

MOBILITY AND CONSUMPTION OF “INFORMATIONAL” CITY. NEW PERSPECTIVES AND FIELDS OF STUDY: THE LOCATION- BASED SERVICES

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Abstract

The aim of this paper, divided into two chapters, is to analyse the topic of mobility and the use of contemporary metropolis. The development of new information and communication technologies (ICTs) have directly involved our society and the economic, social and cultural behaviours of the people who live in it. The ICTs are also changing the face of the places and the urban systems, the fundamental components of these profound transformations.

In the first chapter an analysis of the main sociological theories is made of the relationship between the development of a “network society” and its infrastructures and different territorial and localized phenomena such as urban mobility. The second chapter discusses new sociological instruments of analysis: the mobile technologies and, in particular, Location-Based Services (LBS). The development of these technologies is important for new perspectives of study on mobility and use of the contemporary city.

Keywords

mobility, network society, ICTs, mobile technologies, Location-Based Services

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Introduction

The aim of this paper, divided into two chapters, is to analyse the topic of mobility and the use of contemporary metropolis. The development of new information and communication technologies (ICTs) have directly involved our society and the economic, social and cultural behaviours of the people who live in it. The ICTs are also changing the face of the places and the urban systems.

In the first chapter an analysis of the main sociological theories is made of the relationship between the development of a “network society” and its infrastructures and different territorial and localized phenomena such as urban mobility. In particular, the first paragraph describes the main changes introduced by ICTs in many social components such as time, space, social behaviour, relationship and cultural developments. The development of the “network society of the informational era” (Castells, 2000) is also presented. Moreover the role of infrastructure in metropolitan areas (“city cyberinfrastructure”) is reviewed. These infrastructures have the task of managing and supporting the great mass of information that is exchanged in the information society. The second paragraph, however, focuses on mobility in urban systems. This is a phenomenon that some sociologists thought was destined to disappear, instead today it has become increasingly important in our society.

The second chapter discusses new sociological instruments of analysis: the mobile technologies and, in particular, Location-Based Services (LBS). In the first two paragraphs the characteristics and the fields of use are presented. In the third paragraph the key role of these technologies, such as data sources for social research, is highlighted. Finally in the conclusions, the new perspectives of study are described on mobility and use of the contemporary city open from the development of mobile technologies and LBS.

Chapter 1 – Technologies and Mobility in Contemporary Metropolis

The Information and Communication Technologies in Urban Life: the “Informational” City

Our society is going through a period of profound transformation that affects many aspects of life of individuals both in the economic, political and social sphere. Changes involving multiple components such as time, space, social relationships and ways to communicate. The process of structural transformation is the result of what Castells (2000) defines “Information Age” and it regards the new technological, social and spatial context in which we live today. One of the main phenomena of this process is the development of ICTs.

The ICTs shape economic, social and cultural behaviour of contemporary society more and more deeply.

The “Network Society” is a characteristic of the Information Age (Castells, 2000). This is a modern and new social structure which also has redesigned urban scenarios. The networks are the new social morphology of our society and they substantially will change the processes of production, experience, power and culture.

These processes develop a new urban form which is absolutely original, defined by Castells (2000) as the “informational city”. The changes that have affected spatial models and urban planning are a clear expression of globalization, growing urbanization and information revolution marked by the advent of ICTs. The informational city “is constructed around flows: flows of capital, flows of information, flows of technology, flows of organizational interaction, flows of images, sounds and symbols” [Castells, 2000: 442]. In our society the space articulation of the dominant functions occurs in the network through the interactions made possible by computing devices. Instead, the nodes and the hubs of communication have a coordinating role for easy interaction of all elements integrated into the network. The nodes are also mobile devices that generate, transmit and receive signals in the global network of new media. The structure of Location-Based Services (LBS) ¹ can be understood as a network; the devices are the nodes of this global and infinite network.

The space of flows does not pervade the whole human field in the network society. In fact, in advanced and traditional societies the majority of people live and develop their social relationships in places and the majority of people perceive space as a space based on locations. However, the meaning and dynamics of places are changing (Castells, 2002). Cities are the space of places that most stimulate a debate about the dynamics and processes of the informational society within a territorial dimension. This is increasingly important both in terms of geographical size and in the concentration of social, economic and cultural interactions. Cities, in fact, represent places where most of the world population is focused. According to some sociologists, this is a trend which will grow over the years. The myth of the disappearance of cities following the development of the Internet, ICTs, telecommunications, and teleworking is silenced by data: over 50% of the world’s population live in cities. By 2025 urbanization will reach about two thirds of the population

¹ As will be seen in detail in the next chapters the Location-Based Services are information services that exploit the ability of technologies to identify the position in space of a service or of an individual and as a result to change the information. Location-Based Services are localized information services that provide access to mobile users with real-time information and geo-referenced data.

(Castells, 2001). Our society is increasingly urban and is represented by metropolitan regions.

The introduction of ICTs have also contributed to redesign a new geography of network and urban nodes. The development of telecommunications, Internet and transport systems have involved a rapid reduction of the space-time dimension and a simultaneous space concentration and decentralization of all social activities. At the same time, in the majority of cities there is a gradual transformation of old industrial centres in places of information production. Thus, while the economy and society are based on decentralized networks of interaction, the model space of human settlements presents concentrations of population and activity (Sassen, 2000).

This phenomenon is explained by different points of view. First, the migration to the cities, where the major poles of productivity, activities, services and opportunities for development and innovation are concentrated, continue. Then the metropolitan areas are the sources of contemporary wealth, providing work and essential services. In addition, “milieux of innovation”, namely the complex territorial centres of innovation, are mostly located inside big cities where knowledge, skills and information are concentrated.

These large urban structures, or mega-cities, “are the nodes of the global economy, concentrating the directional, productive and managerial upper functions all over the planet: the control of the media; the real politics of power; and the symbolic capacity to create and diffuse messages” [Castells, 2000: 434]. Even in Western and Central Europe a series of interconnected metropolitan regions are emerging which are going to be a demographic and economic backbone called “blue banana”. This was already identified in the late Eighties, characterized by industrial activities, business and a wealth of information.

The development of ICTs, telecommunications and Internet has also seen the spread of pervasive infrastructure for the management of the growing mass of signs which concerns the city. This set of technology, also called “cyberinfrastructure”, opens up new prospects for research and analysis because it develops modern communication systems and new social behaviours (Mo.Ve, 2005).

The components of cyberinfrastructure are manifold. On one hand there are informational infrastructures promoted by the transport agencies, on the other hand the development of ICT systems encouraged by the public. The application of these technologies by the stakeholders, in fact, is increasing and is closely linked to the spread of MPPDS (Mobility, Proximity, and Proximity Devices). As the third aspect of cyberinfrastructure will show, databases of providers of these services are becoming more enriched in the tracking of information. Another component of cyberinfrastructure regards the workforce and economic aspects: a large cyberinfrastructure requires a strong technological

development, not only in terms of software and databases, but also in terms of “intelligent applications”. These applications require a lot of knowledge and local business activities.

There are two converging developments that must be taken into consideration when we speak about city cyberinfrastructure: eGovernance and the development and dissemination of MPPDs. The eGovernance includes a wide range of services such as the dissemination of information, the trade with the private sector, the services for individual citizens, the economy and participatory democracy. This type of structures is designed to reduce administrative bureaucracy and its costs of operation, as well as the improvement of services which are offered to citizens and social groups. Many of the changes which eGovernance is developing concern the managerial, cultural and political aspects.

The spread of equipment that established a link in movement is one of the key elements of the development of ICTs. These devices are changing our daily lives. In addition to mobility, the innovation of these devices concerns WI-FI technology. WI-FI and proximity applications have spread well from domestic applications to a variety of applications in places of production and in public services (Internet cafes, airports, eLearning, etc.). These devices may be useful for the exchange of any type of information from traffic information to the instructions for handling large crowds, etc. The instruments that allow mobility, proximity and propinquity are called MPPDs and they are the basis of the development of LBS.

These tools found increased use in urban systems, improving access to services by mobile users. In the contemporary city mobility takes on connotations which are increasingly more complex and the LBS can be the tool to address this complex system.

The Mobility and the “Meta-City”

Since the beginning of the 21th century most Europeans have been living in suburbs. The suburbs is the area that stretches from the administrative boundaries of historic towns to the areas with low density of population, mostly made up of rural areas. Even in the case of Italian cities, though with less intensity, the same phenomenon is taking place: an increase of population outside the old metropolitan areas. “This elementary data is related to one of the most significant changes in the contemporary urban morphology and this is an important parameter because it specifies the real weight of this indistinct area that is generally defined by metropolitan area, hinterland, banlieue or metropolitan fringe; words that highlight a residual and marginal place”

[Martinotti, 2005: 18] ². This periurban area is not independent from the rest of the city. Martinotti defines “meta-cities as a settlement that spreads towards forms of mobility corridors” [*ibidem*: 20] ³.

Despite the spread of ICTs, computers and Internet that allow people to be in contact at any time with the rest of the world, in the contemporary city remain of vital importance. Consequently, mobility and travel, in order to reach these places, remain central for the daily lives of people. The data seem to indicate that the problems of transport increasingly worsen rather than improve: in certain areas the increasing compression of time and activities, permitted by the new organization of the network, involve a higher concentration of markets and a greater mobility of the workforce. “The “intangible society” is not eliminating the materiality of the city. The substitution of communications to the transport reduces energy waste and pollution, but is much lower than expected for a complex series of factors. Some of these factors are deadweight, but some are structural and not disposable” [*ibidem*: 30] ⁴.

Another important aspect is characterized by tele-mobile working; this has dramatically increased with the explosion of the wireless Internet and mobile access to the Internet. Professional workers spend more time on the ground having relationships with their customers and partners, travelling through the metropolitan area, the country and the world while keeping in touch with their offices by Internet and mobile phones. “The model of the emerging worker is not a tele-worker at home, but a “nomadic” worker. The ability to connect all activities in a network around the individual worker defines a new urban space, the space of infinite mobility, an area formed by flows of information and communication managed by Internet” [Castells, 2001: 219] ⁵. Thus the metropolitan regions are characterized by enlargement and concentration of space; a hybrid space emerges, consisting of places and flows: a space of places connected to the network.

Therefore, mobility is a fundamental and pervasive feature of contemporary society and represents a major social dynamics. Today we can speak of a “system of mobility”: a technological (the infrastructure to support the mobility), but also an economic, social and cultural system. “Social and cultural aspects, and even economic ones, are often treated as residual variables lumped together under the term of a vaguely defined “demand” of mobility, without even hinting at the complementary aspect of mobility, namely

² My translation.

³ *Ibidem*.

⁴ *Ibidem*.

⁵ *Ibidem*.

accessibility, a pervasive and highly valued need of contemporary social organisations” [Martinotti, 2002: 1] ⁶.

The culture of mobility is linked with the spread of ICTs. The relationship between ICTs and the visible environment is very important, but still widely unexplored. In this regard, sociologists have identified three levels of analysis. A first microsocial level concerns the influences of ICTs on our lifestyles and behaviour. The ICTs change the perception of daily time and use of time also involving mobility. A second level relates to the behaviour of mobility (transport, timing, etc.) in the city and the decision-making practices. At a macro level, however, we find the themes of “knowledge society”. “The dissemination of information and knowledge and its unforeseen effects (for example, the effects of privatization on public spaces, the transformation of the housing structure, the increase of mobility activity in various areas, e-learning and the dissemination of global patterns of life) generate a lot of relevant points for mobility” [Martinotti, 2005: 34] ⁷.

Mobility has shaped people who live the metropolis: the increase of mobility, income and leisure time of people has allowed the emergence of a third population, in addition to the residents and commuters, who Martinotti (1993) defines “city users”. “A population composed of people going to city centres to use public and private services: from shopping, to movies, to museums, to restaurants [Martinotti, 2005: 38] ⁸. Martinotti (2005) also identifies a fourth population that gravitates around the contemporary metropolis. They are the “metropolitan business”: “people who reach city centres to do business and establish professional contacts: businessmen and professionals visiting their customers, convention goers, consultants and international managers. This fourth population, relatively small but growing, is characterized by a considerable availability of both private and corporate money [...]. This is a population of expert urbanites” [*ibidem*: 40] ⁹. These metropolitan businessmen are also the major users of LBS because they are experienced users who are most familiar with ICTs. They are high-level professionals (heads of multinationals, businessmen, representatives of government, international consultants, scholars, etc.) requiring similar services in every city, with certain characteristics that are quickly and directly usable. Thus, for this type of population the use of LBS is essential. The safety of access in real time to specific services placed in an unknown territory is essential for this type of users.

⁶ *Ibidem*.

⁷ *Ibidem*.

⁸ *Ibidem*.

⁹ *Ibidem*.

Chapter 2 – New Instruments of Analysis: the Mobile Technology and the Location-Based Services

Mobile Technology, Mobile Devices and Location-Based Services

The new needs linked to mobility and the development of new conceptual schemes for access to information have led to the development of technology that is Mobile Internet. At the same time in some countries, including Italy, the digital mobile telephony developed. “In 2002 there were about 45 million users of mobile phones in Italy compared with 11 million of Internet users” [Rheingold, 2002, cited. in Dainesi, 2002: 3] ¹⁰.

The services that could be offered by the Mobile Internet are the most diverse and they regard different aspects of daily life: personal communications, economic and financial services, education and training, entertainment, utilities, public administration, services for companies, home oriented services.

Mobile technology is a contextualized technology that provides information to the consumers on mobility. The Location-Based Services (LBS) are an example of mobile technology with important implications for social research because they are a rich source of data and have great influence on consumer behaviour and the social mobility of individuals. Mobile phones and PDAs allow people to access the Internet all the time anywhere they are. In Internet people can obtain information about events (movies, concerts, parties) and places (maps of cities, restaurants, museums, hospitals). Much of this information can be gathered by LBS.

The LBS are information services that leverage the capabilities of technology to identify the location of a service or an individual in space and consequently to change the information. ESRI considers the LBS as “added value services that use geographic location knowledge or a mobile user to supply dynamically useful responses, functional to his position and the surrounding environment [...]. Services offered are often customized to the user profile and his location” [Gibin, 2006: 5]. The LBS deliver localized information where and when it is necessary and they are the intersection of three technologies: ICTs, Internet and geographical information systems (GIS) with geo-referenced data.

In general, it is possible to differentiate between two types of LBS depending on if the information is transmitted through the user interaction or without the user interaction. The “pull services” transmit the information directly requested by the user (such as booking a taxi or an ambulance). The “push services”, however, transmit the information that is not required or is

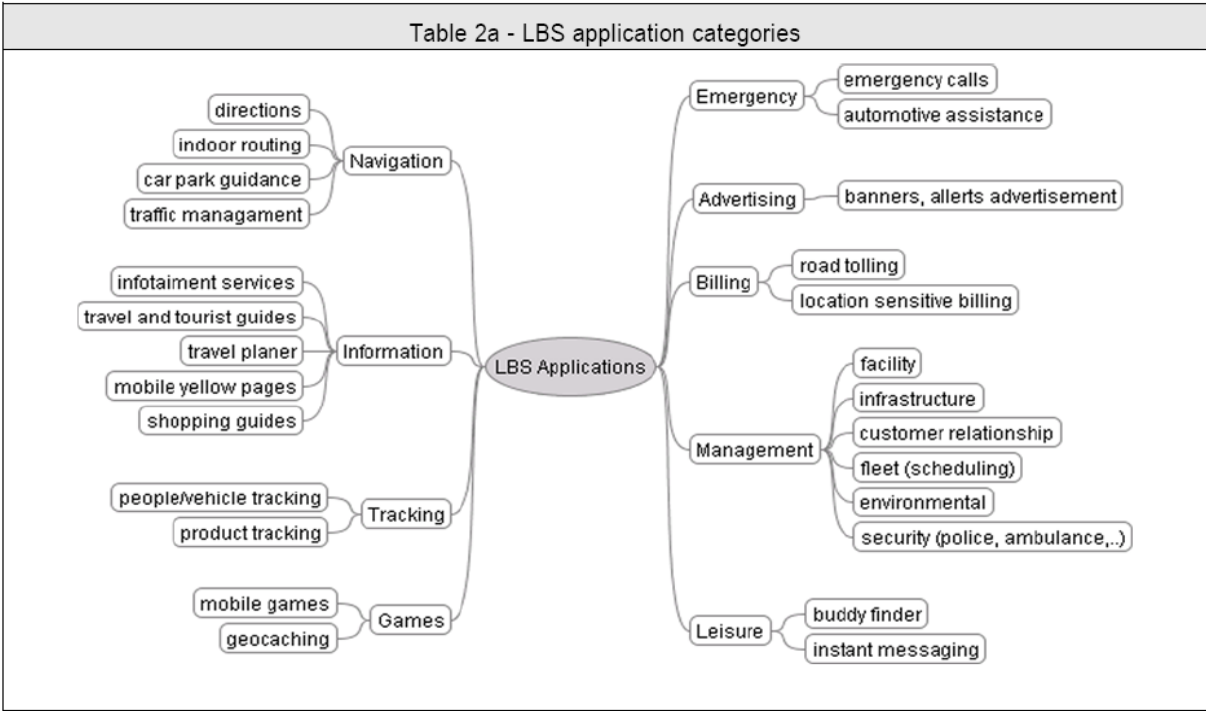
¹⁰ *Ibidem.*

indirectly required by the user. The service is automatically activated when the user is near a specific area. These services are able to combine the user location with the user’s exact profile and they are able to take into consideration the added value provided by the feeling of control of the external environment (Li, 2004).

The LBS provide background information, paying attention to different types of context: spatial (where I am, what resources are close to my location, the orientation of the space,), social (socio-demographic characteristics of the user, personal preferences, preferences using the service, proximity to other social actors, characteristics of social actors, social relationships and collaborative networks), time (when I am somewhere, hours, days, months, seasons, years), mobility map (information on user trips which are useful for the identification of preferences), environmental characteristics (lighting, sounds, etc.) and system properties (characteristics of devices).

There are many applications of LBS technologies and they cover various fields of social interest (see Figure 1): reactive services (payments related to location, targeted advertising), information services, tracking and management services, emergency services, educational games, behavioural studies, in-vehicle guidance, pedestrian guidance, tourism, ecc.

Figure 1: LBS applications categories (Source: Steiniger, Neun, Alistair, 2006)



The LBS technology has important consequences on the sociological research from different points of view. Following we will focus on two aspects: first, the LBS as a data source for sociological research and the issues about the territorial sociological research such as mobility; then the LBS in connection with the behaviour and consumer habits of users who are living the contemporary city.

“Tell me Where you Are and I will Tell you Who you Are”: the Location-Based Services as a Sociological Source of Data

There are several motives for thinking that the LBS will have a significant impact on social sciences and geographical information sciences for two reasons. First, today the LBS represent only the beginning of a series of technological innovations that will impact on contemporary society in different ways: the issues that concern privacy, the change of space behaviour of social actors driven by information technology, the role of geographical location for social networks, the space structuring and the placement of shops and other services. Second, the LBS have the potential to provide new data resources for social sciences, including detailed information on daily activities and their location.

The data which can be drawn from these new technologies are important for the study of the use of urban services and of the economic, social, demographic and cultural characteristics of the users. The researches on LBS can be supported by various theoretical structures, although there is not a specific theory. Hägerstrand, exponent of “Time Geography”, is considered the first scholar who was interest in the movement of persons in space and time and on the process and constraints that directed these movements (Hägerstrand, 1975). The LBS can provide detailed data on movements of persons, and they are already widely used in ecology to trace the behaviour of animals. The tracking data consist of a sequence of elements (x, y, t) where (x, y) indicate the position of a person who moves at intervals of time t . Such researches are based on the belief that the studies of the space and time constraints and their interrelationships is crucial. “The opportunity to define the social identity through a territorial connotation is a constant of urban planning. Today, in the large market of lifestyles and in the tough competition for status, the social image is also a result of the local city that people attend. The territory has its brand and it qualifies the social position communicating the relationship that the city users has with the city” [Amendola, 1997: 202] ¹¹.

“We can not use the traditional concepts to understand the phenomena (especially the mobility) that are happening in the large urban areas. New

¹¹ *Ibidem*.

observational instruments are needed using new technologies to grasp the multiple movements inside the city” [Martinotti, Boffi, 2002: 1] ¹². The GPS was a first innovative tool to rebuild the profiles of new mobility of populations living the contemporary metropolis (Boffi, 2004). Telecommunications have the effect of increasing rather than decreasing mobility and the new communication resources are changing the spatial and temporal distribution of trips. The LBS are an example and they are also a new tool for collecting and analysing data on mobility and on consumer behaviour in metropolitan systems. Keeping track of when and where individuals use information tools is essential to knowing when and where these people are moving in the metropolis. The mobile technology and the LBS are new tools of analysis.

The placement of a person, with its socio-demographic characteristics, in a certain place at a certain hour, provides a lot of information not only on the characteristics of areas in which people move, but also on the characteristics that these spaces should have. The request for information of a particular service, formulated in a specific space and time, directs the planning of the times and spaces of the contemporary metropolis. It is not a case that a person asks for some information in a specific places and times. What happens at a given time and place inevitably has the quality of that particular time and place. The data found at a given moment coincide with time even in quality, and not just in time.

However the LBS, being used by a specific category of people, directed the sample of social actors. Therefore, the formulation of a comprehensive theory of this form of sample is necessary. Potentially, the data on trips collected with the LBS are also very voluminous, but in sociological research there is very little knowledge on the relationship between density of sample and added value. A methodological debate about the real importance of the collection and use of context data must support research in this field.

In social sciences the data collected through LBS technology can be also used for modelling and studying the new representations and analytical tools to view and investigate these data. What are the possible types of data representation on movements? How important is the accuracy of representation? What are the problems generated by the volume of data? What are the appropriate methods for display traces identified by LBS? These are some methodological questions that are necessary to ask in LBS research.

In sociological research it is also important to encourage and promote the application of new technologies for data collection and make geo-referenced data usable. The creation of interdisciplinary collaborative networks which work in the same direction to make significant contributions to territorial sociology will be an important objective of development research.

¹² *Ibidem.*

The Location-Based Services, Conjunction between the “Network Space” and the “Space of Places”

Another issue raised by the LBS technology concerns the social use of location. Mobile phones are more used by people under 30 years old for purposes affecting their socialization. For example, text messages are widely used to exchange location information and to facilitate the meeting of people. Mobile devices are able to support virtual communities which have relationships but do not have physical meetings. They facilitate the phenomenon of overcrowding and concentrations of social groups. New concepts of space are emerging which could be of substantial interest for sociologists. The LBS, if sufficiently used, have the possibility to modify the behaviour of social groups, and they change some functions of society (such as facilitating behaviour that can help to disperse traffic and reduce congestion).

Some sociologists have highlighted a historic transformation, that is visible also in the diffusion of LBS: the integration of various ways to communicate in an interactive network. For the first time in history there is the “formation of a hypertext that integrates the written, oral and audiovisual arrangements of human communication into one system” [Castells, 2001: 490]¹³. The potential integration of texts, images and sounds in the same system changes the nature of communication. Since culture is mediated and implemented through communication, the same culture suffers a fundamental transformation which takes place by the new technology system. The emergence of a new and interactive system of electronic communications, characterized by the integration of all media, will change our culture forever. The conditions, the characteristics and the actual consequences of that change are interesting to analyse.

The same characteristics of which Castells (2001) speaks about the media are also found in the LBS. The first characteristic is the social and cultural differentiation. The messages are not only segmented by markets according to the strategies of broadcasters, but they are also increasingly diversified by users of the media according to their interests and taking advantage of the interactive capabilities. The second characteristic is the growing social stratification of users. The choice of LBS will be restricted to those who have time, money and culture to access them and to countries with sufficient market potential.

The LBS do not transform space and time in a radical way; instead they tend to riappropriate these two dimensions. The places are not emptied from their cultural, historical and geographic significance; the space of flows is again abandoned to reaffirm the importance of space of places. The concept of time is also reaffirmed.

¹³ *Ibidem.*

Conclusions. Mobility and Consumption of the City: Have the Location-Based Services Opened New Perspectives?

The LBS and the new technologies open an interesting topic of debate in terms of mobility technologies and their consumers and the main players in technological and social change taking place. “Often, the success or failure of innovations is a function of variables that have directly to do with consumer behaviours as, for example, the ease of use or the degree of the adequacy for the real needs of the subject” [Martinotti, Bisiani, Diamantini, 2006: 16] ¹⁴.

The consumers of these technologies are searching for a new way of living, enjoying the potential miraculous access to the information mobility. It is a real lifestyle, and it is defined by some researchers (Dainesi, 2001) as “digital nomad” ¹⁵, a state of preparedness to technology that is primarily a cultural attitude. The “digital nomads” are usually aged between 14 and 35 years old. They can be spread into three distinct groups that are characterized and differentiated along two main lines: the willingness to buy new technologies and the characteristics of use of Internet and mobile telephony (Dainesi, 2001). The first group is composed of adolescents. The adolescents have a very high propensity to purchase, even if they have expenditure limits because they are dependent on their families. Their use of the network and the mobile telephony is definitely directed towards communication services and entertainment. The second group, called the “technofun”, however, is composed of individuals with different socio-economic and cultural characteristics. These people with a great deal of curiosity about the technology itself use new technologies, especially the mobile ones, for amusement. The third group of young professionals, finally, includes those who have a job where mobility and relationships play a crucial role. They are people with a high level of education and wealth, interested in a wide range of services and also in their speed of access. Working relationships necessarily pass through mobile terminals and e-mail. There is a real need to access information. The use of the media is intensive. It opens interesting research questions: will the LBS technology increase or decrease the digital divide? What differences are there in the adoption and use of LBS by age, gender, ethnicity or other factors? How is the price of these technologies determinant? Are policies that mitigate these effects necessary? Why do some technologies have a greater impact on society and why are some more used than others? Can sociology predict the development of LBS?

¹⁴ *Ibidem.*

¹⁵ For a complete analysis of these studies see JPMorgan, *Wireless Data – The World in your hand*, Industry Analysis 2 October 2000, Londra, 2001, <http://www.jpmorgan.com>

The LBS also develop the “consumer tailor” (Codeluppi, 2002). On the other hand, today this is made possible by communication technologies which allow consumers to transmit their needs directly to the production. With the introduction of new interest in the use of geo-spatial information to provide useful information to the users of mobile services the possibilities of information and participation of the users is evolving. The LBS damage the possibility of two-way interaction. The users provide the information on their characteristics and their profiles. This helps the provider to submit adequate information on the needs of the users. Digital technology, during its development, has seen the convergence of computers with communication technologies, paying attention to the network of individuals in mobile contexts. New digital services are emerging, many of which never existed before. The LBS represent an example of these applications.

With the “Location-Based Advertising” or advertisements based on location, retailers reach the users when they are very close to the places of commerce. The advertising is provided directly through the user’s phone or PDA. An example of this service is the Location-Based Advertising on public transport. In the United States advertisements are transmitted in relation to the place of the city that the transport is going through. The advertising informs about the presence of shops, events, museums, etc. Another example in Italy is the use of informative posters that are found along highways and expressways. They report information about tourist attractions near the exit in order to visit these attractions.

A reflection on the use of LBS opens questions on consumer behaviour addressed by the new technologies, but also about the consequences that are detected at the level of social behaviour: what characteristics of social behaviour (shopping, mobility, study, work, etc.) will remain and which will change? It is important for a conceptualization, measurement and modelling of the interactions between the development of ICTs and the improvement of the city and its complex forms. The hypothesis is that the LBS have the potential to profoundly influence the spatial organization of society and the behaviour of individuals and groups within it. The diffusion of technologies LBS brings a fundamental change in the structure of marketing and commerce. According to the positioning theories of some space economists of the first half of the twentieth century, such as Walter Christaller and August Lösch, actors and social groups operate location choices based on economic, social and cultural concepts. What are the implications of these new behaviours on territorial development and on the social capital of places? In recent years the urban landscapes have changed. Cities are increasingly more complex and city users must develop skills in the field of mobility. This generates a set of uncertainties in the use of urban space. The advent of ICTs in connection with mobility make

the LBS an attractive business proposition to harmonise the lives of city users in the contemporary metropolis.

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