted to personal needs, yields many opportunities for social integration (Diminescu, Jacomy & Renault, 2010) and opens up new learning opportunities inside and outside formal Education and Training. These resources can also be successfully exploited to facilitate education, participation and employment opportunities for immigrants and ethnic minorities.

ICT furthermore provide learning and training opportunities for adult migrants and ethnic minorities, fostering their language and cultural skills, fighting illiteracy, and training them in digital skills, thus promoting social integration. ICT make educational and vocational training accessible to youth and adult immigrants who are often disenfranchised from mainstream training opportunities. ICT tools help open up employment opportunities for immigrants and ethnic minorities by improving recruitment procedures and matching immigrants' professional profiles with employments needs. However, in order to seize the opportunities offered by ICT, access to computers, basic digital skills and also digital competences need to be promoted.

Finally, by supplying more engaging learning materials better targeted to migrant pupils' needs, ICT can increase their motivation and participation in formal education, foster language, cultural and media skills, and thus improve their social integration and educational achievement. ICT can enhance teacher training and the development of teaching materials which address the needs of immigrant pupils and facilitate the implementation of intercultural education in school curricula (Redecker, Haché, & Centeno, 2010).

What important roles have these technologies come to play in migrants' lives?
ICTs: Changing the Experience of Migration?

Scholars who have focused on new media technologies and transnational migration have analysed how the advancement in these technologies have markedly changed the experience of migration and fostered social relationships through distance. The ubiquity of the internet, mobile phones and smart phones, social media applications

and other new media technologies, has allowed for the bridging of the temporal and spatial gap brought about by migration (Cabanés & Acedera 2012; Madianou & Miller 2012). Despite the possibilities afforded by these new media technologies, they are not without limits. Ducey (2010, 22) reminds us that technologies are 'vehicles of inequalities', whereby social inequalities are still imprinted in technologies, and can further social divides. The notion that ICT can contribute to and perpetuate social inequalities reflects what Massey (2005) calls 'power geometry'. According to Massey, power geometry is a system where agency is constrained or enabled depending on the individual's position in the power hierarchy.

In spite of the advancement of technologies, the increased availability of connectivity, and the affordability of technologies, it has been argued that the inequalities and divides present in transnational communication decades ago still persist today, if in a reconstituted manner. Mahler and Pessar (2001) note how the transnational communication between migrant husbands and left-behind wives can reify gender hierarchies since wives do not have the financial resources to initiate communication. In a similar vein, Parreñas (2005) reveals how the accessibility and availability of media communication technologies have further hampered female migrants' ability to reconstitute their roles as breadwinners, as these technologies further entrench them to patriarchy via transnational mothering.

Meanwhile, Madianou and Miller (2012), in their study of new media technologies, highlight the persistent divides brought about by unevenness of access, buying power, and media literacy. These studies indicate how technology and its use is mutually contingent upon the social realities in which migrants find themselves (cited in Platt, Brenda, Yeoh, Yen, Baey & Lam, 2014).

How are ICTs Used in Both Regular and Irregular Migration?

ICT can be used in maintaining family relations, in sustaining cultural identities, and in supporting a family from abroad and in creating an environment of inclusiveness for migrants in their host countries. Since the 1990s, increasingly stringent migration regulations have severely limited the possibilities for some individuals to migrate, while the securitisation and 'remote control' (Hyndman and Mountz, 2008) of international borders have made entry into Europe more difficult for migrants lacking the necessary papers. As a result of stricter border controls and fewer opportunities for legal migration, migrants have become more dependent on smugglers.

Recent research has indicated that roughly two-thirds of migrants use smugglers to access Europe (Kuschminder, DeBresser & Siegel, 2015). This dependency on

migrants have become longer and more fragmented (Triandafyllidou & Maroukis, 2012). A rising number of irregular migrants are moving to Western Europe via transit countries, where they often spend significant periods of time. Smugglers have now begun to fulfil many of the functions traditionally served by social networks, such as providing migrants with information and influencing their choice of destination. However, in the current digital age, migrants also have the possibility of arranging their journey more independently. Smartphones, global positioning apps, social media, WhatsApp and Viber have become essential tools for migrants. In and around refugee camps we now see spaces popping up that provide migrants with power and free Wi-Fi (Schroeder, 2015).

ICTs and Opportunities for Migration

In *Raftree* (2018) reports it mentioned that youth comprise 17% of the world's population and 40% of the world's unemployed according to the International Labour Organization. For many youth, finding a way to sustain themselves and their current or future families through some kind of employment or livelihood is a top priority. The youth population also tends to be very aware of the potential of ICTs to support them in their own development and search for livelihood as they transition into adulthood.

Economic opportunities are a key pull factor for youth migration. Many young people migrate due to the lack of opportunities for employment and personal growth and development in their home communities and countries. ICTs are playing a growing role in supporting youth to migrate, as a 2013 report by Plan International USA outlines. The Internet and mobiles, along with word of mouth, can serve as an information source for youth as they plan the migration process, including finding the safest routes, identifying someone to accompany them, and making connections for work before or upon arrival. Youth also use ICTs to stay in touch with families and friends during the journey and upon arrival to their destination. Youth employ mobiles for sending home remittances or for receiving funds during the migration journey. ICTs can also help children and youth build and maintain social networks when they are away from home, to access help and support in case of trouble, and to find out about available services. Organized groups of youth and adults are using ICTs and social media as a core element in campaigns for migrant rights and to shift the debate about migration to a more positive angle.

A 2011 GSMA study on mobile learning, for example, found that young people were more interested in using mobile devices for finding a job than for learning math or English, and that most youth surveyed prioritized job skills over general education. Realizing that mobile operators could be trying to do more than simply help youth access education via mobile phones, the GSMA Mobiles for Development team began looking at how the industry could support youth through the entire process of

entering the workforce or small business and beyond, and subsequently re-branded its mLearning division to Mobile for Employment. The GSMA are now shifting efforts in that direction, and youth were consulted about their views on mobiles and youth employment in a report released in July (Raftree, 2018).

Migration and Access to Information

Migration, both within and beyond borders, necessarily entails risks. These risks can be mitigated by access to information both prior to and during the migration journey (Tilly, 1990). Access to information concerning destinations, conditions of migration, and the maintenance of contact with family and friends are important factors, especially for international migrants (Ros, Gonzalez, Marin, & Sow, 2006). Schapendonk and Moppes (2007) have confirmed the importance of communications in their interviews with migrants in Morocco, Spain and Senegal. The interviewed migrants all confirmed that they owned and regularly used mobile phones to remain connected with their friends and family abroad, both during the migration journey and once they reached their final destination. This applied to both regular and irregular migrants. Many also confirmed use of Internet services both as preparation for the journey and throughout its process.

Recent research following the major regional and trans-continental migration routes of Africa and Europe have revealed that migration is in fact big business. The quantity of people making the journey from various corners of Africa towards other African countries or Europe is substantial enough to have generated clear markets and substantive profits for services that target migrants embarking on these missions. As Schapendonk and Moppes (2007) note that, internet services expedite communication and remittances between areas of origin and destination, such as internet cafés or money transfer agencies. As their research shows, these services are not only important to migrants who have reached their final destination. These services are being used every step of the way and are serving to reduce many of the risks involved, especially with irregular international migration. Opening up doors to employment, transportation, and money transfers, services offered along the way, very often through ICTs (such as access to computers and the Internet or mobile phones), mean that migrants are for example less likely to be victims of theft since they no longer need to carry large sums of money with them to cover all expenses of their crossing. The availability of services reflects migrants' demands and facilitates the step-by-step migration process that characterises the journeys of most migrants (Schapendonk & Moppes, 2007, cited in Hamel, 2009).

According to Dullard (2016) relating from experiences of some migrants that, during discussions with interviewed migrants, it was reported that, timely, accurate, and trusted information is a critical aspect of humanitarian relief. Access to information reduces the vulnerability of migrants and refugees as they cross borders

and negotiate new cultures and foreign laws and processes. It enables people to make informed decisions about their futures and well-being. For example, A former refugee from Afghanistan, Abubaker Faiz works on the information hotline provided by Hellenic Red Cross for refugees and migrants, comments that, "One of the hardest calls I've had was from a family whose son had just died. The family had no idea what to do with his body." Faiz came to Greece in 1997 and says the importance of reliable information is as important now as it was for him 20 years ago.

In addition, Miguel Angel Barba Lopez, Red Cross Community Engagement and Accountability delegate in Greece, mentions that, "Finding out how to get the basics, the right information on asylum processes and who to go to for help, let alone dealing with something as tragic as losing a child, is hard, exhausting," he says. "Too often, people on the move can only count on information they receive from unreliable sources, like friends and social media, but also including traffickers and smugglers who target and exploit the most vulnerable people."

Yet, Marilena Chatziantoniou from the European Commission's Directorate-General for European Civil Protection and Humanitarian Aid Operations says that, "When on the move, or in a foreign country, migrants rely on the availability of trusted and timely information to remain safe." Also, to have reliable sources who can aggregate up-to-date information and provide it in all the relevant languages is so crucial to ensure migrants and refugees can make well informed decisions. This is why the European Commission is supporting virtualvolunteer.org, a one-stop shop for migrants to access information about health care, accommodation, the asylum process and more (Dullard, 2016).

Technologically Mediated Relationships

The use of ICTs entails the acquisition of skills and resources. It follows that for different families and for various cultural, social, political, or economic reasons, some ICTs are "more desirable than others at specific points in time" (Wilding, 2006: 15). The concept itself of family is quite diverse when compared cross-culturally. The patterns of communication between family members also change over time and depending on the context that family members find themselves in. These relations are greatly impacted upon by technology the moment a member of the group migrates. Research done on the choice of medium of communication used by migrants demonstrates that prior to the 1990s letter-writing was considered the most dependable and cost efficient means to contact family members abroad (Wilding, 2006). International telephone calls were also used, but since they were done, as in the case of Jamaica, from kiosks and public phones, they offered very little privacy (Horst, 2006). As many studies on the topic of ICT and migration demonstrate, this is no longer the case.

The
rep
fam
(Ve
arou
com
to th
the r
pos
a tru
fina
mea
Jam
effe
Prep
spea
telec
live
offe
grov
(Ho
infl
com
long

Whi
Mig
can
jour
migi
fact
Scha
com
The
phor
migi
regu
prep

Rece
of A
quar

The emergence of cheap international phone calls through pre-paid calling cards represents for migrants one of the most important advances in the maintenance of family and personal relationships with people who reside in their country of origin (Vertovec, 2004). Combined with the incredible growth of mobile phone usage around the world, migrants are now able to maintain an almost constant channel of communication despite their geographical distance (Ito & Okabe, 2005). Contrary to the exchange of letters, which can incur weeks of wait time between exchanges, the rise of international telephone services coupled with cheap calling cards makes it possible for families to be in touch on a regular basis, even if it is simply to say hello, a true 'miracle' of technology (Wilding, 2006). Cheap phone cards also reduce the financial strain on migrants who were previously often contacted by their family by means of collect call (Horst, 2006). Prepaid phone services, such as those offered in Jamaica, have also positively impacted families of migrants by allowing them to effectively control the amount of money they spend on telecommunications. Prepaid services limit the costs incurred and avoid the unpleasant surprises of speaking beyond their means. Horst's research also suggests that cheap telecommunications greatly impact the involvement of migrant parents into the lives of their children and their spouses. Through ICTs, these parents are able to offer support, reassurance, and be part of their children's "academic and emotional growth", while participating in the decision-making processes within the household (Horst, 2006). It is interesting to note that some report that migrants are at times very influential in the adoption of technologies such as mobile phones in their communities of origin as they introduce the need for and importance of maintaining long-distance relationships (Benítez, 2006, cited in Hamel, 2009).

What are the Implications of the ICTs Roles in Human Mobility?

Migration, both within and beyond borders, necessarily entails risks. These risks can be mitigated by access to information both prior to and during the migration journey (Tilly, 1990). Access to information concerning destinations, conditions of migration, and the maintenance of contact with family and friends are important factors, especially for international migrants (Ros *et al.*, 2007). For examples, Schapendonk and Moppes (2007) have confirmed the importance of communications in their interviews with migrants in Morocco, Spain and Senegal. The interviewed migrants all confirmed that they owned and regularly used mobile phones to remain connected with their friends and family abroad, both during the migration journey and once they reached their final destination. This applied to both regular and irregular migrants. Many also confirmed use of Internet services both as preparation for the journey and throughout its process.

Recent research following the major regional migration patterns...

African countries or Europe is substantial enough to have generated clear markets and substantive profits for services that target migrants embarking on these missions. As Schapendonk and Moppes (2007) remarked, "many internet cafés or money transfer agencies services facilitate communication and reunions between areas of origin and destination." As their research shows, these services are not only important to migrants who have reached their final destination. These services are being used every step of the way and are serving to reduce many of the risks involved, especially with irregular international migration. Opening up doors to employment, transportation, and money transfers, services offered along the way, very often through ICTs (such as access to computers and the Internet or mobile phones), mean that migrants are for example less likely to be victims of theft since they no longer need to carry large sums of money with them to cover all expenses of their crossing. These facilities are available as a result of migrants' demands and facilitate the step-by-step migration process that characterises the journeys of most migrants (Schapendonk & Moppes, 2007).

The amount of travel of the total population is significantly different (measured in the number of trips per day and distance per trip) when averaged and compared over groups with low, medium and high Internet use in hours per day. The group with high amounts of Internet use compared to the group with low use make on average 0.5 trips less per day, while the average distance per trip has increased just a bit less than 5 kilometres. The specific and complex character of the variation in the amount of travel became clear when considering age and the work situation of respondents in combination with their Internet use. Looking specifically at the variation in leisure and shopping related travel, it was observed that only the average amount of trips per day is significantly different. The average travel distance per trip varies slightly but the means aren't significantly different. A possible explanation for the observed variation might be again that the use of ICTs allows individuals to travel less, for example because we become more efficient in combining activities (Zijlstra, 2015).

Conclusion

This paper provides a short overview of the ways in which ICT can assist and promote the cultural and socio-economic integration of migrants by enhancing education and employment opportunities for immigrants and ethnic minorities (IEM). It is based on the analysis of wide range of initiatives that illustrate the ways in which ICT can support, facilitate, enhance and complement broader inclusion and integration strategies. The cases presented in the paper represent a careful selection of examples that are indicative and illustrative of the particular socioeconomic contexts where they take place. These cases exemplify a common or paradigmatic approach to integration, have been running for a number of years and have involved a substantial number of immigrants.

While evidence of the impact of ICT on integration exists, it is generally scarce because the research field of ICT for the integration of Immigrants and Ethnic Minorities (IEM) is still relatively new, and there is a lack of commonly accepted frameworks of measurement. There is, therefore, a need for more systematized and longitudinal research in order to measure and assess the impact of the use of ICT on socio-economic integration of migrants. More research is also needed to assess scalability and replicability.

Recommendations

As becomes apparent, ICT cannot and should not replace targeted inclusion strategies. Therefore, it is recommended that;

1. ICT can complement and enhance effective integration strategies.
2. ICT can facilitate and accelerate the social and cultural integration of immigrants, help migrants families to overcome the isolation they face on arrival,
3. ICT can make relevant information available to immigrants in their mother tongue and support immigrant children and youth in defining their own identity at the crossroads of the different cultures they belong to.
4. In order to seize the opportunities offered by ICT, access to computers, basic digital skills and also digital competences need to be promoted.

References

- Ajala, V. (2002). *Scholarly Writing Guide for Researchers*. Ibadan, Maybest Publishers.
- Asemah, E.S., Gujbawu, N., Elchaneafu, D.O. & Okpanachi, R.A. (2012). *Research Methods and Procedures in Mass Communication*. Jos: Great Picture Press.
- Benítez, J.L. (2006). Transnational dimensions of the digital divide among Salvadoran immigrants in the Washington DC metropolitan area. *Global Networks* 6(2), 181-199. Retrieved from <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1471-0374.2006.00140.x>
- Borkert, M., Cingolani, P., & Premazzi, V. (2009). *The State of the Art of Research in the EU on the Take up and Use of ICT by Immigrants and Ethnic Minorities*. Luxembourg: Office for Official Publications of the European Communities.
- Cabanes, J.V.A. & Acedera, K.A.F. (2012). 'Of mobile phones and mother-fathers: Calls, text messages, and conjugal power relations in mother-away Filipino families', *New Media & Society*, 14(6), 916-930. Retrieved from <https://pdfs.semanticscholar.org/3949/0b97e4756c09ca29f328d6223f6958a0450c.pdf>
- Castells, M. (2000). The rise of the network society. In Ivan Kozachenko (Vol.2, 2013) *Horizon Scanning Report: ICT and Migration*. Retrieved from www.abdn.ac.uk/socsci/documents/ICT_and_Migration_main.pdf

- Codagnone, C., & Kluzer, S. (2011). *ICT for the Social and Economic Integration of Migrants into Europe*. Luxembourg: Office for Official Publications of the European Communities.
- Collin, S. & Karsenti, T. (2012). ICT and Migration: A Conceptual Framework of ICT Use by Migrants. In T. Amiel & B. Wilson (Eds.), *Proceedings of EdMedia 2012--World Conference on Educational Media and Technology* (pp. 1492-1497). Denver, Colorado, USA: Association for the Advancement of Computing in Education (AACE). Retrieved from <https://www.learntechlib.org/primary/p/40945/>.
- Diminescu, D. (2005). *The migrant connected. For an epistemological manifesto*. *Migrations Society*, 17, 275-292. Retrieved from http://www.diaspora-stiintifica.ro/wp-content/uploads/2016/02/Dana-Diminescu_Migrants-and-clandestinity.pdf
- Diminescu, D., Jacomy, M. & Renault, M. (2010). Study on Social Computing and Immigrants and Ethnic Minorities: Usage Trends and Implications. *JRC Technical Note 55033*. Retrieved from <http://ipts.jrc.ec.europa.eu/publications/pub.cfm?id=3119>
- Ducey, A. (2010). 'Technologies of caring labor: From objects to affect', in E. Boris and R. Parreñas (eds.) *Intimate Labors*. Stanford, CA: Stanford University Press.
- DuGay, P., Hall, S., Janes, L., Mackay, H., & Negus, K. (1997). *Doing cultural studies: The story of the Sony walkman*. London: Sage Publications.
- Dullard, A. (2016). *IFRC International Federation of Red Cross and Red Crescent Societies*. Sep 26, 2016. Retrieved from <https://medium.com/@IFRC/information-as-crucial-as-food-and-shelter-for-migrants-and-refugees-fbaf3435b292>
- Hamel, J-Y. (2009). *Information and Communication Technologies and Migration*. Human Research Development Paper. Retrieved from http://hdr.undp.org/en/reports/global/hdr2009/papers/HDRP_2009_39.pdf
- Haq, M. (1995). *Reflections on Human Development*. Oxford: Oxford University Press.
- Hill, M. (2007). Confronting Power through Policy: On the Creation and Spread of Liberating Knowledge. *Journal of Human Development* 8(2), 259-282. Retrieved from <https://www.tandfonline.com/doi/abs/10.1080/14649880701371158>
- Horst, H. (2006). The Blessings and Burdens of Communication: Cell Phones in Jamaican Transnational Social Fields. *Global Networks* 6 (2), 143-159. Retrieved from <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1471-0374.2006.00138.x>
- Hyndman, J. & Mountz, A. (2008). 'Another brick in the wall? Neo-refoulement and the externalization of asylum by Australia and Europe', *Government and Opposition*. 43(2), 249-269. Retrieved from <https://doi.org/10.1111/j.1477->

- 7053.2007.00251.x;
- International Labour Organisation (2012). Global Employment Trends 2012 Preventing a deeper jobs crisis. Retrieved from http://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/@publ/documents/publication/wcms_171571.pdf
- Ito, M., & Okabe, D. (2005). "Technosocial Situations: Emergent Structurings of Mobile Email Use." in *Personal, Portable, Pedestrian: Mobile Phones in Japanese Life*. Ito, M., D. Okabe, and M. Matsuda (eds). Cambridge: MIT Press.
- Kuschminder, K., de Bresser, J. & Siegel, M. (2015) Irregular Migration Routes to Europe and Factors Influencing Migrants' Destination Choices, WODC report. Retrieved from <http://english.wodc.nl/onderzoeksdatabase/2553-lampedusa.aspx>
- Lee, J.W. (2001). Education for Technology Readiness: Prospects for Developing Countries. *Journal of Human Development* 2 (1), 115-151.
- Madianou, M. & Miller, D. (2012). Migration and New Media: Transnational Families and Polymedia. London: Routledge.
- Massey, D. S., Arango, J., Hugo, G., Kouaouci, A., Pellegrino, A., & Taylor, J. E. (1993). Theories of International Migration: A Review and Appraisal. *Population and Development Review*, 19, 431-466.
- Massey, D.B. (2005). For Space. London: Sage. Retrieved from https://selforganizedseminar.files.wordpress.com/2011/07/massey-for_space.pdf
- Mahler, S.J. & Pessar, P.G. (2001): 'Gendered geographies of power: Analyzing gender across transnational spaces', *Global Studies in Culture and Power*, 7(4), 441-459.
- Organization for Economic Cooperation and Development (2010). International Migration Outlook 2010. Retrieved from http://www.oecd.org/document/41/0,3746,en_2649_33931_45591593_1_1_1_1,00.html
- Parreñas, R.S. (2005). Children of Global Migration: Transnational Families and Gendered Woes. Stanford, CA: Stanford University Press.
- Platt, M., Brenda, S.A. Yeoh, K. A.A., Yen, K.C., Baey, G. & Lam, T. (2014). Migration and Information Communications Technology Use: A Case Study of Indonesian Domestic Workers in Singapore. Working Paper 24. Retrieved from <http://migratingoutofpoverty.dfid.gov.uk/files/file.php?name=wp-24-platt-et-al-2014-migration-and-ictuse.pdf&site=354>
- Raftree, L. (2018). ICT Opportunities And Barriers For Youth In Developing Countries. UNICEF Office of Research – Innocenti. Retrieved from <https://www.unicef-irc.org/article/1009-ict-opportunities-and-barriers-for-youth-in-developing-countries.html>.

- Opportunities for Immigrants and Ethnic Minorities. *POLICY BRIEF. JCR Technical Notes*. Retrieved from ftp://ftp.jrc.es/pub/EURdoc/JRC57947_TN.pdf
- Ros, A., Gonzalez, E., Marin, A., & Sow, P. (2007). Migration and information flows: A new lens for the study of contemporary international migration. Barcelona: Internet Interdisciplinary Institute.
- Schapendonk, J., & van Moppes, D. (2007). Migration and Information: Images of Europe, migration encouraging factors and enroute information sharing. Nijmegen: Radboud University Nijmegen.
- Schroeder, S. (2015). 'Refugees in Croatia can't get to the internet, so the internet comes to them', Mashable, 21 September. Retrieved from http://mashable.com/2015/09/21/mobile-free-internetrefugees/?utm_medium=twitter&utm_source=dlvr.it#Jk2XYzCHVEqW
- Shenglin, B., Simonelli, F., Bosc, R., Zhang, R., & Li, W. (2018). Digital Infrastructure: Overcoming the digital divide in emerging economies. G20 INSIGHTS. Retrieved from http://www.g20-insights.org/wp-content/uploads/2017/05/Digital_Overcoming-Digital-Divide-II.pdf
- Tilly, C. (1990). "Transplanted networks" in Yans-MacLoughlin V., (ed). Immigration Reconsidered. New York: Oxford University Press.
- Triandafyllidou, A. & Maroukis, T. (2012). Migrant Smuggling: Irregular Migration from Asia and Africa to Europe, Palgrave Macmillan, London.
- Urry, J. (2010). Mobile Sociology. *The British journal of sociology*, 61, 347-66.
- Uwakwe, V. (2017). Cultural Identity In The Age Of Internet Technology. HYATTRactions (May 10, 2017). Retrieved from <https://hyattractions.wordpress.com/2017/05/10/cultural-identity-in-the-age-of-internet-technology/>
- Vertovec, S. (2004). Cheap calls: the social glue of migrant transnationalism. *Global networks*, 4(2), 219-224.
- Wellman, B. (2001). Computer networks as social networks. *Science*, 293(5537), 2031 - 2034.
- Wilding, R. (2006). 'Virtual' intimacies? Families communicating across transnational contexts. *Global Networks* 6 (2), 125-142. World Bank (2011). Migration and Remittances. Retrieved from <http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:20648762~pagePK:64257043~piPK:437376~theSitePK:4607,00.html>
- Zijlstra, W. (2015). The impact of personal ICTs on mobility behaviour. A study on the impact of personal ICTs on the amount of travel and mode choice using the first wave of the Dutch Mobility Panel. The Netherlands Institute for Transport Policy Analysis. Unpublished Master Thesis. Retrieved from <https://www.utwente.nl/en/et/vvr/education/Master/finished.../2015-zijlstra.pdf>.