

ICTS IN GREECE

Moses A. Boudourides & Dimitris B. Kalamaras

University of Patras

Table of Contents

1. EU Policies.....	1
2. Greek Government Policies	8
3. Three Surveys	11
3.1 Flash Eurobarometer 112.....	11
3.2 The GRNet Survey.....	13
3.3 An Online Survey about Internet Use.....	15
References.....	17

1. EU Policies

Following an in-depth discussion about the weaknesses of the European Economies between the Heads of State, the European Commission presented in 1993 the ‘White Paper on Growth, Competitiveness, Employment: The Challenges and Ways Forward into the 21st Century’ (EC, 1993) as a medium-term strategy for growth, competitiveness and employment. It is drawn largely on contributions by the Member States and aims primarily to cope with the three types of unemployment: cyclical, structural, and technological. This White Paper declares the ways forward for the EU into the 21st century:

- A healthy and stable economy.
- An open economy.
- A decentralized economy.
- A more competitive economy.
- An economy characterized by solidarity.

The corollary to decentralization, as defined in the relative section of this White Paper, is information sharing and communication. Thus, special mention was made to the notion of *Information Society* (IS). Among others, the Paper noted the radical change multimedia world represents. It was also stressed that the issue of Information Society is a crucial

aspect of the survival or decline of Europe, for it can provide an answer to the new needs of European Societies. The Paper proposed the acceleration of the establishment of 'information highways' (broadband networks) and the development of the corresponding services and applications.

Following the White Paper, a report was prepared by a group of prominent persons for the Corfu European Council meeting in June 1994. Its task was to specify the necessary measures to be taken into consideration by the Community and the Member States for the information area infrastructures. On this basis, the Council would adopt an operational programme defining precise procedures for actions and the necessary means. The final report, known as the Bangemann Report (Bangemann *et al.*, 1994), recommended:

- Changes in the telecom regulatory framework, i.e., acceleration of the process of liberalisation, normalization of tariffs etc.
- Protection of the intellectual property rights, privacy and security of information.
- Extension of the European telecom building blocks, such as the EURO-ISDN.
- Promotion of mobile and satellite communications.
- Expansion of the basic trans-European services, including e-mail, file transfer, video services.

As a follow-up to the Bangemann Report in 1994 the Commission issued 'Europe's way to the information society: An Action Plan' (EC, 1994), which was a Communication to the Council and the European Parliament and to the Economic and Social Committee and the Committee of Regions. The Commission recognized that the "digital revolution" triggered structural changes with the corresponding high economic stakes. This process was regarded as one that cannot be stopped and would lead eventually to a knowledge-based economy. This Communication presented an overview of the Commission's work programme on the information society. The Action Plan was adopted in July 1994 and it covered four areas:

- The regulatory and legal framework.
- Networks, basic services, applications and content.
- Social, societal and cultural aspects.
- Promotion of the information society.

In its next Communication of 1996 'Information Society: From Corfu to Dublin - The New Emerging Priorities' (EC, 1996a), the Commission outlined progress and results of the implementation of the Action Plan, which was adopted in July 1994. At that time, there was a more comprehensive picture of the measures necessary to achieve the objectives of this IS Action Plan. Furthermore, new questions and issues had emerged. For that reason, the Commission suggested that it was time for a review of the Action Plan. Four main policy lines were identified as of equal importance priorities:

- Improvement of the business environment.
- Investment on the future, namely, IS research.
- People at the centre.

- Meeting the global challenge.

Finally, the Commission invited the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions to give their opinion on these key policy orientations in order to prepare a revised Action Plan in time for the Dublin European Council.

In the same year (1996), the Commission issued the ‘Green Paper: Living and Working in the Information Society: People First’ (EC, 1996b). This Green Paper was part of a package of initiatives developed by the Commission to update and take forward the July 1994 Action Plan. Acknowledging the concerns of skill revolution and job insecurity as well as the fact of a new world of work propelled by the emerging information society, the Green Paper continued in identifying the new challenges:

- To build knowledge and raise awareness of new forms of work organisation.
- To modernise the institutions of working life.
- To ensure that SMEs will take full advantage of working life.

The Green Paper also discussed several issues concerning the employment and the cohesion needed for living in the information society.

The revised Action Plan was announced later in 1996 through the Commission’s Communication ‘Europe’s way to the information society: A Rolling Action Plan’ (EC, 1996c). It illustrated thoughts and initiatives necessary to launch a second phase of the EU information society strategy. This revised Action Plan aimed to address Community actions, which were complementary to those undertaken by the Member States. The priorities of the Rolling Action Plan were to:

- Improve the business environment through the efficient and coherent implementation of the liberalised telecommunications environment and the thorough application of the internal market principles.
- Invest in the future primarily by recognizing that the information society starts in the classroom. Emphasis was also made in the life long learning.
- Encourage European businesses to keep up with the fast pace of global technology development.
- Establish a number of actions to address the key issues identified in the Green Paper ‘Living and Working in the Information Society: People First’ and related documents concerning how to put people at the centre of the information society.
- Enhance the Commission’s negotiating powers in order to strengthen the EU’s negotiating position at international level recognising that setting global rules is an essential element of the information society.

In April 1996, the Commission issued an update titled ‘Europe’s Way to the Information Society: Update of the Action Plan’ (EC, 1996d). This update portrayed the status of the Action Plan on Information Society implementation as it was. It consisted of tables containing the specific measures defined from the Action Plan and the corresponding

decision making process together with relevant explanations and implications. The areas covered were:

- The regulatory and legal framework.
- Network, basic services, applications and content.
- Social, societal and cultural aspects.
- Promotional activities.

In December 1997 a Green Paper was issued titled ‘Green Paper on the Convergence of the Telecommunications, Media and Information Technology Sectors, and the Implications for Regulation. Towards an Information Society Approach’ (EC, 1997). This Green Paper described the changes, the developments and their implications caused by the emergence of information society in Europe. The Paper proposed that if Europe could embrace these changes by creating an environment supporting rather than holding back the process of change, this would be a powerful motor for job creation and growth, increasing consumer choice and promoting cultural diversity. The paper analysed issues, identified options and it posed questions on the following:

- The convergence phenomenon.
- The actual and potential barriers, which might hold back technological and market developments.
- The existing, at that time, and the possible future regulatory frameworks or approaches.
- A set of principles for the future regulatory policy in the sectors affected by the convergence.

On the basis of these issues, the Commission expected a 5 months consultation period to be enough and set the timing for a new Communication around June 1998.

In the Communication of March 1999 titled ‘Results of the Public Consultation on the Green Paper’ (EC, 1999a) the Commission reported to the Community institutions and the public at large on the consultation associated with the Convergence Green Paper of December 1996. The public consultation had been divided in two stages:

- December 1997 - May 1998. The conclusion of this stage was that the convergence of tech platforms and network infrastructures was a reality and that similar regulatory conditions should therefore apply to all such infrastructures. Also, the Community institutions underlined the importance of maintaining European competitiveness in the face of rapid technological and market change leading to the realization of the Information Society.
- July - November 1998: Questions posed on what the Commission perceived as three key areas, that is:
 1. Access to networks, investment, innovation and content production,
 2. Balancing the regulation between public interests and
 3. Competition considerations.

Answers received from over 80 organisations, most of them concerned with access issues.

A series of key messages emerged from this consultation, which were codified in this Communication, along with proposals for future steps and actions.

In 1999, a new Communication titled ‘Towards a New Framework for Electronic Communications Infrastructure and Associated Services’ (EC, 1999b) appeared which was the actual 1999 Communications Review. It presented an overview of the EU regulations in telecommunications and proposed the main elements for a new framework for communications infrastructure and associated services.

The European Council held a special meeting on 23-24 March 2000 in Lisbon (EC, 2000a) to agree on a new strategic goal for the Union in order to strengthen employment, economic reform and social cohesion as part of a knowledge-based economy. This goal set in ‘Presidency Conclusions’ was for Europe to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion. For this goal to be succeeded, the Council declared that an overall strategy is required aiming, among others, to prepare the transition to a knowledge-based economy and society by better policies for the Information Society and R&D, as well as by stepping up the process of structural reform for competitiveness and innovation and by completing the internal market. Special mention was given to the openness of the forthcoming Information Society and the Council invited the Commission to draw up a comprehensive *eEurope Action Plan* using an open method of coordination based on the benchmarking of national initiatives, combined with the running *eEurope* initiative as well as its Communication “Strategies for jobs in the Information Society”. The Council also emphasised that all businesses and citizens must have access to inexpensive, world class communications infrastructure and a wide range of related services. In particular, different means of access should prevent info-exclusion. Finally, the Council declared that the realization of Europe’s full e-potential depends on creating the conditions for electronic commerce and the Internet to flourish, so that the e-commerce rules should be predictable and inspire business and consumer confidence.

The European Council’s next meeting was in Stockholm on 23 and 24 March of 2001 for its first Annual Spring Meeting on economic and social questions (EC, 2001a). The Stockholm European Council focused on how to modernise the European model and attain the Union’s strategic goal for the next decade decided at Lisbon: to become the most competitive and dynamic knowledge-based economy in the world. Among others, the Council discussed how to create more and better jobs, accelerate economic reform, modernise the European social model and harness new technologies. In the account of education, improving basic skills, particularly information technology and digital skills, was set as a top priority to make the Union the most competitive and dynamic knowledge-based economy in the world. This priority included education policies and lifelong learning as well as the overcoming of the shortfall in the recruitment of scientific and technical staff. Special attention was given to the *eEurope* initiative. The Council,

although recognized the progress that had been made so far, stated that Europeans were not yet fully using the potential of Internet in key areas such as public services, e-government or e-commerce. It was also re-affirmed that the success of the knowledge society depends on high levels of digital literacy and on creating conditions in areas such as network security and data protection and privacy, in which people have confidence in using new services. In that context, the Council pointed out the necessary steps to be taken, such as:

- regulatory framework for the third generation mobile communications,
- adoption of the telecoms package,
- an enabling environment for wireless Europe, next generation Internet (IPv6),
- the application of VAT in e-commerce,
- a comprehensive strategy on security of electronic networks.

Furthermore, the Council noted that the Commission had announced its intention to propose additional targets for connecting schools to the Internet, to present a Communication promoting on-line dispute resolution systems and to support eSchola, a Europe-wide action aiming to promote the use of new technologies and develop online school twinning.

The Commission identified the reform of European governance as one of its four strategic objectives in early 2000. The ‘White Paper on European Governance’ of 2001 (EC, 2001b) concerned the way in which the Union uses the powers given by its citizens. Reform was the main target, so that people could see changes well before further modification of the EU Treaties. The White Paper proposed opening up the policy-making process to get more people and organisations involved in shaping and delivering EU policy, greater openness, accountability and responsibility for all those involved. It proposed a series of initial actions for:

- Better involvement and more openness.
- Better policies, regulations and delivery.
- Global governance.
- Refocused Institutions, Union's policies and adaptation of the way they work.

eEurope & GoDigital Initiatives

eEurope (EC, 2000b) is a political initiative to ensure that all citizens of the EU as well as the future generations will benefit from the changes the ‘information revolution’ is bringing. The main purposes of ‘eEurope 2000’ were:

- To bring every EU citizen as well as every business, home and school into the digital age and online.
- To create a digitally literate Europe, supported by an entrepreneurial culture ready to finance and develop new ideas.
- To ensure the whole process is socially inclusive, builds consumer trust and strengthens social cohesion.

In June 2000 the Feira European Council adopted the main Action Plan for eEurope titled 'eEurope 2002 Action Plan' (EC, 2000c). Its aim was to ensure that the targets set by the Lisbon European Council of March 2000 could be reached by defining the necessary measures. The actions are clustered around these three main objectives:

- A cheaper, faster, secure Internet.
- Investing in people and skills.
- Stimulate the use of the Internet.

Another adopted programme in the context of eEurope was 'eEurope+ 2003' (EC, 2001c). This programme is a co-operative effort to implement the Information Society in Europe targeting at the Candidate Countries. It is an "eEurope-like Action Plan" by and for the Candidate Countries as a compliment to the EU political commitments in order to try and broaden the base for achieving the ambitious goal set for Europe.

The eEurope 2002 Action Plan's objective three 'Stimulate the use of the Internet' includes an action to encourage SMEs to 'Go Digital'. The Plan identified small and medium-sized enterprises (SMEs) as critically important to efforts to bring about eEurope, and set specific targets to prepare them for its advent. The objective was to encourage SMEs to Go Digital. In its Communication 'Helping SMEs to GoDigital Action Plan 2001' (EC, 2001d) the Commission undertook specific initiatives aiming at:

- identifying the main obstacles SMEs face as they engage in e-business,
- proposing specific actions to help SMEs Go Digital, in particular by building on existing policies and initiatives,
- ensuring consistency among the various policies and initiatives to support SMEs going digital at the European, national, regional and local levels, and
- learning from practical experience and to benchmark various strategies to help SMEs to go digital.

In this Communication attempted to identify the specific SME needs to fully reap the benefits of e-business and to present specific GoDigital initiatives to be implemented in 2001 by the Commission. In 2002, a report titled 'GoDigital Progress Report 2001-2002' (EC, 2002a) was issued illustrating the progress in the implementation of the GoDigital Action Plan of 2001.

This Commission's Communication 'eEurope 2005: An Information Society for All' (EC, 2002b) is an action plan presented in view of the Sevilla European Council held in June 2002. The objective of this Action Plan is to provide a favourable environment for private investment and for the creation of new jobs, to boost productivity, to modernise public services, and to give everyone the opportunity to participate in the global information society. eEurope 2005 therefore aims to stimulate secure services, applications and content based on a widely available broadband infrastructure. By 2005, Europe should have:

- modern online public services,
- e-government,
- e-learning services,
- e-health services,
- a dynamic e-business environment,

and, as an enabler for these:

- widespread availability of broadband access at competitive price,
- a secure information infrastructure.

This action plan comprises four separate but interlinked tools:

- Policy measures to review and adapt legislation in national and EU level.
- Good practices, exchange of experience, but also sharing the lessons from failures.
- Benchmarking of the progress made in achieving the objectives and of the policies.
- Overall co-ordination of existing policies.

2. Greek Government Policies

Currently, two are the main policy frameworks in Greece to promote the Greek Information Society (IS): the Operational Programmes ‘Information Society’ and ‘Competitiveness’ funded by the 3rd Community Support Framework of the European Union. The main aim of the ‘Information Society’ programme is to use the IS in order to promote competitiveness in enterprises and to modernise public administration by using ICTs. The ‘Competitiveness’ programme seeks to improve business support networks for SMEs, to encourage start-ups and to provide enhanced access to finance.

The Greek Information Society

The Greek Government in 1999 recognised the fact that we are living in an environment rapidly transformed by ICTs. These technologies “transform the way we work, learn, do business and communicate, creating, thus, a new Information Society as well as opening new opportunities for development prosperity and quality of life” (Greek Government, 1999). For these reasons, the Greek Government declared the participation of Greece, equally with all EU members, in this emerging Information Society as having a major priority. In doing this, the primary goal of the governmental policy is the active participation of citizens in the creation of the Greek Information Society. Exactly for this purpose a Greek IS web-site was created. It aims to increase the public awareness and involvement by presenting up-to-date information on IS policies and their implementation as well as providing a forum for dialogue and exchange of views. The Greek IS policy extends in many dimensions. It concerns initiatives, which aim to exploit the new ICTs for:

- The creation of an open and effective Government.

- Economic development and job creation.
- The transformation of the education system.
- The improvement of quality of life.
- The protection and promotion of Greek culture and civilization.
- The equal participation of regions in the global village.
- The development of the national communications infrastructure.

Along with the above, the Greek IS policy includes initiatives for the protection of citizens' rights and of course the public participation in the digital age.

The main targets set by the Greek Government in the context of the 'Information Society' Operational Programme are shown in the following table:

Indicator	Starting point	Level at starting point	Target for 2006
Internet users / 100 inhabitants	2000	5	50
Number of pupils per PC	2000	51	10
Percentage of schools connected to the Internet	2000	5	100
Number of PCs per 100 civil servants	2000	15	50
Percentage of health centres connected	2000	0	100
Percentage of small and medium-sized enterprises involved in e-commerce	2000	<1	15
Percentage of the population covered by frequency spectrum monitoring systems	2000	5	80
Information society expenditure, % of GNP	2000	4.1	6.2

Source: Operational Program for the Information Society (Greek Government, 1999)

The Greek 'Information Society' Operational Programme is largely based on funds provided by the 3rd Community Support Framework. It is estimated that 2,2 billion Euro of public funds and about 600 million Euro of private funds will be spent in the context of 'Information Society' programme between 2000 and 2006.

Go-Online

The programme Go-Online, an action line of the programmes 'Information Society' and 'Competitiveness', is an initiative of the General Secretariat of Industry (GSI) under the Ministry of Development, which has started in 2000 (Greek GSI, 2000). Its main objective is to support small and medium sized enterprises (SMEs) so that the latter might be familiarised with digital economy and exploit the potential and the opportunities given by the Internet. This programme covers the whole country - all 13 regions - during the period 2000-2003 and totally 120 million Euro will be spent. Enterprises that can benefit from the programme must have fewer than 10 employees, except from joint stock companies and self-employed professionals. For this purpose, SMEs are divided into three categories:

- SMEs that do not have the infrastructure necessary for internet connection;

- SMEs that have an internet connection and active e-mail address ('Internet-ready');
- SMEs running a web-site capable of conducting transactions with customers and/or suppliers (B2C and B2B).

The Go-Online programme targets to SMEs of the two first categories aiming to 'upgrade' them into the next category, namely, from the first to the second and from the second to the third. GRNET, the Greek Research and Technology Network has the responsibility for the technical implementation of the programme.

Under the umbrella programme 'Go Online' there are a number of sub-programmes and initiatives. For example, in the initiative 'Network Yourself', part of the 'Go Online' programme, Greece is targeting 50,000 SMEs. The main aim of this initiative is to help companies understand the importance of the Internet and to create digital awareness. Another programme named 'Electronic Commerce Centres' (ECC) aims at the implementation of SMEs support policies. Currently there are 14 Greek ECCs up and running. The centres are there to provide information to all those involved in commercial transactions and they will assist SMEs with: access to information; electronic promotion and advertisement; digital processing of commercial transactions through the Internet. Each ECC has defined a target for e-business penetration in its region in terms of awareness, training and paid service.

In the same direction of supporting SMEs, a special fund called 'Capital of Entrepreneurial Participations of High Technology' has been set up to support new enterprises that are technology and knowledge intensive and for the encouragement of new entrepreneurs. At last, the Greek Ministry of Development is providing incentives for SMEs to cluster and collaborate over electronic commerce and electronic data interchanges. The measure is aimed to support specific online business procedures that will attract a large number of Greek SMEs to the use of eCommerce. The projects cover many areas of collaboration including: Implementing innovative applications of existing technologies, techniques and methods of electronic commerce; Combining two or more technologies of eCommerce; Upgrading or automation of one or more basic operations of commerce (product promotion etc). Promoting electronic collaborations among similar companies or complementary fields; Accruing actual consequences in the competitive advantages of company-users.

eBusiness Forum

The eBusiness Forum, initiated in 2001, is a mechanism for the exchange of views between the main economic, social and academic actors regarding the competitiveness of Greek business in the new digital and e-business context (Greek GSI, 2001a). It is an initiative undertaken by the General Secretariat of Industry, which is under the jurisdiction of the Ministry of Development, and it is a part of the Operational Programme 'Information Society' of the Greek Government. Main targets of this forum are the following:

- To raise and broaden the dialogue about the globalised digital economy.

- To watch and report the progress made for e-business in Greece.
- To increase public, consumer and business awareness on e-business issues.
- To co-ordinate the relative initiatives in Greece.
- To suggest solutions to all obstacles needed to overcome for the creation of a prosperous digital business environment and the normal introduction of Greek business in the new digital economy.
- To interconnect the Greek initiatives in the e-business sector with corresponding international initiatives as well as the diffusion of the worldwide relative experience in Greece.

The eBusiness Forum maintains a web-site, where everyone can enter into discussions on specific topics concerning the ways to promote the competitiveness of Greek businesses in the context of the Information Society and electronic commerce. Moreover, the site is hosting up-to-date announcements on programmes and events related to its target. The site has been put up to provide a range of information required by businesses, which want to trade in the digital economy. This includes e-business articles, links to consulting houses, links to business facilitators and information on European and regional e-business programmes and subvention opportunities.

3. Three Surveys

3.1 Flash Eurobarometer 112

This survey (EC, 2002c) has been conducted by Gallup Europe in November 2001 upon request of the European Commission (DG Information Society). 36081 European residents were polled by telephone between November 1 and 19, 2001. For each country, 2000 interviews were carried out (except in Germany where 4000 interviews were conducted).

Household Access

To the question “does your household have access to the Internet”, 9.9% of Greeks responded positively, while the EU-15 average was 37.7%. In fact, this percentage was the lowest among all European countries. Moreover, the access rate to Internet appeared to have been decreased since October 2000, when 12% of Greeks were having household Internet access. At that time, the EU mean was 28%. Furthermore, Spain and Portugal followed Greece in low levels of household access to the Internet. In both these countries, less than one quarter of the population had Internet access in their households.

Greece has not made serious progress towards more advanced kinds of Internet access, i.e., connections with high bandwidth. 79.7% of Greeks replied that they were connecting to the Internet via standard telephone lines (EU-15 mean 71.8%), while 9.6% were connecting via ISDN lines (EU-15 mean 16%) and only 0.5% via ADSL (EU-15 mean 6.3%). Similarly, only 1.5% of the Greeks were using modem cables (EU-15 mean 9.1%)

and 1% mobile-wireless connection (EU-15 mean 3.5%). Generally, normal telephone lines were dominant in most of European countries, with the exception of Germany, Luxembourg and Norway, where ISDN lines were also largely used. ADSL and wireless types of connections remained very rare in all European countries.

To the question “through what kind of terminal does your home connect to the Internet”, 92.9% of Greeks responded that they were using a desktop or a laptop computer (EU-15 97.7%). 0.5% had a TV set-top box for the same purpose (EU-15 average 2.8%). None of the Greeks replied that he/she was employing mobile telephone services to connect to the Internet, i.e., Wap services (EU-15 mean 5.8%). Overall, computers, either desktop or laptop, seemed to be the primary tools of Internet access in European countries. Wap services have remained marginal across Europe, with the exception of Germany and UK where the relative percentages were higher but still low.

Internet usage

As with the case of household access to the Internet, Greece was the last in line in Internet usage. With regards to the question “do you personally use the Internet”, it appeared that only 16.8% of the Greeks were using it. This percentage was the lowest among all European countries (EU-15 mean 47.9%). In fact the rate of Internet usage has been decreasing almost 4 points since the last survey in June 2001. Greece was followed by Italy (33%), Spain (29%) and Portugal (29%). Nordic countries (Denmark, Finland, Sweden and Iceland) as well as Netherlands and Austria were in the lead regarding Internet usage.

44.5% of the Greeks were using the Internet at home (EU-15 mean 68.6%), 32.5% at work (EU-15 mean 40.1%), 15.5% at school/university (EU-15 average 19.9%), 4.5% from a public access point (EU-15 mean 11.9%) and 25.7% at an Internet-cafe (EU-15 mean 9.1%). Generally, one in two Europeans uses the Internet either at home or at work, while users of it appear to be increasing across Europe.

Another dimension of the Eurobarometer was the social and demographic profile of the Internet users in Europe. According to the survey, European Internet users were: “mostly young men, educated, living in a metropolitan area and belonging to the most fortunate classes (executives, liberal professors and self-employed)”.

When the question was about the frequency of Internet usage, 33.7% of the Greek users replied that they were using the Internet on a daily basis (EU-15 mean 40.8%) and 30.4% that they were on-line several times a week (EU-15 mean 25.8%). Overall, 64% of the Greek users have been using the Internet either daily or several times a week (EU-15 mean 67). This overall percentage increased by two points since the last survey in June 2001. Below Greece were France (56%) and Germany (62%), with the lowest percentages among all European countries concerning Internet usage frequency.

Greek users appeared to most often use the Internet in order to send or retrieve e-mail. 54.6% of the Greek users replied so (EU-15 mean 77.4%). Another common practice of

the Internet in Greece was news/topical items. 42.4% of the Greek users answered that they have been using the Internet to look for news and topical items (EU-15 average 73.1%). In addition, 37.3% of the Greek users have been using the Internet to improve their education (EU-15 mean 44.8%). 30.1% of the Greek users said that they have been employing the Internet to seek travel information or tickets (EU-15 average 60.6%). Finally, 23.1% of the Greeks answered that they have been using it to find medical advice (EU-15 mean 33.2%).

e-Government

The survey was also posing a question about the e-Government dimension of the Internet. The question was “have you ever contacted a public administration through the Internet to: a) find administrative information, b) send them e-mail, c) forms filling/procedures, d) other reasons”. 24.4% of the Greek users replied that they had utilized it in order to find administrative information (EU-15 average 35.2%), 23.3% to send an e-mail to some authorities (EU-15 mean 20.2%) and only 9% in order to fill some forms or for other procedures (EU-15 mean 21.6%). Generally, 42% of the Greek users have had on-line contacts with public services. This percentage increased noticeably by 8 points since the last survey in June 2001. Generally, almost one in two Internet users in the EU has contacted a public service using the Internet. Those who have most often employed the Internet in order to contact a public service were again the Internet users with higher levels of education and belonging to the highest occupational categories.

3.2 The GRNet Survey

Various documents and surveys exist referring to the status of ICTs in Greece. One of them is a survey that was conducted by VPRC, a gallop poll company, on account of the Greek Research and Technology Network (GRNET) S.A. during June-July 2001 (Greek GSI, 2001b). One characteristic of this survey is the magnitude of the sample used, which amounted to 6095 individuals older than 15 years old, while the corresponding Eurobarometer research had a sample of only 1000 individuals (although this is not of course an absolute criterion for one survey to be more representative than the other).

In this survey, the objectives were three:

- The measurement of computers, Internet and mobile phones usage in Greece as well as the time evolution of this usage.
- The tracing of the ‘digital divide’ in Greece.
- The record of Internet usage in education and SMEs.

The questionnaire in this survey consisted of two main categories. The first category included general questions about ICTs; these were the following:

1. Do you have a Personal Computer (PC)?
2. Do you use a PC at home or at work?

3. How long approximately do you use a PC?
4. Do you intend to acquire a PC in the coming semester?
5. Do you have a mobile phone? What kind of connection?
6. Do you use W@P services within your mobile?
7. Are you aware of GRNET?

The second category in the questionnaire can be characterised as Internet-related. The questions posed were:

8. Do you use the Internet? Where?
9. How long do you use it?
10. Do you have a personal e-mail account?
11. How often do you use the Internet?
12. What is the your main reason of using the Internet?
13. Do you have a private Internet account (paid)?
14. What are the reasons of not having a private Internet account?
15. Do you intend to buy a private Internet account?

Conclusions of the GRNet survey

Demographical differences

The difference in PC & Internet usage by gender is not so significant, in contrast to differences in usage indicators for other demographical characteristics, such as:

- Age;
- Education level;
- Income level;
- Geographical area and urbanization level;
- For the active population: the sector of economic activity and the size of the corporation in occupied persons.

The survey indicated also major differences in PC & Internet usage between regions as well as inside a region. Big corporations scored higher in PC or Internet usage, while smaller corporations do not appear to embrace the new tools. The level of education appears a very important factor. One out of two Greeks who had higher education used a PC, while the proportion for those with elementary education is 1 out of 50. One structural obstacle in the further diffusion of ICTs in Greece appears to be the relatively high percentage (37%) of people having only elementary education. Of those people 86% appears to be older than 45 years old. For this reason, an improvement of the general educational level is needed if Greece wants to attain the reduction of the existing 'digital divide'.

Usage in schools

PC usage in schools remains low. Only 4.8% of young people aged 15-17 use a PC in school, while in the same age category 39.4 use a PC at their home. One out of four of those young people not having a PC intended to buy one in the next semester.

According to this survey, 80% of secondary level schools had at that time Internet access, in contrast with only 16% of the primary education schools. The Ministry of Education has repeatedly declared its commitment to provide Internet access to all schools by the end of 2002. Nevertheless, this is not an absolute indicator if we consider the very low percentage of pupils using a PC in school, while 80% of these schools have theoretically Internet access. This 'time delay' between schools' e-connection and broad Internet usage by pupils is due to many reasons related to educational resources, such as the inexistence of laboratories, the inadequate training of the teaching staff, etc.

New PCs – New personal Internet accounts

An interesting question was about the intention of buying a new PC in next semester. From those who did not possess a PC at the time of the survey, only 7.5% answered positively. What is more, almost 83% of the respondents were over 45 years old. Similarly, there was a question about the intention of acquiring a personal Internet account; 24% of those not having a personal account intended to buy one over the subsequent semester. In this group of respondents, 38% were aged 18-24, 46% had graduated at least high school and 80% of them were living in a city.

Evolution of Internet use

According to this survey, in the mid 2001, the percentage of Greeks using Internet reached 10% of the total population aged above 15 years old. This percentage was estimated to be 12% by the end of that year. In fact, the survey found that there is a significant increase of the annual growth rate of the number of Internet users, which was expected to be above 60% in 2001.

3.3 An Online Survey about Internet Use

These are the results of an online survey 'on the use of Internet in Greece' conducted from August 7, 1999, until the end of May 2002 at a server of the University of Patras: <http://hyperion.math.upatras.gr>. It had the form of a questionnaire with the following questions:

- 1) What is your gender?
- 2) What is your age?
- 3) What is your education?
- 4) What is your financial situation?
- 5) Since when are you connected to the Internet?
- 6) Where are you connecting to the Internet?
- 7) How often are you connected to the Internet?

- 8) Almost how much e-mail are you receiving in a week?
- 9) Almost how much e-mail are you sending in a week?
- 10) Do you write e-mails in Greek?
- 11) Do you write e-mails in latin-alphabetized Greek ('greeklish')?
- 12) Do you write e-mails in some other languages?
- 13) Do you have your own web-pages?
- 14) In which language are your own web-pages?

Totally, 657 individuals answered this questionnaire. However, since this was an online questionnaire posed on the Internet, any person located anywhere in the world might have answered it. Therefore, although the subject of the questionnaire was the usage of Internet in Greece, the respondents might have been either non-Greeks or Greeks living outside Greece.

Conclusions of the on-line survey

Gender and age

The vast majority (80%) of the respondents answered that they were male. 72% replied that their age was between 18 and 35 and for 21% the age was between 36 and 55.

Education level and financial condition

The respondents seem to have an upper education level. 68% of the respondents had at least university education. Only one out of three answered that they were not holding any degree. 91% replied that their financial condition was either 'medium' or 'good'; only 6% answered 'bad'.

Start, place and frequency of Internet connection

Most of the respondents were using the Internet since 1995. 23% replied they were using the Internet after 1998. The relative majority (40%) answered '1995-97' as the starting point of their Internet usage. 24% replied they were using the Internet since 1992-94 and only 9% placed their initial Internet encounter before 1991. More than half were using the Internet both at home and at work (56%). Those who were using it exclusively either at home or at work were fewer, 19% and 20%, respectively. The vast majority (91%) answered that they were using the Internet almost daily. Only 6% replied that they were using it a few times a week.

Number of e-mails received/sent in a week

Most of the respondents answered that they were sending and receiving 11-50 e-mails in a week (44% and 42%, respectively). 20% replied that they were receiving less than 10 e-mails and 40% that they were sending less than 10 e-mails in a week.

Language of e-mails

68% of the respondents replied that they were writing their e-mails in Greek, 73% in latin-alphabeted Greek ('greeklish') and 82% that they were using some other language too.

Web-pages ownership and language

45% of the respondents answered they have their own web-pages. When the question was about the language in which their web-pages were written, 10% replied 'Greek only', 22% used multiple languages in their web-pages and 13% replied 'Another language'.

References

- Bangemann *et al.* (1994). Report prepared for the European Council of Corfu. <http://www.uazone.org/gis/bangeman.html>
- European Commission (1993). *White Paper on Growth, Competitiveness, Employment: The Challenges and Ways Forward into the 21st Century* [COM(94) 347 final]. <http://europa.eu.int/en/record/white/c93700/contents.html>
- European Commission (1994). *Europe's way to the information society: An Action Plan* [COM(94) 347 final]. <http://europa.eu.int/ISPO/infosoc/backg/action.html>
- European Commission (1996a). *Information Society: From Corfu to Dublin - The New Emerging Priorities*. http://europa.eu.int/ISPO/docs/policy/docs/596dc0395/596dc0395_en.doc
- European Commission (1996b). *Green Paper Living and Working in the Information Society: People First* [COM(96) 389]. http://europa.eu.int/comm/employment_social/social/info_soc/green/green_en.pdf
- European Commission (1996c). *Europe's way to the information society: A Rolling Action Plan*. [http://europa.eu.int/ISPO/docs/policy/docs/COM\(94\)347.doc](http://europa.eu.int/ISPO/docs/policy/docs/COM(94)347.doc)
- European Commission (1996d). *Europe's Way to the Information Society: Update of the Action Plan*. <http://europa.eu.int/ISPO/infosoc/legreg/dede.html>
- European Commission (1997). *Green Paper on the Convergence of the Telecommunications, Media and Information Technology Sectors, and the Implications for Regulation. Towards an Information Society Approach* [COM(97)623]. <http://europa.eu.int/ISPO/convergencegp/greenp.html>
- European Commission (1999a). *Results of the Public Consultation on the Green Paper*, [COM(97)623]. [http://europa.eu.int/ISPO/convergencegp/com\(99\)108/com\(99\)108enfinal.html](http://europa.eu.int/ISPO/convergencegp/com(99)108/com(99)108enfinal.html)
- European Commission (1999b). *Towards a New Framework for Electronic Communications Infrastructure and Associated Services*, [COM (1999) 539]. <http://europa.eu.int/ISPO/infosoc/telecompolicy/review99/review99en.pdf>
- European Commission (2000a). *Presidency Conclusions - Lisbon European Council 2000*. <http://www.kbn.gov.pl/is2000/pdf/word5.PDF>
- European Commission (2000b). *eEurope 2000*. http://europa.eu.int/information_society/eeurope/news_library/pdf_files/initiative_en.pdf
- European Commission (2000c). *eEurope 2002 Action Plan*. http://europa.eu.int/information_society/eeurope/action_plan/pdf/actionplan_en.pdf
- European Commission (2001a). *Presidency Conclusions - Stockholm European Council 2001*. http://www.eu2001.se/static/pdf/conclusions/conclusions_eng.PDF

- European Commission (2001b). *White Paper on Governance in the EU*. http://europa.eu.int/eur-lex/en/com/cnc/2001/com2001_0428en01.pdf
- European Commission (2001c). *eEurope+ 2003*. http://europa.eu.int/information_society/topics/international/regulatory/eeuropeplus/doc/eEurope_june2001.pdf
- European Commission (2001d). *Helping SMEs to GoDigital Action Plan 2001* [COM (2001) 136]. http://europa.eu.int/eur-lex/en/com/cnc/2001/com2001_0136en01.pdf
- European Commission (2002a). *GoDigital Progress Report 2001-2002* [SEC(2002) 566]. http://europa.eu.int/information_society/topics/ebusiness/godigital/Docs/SEC_2002_566_EN.pdf
- European Commission (2002b). *eEurope 2005 An Information Society for All* [COM(2002) 263 final]. http://europa.eu.int/information_society/eeurope/news_library/documents/eeurope2005/eeurope2005_en.pdf
- European Commission (2002c). *Flash Eurobarometer 112: Internet and the Public at Large*. Brussels: DG Press & Communication. http://europa.eu.int/comm/public_opinion/flash/fl112_en.pdf
- Greek General Secretariat of Industry (2000). *Go-Online*. <http://www.go-online.gr>
- Greek General Secretariat of Industry (2001a). *eBusiness Forum*. <http://www.ebusinessforum.gr>
- Greek General Secretariat of Industry (2001b). *eBusiness Forum Survey on the Use of Computers, Internet and Mobile Telecommunications in Greece* (in Greek).
- Greek Government (1999). *Greek Information Society*. <http://www.infosociety.gr/>