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"Social and Cultural Needs"

MASELTOV

Mobile Assistance for Social Inclusion and Empowerment of Immigrants with Persuasive Learning Technologies and Social Network Services

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EXECUTIVE SUMMARY

This document aims at stating considerations and issues that have to do with the way in which social factors influence the way in which technology is used and adopted in the context of migration in Europe. The main purpose of this Deliverable 2.2.1 is to present in a clear and easy to read format, some of the most important questions we need to make sure a technological project contains to be well founded from a social perspective. With this spirit, we present here a combination of elements. The first section is a questioning of a too abstract understanding of the terms "needs" and "social needs". The second element that we present is a short literature review on mobile phones and immigration. Third, from our own research work, we consider here the most significant and differential elements of an immigrant mobile phone. As a fourth piece of this multiple document, we think it is useful to go back to the Workshop "Mobile services for immigrant people: learning, information, and community" (Barcelona, April 2012) and extract some conclusions on social factors in the context of mobile services for immigrants. Finally, we point out to some methodological aspects that could influence on the final results of the project. This deliverable tries to complement the work presented in Deliverable 2.1. which was more focused on the institutional side of the project. The present document is intended to be useful to the very heterogeneous audience which integrated the MASELTOV consortium. It would be very positive if, in the future, it contributes to generate internal discussions and group cohesion.

1. IMMIGRANT NEEDS: FROM GENERAL PURPOSES TO DAILY NEEDS

It is not an easy task to try to define what immigrants need. The needs of immigrants in host societies depend upon many factors and change overtime. In many occasions, the only question based on needs implies a reification of the experience of being in a social reality crossed by confronted interests and visions. There is not such thing as "objective needs" but specific needs for specific purposes. For instance, in some European countries language is considered a requirement to find a job, to renew immigration visas, or to be selected for a job permit. However, these "needs" have changed along time. Language oriented policies were not so central some years ago. In this sense, are social needs of immigrants a real category? Or do they depend on political, economic and cultural variables? Can we measure "social needs" as if they really existed?

What can be central for this need-based project, like MASELTOV, is to understand to what logic of need do we try to respond. Is it the logic of people as they freely define it? Is it the logic of people in some specific areas defined in advance? Is it the logic of the European Commission? Is it the logic of experts? Who defined social needs? Any methodological decision here has a tremendous influence on what kind of social needs will surface (and which will remain invisible).

Whatever we decide, we need to be clear that it will be a limited fragment of a much more complex social reality in which immigrants live. The more clear we are in that respect, the more honest MASELTOV will be. We cannot give for granted that social needs of immigrant are universal. MASELTOV therefore focuses on some specific social needs and justified the reason for this choice very well.

As we have seen both in the Workshop "Mobile services for immigrant people: learning, information, and community" (Barcelona, April 2012) and in the results of interviews and focus groups settled by MASELTOV' NGOs, the list of social needs is extensive:

- help in mobility
- contact with family
- find a job
- find a home
- learn the language
- create and multiply weak ties, breaking out of the circle of own community
- that brings solidarity, but also prevents finding new opportunities
- connectivity
- education

From NGO´s field work:

- literacy
- language
- communication and presentation skills
- information technology skills
- employability skills and other employment-related barriers
- education
- lack of confidence
- access to information and services

- accommodation
- childcare
- lack of access to healthcare
- legal issues
- tax and benefits
- lack of social and professional networks
- financial barriers
- lack of recognition of skills
- isolation and discrimination
- cultural differences

An additional issue to take into account for future research is mobility needs for immigrant groups. As a recent article at the Harvard Business Review points our:

Today, companies are scrambling to come up with something "mobile" whether or not it makes sense for their long-term business goals, and whether or not users will actually want it (...)

Before doubling down on mobile, any business should first ask themselves if they really understand mobility as a behavior and lifestyle, followed by tough questions about the role mobile plays in their business. From there, a strategy for mobile, built on an understanding of mobility, can take root. http://blogs.hbr.org/cs/2012/07/the_future_isnt_about_mobile_its.html

Following this interesting idea, it would be interesting to find out what is the "natural behaviour" for migrant groups in relation to mobility and situated services. We should find out the answers to following questions:

- How do immigrant groups live in the mobility paradigm?
- Do they do things in "at the spot"?
- Do they feel like doing what kinds of things in mobility?
- And why?
- What situations might arise?

2. MOBILE PHONES AND IMMIGRATION

With the popularization of mobile phones, virtually all immigrants have a mobile phone. They often have far greater access to mobile phones than to other ICTs, including computers. This is the one ICT tool that is always with them, and it has multiple uses in addition to making calls or sending SMS. This fact has key implications at the autonomy and connectivity level and allows new ways of connectivity and availability to others. Migrants are a highly connected population group with a strong culture of linkage (Diminescu 2008) which represents an enormous potential for social transformation for the future of migrants and migrant societies.

Yet, little research to-date has focused on the role mobiles play in migrants' lives and in what ways connectivity shapes their social relations and positions. Many migrants had a phone in their home country, and used one during their journey (Schapendonk and van Moppes 2007). It is even common to encounter migrants who carry two (or more) mobile phones and regularly use them to manage their communications with employers, family members and friends at home, businesses or institutions in their home country. Mobile phones create and maintain social networks, especially small groups (Ling 2008). Their mobile is critically important to their life, essential to maintain the family, social, and work connections they depend on. They have been also a key role in the organization in the mobilization of undocumented immigrants in France (Diminescu 2002). Unlike general perceptions, immigrant workers do actively engage in cell phone services (Castells et al. 2006). There are evidences also that they use mobiles also with other functions: transfers of money, listen to music, take pictures to show, and Internet search.

In spite of all their attachment to their phone, and despite all the benefits they derive from it, migrants often express frustration with its limitations. They resent the high prices they must pay to use it as they "often spend a larger proportion of their income, spare time, and energy on the cell phone in comparison with many long-term urban residents" (Castells et al 2004). Yet the services are perceived as unsatisfactory, and they often feel being mistreated by mobile operators. Corporations have been fast in developing specific plans and tariffs for migrant communities everywhere. Thus, we believe the mobile is a rich place to focus investigations, as it represents both a key window into immigrant's lives and a critical tool in improving their lives.

As mobile people, migrants find mobile phones a very useful tool. Ubiquity and immediateness of mobile phones are highly appreciated. Yet, we need to know more about how mobiles are used in the case of migrant communities and with what purposes. What are the most valuable features and services of mobile phones? How, in the case of immigrants, are mobile phones influencing on different spheres of existence such as micro-coordination of the daily family activities; job and boundaries between private life and working activity; safety and security, expressive uses; and networked activity? How are mobiles being used as repositories of information and history, through digital photos, for instance?

Mobile phones (MP) have become key elements in contemporary media environments, a hinge technology that continues and extends the revolutionary possibilities of fixed telephones (Katz and Aakhus 2002). As part of new media, they converge with the Internet, computers and other mobile devices but also have distinctive features that have turned them into a primary communication technology for increasing segments of the population.

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With regard to technical possibilities, the MP interface resembles that of the fixed telephone. However, while landline phones were usually shared by many people (e.g. a family) and implied conversations between fixed places, MP do so from person to person at any place and situation with network coverage. In this sense, it is a highly personalized media (Ling 2004:172) that allows users to be always reachable and get immediate communication.

Penetration rates have grown unprecedently in a short period of time (ITU 2010) a process that responds to a complex web of actors and events in which the industry has played a key role, for instance, with the politics of prices. Indeed MP have soon become a cheap technology so that nowadays most people access them even in contexts of extreme poverty, where landline phone had been previous unaffordable or inexistent (Castells et.al. 2007). This had important economic, political and socio-cultural implications, from promoting the development of poor rural areas to the reduction of the digital gap (Fernández-Ardévol et.al. 2011). Cheap, easy access to MP has also facilitated different migrants' projects and trajectories worldwide.

Despite being a very heterogeneous group, migrant people might share a particular profile as ICT users related to the management of transnational lives at a distance and to the specific needs they have in host societies. This has involved family relationships, commercial ties, political activism, religious belongings and other cross border engagements in multiple contexts where dichotomies such as origin/destiny, national/transnational and local/global collapse (Ros 2011). It has also implied new spheres of socialization and the possibility of being part of a networking society in the organization of their different domains: job, everyday life, family care, etc. But, what do we know about the role that MP has in migrants' lives? How do they use and appropriate them? What advantages and disadvantages do migrants experience with MP in relation to other media?

There is an existing interest on how less advantaged groups are becoming users of ICT and how. Within highly restricted conditions of costs, immigrants find in MP a technological solution for their lives. In other words, MP adapt very satisfactory to the life conditions of immigrants. This is very likely the reason why it is very unlikely to encounter one immigrant person without, at least, one mobile. It is important to look into this double-side reality. First, to show how inequalities in legal and economic conditions shape a restricted use of MP, which mainly implies strategies of media convergence and some passive user roles. Second, MP contribute to organize immigrants lives in different ways: allowing to be all the different self they are; facilitating communication in mobility and uncertain conditions; giving emotional security; supporting networks of sociability.

2.1   MEDIA COSTS AND CONVERGENCE

When mobile phones were still scarce among migrant populations worldwide, Vertovec´s (2004) seminal work on cheap international telephone calls put under the spotlight the importance of this communicative resource for low-income migrants across the globe to keep linkages with beloved and other ones scattered in distant places.

The emerging research on transnational families communication have enriched our knowledge on the increasing importance ICT have in migratory contexts, providing rich qualitative analysis on the multiple communicative resources people use (Pangakos & Horst 2006, Parreñas 2005, Mahler 2005, Carling 2008, Wilding 2006, Baldassar 2006, Sorensen 2005 and elsewhere). Some research has focused on the role of MP specifically in very different migratory experiences, such as rural Jamaican's (Horst 2006, Horst and Miller 2006), overseas Filipinos' (Paragas 2009) and Chinese regional migrants' (Law & Peng 2008, Yang 2008, Wallis 2011) to mention but a few.

There are two main conceptual emphases emerging from the research on migrants and MP that prove especially relevant for our approach: first, the need to consider MP as part of wider media environments and their relation with other communication devices. Secondly, their distinctive appropriation by migrants as usually low-income users whose media use is heavily dependent on restricted budgets but also deeply shaped by emotional priorities. We could summarize these interpretative frameworks as media costs and media convergence and, as we will see, they are highly intertwined and interdependent.

Media costs reflect recent fieldwork with regional migrants in China that has inspired new conceptualizations to describe the experience of "the information have-less" (Cartier et.al 2005) and "the working-class network society" (Qiu 2009). These concepts take class stratification in combination with the variable origin as an explanatory framing regarding user´s practices of connectivity and explore the successful business of ICT low-cost services offered to price sensitive customers.

Media convergence remits to the process defined by Jenkins (2004) as "the proliferation of channels and the portability of new computing and telecommunications technologies (...) where media will be everywhere and we   will use all kinds of media in relation to each other" (2004:34).

This idea of interdependence and overlapping of different media and "the relationship between existing technologies, industries, markets, genres and audiences" (Ibidem) has been further elaborated and differently named as "media ensembles" (Morley 2007), "communicative ecology" (Slater and Tacchi in Horst and Miller 2006, de Bruijn 2009), "transmediality" (Hepp 2004) and, more recently, "polymedia" (Madianou and Miller 2011). While they differ in focus, these perspectives aim to provide better understandings of the complex ways in which people construct customized media repertoires in specific contexts.

Transnational communication is thus immersed in a complex web of different technologies to fulfil diverse purposes at affordable costs. The concept -and the communicative options it refers to- might operate "once the costs of the equipment and payment plan is spoken for" (Madianou and Miller 2011). However, options are very much conditioned by budgetary issues. This does not mean that people invests little money in transnational communication, as it is a priority for most of them. But they would be immersed in a polymedia environment deeply shaped by the control of expenses.

2.2 MAPPING AND PROBLEMATIZING MOBILE PHONE ACCESS, USE AND APPROPRIATION BY MIGRANTS

Like with most technological devices, there is a process of stratification in the access to MP related infrastructures and services that needs to be taken into account, especially if we are interested in users who are usually others from early adopters and lead users. In other words, unlike Wirth et al. (2008)´s call to advance the MP research field by asking 'How do people use their mobile telephones?'' (2008:593), we argue that it is still relevant to ask "who": ''Who uses a third-generation mobile telephone?'' and answer it by taking into account intersectional differences of age, sex, ethnicity, socio-economic class, origin and educational level. It is not a minor question since "access" should not be reduced to a yes/no or adoption/rejection paradigm, but it has also qualitative implications that make real differences in use and appropriation. In this regard, Castells (2011) nuances the happiness of MP universal access in terms of these qualitative inequalities.

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In order to get more specific information on the kind of MP migrant people use, we can turn to a Spanish survey question that deals with what mobile phone devices are used in internet connection (see Table 1)[1].

Table 1. Internet Use in the last 3 months by origin and device (Spain)

	Mobile phone with any connection type	Mobile phone with 3G,3,5G	Mobile phone with GPRS	Mobile phone with WiFi or WiMax
Spanish nationality	26,5	18,3	4,3	13,3
Foreign nationality	19,4	13,1	4,1	9,4

Source: INE 2011

At first glance, the table shows relatively low values for MP internet connection for the whole population, but this trend might increase in the near future. According to the results of the survey shown in Table 1, Spanish people's connection from MP exceeds substantially foreign people's in all but the item referred to as "other connections" (in the 3rd column). From this data, we could assume that migrant people access the internet from MP less than Spaniards.

MP uses are better understood in terms of the appropriation approach to technologies, a process that "involves evaluation by users as they encounter, adopt and adapt, then integrate a technology into their everyday practices" (Carroll et.al 2003:39).

The theoretical strength of this approach is the underlying assumption that technology and society are highly intertwined dimensions of human activity and that they relate in complex ways. Against deterministic views that analyse this phenomenon in terms of impacts, causes and effects, linearity and predictability, appropriation theories takes people´s agency seriously and make visible users active role in shaping technology on a daily basis.

Appropriation practices at the heart of relationships between users and providers of technology, that despite power imbalances feed mutually and are sometimes shifted through cycles of adoption, appropriation and re-configuration that lead to innovative practices and new cycles (Bar et.al 2007). Following Sey (2009), we should not fall into "uncritical celebration of user innovation" (2009:163) when it takes place in contexts where scarcity of basic resources are the main drivers. In her research work on strategies of communication developed by low income users in Ghana, she concluded that "cost barriers inhibit the ability of individuals to employ ICTs as extensively as they would like" (2009:164).

All the works considered here point to different extents that appropriation is a dynamic process usually embedded in a grid of opportunities and restrictions that users enjoy as well as withstand.

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[1] Survey data, referred to the demographic differentiation by nationality, is doubly biased. First, there might be people of diverse origins who have acquired the Spanish nationality and remains invisibilized in that category. Secondly, the category "foreign nationality" is too heterogeneous, including both Communitarian and non-Communitarian citizens, with very different socioeconomic profiles and social needs.

3. SIX KEY CONCEPTS IN IMMIGRANTS' MOBILE PHONES

We want to highlight some specific realities and terms for a better understanding of why and how migrants use mobile phones. The following outline contains all of them.

1. *Origin*: Mobile phones are a basic tool for maintaining continuous personal linkages at home, contributing to shaping emotional security and new affects. Mobile phones are a set of devices and practices in which national borders are not clear cut. This is especially relevant in contexts of high physical mobility/mobilities, in which migrants usually end up managing family and close friends relationships at different, multiple locations. Even if many migrants cannot use mobile phones for international communication on a regular basis for economic reasons, the feeling of knowing that anytime and anywhere they can reach (or be reached) gives a sense of security in their transnational relationships. In addition, they have developed new forms of micro-coordination (e.g. through economic transfers) and of connected presence and a social continuum.

2. *Social Integration*: Mobile phones play a very important role in social integration of immigrants in key areas: getting a job, escaping from difficult social conditions, organizing leisure activities, cultural transmission, information and access to public administration.

3. *Networks*: Mobile phones are reinforcing social networks and, often, social solidarity with its great capacity for building and maintaining social links of support and leisure.

4. *User profiles*: There are different immigrant user profiles according to the level of use or functionalities and availability of internet connection from the handset. Immigrants are not a homogenous category. We can distinguish basic, medium and advanced levels of users.

5. *High Costs*: Costs are really the issue for the some social groups like migrants. Complex and rich strategies of low cost are frequently used among migrants with mobile phones. These strategies include media convergence, cheap prepaid cards, internet public places (with cheap rates), time restrictions, purpose restrictions (e.g. only emergencies), beeping, short calls, changing company, and mobile shared use.

6. *Social Value*: Mobile phones contain very important values that coincide with the social needs of immigrants. Immigrants appreciate very much easy access, simplicity, ubiquity, instant communication, not organisation required, no legal restriction, oral communication.

4. LEARNING FROM EXISTING EXPERIENCES

"How can you reach your target and engage them? This is very difficult. You can have a beautiful product, but that is not enough" (Cyril Esnos)

As societies shift into a mobility paradigm, immigrants also do so. In fact, migrants can often be seen to represent, anticipate and live at the frontier of mobility in the global economy. Portable technologies are the material condition for it. Immigrant people have deeply integrated mobile phones into their lives. Migration and mobility paradigms crosscut. Immigrants as all mobile communication users are more autonomous, more integrated within their groups, with more capacity for micro-coordination of their daily lives.

This workshop addressed the intersection of specific immigration social realities and the new challenges of mobility. Recent research works have identified the key role of mobile phones for immigrant people such as help in emergency situations, simultaneity in communication overseas, and co-presence in the education of children for absent parents. From a more user-centred approach, we tried to explore to what extent mobile technologies could be designed (through mobile individual artefacts) to give response to immigrants' needs.

This section is a summary of the most important conclusions we draw from the Workshop "Mobile services for immigrant people: learning, information, and community" (Barcelona, April 2012) on social factors in the context of mobile services for immigrants. We aim to take advantage of two days of high level presentations and deep discussion.

4.1 CAN MOBILE PHONES HELP ADDRESSING IMMIGRANT NEEDS

There are good opportunities…

High Appropriation
Mobile phones are everyday life devices for immigrants. They are being used for very important aspects on daily life already. This is a very important social condition for MASELTOV and it would be necessary to set up a MASELTOV App based on social uses of mobile technology, thus taking into account why and how do immigrants use mobile phones.

Avoiding digital exclusion
According to some experts, mobile technology is the solution to access to the internet. Especially for those who never used the internet on computers (e.g. 70-75+, migrants and others).

Lack of internet access and skills is becoming a serious exclusion factor, especially for job seeking. Job posts are becoming increasingly digital only. You are in direct danger if you do not know how to look for employment through the internet. Mobile devices are opening new access and inclusion opportunities for low income people.

Ubiquity
The capacity for ubiquitous (anytime, anywhere) contact that the mobile phone entails can be a positive factor for reaching social groups by highly structured formal institutions, such as public administrations and learning organisations.

For instance, strategies for new forms of situated learning arise. In host country language learning, it could imply more relevant and more authentic learning, more closely linked to what you want to know.

… and important risks

Costs
Low income communities are using massively mobile phones. Social rates for mobile phones should soon include internet connectivity, not just voice services.

Technological gap
ICT potential for inclusion is high, but there is an emerging "mobile divide": with standard mobile phones you cannot do much, you need smart phones to link to the Internet and to use other functionality. However, these phones are currently still expensive and commercial plans that make them available at low/no cost normally put requirements on the user (bank account, credit card, long term commitment hence residential stability etc.) which are hard to meet by many migrants.

Knowledge gap
Not only is important having a mobile phone, we need the ability to effectively use it. Mobile literacy must go beyond basic communication, transmission of content and obvious practices and exploit the full functionality of mobile phones, even more the new devices. Even young people who may be very skilled on certain functions, tend to resist learning new habits/usages.

This could be an important barrier especially for the potential of mobile learning for disadvantage groups.

4.2 HOW CAN MOBILE SERVICES HELP IN SOLVING IMMIGRANT NEEDS

Usefulness
Mobile Apps can offer services which make the daily life of citizens easier. Thus, they respond to daily needs of immigrants.

Simplicity
The fact that mobile Apps require a simple design (language, user friendly interface,…) is part of an inclusion process.

Creative
Mobile Apps enable new ways of doing things that would not viable otherwise, e.g. the gamification of the urban environment.

4.3 WHAT ARE THE BASIC CONDITIONS OF MOBILE SERVICES FOR IMMIGRANT PEOPLE?

Digital skills
Leave enough time for the participants to develop the digital skills they need.

Low cost and acceptable commercial conditions

Costs are really the issue for the some social groups like elderly and migrants. Commercial conditions should also take into account the situation of specific user segments.

Privacy
People don't want to share much information about themselves. Also, since there are often concerns about the "tracking" potential of mobile phones, solutions should be provided that minimize these worries.

Language and literacy
Take into account the exact capacities for interacting in specific languages (oral and written) and the level of literacy. Images (rather than text) and text-to-speech solutions can be important in this respect.

Integral
Holistic services for multiple needs.

Content
Correct, updated, local content (developing a common back-office framework is risky; open data and local application is less risky).

5. SIX METHODOLOGICAL RISKS IN A TECH-MIGRATION PROJECT

This section focuses on methodological aspects. We believe it is necessary to focus our attention to some possible problems that might surface. The main purpose is to be conscious of the risks hidden behind and, therefore, to try to avoid them.

5.1   RISK 1: SIMPLIFICATION OF REAL SITUATIONS

Lives and situations which migrants face are complex. Technological tools for them have to be conceived and designed understanding very well the migrant reality and not reducing it to a simplifying logic of "they need-we offer". For this reason, the tools should be as much flexible as possible and open to contributions and adaptations by the users themselves and other actors (service providers, NGOs etc.) working to address their needs.

5.2   RISK 2: PATERNALISTIC ATTITUDE

Migrants are active agents of social change. They cannot be viewed only as a part of society that "needs help" (that "we" will provide). Migrants are capable of proactive processes and their actions are transformative for societies where they live. Again, this leads to envisage solutions that can be appropriated and enriched by the end-users and intermediaries working with them.

5.3   RISK 3: NARROW PERSPECTIVE

Interviews and focus groups are limited entrances to the real needs of people. Answers are constrained by expectations and time. If we really want to understand users needs, it is necessary to expand the lenses and go deeper. Rapid prototyping approaches leading to repeated tests and trials of technology-based solutions should be adopted whenever possible.

5.4   RISK 4: UNVEILED REALITY

Interactions among interviewers and interviewees could skip or just ignore some key issues for social implications of technology. We should be positive that all of them have been first understood and then discussed. This is the case, for instance, of geo-radar solutions and related privacy issues. Not asking in the right terms, i.e. not having the right data, should be avoided.

5.5   RISK 5: LACK OF PRIORITIZATION

First analysis of data shows very different types of implications for the project. Such results need to be clearly identified and organized. Some of them (i.e. lack of access to a Smartphone, fear of confidentiality) might have a great impact on the project. The way in which prioritization will be done (i.e. more emphasis on social networks than on non-written apps?) will shape the project in very different ways. Some key issues stemming from the analysis of user requirements and conditions -especially, concerning non-functional requirements such as access to smartphone and the commercial conditions to use given services- need to be assessed in depth, as they may lead to important decisions in the design of solutions and may have important consequences in terms of future exploitation.

5.6   RISK 6: SUPERDIVERSITY CONTENTS

Any project with multiple languages and cultures implies complexity. Answers and needs of different migrant communities (Latino, African, Turkish…) are different. This project needs

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to put diversity in the centre and do not underestimate the complexity (and richness) it implies. Issues of content production have to be seriously taken into consideration.

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7. APPENDIX - IMMIGRANTS' STRATEGIES WITH MOBILE PHONES ON ARRIVAL

7.1 INTRODUCTION

D2.2. aimed to bridge the existing gap between the social sciences and technical interests, producing a practical and easy-to-read document to be shared by all the partners in the MASELTOV consortium. In this appendix, we will develop in more detail theoretical and empirical knowledge about immigrants and mobile technologies with focus on arrival. This is based on the most important contributions of our own research held between 2008 and 2012 in Catalonia, one of the regions of Europe that has received more immigrant population in the last years. This accumulated knowledge from the social sciences has constituted one of our main contributions to the MASELTOV project.

This document is organized as follows. After stating the frame of arrival as a moment in the process of migration with a specific focus on digital societies, we introduce a theoretical update to situate the role of mobile technologies at arrival. Then, we try to show that the implications of mobile technology in immigration contexts are twofold. On the one hand, we argue that the fast adoption of mobile phones by immigrants responds to their mobile living conditions within a broader context of almost universal adoption of this device. On the other hand, we try to nuance the simplistic assertion that "all immigrants have a mobile phone" by analyzing in more detail how diverse profiles of immigrants use and appropriate it and why it is a process full of tensions and challenges.

7.2 MIGRATORY ARRIVAL IN DIGITALLY MEDIATED SOCIETIES

Migratory experiences are diverse and complex but can be broadly described according to significant moments, namely "pre-migration and departure, transit, and resettlement in the new environment" (Drachman, 1992).[2] Each moment has its own particularities, conditioned by contextual and personal circumstances which influence the migratory decision, its development and concretion. Contextual circumstances encompass the political and socio-economic situations at societies of origin and destination; personal circumstances include migrants' profiles in terms of age, gender, ethnicity, literacy and socioeconomic level. Taking into account these variations, however, diverse migrant profiles might share similar needs associated to similar experiences of migration, in particular the arrival in a new social environment, which is often marked by high degrees of novelty and uncertainty.

The broad concept of needs has at least three defining features: a) they are not static and fixed, but dynamic and changing across time; b) they have a hierarchical order which prioritize basic over secondary needs[3] and c) they are usually followed by "possible resources and solutions for identified needs" (Hernández Plaza, Pozo, & Alonso-Morillejo, 2004, p.284). In migrant contexts, the dynamic nature of needs across the migratory experience is exemplified in the following excerpt:

During the initial stage of settlement, major needs of newcomers include: employment, shelter, host-country language acquisition and basic orientation. In the

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[2] Cox (1985) proposed integration as a fourth stage while other scholars have evidenced other mobilities that both add or challenge linear patterns of migration, such as return or back-and-forth trips (Redstone and Massey 2004).

[3] This hierarchy dates back to U.S. psychologist Abraham Maslow's (1943) conceptualization of the pyramid of human needs.

later stages of adaptation and integration, newcomers become more concerned with career advancement, ethno-cultural and/or racial identity and full political and social participation in their new society (George, 2002, p.470).

On arrival, migrants often have to deal with basic needs that, once covered – presumably after resettlement– yield to the emergence of secondary needs. In particular, the most disenfranchised immigrants suffer from lack of economic capital during the first period in the society of destination. Some of them might also have a deficit of social capital, having most of their closest social environment in origin. However, others arrive with key information to enter networks of support that help them to make their way in the new society. Informal social networks usually constitute the primary resource to cover all kinds of needs on arrival and beyond, on top of institutions and official organizations (Hernández Plaza et al. 2004).

While migrant networks are a historical phenomenon, their interactions and exchanges have become more efficient after the availability of digital technologies and their ability to communicate almost in real time (Ros, González, Marín, & Sow, 2007). Since contemporary migration is embedded in digitally mediated societies, many of immigrants' needs are traversed by and covered with ICT enhanced resources, or at least they have that potential. In this sense, arriving into a new place can be less experienced as a first-time event than before, when communication was only asynchronous. Traditional definitions of migration as the physical movement from a relatively well-known, environment, to a less familiar and predictable one are being challenged at various levels. The widespread access, speed and intensity of information and communication flows have allowed many immigrants to increasingly experience arrival in a less traumatic, unique and uprooted experience. By contrast, arrival can be experienced as a process of continuity between societies of origin and destination, in which spatio-temporal differences become less evident through simultaneous times, shrinking places and effective connections enhanced by digital technologies. In this sense, "the diffusion of mobile communication technology greatly contributes to the spread of the space of flows and timeless time as the structures of our everyday life" (Castells, Fernandez-Ardevol, Qiu, & Sey, 2007, p., 171).

However, it is also certainly true that, as historians of migration have pointed out, "each move involved uprooting and in varying degrees the development of the migrant mentality" (Vecoli & Sinke, 1991, p.27). Even the best-informed and technologically well-equipped immigrant might face important challenges at the moment of arrival, such as registering in various public services, learning a new language and understanding new cultural codes, to name just a few. Less advantaged immigrants have it tougher, when the uncertainties of arrival intertwine with structural inequalities that affect their legal status, income and literacy. What both contrasting immigrant profiles might have in common by now is the ownership of a mobile phone.

7.3 MOBILE PHONES IN IMMIGRANT CONTEXTS: HYPOTHESIS AND THEORY

The first decade of the 21st century has witnessed the fast adoption of mobile phones in most parts of the world, with penetration rates of "96% globally; 128% in developed countries; and 89% in developing countries" (ITU, 2013). Immigrants are not an exception but part of this phenomenon, motivated by their need to keep in touch at multiple locations. A quick walk across neighbourhoods with high density of foreign population also evidences the strong links between immigrants and mobile phones, displayed in numerous ethnic advertisements and shops ran by immigrants themselves who sell mobile devices and accessories. Various surveys have shown they tend to use ICT more frequently than native populations,

In specific countries like Spain, the last *Survey on home equipment and use of ICT* revealed that 95.9% of the foreign population used a mobile phone. This percentage slightly exceeded the native population use, a tendency that could be also observed in Personal computer (PC) and Internet use (INE, 2011)). In the United States, a recent survey evidenced immigrants' greater disposition to acquire the most modern devices: "45% of U.S. adults own a smartphone while 68% of the immigrant respondents had one. Most tended to purchase unlimited plans covering data, texting and phone calls." (Welcoming Center for New Pennsylvanians, 2012). Another report concluded that "Hispanics lead Whites in using mobile phones to access the Internet, 40%-34%, though they are significantly behind African Americans, at 51%" (Pew Hispanic Center, 2013).

Although there is not a "single, integrated `theory of mobile communications´ to comprehensively cover all the issues at hand" (Ling & Donner, 2009, p.12), there is an increasingly interdisciplinary body of work which have tackled mobile phone use in diverse contexts and by a wide range of users. This broad literature proves useful to identifying the main affordances and particularities of this technology and constitutes a good starting point to explain why it has been so widely adopted by immigrants all over the world. In particular, we argue for the combination of the sociology of communication and development studies (Horst & Miller, 2006).

The sociology of communication has focused on rich metropolitan regions and was pioneer in understanding the "mobility and individuality" (Horst & Miller, 2006, p.7) conveyed by mobile phones and its distinctive features in contrast to fixed telephones, namely *ubiquity* (any place), *reachability* (any time) and *immediateness* (right now). While landline phones were usually shared by many people (e.g. a family) and implied conversations between fixed places, mobile phones do so from person to person at any place and situation with network coverage. As highly personalized media (Ling, 2004, p.172), they allow users to be always reachable and to get immediate and placeless communication (Kopomaa, 2000). This has become especially relevant for people with highly mobile lives, from business elites to immigrant workers who, for different reasons -usually associated with family and work life- need to be easily reachable.

This body of literature has also highlighted the social value of mobile phones for both symbolic and instrumental reasons (Campbell & Park, 2008; Ling, 2004; Ling & Campbell, 2009), which usually overlap and become blurred in practice. Expressive, relational or symbolic uses refer mainly to communicating without a specific purpose and to the aesthetic dimension of owing a mobile phones, which convey status and fashion and reflect social and personal identity by associating the device with progress and modernity, as observed by Wirth, Von Pape and Karnowski (2008): "The ownership and handling of cell phones socially supports positioning in the peer group, and are a means of self-presentation or symbolic self-enhancement" (2008, p.598). By contrast, utilitarian, instrumental and functional uses involve

purpose oriented communication. Campbell and Park (2008) related this distinction to Ling and Yttri's distinction between hyper and micro-coordination:

> Micro-coordination entails instrumental uses of the mobile phone, such as coordinating basic logistics, redirecting trips that are already under way, or making plans with others entirely 'on the fly'. Hyper-coordination refers to the expressive and relational dimensions of mobile communication, such as chatting with family members or occasionally checking in with friends via text messaging (Campbell & Park, 2008, p.6).

The technological refinement has made mobile phones to evolve "from telecommunications to media" (Goggin & Hjorth, 2009), becoming complex devices where bundles of multimedia applications and services have converged. One of the flip sides of technological innovation consists in deepening divides, when low-income and/or low motivated users lag behind wealthy and/or early adopters, intensifying the stratification of the information society and leading to the diversification of users, by choice or lack of it.

There is a wide range of options to access and use mobile phones, including solutions designed for low income users, such as prepaid services and low-cost devices. This ensures those "at the bottom of the pyramid" (Prahalad & Hart, 2002) in Western societies to be a node in the network of global connectivity, no matter whether they face lack of stability in their lives (e.g. changing addresses, precarious jobs in the informal economy, etc.). However, being in the network is not enough to be fully connected. For example, if the user has a mobile phone but can only receive or make missed calls because she cannot afford top-ups, it becomes "a fundamentally asymmetrical communication device that allows the user to be reachable for the rest of nodes within a social or economic network, but at the same time, it might limit her ability to generate activity in those networks" (Fernández-Ardèvol, Galperin, & Castells, 2011, p.324). This does not necessarily mean that they are passive agents in the process of connectivity, but that their capabilities are restricted by material constraints.

The other useful body of work on mobile phones, ICT for development (ICT4D) - more recently conceptualized as Mobiles for develoment (M4D)- has looked at the implications of mobile phones' quick adoption by low-income users in so called developing regions of the world where many people had not accessed a telephone before, and how this could improve people's welfare (Barrantes & Galperin, 2008; Fernández-Ardèvol, Galperin, & Castells, 2011; Moonesinghe, de Silva, Silva, & Abeysuriya, 2006 and elsewhere). The fast penetration of MP in the poorest regions of the world in Africa, Asia and Latin America has led to an emerging field of study that focuses on how despite difficulties (mainly economic constraints and lack of appropriate technological infrastructures), people manage to access and use these devices in productive ways.

7.4   EMPIRICAL RESEARCH IN CATALONIA

In this document, we use a number of interviews done during more than five years with different groups of immigrant origin in Catalonia, one of the regions of Spain that has received more immigration flows since year 2000. Thus, we have been able to do research with Ecuadorian, Moroccan, Romanian, Bolivian, Senegalese and other origins' immigrants. Research questions have been different along different projects. In this document, we analyze through a transversal reading all what we have collected to get a better understanding with regard to mobile phone use in general, with a particular interest in the arrival moment, in particular, to match the MASELTOV project purposes.

MASELTOV

Mobile Assistance for Social Inclusion and Empowerment of Immigrants with Persuasive
Learning Technologies and Social Network Services

The "super-diversity" (Vertovec, 2007) of national origin, ethnicity, personal backgrounds and migratory pathways made it a fragmented but rich input, geographically representative of the international immigration flows in Spain. An inductive approach to this corpus led us to identify the main dimensions of mobile phone access, use and appropriation in migrant contexts, which we develop in the next sections. Although national origin can never become the main explanatory variable without running the risk of reinstalling stereotypes and occluding diversity, it helps to describe specific trends in migratory projects associated with a specific profile of immigrants in the Spanish context. Thus, according to the annual data sets provided by the Spanish National Statistics Institute, Sub-Saharan and Asian immigrants present high rates of male population, while immigration from some Latin American countries such as Bolivia and Ecuador presents high rates of women, many of whom have left their children at origin societies. These differences in gender and national origin articulate with other variables, such as age, occupation and family contexts, shaping different patterns of mobile phone use. Thus while Ecuadorian women have tended to reunify their families, Bolivian women have remained in Spain alone, raising their children at a distance as transnational mothers with the hope of return.

Our analysis is based on 165 interviews to immigrants recently arrived to the region of Catalonia, mostly to the Barcelona city area. All of them have arrived in Catalonia from a different country outside the EU (with the exception of Romania, one of the most important countries of origin of recent immigration to Catalonia that joined the EU in 2007) as economic immigrants, occupying low-status positions and getting low wages as precarious workers mainly in the building and service sectors.

Table 2. Qualitative data collection of ICT use by immigrants in Catalonia.

Year	No. Interviews	Origin	Project
2007-2008	28 +10	**various**	exploratory interviews and communication diaries
2009-2010	40	**Bolivian** women	*Bolivian Women in Catalonia: Training Citizens for the Information Society*
2007	27	**Senegalese** women and men	*Longitudinal Approach to Mobile Phone Use among Senegalese in Catalonia*
2011			"
2011-2012	15	**Romanian** women and men	*Electronic Public Administration and Immigration: A New Opportunity for an Inclusive Catalan Network Society* and *Immigrant Women in Catalan Network Society: The Role of ICT in the formation of women´s Social Capital, their inclusion in the workforce and their access to the electronic administration*
	15	**Ecuadorian** women and men	
	30	**Moroccan** women and men	

Source: Migration and Network Society Program, IN3-UOC.

Our research has focused on Catalonia, Spain, which in the European context constitutes a particularly interesting setting for investigating the intersections of ICT and immigration, after two important processes converged at the turn of the century: firstly, the widespread use of ICT, especially the mobile phone; secondly, the intensification of international immigrant flows that have settled in the country in a relatively short period of time, radically changing its demographic landscape. In the decade 2000-2010, Catalonia has quintupled its percentage of foreign population, which grew from 2.9% in 2000 to 15,95% in 2010 (Idescat, 2013).

The methodology we used to gather our data on immigrant mobile phone use consisted mainly in semi-structured interviews, but it also included focus groups (5), participant observations and user diaries (12 individuals). The data corresponds to five different periods and research projects developed by the Migration and Network Society Program, as detailed in Table 1 below.

7.5 MOBILE TECHNOLOGIES FITS IMMIGRANTS´ LIVES

Mobile phones constitute key points of entrance to informal social networks and part of contemporary "migratory cultures" sedimented across time: "As time passes by and migratory flows consolidate, some strategies become part of migrants' social resources, accumulation of knowledge, strategies and economic resources called `migratory culture´" (Pedone, 2005, pp.112-113). This section summarizes the main research findings related to the importance of mobile phones as part of migratory cultures, its usefulness and suitability to cover immigrants' needs of translocal communication in highly changing personal and social contexts.

Dealing with multiple uncertainties

On arrival, addresses change and contact difficulties are usually very present. The mobile phone number is the only available resource to manage diverse uncertainties at multiple locations. For this reason, for various interviewees it was very important to keep their mobile number the same. In some cases, if they had problems to change carriers and could not enjoy portability,[4] they would keep their old number just for receiving calls, as an Ecuadorian man, who has lived in Catalonia for more than ten years explains: "because most people know how to reach me this way".

In addition, immigrants are particularly affected by the risks and uncertainties related to family care, employment, housing and legal status, to name just a few, which might lead to precariousness far beyond the moment of resettlement. Uncertainties are reflected in some immigrants' lack of documents usually required to function in contemporary Western societies: identity cards, work permits, fix addresses and bank accounts. In this context, mobile phones are relatively easy to get and to use, they travel in users' pockets, ready to make or receive a call from members of immigrants' social networks, contractors, householders, social institutions and authorities. Mobile ubiquity and reachability have enabled immigrants to contact and be contacted by both formal and informal sources that provide practical information on housing, employment, education, healthcare and administrative issues.

In relation to administrative contact, our work evidences that mobile phones are used to get in touch with administrations and authorities. However, it seems that public administrations have not developed effective and systematic channels of information and communication with immigrants via the mobile phone yet, at least in the Catalan and Spanish context.

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[4] Mobile number portability implies that a user can keep her MP number in case she changed providers. The Spanish legislation reflects this user right since the first version of the General Law of Telecommunications was passed: Law 11/1998, article 26 (CMT, 2000).

Reachability at a distance

Mobile phones cover most immigrants' local and transnational communication needs. Most interviewees, however, use them mainly for communicating in Spain, and prefer *locutorios*[5] and private spaces to call abroad because it is cheaper. However, the mobile phone has the ability to give them the emotional security that, if something happens, if there is an emergency or a special occasion, they would be able to be in touch, no matter where or how they might be.

Most informants said that communication with their family in origin is of critical importance, especially immediately after arriving in a new place, and that mobile phones play a very important role. A young Ecuadorian man recalled: "The first thing I did was going to a *locutorio* to say I had arrived OK. Secondly, I bought a mobile phone so they could call me from there [Ecuador] to here [Catalonia]". His words reflect the importance of reachability, of being available "anytime, anywhere" in order to manage two realities simultaneously across national borders.

Although computer mediated communication (CMC) is highly valued as a cheap and visually rich resource to communicate with beloved ones across borders, mobile phones are preferred for providing direct and instant communication in easy ways. Many interviewees came from contexts in which family members lacked technological equipments and the (digital) literacy required for CMC, in particular if there are ageing parents. Some rural areas have never had infrastructures for landline telephones and/or internet coverage, so mobile phones constitute the first synchronous communication device. Sometimes, mobiles phone do also become problematic since communication is not always ensured in all regions of the world. This was especially pointed out by Bolivian women from rural areas.

On the one hand, all interviewees agreed on the importance of family relationships at a distance, as summarized by this young Moroccan man: "Family is first. You can be anywhere, but you must keep in touch with the family". The role played by mobile phones in this framework becomes central, intensifying family communication in different ways. Among Senegalese, for instance, all of them stated that they were able to have a continuous relationship with their families thanks to mobile phones. The ability to keep in touch with beloved ones is especially significant in cases of uncertainty. Moreover, it challenges widespread stereotypes about the unidirectional character of transnational caregiving, in which immigrants are the only active carers of highly passivised non-migrant relatives (Baldassar, 2007). The decrease of transnational family communication was not experienced by immigrants with direct family responsibilities, such as Bolivian and Ecuadorian mothers interviewed who were actively involved in routine communication despite differences in time. There was the astonishing case of a Bolivian mother who everyday called his son at the same time of the day to make sure that he had arrived safely at home was.

Broad access generated by always-connected mobile phones generates high expectations that are not always fulfilled, for instance, among those who wait for phone calls (usually non-migrants) that might never take place. It also generates a lot of pressure on those who are expected to make the call (usually immigrants). Two Ecuadorian interviewees had experienced this situation with their ageing mothers in origin:

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[5] In Spain, the word "locutorio" refers to internet cafés mainly used by immigrants: "a special private venture[s] run *by* and *for* migrants which sells access to transnational communication for public use (basically, telephony and Internet services)" (Sabaté, 2010, p.24).

If I don't call her (...) after eight or ten days, (...) my mother will cry [on the phone] and tell me *Darling, what happened that you haven't even called me?!* Because she got used to the fact that I call her every week, so I have told her that if I don't call her one week, I will call her afterwards and that she shouldn't be worried (woman, 30).

They should understand that if I don't call them it is because things went wrong (...) My mother tells me *At least call me!* (...) *at least if I listen to you I will stay calm down* (...) She worries about me (man, 57).

Micro-coordination of everyday lives

On arrival, mobile phones are important in the process of resettlement. Mobile phones become basic tools for immigrants' management of daily life, which supposes important steps towards social incorporation, understanding by incorporation a very vivid process of finding solutions and answers to emerging problems, situations and needs.[6]

The affordances which allow "micro-coordination" (Ling & Yttri, 2002) help people to improvise solutions to their sometime tough working conditions in more resourceful ways. This is the case of a young Ecuadorian mother who, when she needed to go out and his husband was not at home, she left her small daughters aged 14 months and eight years old with an old mobile phone to talk with them while being absent: "Sometimes I leave my eldest daughter with the small one (...) a couple of hours the most, and I call them: *how are you?*, *what are you doing?* (...) *how is the girl?*"

In this context, mobile phones allow immigrants and non-migrant people to be nodes in these networks and keep in almost permanent contact.[7] This contributes to maintaining links of mutual support, solidarity, and friendship that might be especially important to get basic information when arriving in a new place, but also necessary during resettlement and beyond.

Mobile phones are particularly useful in informal and unstable labour markets, in which people need to be well connected and always available in case a new job opportunity arises. In this sense, for instance, job opportunities might be reinforced in the informal social networks, since they constitute the first social and economic relationships of many migrants' "initial trip" (Massey et al. 1990). Indeed many interviewees said they rarely looked for jobs in formal channels, such as online or in the newspaper: most of them got their jobs thanks to compatriots, in particular if they were in service sectors such as the domestic work and the construction sector.

From isolation to social capital

Newly arrived immigrants tend to have few –but very decisive– contacts at destination and used their mobiles mainly for international communication. This is the case of a young Moroccan woman who had been recently reunified by her husband. She said she felt quite lonely: "I don't use SMS because I don't know lot of people here, so I just make calls,

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[6] Social integration involves from the tools migrants need to understand and adjust to the new environment (e.g. language skills, a job, access to e-government services and leisure activities) to the sensitivity and positive attitude to cultural diversity required in the members of the host society. In any case, integration is neither smooth nor immediate, but it "occurs gradually as migrants accumulate time in the host country" (Bohning 1972 and Piore 1979 as cited in (Massey, Alarcon, Durand, & González, 1990, p.254).

[7] However, reachability is not unlimited and is managed by users to their own convenience, for example, by activating the silence mode or not replying back a SMS or call immediately.

especially international calls, to my sister in France and my parents in Morocco", she explained. Interviewees who have been living in Catalonia for longer time periods had a more diverse geographical distribution of social networks. A Moroccan man said he communicated with people scattered at different locations: "Sometimes I talk with my brother who lives in Morocco and has 16 years old (...) with my brother-in-law and my sister who are in Almeria[8]... my cousins from Morocco, a friend in Madrid". A Moroccan woman aged 21 said the most frequently dialled numbers in her mobile phone were "three friends from Reus, my aunt in Morocco and my cousin in Barcelona". She arrived in 2004 with her mother, sister and three brothers; she was 13 years old and soon made new friends at school. Her mother, however, dedicated to family work and did not acquire many local social contacts: she said she did not call many people in Spain but needed to contact her relatives in origin: "[I talk with] my mother and my sister in Morocco every week (…) because here I have no family, except from my husband, sons and daughters".

The analysis of mobile phone contacts can be used as a rich information source on how ties are being maintained and built. According to classical theories, maintenance of "strong ties" (Granovetter, 1973) based in home societies gradually yields to the emergence of "weak ties" at societies of destination, many of which are created within the same ethnic group.

7.6   IMMIGRANTS`ACCES AND USE OF MOBILE PHONES: NOT ALWAYS AN EASY TASK

This section challenges the dichotomies usually present in the conceptualization of the digital divide in terms of have/ have not, access/no access and use/no use. Empirical evidence confirms that there are multiple nuances in-between as well as intersectional variables that configure diverse scenarios for different mobile phone users.

In terms of **mobile equipment**, all interviewees had at least one mobile phone. Depending on their time of arrival, they got them for the first time in Spain (if arrived before 2002-2003 approx.) or they brought it from origin. A Bolivian woman explained that she brought with her a big cell phone and she could change it after some months living in Barcelona.

Family members already living in destination societies usually helped recently arrived immigrants in various ways, including the provision of technological equipment. An Ecuadorian man who came through a family reunification process initiated by his wife, said: "As soon as I arrived, my wife gave me a mobile phone". A young Moroccan woman, who came in Catalonia after getting married and reunifying with his Moroccan husband, said he gave her a new handset and SIM card as a present when she arrived in 2009, although she had brought her Moroccan mobile with her.

However, there are differences in the model of **devices** (2G, 3G) people own, the modality of subscription to carriers' services (post-paid, prepaid) and the availability of mobile internet connection.

On arrival, immigrants' devices tended to be the simplest models with prepaid subscriptions. This situation usually changed after some time, when basic expenses were covered and they could invest in getting modern handsets, usually subsidized by providers after signing postpaid subscriptions. Most interviewees had modern devices with touch-screens thanks to the politics of carriers to subsidize terminals after a postpaid subscription. These handsets had the technical possibility of having mobile internet connection, although very few

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[8] Almería is a Spanish city in the southern region of the country.

would actually afford this service. This is the case of some interviewees who have a Blackberry without Internet connection. Preferences on devices are clearly shaped by living conditions. Various Ecuadorian men who worked in the construction sector argued they preferred basic handsets to modern ones because they resisted better their working conditions. A Bolivian woman asserted that she prefers an old device for safety reasons since she is afraid of being stolen. Finally, in our interviews with immigrants, we found specific cases of multiple mobile phone ownership (for instance, among Senegalese immigrants, it is quite frequent to have two or three mobile handsets) and of sharing mobiles (wife and husband).

In relation to **subscriptions**, many immigrants from all different cultural origins showed concern on the costs of communication in general and the mobile phone in particular. Mobile communication could be perceived as unaffordable. Many immigrants explain the way they deal with constant recharges of small amounts of money (5 to 10€). This was extended between −although not limited to− people who lacked regular incomes and had to live with constrained budgets due to unemployment and/or economic dependency.[9] Thus, they engaged in complex appropriation strategies to make ends meet, including multiple SIM-cards and mobile phones ownership, going to internet cafés, making missed calls and sharing devices. Prepaid subscriptions do not require a fixed address or bank account (required in postpaid modalities) and allow for a better control of expenses.

Our fieldwork showed big differences in mobile phone **access** and use between interviewees, according to intersectional variables of age, gender, national origin, literacy, legal status and employability. Most Moroccan women interviewed tended to have simple mobile phones without internet and with prepaid subscriptions dependent on their husbands' top-ups. By contrast, Latin American adult women (Bolivian and Ecuadorian) were very well equipped technologically, both at home and personally, owing modern handsets with postpaid subscriptions and in some cases, with mobile internet. Postpaid subscriptions often require having a fixed income and imply an intense use that compensates the minimum monthly expense stipulated in the contract. Latin American women had high levels of employability (even if it was in the informal market as domestic workers and carers) and thus they had higher incomes and autonomy than Moroccan women to invest in technology. Differences in employability relate to various situations, from Latin Americans' easiness to communicate in the language of the host country to cultural differences that may encourage (or discourage) women to work outside the house.

The low penetration of mobile internet among all the participants of our different projects was highly conditioned by the cost to access devices and data and call plans. The way they explain their usage of mobile internet was highly differentiated: from a young Moroccan boy who `got' a free Wi-Fi signal in his neighbourhood and a young Ecuadorian woman who borrowed it from her friends' devices, to other interviewees who were always connected for multiple purposes. The limited access most migrants have to mobile internet has its roots in low budgets, as these services were still expensive for people who, in many cases, have basic handsets and rely heavily on prepaid subscriptions to control and limit their expenses.

The analysis of immigrant access to mobile phones sheds some light on an interesting level of more complex access and use to ICTs than the digital divide perspective has usually showed. As Qiu (2009) points out, binomial models of digital divide are not appropriate anymore to understand how processes of social inequality work in the context of informationalism (Castells, 2000).

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[9] Being unemployed is quite common for newly arrived immigrants, but in our fieldwork it was also suffered by settled immigrants due to the consequences of the financial crisis in Spain and Southern Europe.

However, level of access to mobile technologies implies multiple levels of use. We show in Table 2. a broad classification in which interviewees' levels of use[10] (vertical axis) are conditioned by the services they accessed and the kind of handset they owned (categorized in the horizontal axis according to the type of internet connection).

Table 3. Diversity of mobile phone users' profiles.

telecommunication

levels of use	access to mobile internet		
	1G (no internet)	2G (low/medium speed)	3G…(broadband)
basic	phone calls, SMS	phone calls, SMS, make pictures/videos, no download, internet blocked	phone calls, SMS, make/download/exchange pictures/videos, internet blocked
medium	X	phone calls, SMS, make/download/exchange pictures/videos, Bluetooth, internet blocked	limited mobile internet use
advanced	X	limited mobile internet use	intense use of mobile internet based services (TV, email, chat, download and exchange all file formats)

media

Source: Migration and Network Society Programme, IN3-UOC.

The *basic level of use* corresponds to people who have old handsets, mostly with prepaid subscriptions and use them for basic activities: making and receiving phone calls and Short Message Service (SMS). First, making calls is not always an easy task. Many immigrants interviewed call from their mobile very rarely and only within certain times that mobile companies have set in their contracts as cheaper. For international calls, immigrants strategically use other combined means (email, phone, etc) since prices are high for them. An illiterate Moroccan woman could only use her mobile phone for receiving calls and when she needed to make calls, she identified her contacts through a complex system of symbols she had invented to match the numbers in the keyboard.

Second, the broad literature of mobile phone use has shown the popularity of SMS in specific cultural contexts, such as the Philippines (Pertierra, Ugarte, Pingol, Hernandez, & Dacanay, 2002) and particular age groups, such as teenagers (Campbell & Park, 2008; Castells et al., 2007; Ling, 2000; 2004; Ling & Campbell, 2009). In migrant contexts, however, this might acquire different connotations, depending on specific communicative needs, cultural backgrounds and individual profiles related to literacy and income between the people involved in the communicative event. SMS is a relatively cheap way of sharing information, but it takes some time to write and some patience to wait for a reply, as expressed by various interviewees: "it's not practical enough", said a Moroccan adult woman. An Ecuadorian woman argued she

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[10] The OECD uses similar categories but based on quantitative measurements: it "distinguishes among three typical user profiles: low-volume, medium-volume and high-volume users. Each user profile is assigned a volume of calls (differentiated by duration, destination, time of day and termination network) and text messages (SMS)" (Galperin, 2010).

did not like texting either: "Because I don't know if they read my message right away". For transnational family members, immediateness is a highly appreciated factor of communication.

Medium level users were those who did not use mobile internet but were able to make and share photos and videos. Many interviewed people said they did not need mobile internet subscriptions because they could access WiFi from their homes. Others made a limited use of it, for particular purposes or from specific places. An Ecuadorian woman said she used it to look for addresses if she was lost on the street. She wanted to avoid expensive bills so she preferred using the internet from her home. A Moroccan woman agreed: "If I connect [to the Internet] outside, it is for something in particular, not to look at my Facebook". These testimonies evidence that many immigrant users still make a clear-cut distinction between the places and purposes they have for being online. A young Moroccan boy who had a Blackberry and said he connected to the internet daily, differentiated his uses and points of access as follows: "I use the mobile phone to navigate, to discover the world; I use computers more for using programs".

Intensive mobile internet users connected various times a day for multiple purposes, both instrumental (e.g. information search) and for leisure (e.g. music, videos games and social network sites). For many interviewees, having mobile internet access implied being continuously online. "I have everything in my mobile (...) the radio, emails, Mp3", said an adult Ecuadorian man: "from my mobile I do everything: make and receive calls, connect to the internet, chat, send and receive emails and read the news". A young Ecuadorian woman said she checked her Facebook account all day long: "because there is internet at home and in my mobile, it is never disconnected". Since she got her Smartphone, she has called and texted less frequently: "now everything is included in the internet [connection] (...) it is much cheaper". Another young Ecuadorian woman said her Smartphone was mainly for being online: "If it is for the internet, I use it at least ten times a day. If it is for calling, maybe two or three times a day". Intense users could benefit from cheap mobile internet based communication through emails, social network sites (SNS) and mobile chat tool Whatsapp, which were charged only for the volumes of data exchange. Paradoxically, those users who could not afford mobile internet, had to spend their budgets in traditional phone calls and SMS.

7.7 CONCLUDING REMARKS

In this document, we argue that mobile phones are well adapted to the social conditions and symbolic needs of immigrant people. Our empirical data, based on qualitative research on ICT use by immigrants in Catalonia, confirmed immigrants' high levels of mobile phone ownership and their increasing adoption of smart phones in the last years. However, it also evidenced various difficulties faced to make an intensive use of the devices due to economic costs and lack of digital literacy. No doubt that mobile phones have become an integrated part of immigrant lives, but *how* and *why* this happen are still unexplored areas of research. Why some technological devices are so slowly adopted while others seem that people are just waiting for them to be incorporated? Why do immigrants complain about the costs of mobile phones but they all have at least one? Instead of a simple argument of accessibility, mobile phones in immigrant groups show that the adoption of any ICT in disadvantaged groups responds to a complex formula which ingredients we will try to describe and explain in future research.

The intersection of increasingly mobile life projects with the digitalization of information and communication in contemporary societies has turned the mobile phone into a key resource to access the opportunity ladder that new destinations might have to offer, but also the source of new constraints and disadvantages. We think that understanding these tensions

and promises are sufficient reasons to establish and consolidate this issue as an area of research and analysis in its own right.

Table 3 summarizes how each of the mobile phone affordances identified in the mainstream literature relates to immigrants' experiences, their positive and negative implications according to the results of our fieldwork.

Table 4. Mobile phone affordances in migrant contexts

mobile phone affordances	implications in IMMIGRANT CONTEXTS	
	(+)	(-)
low-end ICT	connectivity despite lack of stability	limited connectivity
ubiquity		power games (control, pressure, invasive interface)
reachability	Reduces the uncertainties of distance: here/there management	
immediateness	micro-coordination, fresh-information, networks of solidarity and support, emotional strength	
voice communication	emotional strength, illiterate-friendly	lack of visual cues
multipurpose, multimedia	leisure, creative	distractive
social and personal identity	status, fashion, modernity	

Source: Migration and Network Society Programme, IN3-UOC.

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