Netcom
Réseaux, communication et territoires

21-1/2 | 2007
Les politiques territoriales des TIC en Europe

Public policies governing the Information Society

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revues.org

Publisher
Netcom Association

Electronic version
URL: http://netcom.revues.org/2424
ISSN: 2431-210X

Printed version
Date of publication: 16 mars 2007
Number of pages: 53-80
ISSN: 0987-6014

Electronic reference
Angela López and Fernando Tricas, « Public policies governing the Information Society », *Netcom* [Online], 21-1/2 | 2007, Online since 15 December 2016, connection on 05 January 2017. URL : http://netcom.revues.org/2424

The text is a facsimile of the print edition.

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Networks and Communication Studies,
NETCOM, vol. 21 (2007), n° 1-2,
pp. 53-80

PUBLIC POLICIES GOVERNING THE INFORMATION SOCIETY. THE SITUATION IN SPAIN

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***Abstract**: One or two false hypotheses are rebutted, those that give so much importance to virtual space that they undervalue or ignore the political, economic and cultural elements that shape the physical-social space. This article, however, maintains the hypothesis that the physical-social space, collective action and interaction between the social players are essential for local development, calling for solid and decisive public policies that will develop the ICTs and involve the social and economic players on the one hand, and citizens in general on the other, in advances of technical knowledge and in the trend towards universalisation of this knowledge. So, we explain the European and Spanish public policies that are helping to spread the use of ICTs and remove the digital divide between the more advanced and the less developed social sectors.*

***Key words:** European public policies, Spanish public policies, information society, knowledge society, globalisation, universalisation, social players, citizens.*

Résumé – Les auteurs réfutent les hypothèses qui donnent trop d'importance à l'espace virtuel et sous-évaluent les facteurs politiques, économiques et culturels qui constituent l'espace physique et social. Ils considèrent que l'action collective et l'interaction entre les acteurs sociaux sont essentiels pour le développement local. L'auteur s'intéresse à l'Union européenne et à l'Espagne.

Mots clés – Politique européenne. Espagne. Politique publique. Société de l'information. Acteurs sociaux. Société de la connaissance. Mondialisation.

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INTRODUCTION

Countries, regions and cities are all subject to major processes of economic, cultural and social transformation, bound up in the current of changes accompanying globalisation. Globalisation effectively means that we are all more interdependent, closer together, are more alike and that we act in an increasingly similar manner, that we live in the same world (Estefanía, 2000[2]).

The most successful type of interdependence up to now, thanks to the rapid and widespread diffusion of technology in general, and of information and communication technologies (ICT) in particular, has been economic interdependence, in terms of the increased volume and variety of transnational goods and services transactions, as well as of international flows of capital. In this context, although there are multiple variations on the concept of the Information Society (IS), we adopt the definition offered by Castells, "Information Society is a state of social development characterized by the ability of its members (citizens, companies and public administration) to obtain and share any information instantly from any place and in any way preferred." (Castells, 1998); as well as the Knowledge Society (KS) suggested by Peter Drucker and refined by its orientation to society and not exclusively to the market as proposed by UNESCO by Abdul Waheed Khan (Subdirector General of UNESCO for Communication and Information), which indicates that Information Society is the corner stone of knowledge societies. The concept of Information Society, in our view, is related to the idea of "technological innovation" while the concept of "knowledge societies" includes a dimension of social, cultural, economic, political, and institutional transformation as well as a more pluralist and developmental perspective. The concept of "knowledge societies" is preferable to that of "information society" as it better expresses the complexity and dynamism of the changes that are underway (...) the knowledge in question is not only important for economic growth but also for the development of all sectors of society." It is a question, then, of social development that makes use of the resources available in the IS and facilitates the transformation of information into knowledge[3].

However, in relation to the progressive process of globalization, we do not all live in it the same way and interaction is not equally as smooth and as profitable for everyone.
This situation has led to two false hypotheses. The first lies in the faith placed in the regulating power of the so-called "free" market to redistribute knowledge and wealth through the simple impulse and exercise of competitiveness. This theory claims that what the market has achieved will also be achieved by society through the mere intensification of the spread of technology via the marketing of Information Technologies (IT) services. By this reasoning, the regulating power for technology comes from the free market.

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[2] Estefanía, Joaquín (2001) HIJ@, What is globalization? The First Revolution of the 21st Century. Madrid: Aguilar.

[3] Julio Linares et. al. (1995), Intelligent Highways, "the efforts to convert information into knowledge. The greater the quantity of information generated by as society, the greater the need to convert it into knowledge."
Trejo Delabre, Raúl (1996), The New Magic Carpet, "more than a defined project, it is an aspiration: that of the new human environment in which knowledge, its creation and dissemination is the defining element in the relationship between individuals and between nations. The term has gained strength in Europe where it has been well used as part of the construction of the European Union".

The second theory is the belief in the mutation of the significant social space (Meyrowitz, 19864). Without questioning the relationship between advances in IT and the spatial distribution of the population and its activities, there is the belief that the space which can generate interactivity beyond physical barriers is virtual space. There are those who think that the electronic media have weakened traditional relationships between people and their physical space, and have caused the loss of the old sense of place and identities arising from local cultures. By this reasoning, the conditions of access to information and non-material communication networks would depend exclusively on the purchasing power for infrastructures and services of those who buy in competitive markets, regardless of local spaces and relationships between the urban and rural environments, between large cities and small habitats.

Both beliefs have reinforced the theory that the knowledge society is not subject to local space, and that it is promoted by a free market policy, orientated towards the social diffusion of ICTs as if physical place were irrelevant.

Nothing could be further from the truth. Economic wealth does not necessarily give rise to social progress, nor can the technological revolution dispense with local dynamics generated by economic and social policies. Moreover, the impact of economic globalisation and technological change in a locality's activities can bring about major transformations, in the form of wealth creation as well as in the spontaneous social behaviour resulting from technological initiatives, when public policies are implemented and the economic and social players are involved. The interaction between the globalised economy and technology adapted to society's needs can offer an opportunity to territories and their peoples, as geography can be shaped and the social and economic life of the inhabited space can be enhanced. With no need for vast sums of money (such as those to be found in the automobile, steel or petrochemical industries), but with investment in education, employment, production and distribution of goods and the creation of services, the ICT revolution enables the outlying regions of advanced countries, and regions in outlying countries, to become centres of international excellence.

The IS has different qualities. One of these is its ability to transform the information it produces into knowledge, with the restriction on the spread of services or information being the purchasing power of the potential customers and other social constraints, be they countries, regions, cities, businesses or citizens. Another quality is the speed at which this information is generated, transmitted, spread and processed. Finally, activities linked to information are not so dependent on transport and the existence of human concentrations such as industrial activities. This factor gives rise to a reassessment of space characterised by decentralisation and the dispersion of settlements and services (Ortiz Chaparro, 1995[5]).

In these circumstances, the greater the amount of information produced, the greater the need to turn it into knowledge. However, from the viewpoint of collective human development, these benefits would not have sufficient justification if they were only to be found in the market and did not improve quality of life, equality of opportunity, interactional wealth or social cohesion wherever they occurred.

In this respect, we should not lose sight of the fact that regions are advancing in this direction but at different rates. The centres leading the way in incorporating themselves within the IS are basically those that already have the greatest financial and technological

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[4] Meyrowitz, Joshua (1986) *No sense of place. The Impact of electronic media on social behavior.* New York: Oxford University Press.

[5] Francisco Ortiz Chaparro "The Information Society" Intelligent Highways. Fundesco, Madrid 1995.

concentrations and capacities, as well as the most densely populated areas. We should add to this list countries that have fast-tracked the liberalisation of their telecommunication services and which are better placed at the outset due to a wider range of know-how and services available.

On the other hand, we note the greater fragility of small towns and under-populated habitats. Rapid economic globalisation puts small towns and regions which have failed to fully develop their wealth and invested less in social capital at risk. Their problems in producing wealth at a low cost and redistributing it among their inhabitants have caused them to lose population. Thus the challenge for the application of the benefits of the knowledge society to their sphere of action lies in sustaining the population in the area, investments in social capital, council-led strategies for enhancing collective action and involving local players (based on their cultures and identities) in development decisions (López 2003).

However, the resources of habitats are more limited the more underpopulated they are. This is accentuated in isolated areas. For this reason, the task of applying the benefits of the knowledge society to this type of milieu calls for the combination of supranational, national and local policies, which will increase these areas' limited resources with access to technological knowledge, investment in infrastructures, equipment and services, to boost the local economy and employment among the active population (Borja and Castells 1994[6]). These impulses are only obtained with the intervention of the public authorities, in order to forecast and resolve knowledge transmission problems with initiatives that are likely to bring about universalisation of knowledge as well as of technology use.

This scheme increasingly demonstrates that the digital divide is not set to disappear immediately. Indeed, we are already seeing, and probably will continue to do so for the next few years, dramatic differences between a small, fortunate, well-connected few, with more information at their disposal than any previous generation had, and the vast majority that is suffering a new type of exclusion: information exclusion.

Acknowledging these inequalities is the first step towards overcoming them. Materialising opportunities for territories call for decisive political, social and business initiatives. The political action of social leadership and decision-making is set to become increasingly important in view of global development on the economic and social fronts, because although companies and citizens have a large role to play in restoring the technological balance, it is up to the public authorities to involve them in the project to transform information into a common property. In this respect, for the lifestyle of citizens arising from the spread of ICTs in countries, regions, cities – in short, territories – the effect is pre-eminently political in nature, in that it is about enhancing democracy, advancing towards equality of opportunity and improving quality of life (Iribarne 1997[7]). In constructing public policies, it is worth noting what the Information Society is, and what it potentially could become, with all its advantages and limitations.[8]

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[6] Borja, Jordi. y Castells, Manuel (1994) Local and global. City Management in the Digital Age. Madrid: Taurus

[7] D´Iribarne Alain (1997) "Local Democracy and the Information Society" INET' 97 conference, 24-27 June, Kuala Lumpur.

[8] Trejo Delarbre, Raul (2001) " Living in the Information Society, Global Order and Local Dimensions in the Digital Universe", Lugar: Revista Iberoamericana de Ciencia, Tecnología, Sociedad e Innovación.

1. THE EUROPEAN FRAMEWORK CONCERNING THE INFORMATION SOCIETY: PHILOSOPHY AND INITIATIVES.

The need for ambitious European policies for spreading the benefits of the IS had already been acknowledged by the end of the 20th century. The European Union Green Paper on the Information Society pointed out diagnoses and policies in 1996 that are still valid:

"1. We are living through a historic period of technological change, brought about by the development and the widening application of ICT.

2. ICTs are already an integral part of our daily life, providing us with useful tools and services in our homes, at our workplaces, everywhere.

3. However, the ICTs diffusion rates changes between countries, regions, sectors, industries and enterprises.

4. To meet these concerns we need public policies which can help us reap the benefits of technological progress, and which can ensure equitable access to the Information Society and a fair distribution of the potential for prosperity." (European Commission Green Paper, 1996).

What are the key factors for ensuring an even distribution of technological progress for all? The European Union recognises the need to reinforce the following key factors for the boosting and effective use of information technologies in the European context: a modern communications infrastructure, a knowledge infrastructure, acceptance by the public and decision-makers, new forms of partnership, user know-how and motivation to learn from other fields.[9] To achieve equal access it indicates rural or outlying areas as being the least dynamic in this field.

It was obvious to the European Union that setting up the Information Society in the regions did not only involve ensuring the supply of universal services, but also avoiding the risk of poorer quality in existing services or higher charges in outlying areas. This led to the European Council of Communications Ministers in their meeting held in December 1997 to address the importance of interaction between municipal authorities and their citizens by i) giving local governments a fundamental role in the development of the IS, and ii) suggesting the implementation of actions aimed at diffusing the information society through the following activities: sharing information, providing a local interface for citizen access, offering a one-stop window, sustaining democratic development, backing the construction of networked communities and distributing administrative information.

Local governments were targeted in the hope that they would be the bodies that would have the best chance of stopping general social exclusion, particularly with regard to access to new technologies[10].

European promotion is moving forward. The Sixth Framework Programme (European Commission, 2002), which provides a suitable legal framework, was endowed with organisational and financial resources and acts as a broker for best practices. With its actions, the European Commission aims to provide its member states with a legal framework for competition, orientated towards the reduction of prices and improved competitiveness for the benefit of users. Additionally, it decided to adapt its organisational and financial resources to

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[9] Cotta, José C (1998). The European Regions on their way to the global Information Society. Pisa (Italy). He was at the time Head of Unit, DG XIII European Commission.

[10] One of the most significant projects supporting the development of the information society in small towns is one run by the United Kingdom. Local e Gov. "Real Benefits, Real Impact, Real People, Transforming Local Services".

boosting R&D and innovation to give the information society a pre-eminent role, within this set of operations, in the development of projects. Finally, in order to act as broker for best practices, it set up resources for the exchange and flow of knowledge through, for example, the creation of suitable links to enable the awareness, transfer and exchange of experiences in best practices among European territories.

The initiative known as eEurope (second version 2005), discussed at a meeting of the European Council of Prime Ministers held in Lisbon in March 2000, laid down three basic objectives to be met: It was understood that bringing online and into the digital age every citizen, home and school, and every business and administration, and that creating a digitally literate Europe and Ensuring that the whole process is socially inclusive, builds consumer trust and strengthens social cohesion.

Having established general guidelines, the European Commission left the operational policies in the hands of the member states and regional and local public authorities. The success of these policies would depend on how effectively they could i) evaluate the regional opportunities for developing and implementing strategies and action plans; ii) set up suitable collaborative actions, involving all the stakeholders (public authorities, partnership networks, economic and social organisations and businesses); iii) give priority to crucial applications for the development and generation of employment; and iv) organise interregional sessions for the exchange of experiences and expertise.

2. THE SPANISH SITUATION - PROGRESS OVER FIVE YEARS

2.1. THE CONCEPTION OF PUBLIC POLICIES

1999 (with InfoXXI) saw the beginning in Spain of a decisive step forward, albeit weak in its execution, with the passing of a set of measures to promote the IS. These served to calm the concern of previous years which, while giving rise to plans to promote the use of electronic and IT equipment, had failed to materialise in either structured public policies or in plans that, as well as being given initial approval, had also been assigned duties and a budget. Indeed, the forerunners of the InfoXXI project were successive versions of the Plan Electrónico e Informático Nacional (National Electronics and IT Plan - PEIN). In 198411 the first PEIN was drawn up, with three successive versions (1984 – PEIN, 1988 – PEIN II, 1991 – PEIN III). The three Plans were an attempt to promote the use of technological equipment and IT services in the country. The plans focussed on intensifying demand as well as production and research in connection with electronic and IT equipment, limiting themselves to aspects of infrastructure.

And so it was from 1999 onwards that the Spanish government expressed its desire to draw up public policies to meet the demand for ICTs from the public, as well as from businesses and the various authorities.[12] This objective was said to be indispensable for any society that did not want to be left behind on the international stage on which countries were competing and vying for leadership and opportunities for progress afforded by the ICTs.[13] This gave rise to InfoXXI.

The Government Strategic Initiative for the Development of the Information Society - INFO XXI - was passed in December 1999, and put forward the following ten objectives:

1. An Information Society for all.
2. A Society fully committed to education and the creation of employment.
3. A Society with suitable infrastructures and legal framework to boost the development of the digital economy.
4. A Society that promotes its culture.
5. A Society with a better lifestyle and showing more solidarity.
6. A forward-looking Society that fosters the development of new businesses and new industries.
7. A Society with increased presence in the global market.
8. A transparent Administration focussed on the citizen.
9. A Society with a powerful business structure.
10. A more organised Society: access to the IS constructed around the plurality of the country for everyone.

InfoXXI was harshly criticised by elements of the media, as well as by social and economic organisations and agents, for the low proportion of initiatives that were actually carried out, as well as for the lack of coordination between administrations and the various actions promoted by the autonomous communities and local bodies. InfoXXI did not reach its targets, did not execute its budgets and cast serious doubts on the ability to articulate a joint state-promoted policy for the development of IS in Spain analogous with those carried out in other EU countries.

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[11] With a Socialist government under Felipe González

[12] With a Conservative government under José María Aznar

[13] Mas Ivars, Matilde and Quesada Ibáñez, Javier (Eds.) (2005) New Technologies and Economic Growth in Spain. Fundación BBVA.

By the mid-1990s it was obvious that meeting development objectives of the IS was undeniably going to call for their incorporation into specific government programmes, but also for the deployment of a political leadership that was firmly committed to its development. The evolution of networks should be accompanied by a review of the role played by governments as leaders and social mentors, because they have new elements, new tools, new instruments with which to communicate and establish relationships with the people. These new elements would be essential to enable society to access decision-making processes and participate in public affairs.

The spread of political convictions of this type was to lead to more effective programmes. The España.es project saw the emergence of the concept of the IS in a more definitive and more finely-tuned manner.

The "España.es 2004-2005" Information Society promotion plan was passed in 2003.[14] The objective of this plan was to extend the use of the new technologies in the daily activities of the citizens (what was known as "the information society") with public as well as private sector involvement.

The programme was based on the "Soto Commission" report which analysed the problems for the development of the IS in Spain, and which concluded that one of the main obstacles was the lack of interest and training of the public to access these services.[15]

The programme of measures had three lines of action: reinforcing the range of contents and services to foster demand, improving accessibility by offering public access points and by intensifying training and communication, and connecting SMEs to these services.

The promotion of e-administration, the plan for which was called administración.es, was structured around four hubs:

1. Making public access easier for users through the electronic ID card, free Internet access in public offices.
2. Promoting the development of services for users with basic public services, electronic services menus or improving the citizen's portal.
3. Fostering the exchange of information between public administrations.
4. Supporting the internal reorganisation of public administrations with the employee's portal, the reform of the Consejo Superior de Informática (Council for IT) or the archiving of electronic documents.

In addition, civil servants were helped to acquire IT equipment and Internet connection via the funcionario.es programme.

Educación.es focussed on three actions: providing wireless access and a projector to the 53,000 classrooms in the 6,000 state secondary and vocational training schools; supplying teachers with the necessary resources and training, and providing the 140,000 secondary and vocational training teachers with a laptop, and the development of the educación.es portal.

Pyme.es included the development of sectorial services and solutions for SMEs, the implementation of solutions in collaboration with sectorial associations, consultation, training and communication, through the setting up of the navega.es foundation with Chambers of Commerce, and the development of e-administration services.

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[14] By a Conservative government under José María Aznar.

[15] The government set up a commission of experts to draw up a proposal for contents to be included in the España.es project. The commission was headed by Juan Soto, a prestigious ICT expert.

To enable all citizens to access the IS, the Navega.es programme was set up, consisting of the installation of 2,000 new broadband Internet public access centres in towns of between 5,000 and 10,000 inhabitants, and of IT training and integration.

The Contenidos.es programme to provide useful content to the net consisted of two actions: Patrimonio.es, which computerised, spread and exploited elements of the historical and artistic heritage, coordinated by the Ministry of Education, Culture and Sport in collaboration with cultural institutions; and Seguridad.es to foster trust in the net with the electronic ID card, electronic signature and anti-virus alert centre.

Finally, the Comunicación.es programme had the objective of ensuring the success of the plan through suitable communication with the public, with the creation of a brand name for all the actions and a general campaign.

The España.es plan, although it represented an improvement in the establishment of goals and actions, did not reach its objectives. The lack of coordination with autonomous communities and local authorities was a fundamental handicap to progress. Its achievements were palpably better than Info XXI, but it did not bring about a substantial improvement in the Spanish indicators on IS. The lack of interest in IS among the Spanish continues to be at this time one of the most serious braking effects (in addition to access cost, lack of information, etc.).

THE CURRENT SITUATION WITH REGARD TO PUBLIC POLICIES: NATIONAL, AUTONOMOUS COMMUNITY AND LOCAL LEVELS

At present (2005), the public authorities in Spain, at a central as well as autonomous community and local level, have policies aimed at developing the IS, policies which are complementary in some cases and overlapping in others, and which are embodied in various complex measures:

At a national level, two recent initiatives have been designed and implemented, orientated towards convergence with Europe and towards progress in the reduction of anomalies between the autonomous communities that make up Spain: the Convergence Plan as a preliminary study and the Avanza Plan as the set of projects arising from the conclusions of the former.

THE CONVERGENCE PLAN

In 2004, following the general election of March 2003, the Minister of Industry, Tourism and Trade drew up the Convergence with Europe Plan, run jointly with businesses and Autonomous Communities. The objective of the Plan was to propose measures to close the gap separating Spain from the more advanced countries of the European Union as far as the IS was concerned, by increasing the use of new technologies and Internet into Spanish society, improving the productivity and competitiveness of large companies and SMEs, and eliminating the digital divide that existed.

Furthermore, some of the measures implemented prior to this Plan were initiatives such as providing more Internet Public Access Stations (PAPIS), more Internet connection resources for schools, and what was known as the "Technology Loan", whereby companies were granted low-interest financing to invest in ICT. One major factor was the communications campaign "Todos en Internet" (Everyone on the Net) and agreements signed with the Autonomous Communities regarding "Digital Cities."

This convergence towards the community average use of ICTs can be observed with mobile telephony, with Spain attaining levels higher than countries such as France, Germany, Holland or Ireland. This has not been the case with the number of PCs per hundred inhabitants, still significantly below the OECD as well as the EU average. This indicator gives cause for concern, in that the PC is the key tool for access to the information and knowledge society.[16]

THE AVANZA PLAN

The Avanza Plan, approved in 2005 and one of the hubs of the Ingenio 2010 Programme, was set up by the Government to foster R&D&I. It was aimed at "achieving sufficient usage of ICTs to contribute to the success of an economic growth model based on boosting competitiveness and productivity, promoting social and regional equality and improving citizens' welfare and lifestyle."[17]

The plan notes a set of strategic objectives aligned with the Lisbon Agenda, aimed at bringing about convergence with more advanced European countries as far as the IS is concerned, and takes into account the fact that convergence also needs to occur at a national level among the Autonomous Communities.[18] For it to work, a joint effort by the various administrations, the private sector and society is required to ensure that the volume of ICT-related economic activity approaches 7% of the GDP by 2010.

The plan has five major areas of action:

- The Home and Inclusion of Citizens.
- Competitiveness and Innovation.
- Education in the Digital Age.
- Digital Public Services.
- Digital Context.

All the measures in the plan can be divided into one of the following types:

- Direct action. Measures providing public administrations with the economic resources required for supplying the services for which they are responsible.
- Impetus. Measures supplying public resources to ensure that the objectives of the IS are met through devices based on the use of subsidies or loans.
- Regulatory. Initiatives aimed at changing regulations or actions in the Administration to foster the development of the Information Society, establish new rights or boost already existing rights.
- Diffusion, stimulation and communication. Measures whose aim is to disseminate the benefits of the Information Society or the opportunities that the corresponding public policies offer to the public and business.

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[16] Mas Ivars, Matilde and Quesada Ibáñez, Javier (Eds.) (2005) *New Technologies and Economic Growth in Spain.* Fundación BBVA, 2005.

[17] Avanza Plan, Council of Ministers, 4/11/05.

[18] European Council in Lisbon, 23rd and 24th March 2000.

AUTONOMOUS COMMUNITIES' PLANS AND ACTIONS

The 1978 Spanish Constitution is based on a unitary conception of the State that is structured on three territorial levels, all interdependent, which have autonomy to administer their own interests.

The major task of the construction of the State of Autonomous Communities, involving the drafting of Autonomy Statutes to enable nationalities and regions to enjoy self-government, as envisaged in Chapter VIII of the Constitution, has meant that since 1978, Spain has been immersed in a process of constant discussion over the level of self-government, prerogatives, financing and so on in all 17 Spanish Autonomous Communities. This is undeniably a constant process of requisition that has diverted the energy and attention of leaders, governments and public administrations from the developing projects and has placed issues concerning the reform of the statutes at the head of political agendas.

Nevertheless, the active role played by the Autonomous Governments as promoters of plans, measures and actions aimed at developing the IS has been a key aspect in the regional convergence process. Not only have they drawn up action plans and policies, they are also increasingly using other tools that are helping to promote the incorporation of the ICTs. This has meant that there has been an increase in the number of public bodies or foundations that coordinate actions, distribute resources and develop the IS. Similarly, the work done by regional ICT Observatories is becoming increasingly significant, in that their analyses serve to carry on the plans and assess the level of compliance. These are all positive measures. However, one drawback of the two-fold administration, central and autonomous community, is that at times some vitalising actions are designed and carried out without considering national policies, thereby hindering any potential synergy that might arise and generating confusion in society when it sees similar activities being carried out at the same time and with the same objectives by different bodies.

As a result of bringing public policies closer to the citizens, at an autonomous community as well as local level, and thanks to the effort of those regions which, because of their socioeconomic situation, started out with a clear disadvantage, a convergent trend can be observed in the principal indicators in all Communities. This means that the differences in the ICT penetration indicators in the various Autonomous Communities in Spain are tending to diminish, although the less advanced regions will have to intensify measures and actions to ensure their full integration into the information society. However, the reasons for the lag in less advanced communities needs to be addressed, so as to stimulate the search for solutions to accelerate the disappearance of this gap. These reasons are not necessarily linked exclusively to material and economic factors, but also to cultural factors, and call for the design of political and social strategies that are specially adapted to the idiosyncrasies of the regions.[19] The social differences between the Autonomous Communities are the key to this situation. For this reason, general public policies in each territory with regard to IS must be adapted. Areas with high levels of dispersed rural population, highly industrialised areas, zones with a marked delay

[19] This situation applies to all the less advanced communities and is particularly relevant as far as Andalusia's digital divide is concerned, the explanation for which, both exclusively and fundamentally, does not seem to be a shortage of economic or material resources. A better explanation for Andalusia's lagging behind would be a shortfall in training and motivation, two basic aspects of culture. as noted in the document: La Brecha digital de Andalucía. Centro de Estudios Andaluces. Consejería de la Presidencia, 2006.

in the deployment of technology infrastructure, regions with a high average age, etc., will require specific actions orientated to these particular characteristics. Cultural or social aspects could explain this situation. The infrastructures are a necessary condition but not sufficient. In addition to having the element for access to IS at our disposal, it is necessary to possess the skills necessary to make them work. The training of a collective desire to participate in IS also requires more knowledge and above all clear visualization of the aspects of IS which can arouse the interest of the citizens. Spain, in order to improve its indicators and converge with surrounding countries, must make a collective effort supported by public policies for integration into IS in a coherent way which enables citizens, administrations and companies to move towards the KS. It would be useful to analyse the promotion policies put into practice by communities that boast high rates of expansion, and try to adapt these policies to the idiosyncrasy of all other communities. An unfavourable starting out point can only be compensated by a growth rate that is relatively higher than that of the rest of the communities. Thus a faster rate of digital growth needs to be a maximum-priority objective, politically, socially, economically and culturally speaking, for the less advanced regions.

These factors concern the whole infrastructure, equipment and services implementation process.

Particularly in the case of telecommunications, a proper telecommunications infrastructure is essential. The concentration or installation of fibre optic networks (or other high-tech infrastructures) that can provide sufficient bandwidth to supply the services that society is starting to demand is not yet a reality in many places. It should be remembered that some of the calls for tender to install cable in Spanish cities and autonomous communities have been an obvious success, but others have been declared void because of the lack of bids, probably because there is no confidence that there will be a return on investment. In any event, in general, this has been a process that has not led to the diffusion or business success that people were told would occur. Plans such as the broadband plan, promoted by the Ministry of Industry, Tourism and Trade, are still necessary to ensure minimum levels of quality and bandwidth all over Spain. Without these basic infrastructures, it is impossible to move forward in local development associated with the opportunities offered by the IS to regions historically "lagging behind," areas that are more developed economically, as well as to improve the lifestyle of their inhabitants. The following table shows the various autonomous community initiatives for the development of the information society.

LOCAL BODY PLANS AND ACTIONS

The development of the information society, as this article has made clear in the initial theoretical argumentation and in the analysis of European and national justifications for the design of public policies, cannot be attained with a global strategy alone. The success of this strategy depends on i) how it adapts to the needs of the local environment; ii) the permanent quest for agreement with the various players in innovation at a local and regional level; and iii) the existence of the principle of subsidiarity and protection of the decision-making most closely affecting the public.[20]

City and town councils have been a force for change and development all over Europe, and particularly in Spain following the first democratic elections in 1979.[21] The councils have helped to overcome longstanding underdevelopment. They have shown

[20] Sonia Pazos Álvarez, *Econet* (2006)

[21] A period of democratic consolidation after the 1975 transition from dictatorship to democracy

themselves to be modern models of democratic organisation and effective administration. In this respect, the councils have been at the forefront of urban and rural development in applying the new ICTs to administration as well as communication and interaction with their citizens.[22] Although Spanish local authority budgetary constraints have meant that their operational plans are seriously underfunded, and lack guaranteed continuity or overall coordination with other local actions (in the field of planning, culture, education, social services, and so on), they have still managed to put them into practice in collaboration with other administrations.

Autonomous Community	General/sector plan
Andalusia	Innovation and Modernisation Plan for Andalusia (2004-2010)
Aragon	Master Plan for the development of the IS (2004-2007)
Asturias	eAsturias Plan 2007
Balearic Islands	BIT 21st Century Plan (2001-2004)
Basque Country	IT and Telecommunications Plan (2003-2005)
Canary Islands	Canarias Digital (2000-2006)
Cantabria	eCantabria (2002-2006)
Castilla y León	Telecommunications Infrastructure and Services Master Plan (PDIST 2004-2006)
Castilla-La Mancha	Strategic Telecommunications and SC Plan (2003-2007)
Catalonia	Telecommunications Infrastructure Master Plan (2005-2008)
Community of Valencia	Advanced Telecommunications Strategic Plan for Valencia PEVTA (2004-2010)
Extremadura	Expansion of ADSL
Galicia	Strategic Plan for Economic Development in Galicia (PEDEGA 2000-2006)
La Rioja	SIR Programme
Madrid	Madrid, the Digital Community (2004-2007)
Murcia	Telecommunications Infrastructure and Services Master Plan for the Region of Murcia (2001-2003)

[22] A noteworthy example of this is the development of municipal websites. The Spanish national daily, El País, publishes an annual study of Spanish municipal websites. In the latest study (2005), the Zaragoza City Council website has appeared as the one offering the best services to its citizens in the whole country.

Navarre	Master Plan for the Development of broadband Telecommunications Infrastructures (2003-2006)
Ceuta	Regional Programme for Innovatory Actions in Ceuta (2000-2006)
Melilla	Regional Programme for Innovatory Actions in Melilla (2000-2006)

Source: eEspaña 2005

There follows a list of various local authority plans and projects concerning IS, in which various players are often involved (central administration, autonomous community administration and local authorities). Not all the plans that exist are there, as there is a wide range, but the ones featured here do show the extent of local municipal initiatives and their dispersion over the various autonomous communities:

- Proyecto Consensus among the local authorities of Catalonia to extend e-democracy in the municipal environment. Its objective is the development of citizen involvement via the Internet; it promotes the transmission of information (and knowledge) to the decision-makers; it stimulates citizen feedback and consultation via the Internet.
- TINET project for the extension of the Internet in society in Tarragona, in the Autonomous Community of Catalonia, has provided free Internet access for non-profit organisations in the area and also e-mail services and access to local information for all citizens since 1995.
- ITACA (Information, Transaction and Citizens' Helpdesk) in Alcobendas, Autonomous Community of Madrid. The Alcobendas City Council has promoted a platform of information, administration and direct communication with its citizens. The first phase consisted of three basic services: the Alcobendas card, the interactive website and the Integrated Citizen Information Service. Later, the Telephone Helpdesk was introduced, with the installation of a digital platform with a 24-hour assistance and transaction service.
- The Avilés Digital City Project, in the Autonomous Community of Asturias, has as its main aim to help promote the Information Society through basic actions in the city of Avilés. The actions are: Port formalities platform (ports), Citizen transaction platform (e-Administration), 3D citizen involvement platform (Education/Leisure), E-commerce for SMEs (Electronic Commerce), Equipment and connectivity, Digital literacy, Public access centres, Wireless network in public areas (Wifi areas), and Dissemination of the project.
- Las Aldeas Digitales (Digital Villages) is the flagship of the "Carreño Digital" 2006 Strategic Plan in the Autonomous Comunity of Asturias. It is the first plan passed by a Spanish local council to provide broadband infrastructures and telematic equipment to all of its area, both urban and rural, by introducing the entire population to the handling and usage of the Internet.
- Jun (AUTONOMOUS COMMUNITY OF ANDALUSIA): a town council in cyberspace. Internet and the ICTs have been declared a fundamental right of all citizens, as is any technology that can bring the administration closer to the citizen. This major challenge means that the declaration commits the Jun council to the extent that any inhabitant that does not feel protected by this right can bring a legal action to ensure that the Information Society pyramid in Jun is restored to him, in line with the

commitment approved in a plenary session of the council to breakdown the new civic barrier between the so-called INFO-RICH and the INFO-POOR.

- Digital cities. A Digital City is an urban area benefiting from the implementation of a series of infrastructures and processes associated with the ICTs. The objective of these Digital City programmes is to provide citizens in their homes and in their workplaces with the opportunity to use public, business and institutional services in various fields. These fields include teleadministration, teleworking, teleinformation, telemedicine, running public services, applications for special needs groups, measures regarding culture, tourism, public spaces, and so on. One example of this initiative is Teruel Digital, in the Autonomous Community of Aragon, whose objective is to develop the IS at a local level, based on high speed telecommunications networks.

THE MOST SIGNIFICANT PROJECTS AND MEASURES OF THE DIGITAL CITIES INITIATIVE

Autonomous Community / City	Cities / Districts	Significant Measures
Murcia	▪ Molina de Segura	▪ Transport ▪ E-commerce
Castilla y Leon (1st Phase)	▪ Area of León	▪ Culture, tourism and art ▪ Special Groups ▪ Technological Entrepreneurs
Valencia	▪ Alcoy	▪ Digital Citizenship ▪ Artificial Intelligence ▪ Telemedicine
Ceuta	▪ Ceuta	▪ E-administration Portal ▪ Business and Tourism Portal
Madrid	▪ Leganés (Zarzaquemada) ▪ Tres Cantos ▪ Aranjuez	▪ Teleadministration ▪ E-business ▪ Telemedicine
Catalonia	▪ Alto Urgel District (Seo de Urgel) ▪ Valle de Rivas ▪ Pla de l'Estany District (Bañolas) ▪ CallÃºs ▪ Amposta	▪ Broadband Network ▪ TechnologicalCentre ▪ Business Promotion ▪ Virtual Tourism Community ▪ Centre of Applied Research (CIAC) ▪ Broadband Network
Asturias	▪ Avilés ▪ Concejo de Carreño (Candás)	▪ Ports Platform ▪ Leisure-Educational Services virtual reality Plataform ▪ E-AdministrationPilot Project
Canary Islands	▪ Island of La Palma	▪ Health on the Net ▪ E-Commerce ▪ Teleworking
Melilla	▪ Melilla	▪ Modernisation of the Administration ▪ E-Commerce
La Rioja	▪ District of La Rioja Baja	▪ Training and Dissemination of the Knowledge Society ▪ Wine Portal ▪ Spanish Development Portal ▪ Digital Administration ▪ E-commerce ▪ Special Groups
Cantabria	▪ Astillero ▪ Torrelavega ▪ Comarca de Liébana	▪ Health ▪ Administration ▪ Infrastructures ▪ Web site
Balearic Islands	▪ Calvia ▪ Formentera ▪ District of Nord	▪ Online intelligent agents for tourism ▪ Education and Training
Castilla-La Mancha	▪ Cuenca ▪ Alcázar de San Juan	▪ Teleadministration ▪ Digital Terrestrial Television

Autonomous Community / City	Cities / Districts	Significant Measures
	▪ Miguelturra ▪ Tomelloso	▪ Broadband Access ▪ E-Commerce ▪ Social Impetus for the IS
Galicia (1st Phase)	▪ A Estrada ▪ Vilalba ▪ As Pontes	▪ Social impetus for the media
Aragon	▪ Teruel	▪ Training ▪ Tourist information delivered to PDAs ▪ Technology volunteers ▪ Wimax
Andalusia (1st Phase)	▪ Ronda	▪ Tourism
Castilla y León(2nd Phase)	▪ Santiago Pilgrimage Route ▪ Peñaaranda de Bracamonte	▪ i-Ultreia ▪ Jacobean Promotion Digital Centre ▪ Economic, social and cultural development model
Andalusia (2nd Phase)	▪ Úbeda and Baeza	▪ E-heritage
Galicia (2nd Phase)	▪ Lugo ▪ Vigo	▪ Education in hospital environment
Extremadura	▪ Tajo-Salor ▪ La Serena	▪ Literacy Differential Technology for politicians, municipal staff and the public
Andalusia (3rd Phase)	▪ La Mojonera ▪ Roquetas de Mar ▪ VÃcar	▪ Agriculture and the Environment

Source: Ministry of Industry, Tourism and Trade. Digital Cities Programme, 2006.

PROVINCIAL GOVERNMENT PLANS AND ACTIONS

Another type of administration to take into account is Provincial Governments, administrative bodies in charge of coordinating and administering development plans and projects with the city and town councils belonging to the Spanish provinces. With regard to developing the information society in their respective provinces, there are two procedures that stand out – those of the Provincial Governments of Huesca (in the Autonomous Community of Aragon) and Badajoz (Extremadura).

THE HUESCA DIGITAL GOVERNMENT PROGRAMME aims to establish the instruments of collaboration between the Huesca Provincial Government and local bodies in the province of Huesca, for the implementation and spreading of the new information technologies, as a formula to improve information systems, administration, bringing public services to the Altoaragón district and to stimulate social and economic development in the province. The services are as follows: access to telematic services on the Provincial Extranet; designing Municipal Portals; PISTA LOCAL (Local Trail) Programme; and participation of the Telecentros network programmes.

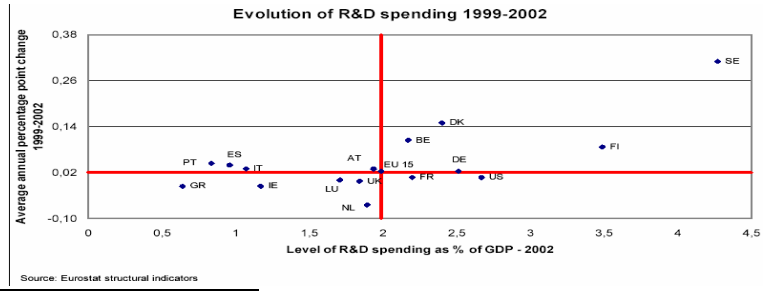
BADAJÓZ PROVINCIAL GOVERNMENT: This administration has set up an infrastructure capable of running a communications network with 250 access points (city councils, smaller local bodies and districts) linked to the central hub located in the Badajoz Provincial Government buildings and equipped with the necessary technical and physical elements: linking all the communications networks and infrastructures of the province of Badajoz into a provincial communications network will provide interoperability of all communications networks, services and information systems between local bodies and the Provincial Government; to act as a final filtering medium for a larger network that includes all levels of Administration; to provide the infrastructure for the transport, transmission and transfer of information with broadband capacity and "internal" connections (intranet) to all local bodies; to create an environment enabling interoperability at all levels, including local, provincial, autonomous community, state and European levels; to create the right technological conditions for the general implementation of Local Electronic Administration; to provide all the local bodies of the province of Badajoz with the physical elements required for the concrete implementation of Electronic Administration; and citizen e-mail service, electronic register of bidders and free web-hosting facilities for non-profit associations and bodies of the province of Badajoz.

THE I.S. IN SPAIN - BY ITS WORKS (OR INDICATORS) SHALT THOU KNOW IT

A comparison of the advance of the Information Society in Spain with that of other European countries, specifically the other 14 countries that made up the EU before its recent expansion to 25, shows that less progress has been made, in spite of the steady increase in the use of new ICTs. According to a European Commission report drawn up by SIBIS, Spain is at the bottom of the list of the 15.[23] It is therefore a long way below where it should be in terms of her economic potential.[24] This means that at an international level, there is a large anomaly between the position Spain holds with regard to economic indices (ninth place, according to the 2003-IMD World competitiveness ranking, for countries with over 20 million inhabitants) and information society indicators (between twenty-first and twenty-ninth).[25] The report also stated that, in mobile telephony usage, Spain scored positively, as one of the graphs below shows.

While Spanish society has come significantly closer to the main indicators of economic wealth in the EU, it is lagging behind in the development of the IS and more so in the development of the knowledge society. Here the indicators all consistently point out this deficiency.[26] There is evidently a gulf between the improvement in the economic situation and development of IS. This is due, amongst other causes, to the way in which Spanish economic growth of recent years has been based. The great importance of the construction industry or of services associated with tourism has led to a significant increase in employment and economic growth. However, lack of attention to research, development and innovation, as shown in the following graph, could be a highly negative aspect in the future (Ontiveros, 2006).[27] A model of economic development which does not require an intensive use of ICTs produces a distancing between the intensity of that economic growth and the development of the IS. Unlike other European countries, in Spain the economic growth of recent years has not been supported by development of the IS, innovation or investigation, but by the growth of the construction industry and of tourism services.

Reports from Auna and Telefónica show that the rate at which the Spanish have started to use the Internet has been evolving positively and markedly in the last few years. However, the *Informe España 2005 de la Fundación Auna* and the proportion of Internet users to the total population in 2004 placed Spain near the bottom of the EU countries, as the following figure shows.



[23] Statistical Indicators Benchmarking the Information Society, 2003

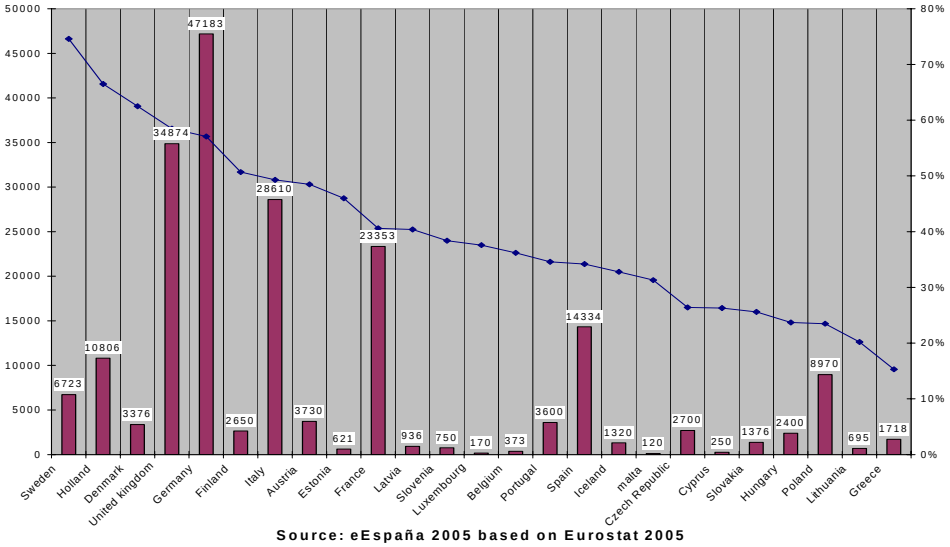
[24] In Europe, Spain is ninth in the 2003-IMD ranking for world competitiveness, for countries and regions with more than 20 million inhabitants (International Institute for Management Development, 2004).

[25] According to the Information Society Index (IDC-World Times), Spain is 25th, the Network Readiness Index (World Economic Forum) has her at 29th, and the E-Readiness Index (Economist Intelligence Unit) 21st (2004 figures).

[26] Mas Ivars, Matilde and Quesada Ibáñez, Javier (Eds.). *Op. cit.*

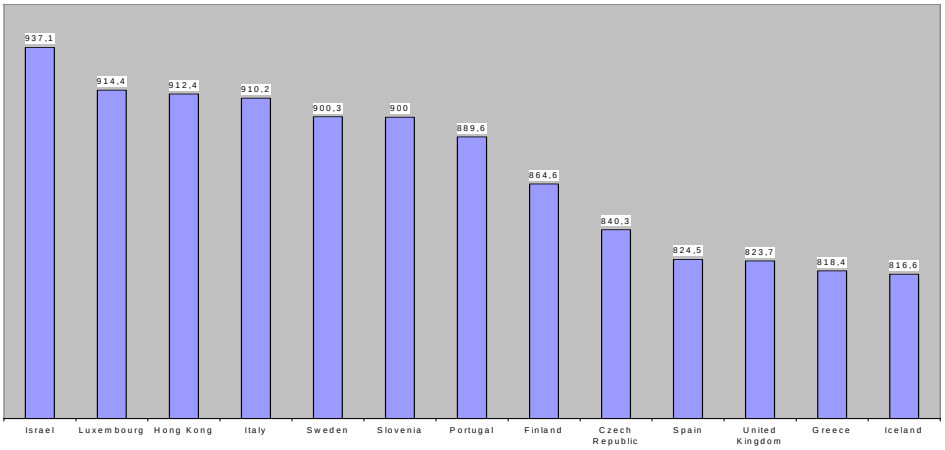
[27] Ontiveros, Emilio (2006), El País. Vitalit of ICTs.

Number of Internet users and percentage of total population 2004. Thousands.



Source: eEspaña 2005 based on Eurostat 2005

World mobile telephony penetration. Number of users per 1000 inhabitants. 2004

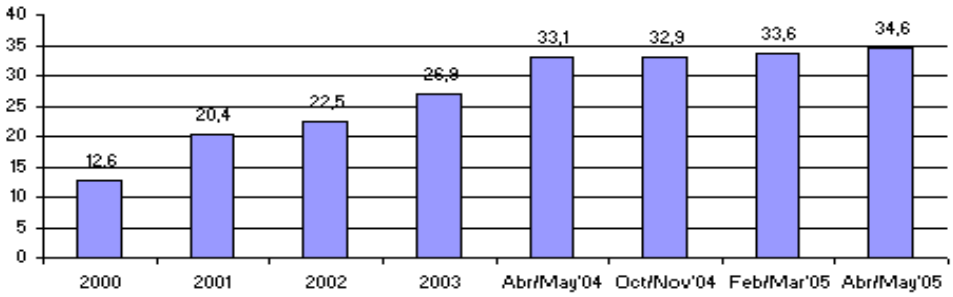


Source: eEspaña based on Randstad-ESADE-2004

We can deduce from the previous graph that Spanish society is not averse to the use of new technological resources and that the facilities and uses of the IS are rapidly accepted (as in the case of mobile phones). However, the most relevant aspects, not only as useful but as elements of social development that the IS offers, such as the use of PCs, Internet connection, number of domains, etc., are still the aspects less quickly developed in Spain than in the rest of her economic and social surroundings.

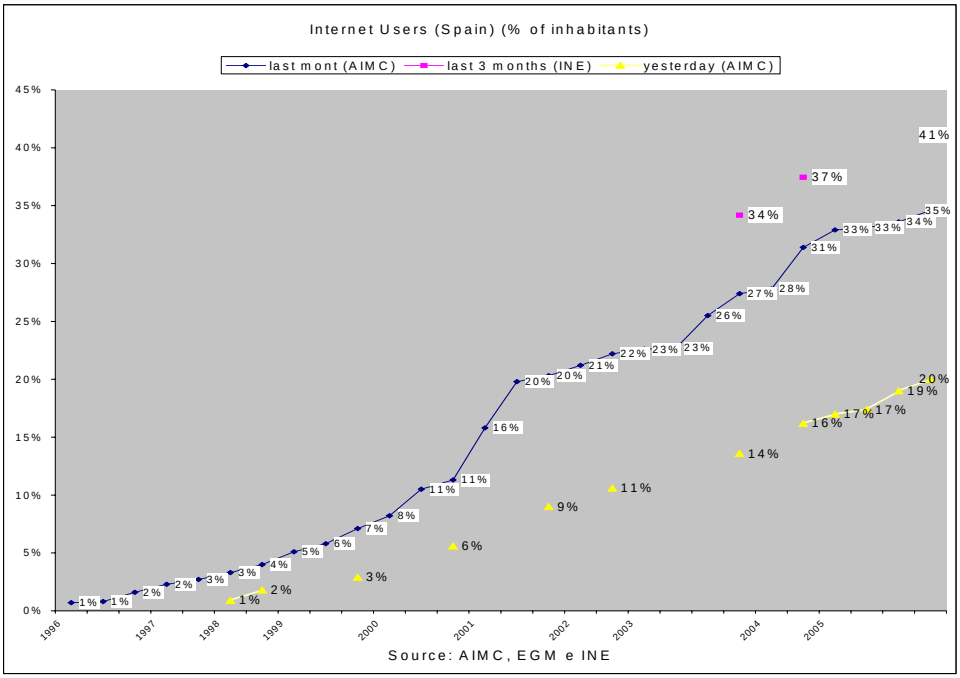
An analysis of the internal evolution of the country in the last five years shows that the number of internauts in Spain with access and at least basic Internet use has been steadily growing.

Graph: Evolution of percentage of population that has used the Internet in Spain: 2000 to 2005.



Source: Estudio General de Medios (EGM)

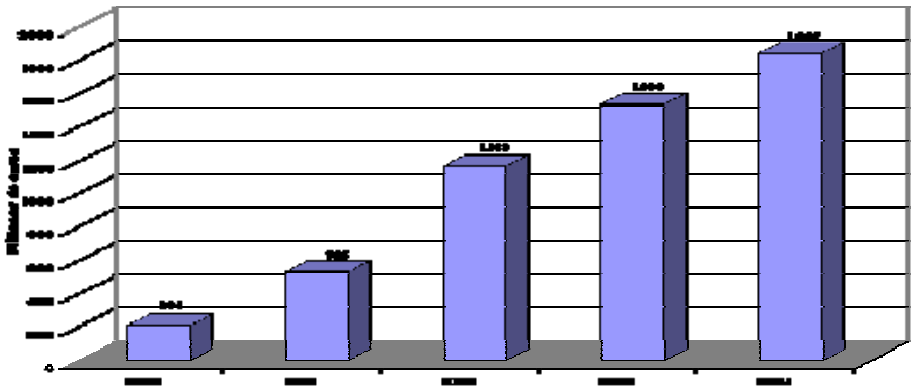
The second report, the Informe de Telefónica in Spain, 2005, puts the percentage of internauts as being 37% of the total population. One of the indicators in this report stands out – the one which shows that one of the most important reasons for not connecting to the Internet for the Spanish is the lack of interest and the inability to see its utility. This is, without a doubt, one of the most noteworthy barriers in Spain. Consequently, it will be vital to develop awareness, diffusion and training campaigns in order to make Spanish society see the benefits of the IS, and these actions must be intensified in the education system.



It is worth pointing out that e-business has experienced a significant increase in recent years, which suggests that businesses will be wanting to operate with the public administrations in the same way as they are doing now with each other because of the obvious advantages to

be gained. The graph below, drawn up by Red.es, shows the evolution of e-commerce in Spain in terms of millions of euros. The graph shows a boom in e-commerce, with significant growth from year to year. Obviously, the increase of online business means higher usage levels and, of course, new challenges in work methods and business organisation. This is all set to produce changes in business culture, which will almost certainly have an immediate repercussion for public administrations in their regulatory role as well as in the organisation and development of their daily activities.

Graph: Evolution of B2C E-Commerce in Spain 2000-2004



Source: Red.es

The adoption of these action strategies by the employees of companies incorporating these new administration methods leads to higher usage of these services outside the working environment, in cultural, social and leisure areas. Without a doubt, it is the public authorities who must lead the way in technological innovation processes when carrying out these actions. The social repercussion of business modernisation is one more reason for promoting the incorporation of the business structure, particularly SMEs, into the new techniques of business administration, or in other words, e-commerce.

CONCLUSION

Spanish public policies for the development of the IS are significant, as is the work carried out by the administration, at its various levels, to catch up with the European Union standard and the more advanced countries therein. It should be kept in mind that, in this context, little or no progress is the same as losing ground, and in view of Spain's lagging behind, convergence will only be possible if she progresses at a rate faster than that of the other countries. It is clear that accelerating the rate of development calls for constant leadership by public administration, but it also calls for a collective effort, based on the conviction that technological development is in everyone's interest. Collective adoption of the ICTs is not going to depend on just the public sector, which because of its political responsibility directs its initiatives towards i) the development of basic services for all to bridge the digital divide between the more vulnerable and stronger sectors of society; and ii) implementing educational measures to guarantee these basic services for all from the earliest stages of compulsory state education.

Thus it is of paramount importance to keep making progress with policies that provide access to information and telecommunications applications and technologies, with programmes for raising awareness, training, dissemination, broadband access, reduction in connection and usage costs, and any other areas that can help society to use these new techniques and procedures - and that includes the running of specific projects to help groups at risk of social exclusion.[28]

There have already been specific measures that have shown the potential of the new technologies to end isolation or loneliness, or as a resource for providing certain social services. The incorporation of senior citizens into using the Internet in small rural localities has led to the end of the feeling of isolation that these people feel without their having to leave the village.[29] Training and public Internet access in youth centres have given these groups more knowledge and an extension of communications facilities akin with what other groups or individuals have in various parts of the world. Other projects are being developed to provide Internet access to immigrants as a means of social integration, professional training or communication with their countries of origin. These advances are instant effects of European, national, regional and local policies.

And yet, technological development calls for a public pact for the transfer of knowledge, skills, resources, and innovative habits and stimuli from the social sectors that boast a higher technological culture to those that can boast little or none at all, with measures programmed to ensure widespread i) access to information; ii) transformation of information into knowledge; iii) knowledge giving rise to resources; and iv) resources giving rise to improved lifestyles. In this respect, collaboration with local associations, businesses and bodies is potentially an essential element for meeting these objectives.

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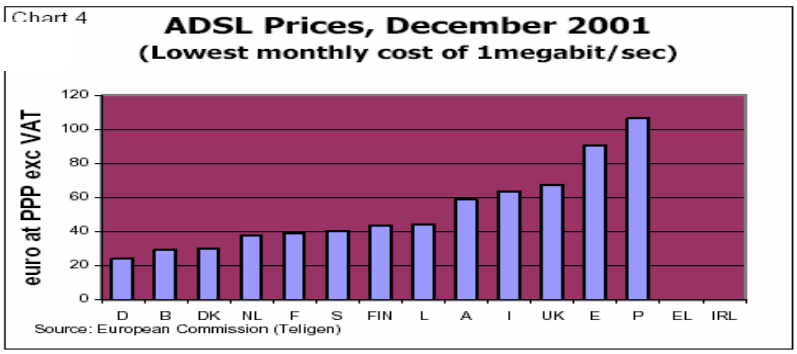
[28] A recently-published study shows that the main obstacles still hindering the widespread build-up of the Information Society is the fact that 68% of non-Internet users say that it is due to lack of interest and 45%, lack of training to learn how to use inline services. The deputy prime minister, María Teresa Fernández de la Vega, who attended the presentation of the report stated that these were "alarming" figures, against which the Government was working with training and promotion measures to incorporate everyone into an "open and horizontal society".

[29] For example, Internet usage and promotion programmes in senior citizens' centres sponsored by Ibercaja.

However, it is evident that some of the biggest obstacles to public adoption of the ICTs are due to the still limited extension of broadband, particularly in the smallest outlying rural areas. It has to be remembered that connection fees, while going down, are still among the highest in Europe, which is a handicap from the outset, not only for the communities in underdeveloped areas but also for the SMEs which, because of their modest structure and resources, need to make an extra effort to acquire the technological culture to be able to cope with the production, preparation, marketing, distribution and management of goods and supply of services.[30]

There are also problems related to lifestyles, educational levels that are still low in large sectors of the population (particularly among the older generations), or still limited knowledge of foreign languages and IT usage in primary and secondary schools. Budgets for the development of the IS need to be higher than they are if there is to be a change in communication, employment, economic and social habits, which will place the Spanish on par with other European countries with regard to technology usage and innovation. Another requirement is a more efficient coordination of programmes and projects run by the central, autonomous community and local administrations, at a national as well as intra/inter-autonomous community level. Finally, there is a need to improve project management in order to meet the deadline for each project.

Graph: ADSL Prices



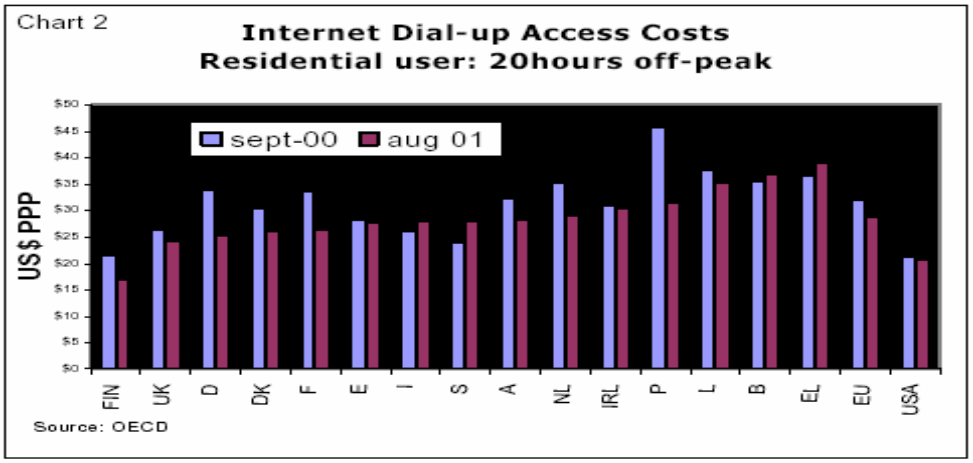
Source: Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of Regions. Brussels, 5.2.2002.COM(2002)62 end. eEurope benchmarking report.

The various plans carried out by different governments have not managed to improve significantly the indicators which characterize the IS in Spain. It is necessary, therefore, inside the Plan Avanza (the current plan under development) to reflect on the ways to achieve maximum efficacy from the actions to be carried out so that they have the greatest possible real effect on Spanish society. It is also vitally important to improve the degree of institutional

[30] The biggest obstacle is the Spanish people's lack of interest in what constitutes digital life and ignorance of its advantages; the Spanish communicate with each other by e-mail more than other societies, and take part in fora and blogs to a greater degree, because communication is an integral part of their way of life. Telefónica and el Nuevo Lunes. Supl. Nuevas Tecnologías de la Información 9th–15th January 2006.

collaboration at all administrative levels in order to avoid redundancy and to guarantee the coordination of plans and initiatives. The configuration of the Spanish state with different autonomous administrative levels with their own capabilities makes coordination difficult, but it is basic to the search for a collective consciousness in order to advance in the IS. Spain, in order to stop lagging behind in the IS, needs to improve the infrastructure situation by deploying new networks, encouraging private investment in access services (broadband, cable, LMDS, WiMax, UMTS, etc.) and in service of added value on the existing networks. But it is also necessary to overcome social and cultural barriers through plans of dissemination and literacy that intensify the use of ICT resources and that arouse interest and demand. These actions must be especially intensive in the education environment and must be led by the public sector, with the public administrations as organizations that show by example and specific projects how to break these barriers. It would also be desirable to see an environment that favours the development of the ICT sector with regulatory, fiscal, social and economic measures which promote and foment innovation and enterprise in this field, starting with universities and research centres and moving on to the private sector.[31] This process demands political consensus, a public-private agreement and above all clear public leadership capable of generating the Spanish social conscience in order to advance in the IS in an integrated and cohesive manner.

Graph: Internet Dial-up Access Costs



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