The role of social culture in Internet adoption. Lessons from the statement: 'I don't want to use the Internet' and the frequency of Internet use in Greece

#### Abstract

This article examines the role of social culture in Internet adoption in Greece. It employs Hofstede's five-dimensional framework of national culture and analyses the European Social Survey 2008. It finds that social culture in general and particularly people's past or future orientation in life, and to a lesser extent their degree of openness to difference and novelty in life, are significant drivers of Internet adoption in Greece. It argues that the persistently low level of Internet adoption seen in Greece can be explained by pointing to a traditional, uncertainty-avoidant and novelty-resistant culture that discourages technological development and innovation. Hence it concludes that, behind the statement: 'I don't want to use the Internet' and aspects of Internet use such as frequency of use, one should look beyond demographics, practical or real-life factors and examine, probably in parallel to those factors, broader and socio-culturally embedded drivers of Internet adoption.

*Keywords*: Internet adoption, social culture, values, Greece, Hofstede, European Social Survey

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#### Background

This article examines the role of social culture in Internet adoption in Greece. Greece is a distinctive and interesting case for study from both Internet adoption and social culture perspectives and this article specifically aims to explore the role of social culture in the non-users' statement: 'I don't want to use the Internet' as well as with regard to patterns of Internet use such as frequency of use. The questions the article explores can be summarised as follows: *Does social culture influence Internet adoption in Greece? If so, in which ways does it do so in relation to the statement: 'I don't want to use the Internet' and to frequency of Internet use?* 

Today it is broadly acknowledged that not all countries have the same speed and level of development with regard to the information society: 'while the "information and communication revolution" is a global phenomenon, its paths and outcomes are extraordinarily diverse, often determined by regional, national and local singularities' (Arino and Llorens, 2008: 127). However, a similar consensus cannot be found on what drives the disparate development of the information society, especially in relation to the phenomena of digital divides and inclusion inequalities. The variety of views held in this regard is reflected in the long list of factors affecting the divides outlined by European researchers who have attempted to chart the drivers of technological development and Information and Communication Technology (ICT) adoption in Europe (Thomas et al., 2005: 13).

While cross-national research in the field (e.g. Dewan et al., 2004) has presented technology access, socio-economics and cost factors in particular as common drivers of digital divides and most significantly of Internet adoption, the literature has developed some alternative approaches to Internet and ICT adoption that go beyond the

examination of such conventional access and cost issues (Bakardjieva, 2005; Haddon, 2000; Katz and Rice, 2002; Klamer et al., 2000; Selwyn, 2004; Silverstone, 2003, 2005; Tsatsou, 2011a, 2011b; Verdegem and Verhoest, 2009; Wyatt et al., 2002; and others). What appear to have drawn some researchers' interest in explaining the disparate rates of adoption of the Internet and other ICTs at the regional, national and cross-national levels are culture-related and particularly socio-cultural factors (Baron and Segerstad, 2010; Erumban and Jong, 2006; Kvasny, 2006; Robinson, 2009; Smoreda and Thomas, 2001; Thomas and Mante-Meijer, 2001; and others). For instance, Stanley (2003) argued for the importance of non-cost-related psychosocial obstacles such as relevance, fear and self-concept. More recently, Reisdorf (2011) found that socio-demographics can partly explain Internet adoption in the UK and in Sweden, but non-users in these two countries share sceptical attitudes to the Internet, which influences non-users' interest to start using it.

Researchers looking at the role of social culture in ICT adoption have attempted to provide a working definition of this in order to explain Internet adoption in particular in different national contexts as well as at an international level: 'some kind of commonly shared symbols, values, beliefs, and attitudes, and their translation into everyday social perceptions, behaviour and material artefacts' (Thomas et al., 2005: 15). This definition includes as elements of social culture people's habits and customs, their range of meanings, values and representations of the world, as well as the material culture or material organisation of their life routines. This is a useful working definition that demonstrates the broadness of the notion of social culture and can also be operationalised in research in different ways and by employing different elements of social culture in order to understand and explain Internet adoption and patterns of

adoption at the national and cross-national levels of study.

In an earlier study by Lenhart and Horrigan (2003), social culture is defined and approached in the context of the USA in a very similar way to that suggested by Thomas et al. (2005) for Europe. Specifically, Lenhart and Horrigan found that those with an active and immediate social network are less likely to go online (ibid: 33), whereas those with a positive and outward orientation toward the world are more likely to use the Internet. For example, those who express some sort of 'social contentment', namely those who think that people can generally be trusted and are fair, and who also have many people to turn to for support, are more likely to be online than those who do not express contentment (ibid). By looking at such explanatory factors, this example of research has identified a noteworthy percentage of non-users in the USA who do not want to use the Internet and to whom policymaking should give attention and respond as appropriate (ibid: 34).

Nevertheless, due to social culture's complex and multi-dimensional nature, many have expressed scepticism with regard to its classification by national criteria and to related claims about national and/or sub-national cultural traits and differences, wondering at the uniformity of claims concerning national culture (for a discussion of this, see Thomas et al., 2005). Hofstede is one scholar who offered an influential and analytically useful account of culture and national culture in particular. He originally devised four, and later five, dimensions of culture and categorised national cultures on the basis of these dimensions (1984, 2001). More specifically, he defined culture as consisting of the dimensions of Power Distance, Uncertainty Avoidance, Individualism, Masculinity and Long-Term Orientation. The Power Distance Index captures power inequality, but is defined from below, suggesting that a society's level of power

inequality is endorsed by followers as much as by leaders. The Uncertainty Avoidance Index refers to a society's tolerance of uncertainty and ambiguity, indicating the extent to which a culture enables its members to feel either positive or negative about novel, unknown, surprising and unusual situations. Uncertainty-avoidant cultures aim to minimise such situations by means of laws and security measures and with a heavy reliance on religion and the axiom of one absolute truth. Individualism is the opposite of collectivism and measures the degree to which individuals are integrated into groups in a culture. Masculinity and its opposite, femininity, refer to the distribution of roles between the two genders. For instance, both women and men in feminine countries have the same modest, caring values, whereas in masculine countries they are somewhat assertive and competitive, but less so than men, showing a gap between men's and women's values.<sup>i</sup> Finally, Long-Term Orientation is the opposite of Short-Term Orientation and indicates that people value actions and attitudes that affect the future. such as persistence, thrift and shame, whereas in short-term-oriented societies people value actions and attitudes that are affected by the past or the present, such as tradition, fulfilling social obligations, and saving one's 'face' (Hofstede, 2001).

Hofstede's framework has provoked a series of discussions and debates about the cultural profiles of countries around the world and whether culture can or should be quantified and measured. Also, it is a framework that has been used and applied in many fields of scientific research to examine individual and collective trends in the workplace and elsewhere and related cultural drivers (for a review of empirical studies that utilise Hofstede's framework, see Kirkman et al., 2006). It is a framework that has gained appraisal and criticism, a characteristic example of the former being in the field of Information Systems and a typical example of the latter in the field of Anthropology.

Both criticisms and appraisals have been provoked by the ground-breaking character of Hofstede's framework, its global scope of application, as well as its potential for feeding future systematic approaches to national cultures on a global scale. For these reasons, as well as because it interestingly sketches key cultural trends in Greece (see below), this article uses Hofstede's framework to: first, intellectually consider the way it is compatible with and informs existing (mainly historical) approaches to social culture in Greece; second, provide the theoretical ground for an empirical examination that moves beyond domestication, family or individual oriented interpretations of the role of culture in the adoption of new technologies and the Internet in particular. While such interpretations are common in research works that aim to explain Internet adoption on qualitative grounds and unpack non-adopters' statement that 'I don't want to use the Internet', they produce relatively poor insights into culture and often an arbitrary translation into domestic or individual hobbies and routines. What this article hopes to achieve through Hofstede's framework is to find and apply analytical dimensions that sufficiently capture and frame key aspects of social culture in the particular context of Greece, going beyond individual lifestyles or family contexts to explain people's decision not to use the Internet or to use it only occasionally.

Having said that, I do not claim that Hofstede's five dimensions of culture or the provision of numerical ratings to measure culture in various parts of the world are unproblematic or that they capture culture in its full complexity. Culture may present unique features in one country that are not present in another, while many of those features can be invisible or non-measurable in research and in quantitative research in particular.<sup>ii</sup> A review of empirical research utilising Hofstede's framework has noted that the measurement of culture remains an issue in this framework (Kirkman et al.,

2006). Nevertheless, this article considers Hofstede's work an interesting framework for initiating a historically informed and rich quantitative-data-based measurement of culture in Greece and its role (among other factors) in Internet adoption. Besides, in an application of Hofstede's dimensions on a cross-country level, Erumban and Jong (2006) find that the national culture and the ICT adoption rate of a country are closely related and that the power distance and uncertainty avoidance dimensions are the two cultural dimensions that most influence ICT adoption, even after controlling for levels of education and income.

Specifically, in Hofstede's analytical framework, Greece appears to have quite high rates of performance in two of the cultural dimensions, the Power Distance Index and the Uncertainty Avoidance Index.<sup>iii</sup> The high rates of the Power Distance Index indicate that in Greece there is a high degree of inequality of power distribution between lay people and leaders, with centralised decision structures and authority discouraging advances in technology, among other developments, since in such cultures decision-makers are less innovative and open to change and consultation, while ordinary people and especially those who work for the country's authorities are less active and likely to take initiatives because they lack autonomy and fear punishment. Also, in Greece the high rates on the Uncertainty Avoidance Index, namely 'the degree to which members of a society feel uncomfortable with uncertainty and ambiguity' (Hofstede, 1984: 83), indicate that Greece is intolerant of opinions and practices different from those that its people are used to and prevents many different viewpoints from flowing side by side. One may assume that this trait entails a 'natural' negative predisposition to new technologies and the smaller or larger changes technologies can bring to people's lives. Finally, although no official ratings are available for the long-

vs. short-term orientation dimension, one may assume that Greece is highly oriented to the short term: in the case-specific discussion in the next section it will be argued that Greek culture has historically been built on 'patriotism' and 'superiority', thus supporting the need to maintain and further strengthen the traditions and values of the past.

In what follows, this article accounts for the role of social culture in Internet adoption in Greece by broadly adopting the definition of culture by Thomas et al (2005) and by operationalising Hofstede's analytical framework, especially the three cultural dimensions where Greece performs strongly. To this end, the next section offers an indepth discussion of the Greek context in both technological and socio-cultural terms in order to justify the interest this country presents and the issues arising in relation to Internet adoption in particular. The primary survey results I obtained with regard to reasons for not using the Internet and to both Internet users' and non-users' attitudes to the Internet in the socio-cultural context of Greece in particular allow this article to argue that social culture and related values, ideas and attitudes might be playing a significant role not only in people's decisions not to use the Internet but also in the breadth of usage (breadth is statistically measured by 'frequency of use', see third section of article). In the third section, Hofstede's framework is operationalised, selecting some variables from the European Social Survey (ESS) data of 2008 in order to create a statistical model that, through logistic regression, tests the role of social culture in Internet non-use and frequency of use in Greece. A discussion of the findings and their limitations is offered in the concluding part of the article.

#### Greek case

In this section, the historically established socio-cultural context of Greece is presented and an updated picture of Internet adoption and people's attitudes to the Internet in the country is offered. This illustrates the interest Greece presents and sets the ground for the argument that social culture plays a meaningful role in determining people's decisions not to use the Internet, as well as in patterns of Internet use, such as frequency of use.

#### Greece: a particular socio-cultural context?

Greece has historically been recorded as a country of the semi-periphery that developed a premature Western-like type of democracy and an economy of the late-late development paradigm, with industrialisation taking place after 1929 (Mouzelis, 1986).

More specifically, following Greek independence from the Ottoman Empire and for most of the 19th century, the Greek state was a traditional, pre-modern state (Kostis, 2005). In this pre-modern context, power was a personal right exercised by particular elites and state apparatuses were marked by minority rules, inefficiency and weak organisational adaptability (ibid). These structural conditions supported limited civic participation and an authoritarian, particularistic state which was under the control of a small number of powerful landowning families ('tzakia').

The evolution to more open modes of political mobilisation and participation was realised through the expansion and renovation of the political patronage networks at the turn of the 20th century (Mouzelis, 1986: xviii). However, the broadening of political participation took place prior to industrialisation and the absence of an industrial proletariat resulted in a transition to mass politics without the presence of autonomous trade unions and working-class parties. As an outcome of this, the personalistic organisational forms of the past oligarchic period continued to prevail,

while the traditional forms of clientelistic politics were extended and centralised. Thus, clientelism remained the key characteristic of Greek politics during the 20th century, with previous clientelistic mechanisms becoming centralised through state expansion and the centralisation of the major political parties (ibid: 39-45). At the same time, Greece established a 'late-late' industrialised economic system, achieving a degree of industrialisation only during the inter- and post-war years of the 20th century (ibid: xiii-xiv).

In the post-war era – and as an outcome of late-late industrialisation and the premature and distorted establishment of parliamentary mechanisms – Greek civil society was undermined by the 'pervasive colonisation of most institutional spheres by the state and party system...an extreme form of "partitocracy" (Mouzelis and Pagoulatos, 2002: 6). Even in the current post-authoritarian times (after 1974) when 'partitocracy' seems to have retreated and civil and political rights have been strengthened, processes and developments related to civil society play a relatively minor role, with external factors associated with the process of Europeanisation constituting the main drivers of any recent positive changes (ibid: 14).

In more detail, state-civil society relations in Greece continue to differ from the Western European model. In Greece bureaucracy and civil society are overridden by 'pervasive party factionalism', whereas most Western civil societies are generally able to limit state power or to grow along with it (Sotiropoulos, 1995: 1). In postauthoritarian Greece, state apparatuses monitor and continue to build complex webs of influence on the bureaucratic structures and civic actions and movements in the country: 'internal organization and control of the bureaucracy and the movements from "above", i.e. from the party-dominated political authority' (ibid: 5). Thus, what still prevails

today in Greece is a long-surviving 'state corporatism' that may be summarised as follows: 'embedded culture of clientelism pervades the state's relationship with wider society, exchanging favours and interest and undermining liberal values of the separation of institutional roles and values...This is paralleled by a culture of corruption...' (Featherstone and Papadimitriou, 2008: 201).

As a result, and to use Hofstede's terminology, power distance and inequalities have been well preserved in the country over the last two centuries, with the activism of civil society being politically controlled since the early years of the 20th century (Featherstone, 2008: 4) and even during the post-authoritarian period. Although in the last few years an 'informal' civic society of mobile, active, but loose groups and networks has grown and developed some politically independent dynamics both locally and nationwide, the tradition of state authoritarianism and strong political parties still prevails in 'formal' civic society and is materialised in labour movements which remain weak and relentlessly dependent on politics (Sotiropoulos, 2004). This dominance of incorporative politics and the maintenance of 'power distance' have been tremendous impediments to the development of an active and autonomous civil society and have led to a shortfall in social capital and trust (Mouzelis and Pagoulatos, 2002; Sotiropoulos and Karamagioli, 2006).

Hence, the country lacks a culture of universalism and social citizenship, with citizens being short on public engagement and deliberation and dependent on state stability, security and provision. This, along with the prominence of values in support of the family and kinship and the inadequate civic participation in policy-making, have led to a societal resistance to change and development (Venieris, 2003, 1996; Petmesidou, 1996). In Hofstede's terms, civil society is uncertainty avoidant and thus has difficulty

in integrating new ways of living and behaving (Voulgaris and Sotiropoulos, 2002). What has been gradually established in Greek society, instead, is an identity of reaction and negativism to technology and other developments, with people in Greece being resistant to the acceptance and integration of new technologies into their everyday lives.

At the same time, due to the existence of a national identity before strong and forward-looking economic, political and cultural institutions were established in the country, patriotism and romanticism have marked Greece and strongly encouraged, in Hofstede's terms, the establishment of a short-term and past-oriented culture. Discourses for the construction of a Greek state in the pre-modern times of the 19<sup>th</sup> century were based on nationalistic ideologies that brought together the concepts of 'nation' (ethnos) and 'people' (laos) and on 'populist imaginings'. A romantic idea of the eternal and inalienable existence and strength of Greek culture (Lekas, 2005: 58) and an ambivalent national identity of 'Greekness' were thus constructed. This identity construct embraces national superiority, distrust of national institutions (Mouzelis, 1995), as well as a past orientation of values and practices. Recent research shows, for instance, that 15-year-olds people in Greece take a ethnocentric approach and adopt nationalist beliefs, considering 'nation' as natural and eternal, thinking of religion as more important than politics, and looking overall for the imaginary security offered by the family, religion and the nation (Dragonas et al., 2005). This short-term and pastoriented culture has driven people in Greece to the usage only of those technologies, such as mobile telephony, that enable sociability and enhance social prestige without risking well-established customs and patterns of life. On the other hand, Internet technologies, for example, which require 'labour', training and skills and which can transform people's education, work and broader life patterns, have been less popular in

Greece. Indicative of this is that in 2009 mobile telephony penetration reached 160%-170%, compared to 122.4% in the EU-27 (ICP-ANACOM, 2010: 4), whereas Internet penetration has been particularly low in comparison to other countries in Europe, as discussed in detail below.

Overall, power distance, uncertainty avoidance and a short-term orientation appear to be interlinked and prominent elements of the social culture in Greece, generally influencing technological development and penetration in a negative way.

### Internet adoption in Greece: a long-standing divergence from Europe?

Moving into the technological domain, one can remark that, although Greece is a long-standing EU member state (joined the European Community in 1981) and until 2008 had one of the highest national development rates across the EU, the available statistics on Internet adoption in Europe from the early 2000s have shown that Greece has consistently had one of the lowest Internet and new technology penetration rates in Europe, often lower than the rates in countries that recently joined the EU and/or countries faced in the last decade with greater socio-economic challenges (e.g. Hungary, Latvia, Czech Republic, Cyprus) (European Commission, 2007, 2008). According to 2010 Eurobarometer data (European Commission, 2010: 76), the picture has not changed, as just 39% of Greek households have access to the Internet (the EU27 average is 57%) and 24 of the 27 EU member states present significantly higher Internet access rates than Greece - even new members and small countries such as Slovakia, Cyprus, the Czech Republic and Latvia. On the other hand, Bulgaria (35%) and Romania (31%) are the only EU member states with lower Internet access rates than Greece.

A sound argument for the distinctiveness and interest of the Greek case has been

put forward by recent national data that show a continuous but slow increase in the penetration of computer, Internet and broadband technologies in Greek households, limiting the ability of Greece to compete with the majority of countries in the European region. The data below (Table 1) from the Hellenic Statistical Authority (EL.STAT) (2009: 1) show the course of computer and Internet use in the country in the years 2005-2009 and illustrate the persistently slow progress of computer and Internet penetration.

.....Table 1 about here.....

Further, national data concerning broadband penetration confirm the country's continuous but slow technological progress in the 2002-2009 period, with broadband penetration amounting to 16% in the last quarter of 2009.

.....Figure 1 about here.....

With regard to the i2010 policy targets set by the European Commission (EC) for the even and rapid development of the information society in all EU member states, the Observatory for the Greek Information Society confirmed in 2008 the above picture of a slow yet continuous increase of ICT penetration and Internet adoption. Drawing upon the main i2010 indicators, it finds that, while television (99%), cable phones (99%) and mobile phones (86%) have an almost universal presence in Greek households, computer and Internet penetration is rising continuously but slowly, with only a minority of Greek households having these technologies available (The Observatory for the Greek Information Society, 2008: 28). In relation to how the i2010 targets are implemented in the EU region, the Observatory for the Greek Information Society illustrates (Table 2) that Greece lags behind in all the major i2010 targets concerning Internet access, place, frequency and platform for Internet use, online activities and purposes of Internet use, as well as broadband Internet.

......Table 2 about here.....

In concluding this overview of Internet adoption in Greece, it can be said that the picture presented here illustrates how Greece is lagging behind and still presents an Internet adoption profile largely formed in the early 2000s, when the Internet was a fairly new element into people's lives.

#### Attitudes to the Internet in Greece: a need to examine social culture?

Having provided an updated picture of Internet adoption in Greece and in relation to the EU-27 context, it is worth drawing on the primary results I obtained in 2007 from a telephone survey of 1,000 users and non-users of the Internet in Greece.

The survey was sponsored by the Hellenic State Scholarships Foundation and administered by telephone in the Greater Area of Athens area (Attica). The goal of the survey was to explore people's attitudes to the Internet, qualitative features of use and essential drivers of non-use, rather than to measure Internet adoption. The selection of the urban region of Attica, where almost half the population of the country resides and Internet penetration appears higher than in rural areas, allowed the study to obtain a sufficient number of completed questionnaires from users and to conduct a quantitatively sustainable data comparison of users and non-users.<sup>iv</sup> The survey relied on a two-stage probability sample. In the first phase systematic sampling<sup>v</sup> applied and the following criteria indicated eligibility of the sample: males & females, aged 15-85 years, and permanent residents of Attica. In the second phase sampling took place within households where eligible individual respondents had to be identified. To implement sampling within households, two criteria were used: first, household member over 15 years (this is a convention in most surveys where the general population is the target population); second, the household member with the most recent birthday (this is

a probability technique where the 'last/next birthday' criterion is assigned randomly). Weighting procedures were followed in order to make the sample representative of the general population and to remove demographic biases such as over-coverage of females (61% of the respondents were female), participation of a large number of people aged 25-39 (i.e. 34% of the total number of respondents) and the fact that very few people aged 65+ responded. Further, a larger sample of people with children and a more even distribution across all education levels was desirable (47% of the respondents in households without children). The weighting attributed to the sample the characteristics of a nationwide sample and thus conclusions for the national level were reached in the survey.

The survey questionnaire addressed both general patterns of Internet use and non-use and reasons for non-use. The questionnaire items and the collected primary data reported here aim to shed light not only on why most people in Greece do not adopt the Internet and how users employ it, but also on how both Internet users and non-users evaluate and experience the Internet in relation to the broader socio-cultural environment in which they live. In terms of survey administration, centralised location of telephone surveying and Computer-Assisted Telephone Interviewing software (CATI) were employed in order to speed up the data collection process and improve the quality of the questionnaire's administration. Tasks involved in the survey administration included the finalisation of the required budget, implementation of sampling procedures, installation and running of CATI software (IT by DESAN), the training of a second skilled interviewer, the organisation of a small call centre and the time scheduling of the interviews. Data collection involved 6874 phone calls and resulted in a 67.4% response rate, with more than 30% of the phone calls refused, something less than 20% of the calls not answered and another

20% reaching non-existent/wrong numbers or ineligible respondents. Of the total 1,000 respondents, 54.5% were Internet users and 44.5% were non-users.

**Non-use, dismissive culture and future prospects.** First, the survey found that the majority of those in Greece who do not use the Internet do so on the basis of a relatively conscious decision, essentially stating: 'I don't want to use the Internet'.

......Table 3 about here.....

As shown in Table 3, it was found that most non-users do not need (63.4%) and are not interested (43.2%) in the Internet, whereas conventional drivers of digital divides do not play an important role in Internet non-use. For instance, only 12.5% of non-users lack access to the Internet, 6.9% lack the time, 5.7% do not have the skills required to use the Internet and just 3.6% do not use the Internet because of the high cost of Internet services. However, what lies behind such a lack of interest and need, and how non-users evaluate the Internet are issues discussed later in this section.

In addition, within the group of non-users one can identify those who have used the Internet in the past but dropped out for some reason(s). This category of non-users is interesting and sheds light on the underlying factors that drive people in Greece away from the Internet. The survey found that those who had dropped out (9.2% of non-users) did so due to a lack of need (38.0%), interest (15.5%) or time (14.7%), as well as due to a loss of Internet access for financial or other reasons (22.7%). On the other hand, security concerns (2.1%), cost (5.8%) and difficulty of use (8.7%) do not seem to influence such dropping out to any great degree. These figures confirm that a lack of interest in and need for the Internet are the two dominant forces in non-use.

Moving beyond the current state of non-use and looking at the future prospects for Internet use, the survey found that 81.9% of current non-users are not planning to

use the Internet in the future, while the great majority of non-users (76.4%) consider it unlikely they will start using it. Hence, it appears that the lion's share of non-users are not likely to become users in the future, thus pointing to matters of greater significance for future Internet adoption in Greece. This finding also reinforces the argument that rejection of the Internet is the main force underpinning low Internet adoption in the country.

**Frequency of Internet use and its implications.** Besides questions of Internet use/non-use and reasons for non-use, the notion of Internet adoption also involves parameters concerning the quality and breadth of Internet use. While research tracks patterns, quality and breadth of Internet usage by looking at indicators such as place of use, type of Internet connection, time length of Internet use, online activities and frequency of use, I attempt here to capture the scope of Internet use by examining the frequency indicator only.<sup>vi</sup>

The survey found that Internet users in Greece are frequent users, with the majority (66.9%) using the Internet once or several times a day, 28.0% once, twice or several days a week and only 4.3% less often. While high frequency of use often implies a high level of integration of the Internet into users' lives, other measures of breadth of usage and integration of the Internet may provide a different picture of the Internet's positioning in people's lives. Thus, an examination of Internet users' and non-users' attitudes to the Internet and evaluation of this within their everyday lives and the broader socio-cultural environment in which they reside will provide a more accurate picture of the positioning of the Internet in the Greek context.

**Evaluation of the Internet: integration into socio-cultural and everyday life settings?** As indicated by the means and the chi-square tests reported in the table below

(Table 4), the majority of users (66.1%) think the Internet has a significant role that is positively changing their lives, with Internet users being significantly more likely to think this than non-users (80.1% of Internet users vs. 54.9% of non-users). A smaller number, about half of the respondents (50.3%), think the Internet is necessary in everyday life, with users being far more likely to think this (64.6% of Internet users vs. 38.8% of non-users). <sup>vii</sup>

Despite the overall positive considerations of Greek people about the Internet's role in everyday life, the majority (70.3%) think the Internet is a danger to the security of users in terms of online fraud and violation of privacy. Mainly non-users, but also a significant number of users, think that the Internet creates security and privacy risks in users' lives (65.7% of Internet users vs. 74.1% of non-users). Along these lines, half of Greeks (51.5%) think that the Internet is a danger to social life, with a relative majority of Internet users (41.4%) and 59.5% of non-users believing this. Likewise, Greek people are split between those who think that the Internet is a technology that might replace the individual worker in the workplace (37.9%) and those who think otherwise (34.1%), with 37.9% of users and non-users agreeing that Internet technologies might replace the worker in the workplace. Finally, half of Greeks (52%) think the Internet is a technology that might jeopardise moral values and traditions, with more non-users (61.1%) than users (41.6%) believing this.

......Table 4 about here.....

In addition, the survey addressed separate questions to users and non-users concerning these two groups' particular perceptions of the Internet. The survey found that the majority of non-users (55%) consider they do not miss out on things because they do not use the Internet, whereas only 21.6% stated the opposite. This reconfirmed

that the majority of non-users consciously decide not to use the Internet, without being particularly concerned about consequent disadvantages. From a user perspective, the survey found that, although most users (55.5%) believe that deprivation of use would have some or a lot of influence on their lives, a significant number (43.4%) think that a lack of access to or use of the Internet would not influence their lives significantly.

Hence, it appears that, although significant numbers of both users and non-users see a generally positive role for the Internet in everyday life and users are less likely to mention concerns about security, privacy, sociability and moral risks brought about by the Internet, a significant number of them have not integrated the Internet into their lives to such an extent that being deprived of it would change them significantly.

However, these findings may be further investigated through an examination of whether specific characteristics of social culture, especially characteristics that draw from Hofstede's dimensions of national culture and relate closely to the socio-cultural context of Greece, influence Internet adoption and specifically the aspects of Internet use and frequency of use.

#### Testing the role of social culture in Internet adoption in Greece

In this section, I attempt to move deeper and unpack the relationship between Internet adoption and social culture by empirically testing the role of social culture in Internet adoption in Greece. To this end, I employ the ESS Round 4 – 2008/2009, Edition 3.0 dataset released on 24 March 2010, which contains the final set of data for 31 European countries. This round of the ESS survey was funded via the EC's 6th Framework Programme, the European Science Foundation (ESF) and national funding bodies in each country. Its aim was to measure and interpret changing public attitudes and values within Europe, to suggest improved methods of cross-national survey

measurement in Europe and beyond, and to develop a series of European social indicators, including attitudinal indicators. It involved face-to-face interviews, strict random probability sampling to draw a representative sample of the national population in each participating country, a minimum target response rate of 70% and rigorous translation protocols. For Greece it reports on a stratified clustered three stage probability sample (N=2072) that covers all major regions of Greece and consists of persons aged 15 and over who are residents within private households, regardless of their nationality, citizenship, language or legal status. Data collection in Greece was carried out in the third quarter of 2009, the response rate achieved was 74.27% and appropriate weighting was applied.<sup>viii</sup>

For the purposes of this article, I draw from specific ESS socio-cultural indicators of relevance to the Greek context which allow the research to statistically test the role of social culture in line with how culture is defined, in general and in the context of ICTs, by Thomas et al. (2005) and how national culture has been charted by Hofstede (2001) in particular. More specifically, I employ six ESS variables to frame social culture in Greece:<sup>ix</sup>

- *Most people can be trusted or you cannot be too careful.* A 10-point scale variable, with lower values indicating less trust in people;
- *Country's cultural life is undermined or enriched by immigrants*. A 10-point scale variable, with lower values indicating a stronger view that immigrants undermine the country's cultural life;
- *Important to try new and different things in life*. A 6-point scale variable, with lower values indicating a stronger agreement with the statement;

- *Important to think new ideas and be creative*. A 6-point scale variable, with lower values indicating a stronger agreement with the statement;
- *Important to follow traditions and customs*. A 6-point scale, with lower values indicating a stronger agreement with the statement;
- *Important to live in secure and safe surroundings*. A 6-point scale, with lower values indicating a stronger agreement with the statement.

#### Socio-cultural profile of Greece

By employing the above six variables one can draw a socio-cultural profile of Greece in comparison to the broader European context (Table 5).

.....Table 5 about here.....

The above aggregate figures show that Greece is socio-culturally different from the European region and the average profile of the European countries participating in the ESS study. More specifically:

- A large majority of Greeks (75.9%) have little or no trust in other people and have higher levels of mistrust than other Europeans (62%). In terms of openness to foreigners in the country, people in Greece seem to be particularly negative to the entry of immigrants, as 80.8% of Greeks think that immigrants undermine the country's cultural life. On the other hand, about half the population of Europe (52.5%) believe that immigrants might undermine the cultural life of the host country. Here Greece appears, in Hofstede's terms, as a particularly uncertainty avoidant culture that resists novel or foreign elements of life.
- In seeming contrast to these findings, the majority of people in Greece support the importance of new ideas and creativity (86.9%), as well as of trying new and

different things in life (75.1%). However, these figures paint a relatively misleading picture of Greek culture, since the great majority of people in Greece (87.3%), and more than in the rest of Europe (76.7%), think it is important to follow traditions and customs. To follow traditions and customs is to be tightly associated with the past and past practices and values. This can be seen as confirmation of the prominence of the national identity of 'Greekness', which has shaped, according to Hofstede's terminology, a culture with a short-term orientation, keeping people away from forward-looking perspectives that can challenge long-standing traditions and customs.

• In addition, almost everyone in Greece considers it important to live in secure and safe surroundings (92.7%), with the respective percentage being lower in the European region (84.1%). This figure is in line with Greece's high rates of performance on Hofstede's Power Distance index, with ordinary people in the country being more power-dominated from above, politically dependent and relatively inactive than the average European citizen, and thus in greater need of security and safety and in greater fear of punishment. These figures problematise the ESS results with regard to Greeks' positive attitude to trying new and different things and to being creative.

#### Socio-cultural profile of Greece by Internet use

A first look at these socio-cultural indicators by Internet use can reveal, although at a descriptive level, possible differences between Internet users and non-users, namely between those who, in their majority, willingly and consciously decide to use the Internet and those who, in their majority, do not want to use the Internet and have a low appreciation of it (as shown by the primary survey results reported in the second section

of this article, above). By descriptively examining the relationship between social culture and Internet use in Greece, an inferential and statistically significant analysis of whether social ideas and values account for people's decision to use the Internet and for patterns of Internet use, such us frequency of use, can follow.

.....Table 6 about here.....

The table above (Table 6) gives an interesting and clear picture of social culture by Internet use in Greece. According to this, far more Internet users than non-users have a high level of trust in the people around them and feel positive about the impact of immigrants on the country's cultural life. Further, far more Internet users than nonusers state that creativity and the trying out of new and different things in life are important to them, and more non-users than users believe it is important to follow customs and traditions. On the other hand, almost the same percentage of Internet users and non-users think it is important to live in safe and secure surroundings.

Overall, Internet users appear more open to cultural difference and novelty than non-users, thus being less uncertainty avoidant. On the orher hand, non-users are less open to cultural and other developments in society and keener to maintain wellestablished traditions and customs, thus exposing a more strongly short-term orientation in life. Finally, no significant differences appear between Internet users and non-users with regard to activism and power-dependency, as this is expressed through users' and non-users' need for security and safety.

#### The role of social culture in Internet adoption in Greece

These findings on social values and ideas in the context of Internet use can lead one to hypothesise an association between social culture and Internet adoption in Greece. However, no conclusions on a causal relationship are possible unless some

inferential statistical analysis is conducted. In what follows, I explore the role of the ESS socio-cultural indicators in Internet adoption in Greece and report logistic regression<sup>x</sup> modelling results. I present two models that operationalise Internet adoption as two dichotomous variables: one for use vs. non-use/no access to the Internet, and another for frequent vs. infrequent Internet use. The former allows the role of social culture to be tested, particularly in statements such as 'I don't want to use the Internet', while the latter can lead to conclusions about the role of social culture in qualitative aspects of Internet adoption, such as frequency of use.

The predictors entered in the analysis were recoded into dichotomous variables when of a categorical nature and remained in their original form if of a continuous measurement. In both models, I applied a backward logistic regression, originally including not only the six socio-cultural variables but also demographics (age, education, gender) and indicators referring to other media use (TV watching, newspaper reading), so that conventional factors in Internet adoption would also be taken into consideration. Income was not included because the question of income is considered quite sensitive and often many respondents either decline to reveal it or identify themselves with an incorrect income category. For instance, in the primary survey data reported in the second section of the article it appears that more than 60% of the respondents refused to reveal their income. Thus, in order to ensure comparability and cross-reliability of the results reported in the article, income was excluded from the analysis of the ESS data. However, income has long been considered an important socio-demographic factor and is still widely included in surveys of Internet adoption, even though a decreasing number of Internet non-users declare that income or nonaffordability of the Internet is the reason for non-use and an increasing number of

studies contend that Internet adoption should be explicated by looking at factors beyond cost. Having said that, if income had been included in the ESS data analysis here and had turned out to be a factor in non-use or frequency of use, the conclusions reached in the article would have had to be seen in a different light, also with regard to the extent to which social culture can be thought of as a driving factor in Internet adoption.

The models were then cleared of all non-significant predictors and the strongest explanatory models were selected and are presented below.

#### .....Table 7 about here.....

The models above (Table 7) illustrate the particularly significant explanatory strength of socio-cultural parameters with regard to Internet adoption in Greece. More specifically, Model 1 measures the value of socio-cultural predictors of Internet use, is statistically significant ( $X^2 = 879.414$ , p<.001) and explains 35.3% to 48% of the variance in Internet use, while correctly classifying 78.6% of cases. The value of 4.821 for the Hosmer-Lemeshow Test, with a significance level of .776, also confirms the strong explanatory value of this model. The Wald test for individual predictors confirms that most of the variables initially placed in the model are statistically significant. In demographic terms, females, older respondents and those who live in a household with children are less likely to have access to or to use the Internet, whereas those with a higher education are more likely to be Internet users or to have access to the Internet. In terms of socio-cultural factors, those who are more open to immigration and tolerant of foreigners and who have greater trust in people, as well as those who are more positive about trying out new things and about new ideas and creativity in life, are more likely to be Internet users, whereas those who consider it important to follow traditions and customs are less likely to be Internet users. These results are confirmed by the odds

ratios (Exp(B)) for each predictor, with the most impressive ratio being that of highly educated people, who are almost 7 times more likely to be Internet users than those with a lower level of education. On the other hand, time spent on using other media and the socio-cultural indicator of people's need to live in secure and safe surroundings do not hold sufficient explanatory power for Internet use, thus confirming the above findings with regard to the socio-cultural difference between Internet users and non-users in all relevant indicators except for that measuring power-distance, as this was expressed by people's need for security and safety.

Model 2 demonstrates that socio-cultural parameters not only influence the likelihood of Internet use, but also the frequency of use, although to a comparatively lesser degree. Model 2 is statistically significant ( $X^2 = 17.610$ , p<.001), but only explains between 2.2% and 3.8% of the variance in frequency of use, while correctly classifying 83.9% of cases. The value of 1.249 for the Hosmer-Lemeshow Test, with a significance level of .940, confirms the relative explanatory value of the model. Further, the Wald test for individual predictors confirms that some demographics are important predictors of frequency of Internet use, with those living in a household with children being less likely to be frequent users of the Internet and users with a higher level of education being more likely to be frequent users. Regarding socio-cultural factors, users who believe it is important to try out new and different things in life and those who do not consider it important to follow traditions and customs are more likely to be frequent Internet users. These results are confirmed by the odds ratios (Exp(B)) for each predictor, with users, for instance, who think it is not important to follow traditions being almost twice as likely to be frequent Internet users as those who think it is important to follow traditions and customs in life. Thus, the time orientation of people

in Greece seems to be an important factor not only in people's decisions to use the Internet or not, but also in users' frequency of use. On the other hand, time spent on other media use, the demographics of age and gender and the majority of socio-cultural parameters included in the analysis (i.e. the need to live in safe and secure surroundings, trust in people, importance of new ideas and creativity, perceptions of immigration) do not significantly explain the frequency of Internet use in Greece.

#### Discussion

This article explored the questions: *Does social culture influence Internet adoption in Greece? If so, in which ways does it do so in relation to the statement: 'I don't want to use the Internet' and to frequency of Internet use?* I found that social culture in general, particularly people's past or future orientation in life (Hofstede's Long- vs. Short-term Orientation) and to a lesser extent their degree of openness to difference and novelty in life (i.e. Hofstede's Uncertainty Avoidance), seem to be significant drivers of Internet adoption in Greece. However, ordinary Greek people's sense of power, independence and their level of activism (Hofstede's Power Distance), as represented by their level of need for security and safety, is not associated either with their decision to use the Internet or with qualitative aspects of Internet adoption such as frequency of use. Hence, one can explain the persistently low level of Internet adoption seen in Greece by pointing to the traditional, uncertainty avoidant and novelty resistant culture of Greece - a culture that discourages technological development and innovation and particularly Internet adoption.

After setting out the grounds in support of the importance of cultural factors for Internet adoption at the national and cross-national levels, I attempted to operationalise the notion of social culture by considering its definition by Thomas et al. (2005) to

explain ICT adoption in different national contexts (i.e. 'values', 'beliefs' and 'attitudes' as core elements), as well as through adopting Hofstede's analytical framework and the way this applies to Greece. I then discussed the relevance of these analytical landmarks to the historical context of Greece and particularly to the prominent identity of 'Greekness' and Greek people's resulting reaction and negativism regarding technological and other developments. This historical account was followed by an updated overview of Internet adoption in Greece that showed the country lagging behind, with a persistently low performance in Internet and broadband technologies, while the reporting of the primary results of a national survey introduced the idea of a possible link between low Internet adoption and social culture in Greece. With the majority of Greeks being non-users and stating 'I don't want to use the Internet', and with users being more positive about the Internet and its role in everyday life but still not sufficiently integrating the Internet into their everyday lives on the grounds of their ideas and values in life, this article paved the way for an empirical examination of the association between social culture and Internet adoption in the country.

By employing the ESS 2008 data and having in mind Hofstede's analytical categories, this article found that, from a social cultural perspective, Greeks appear to have little or no trust in other people and to be negative with regard to the presence of immigrants, confirming their historically established scepticism about novel, unknown and unusual situations, habits and practices in life. Further, it was found that the great majority of people in Greece support traditions and customs, thus confirming the prominence of the national identity of 'Greekness' and patriotism as well as of related traditions and lifestyle. Finally, almost everyone in Greece considers it important to live in secure and safe surroundings, with civil society being relatively inactive, not taking

the initiative and favouring formal political and governmental action to ensure political protection and safety.

Having looked at these elements of social culture in Greece separately for Internet users and non-users, this article concludes, firstly from a descriptive level of analysis, that Internet users appear more confortable with uncertainty, novelty and difference, and less keen than non-users to follow traditions and customs coming from the past. On the other hand, Internet users and non-users do not differ in their need for safety and security, displaying not much difference in their levels of activism and political dependency. These descriptive findings in relation to Internet use were statistically tested in order to allow for conclusions about the role of social culture in Internet adoption in Greece. The logistic regression models created demonstrate the significant role of socio-cultural factors in Internet use, with those who are more tolerant of difference and novelty (e.g. immigration), and thus have more trust in people, as well as those who are more forward-looking and future-oriented (e.g. not keen to follow traditions and customs and positive about trying out new things and about new ideas and creativity in life), being more likely to be Internet users. Nevertheless, one could also argue that Internet use might make people more open to new ideas and tolerant of difference because of the messages from different cultures continuously transmitted through and via the Internet. Without intending to dismiss such an argument, this study has found that tolerance to difference and forward-looking and future-oriented thinking can itself influence people and make them decide to use the Internet. On the other hand, social culture appears to be a more modest predictor of the frequency of Internet use, with users who think it is important to try new and different things in life and those who do not consider it important to follow traditions and

customs being more likely to be frequent Internet users. In addition, demographics appear still to matter for both Internet use and frequency of use. Education and the presence of children in a household are the most influential demographic predictors, showing that barriers to education can seriously undermine Internet adoption while the over-protective family environment in Greece and the busy lifestyles of those who are child carers can actually impede Internet adoption. Education and family structure can be considered parameters that are related to and also influence social culture. However, this goes beyond the scope of discussion in this article.

While official measures and historical approaches illustrate how power distance, uncertainty avoidance and a short-term orientation are prominent elements of social culture in Greece, both the descriptive and the modelling analyses presented in this article show that power distance does not influence Internet adoption and that a shortterm orientation of society is the strongest socio-cultural predictor of Internet adoption. These findings support the contention that behind people's decision to adopt the Internet lie socio-cultural parameters of broader importance, parameters such as values, ideas and attitudes to life which have a certain effect on people's attitudes to technologies such as the Internet and the way in which people integrate those technologies into their lives. Hence, behind the statement: 'I don't want to use the Internet' and aspects of Internet use such as frequency of use, one should look beyond demographics, practical or real-life factors and examine, probably in parallel to those factors, broader and socioculturally embedded drivers of Internet adoption.

This is not to say that social culture is the only factor to be considered, or that its role in Internet adoption should be looked at in isolation from other factors and parameters that are more or less conventionally examined to explain Internet adoption.

Besides, the results reported in this article have shown that culture explains non-use and frequency of use only to a certain degree. Social culture, and some of its aspects in particular, seem to confirm the role of some of the historical legacies and cultural traits which have shaped modern Greece, but not all of these, since the power distance factor, which historically appears very significant in shaping Greek culture, does not predict Internet adoption. Further, these conclusions could be completely different if we were exploring a different country or socio-cultural environment. Different aspects of social culture might weigh differently in different contexts or countries, whereas the broadness of the notion of culture and the variety of ways in which it has been approached and analysed by research set inescapable challenges for researchers in the field. Finally, it should be said that social culture can be considered in research not only to explain Internet non-adoption or low levels of adoption in countries like Greece, but also to enable a better understanding of people's decision to use the Internet in countries with high rates of Internet adoption. For instance, the Pew Internet survey of 2002<sup>xi</sup> showed that the level of social content and trust, inward or outward orientation towards the world and other socio-cultural trends differs between Internet users and non-users in the USA, in a way supporting the argument of this article for more research to explore the role of social culture in defining Internet adoption and its main characteristics.

#### Endnotes

<sup>&</sup>lt;sup>i</sup> In a feminine society, solidarity, equality, consensus seeking and concern about social relationships are prominent trends. In masculine cultures, rewards, material values and recognition of performance, as well as improvement of the individual, prevail (Hofstede, 2001).

<sup>11</sup> Uskul et al. (2010) problematise culture and how survey research can study multicultural contexts, developing a critical reading of Hofstede's 'individualismcollectivism'. They argue that in Mediterranean countries like Greece we meet honourbased, not Confucian-based (i.e. harmony- and modesty-based) collectivism. Nevertheless, this article does not adopt such a distinction and rather uses Hofstede's broad definition of 'individualism-collectivism' for two reasons: first, because it remains general enough to capture people's integration into groups and their appreciation of beyond-the-self formations and thus to allow research to 'safely' measure this aspect of culture through quantitative means; second, because the elaboration by Uskul et al. mainly problematises the differing values, foundations and drivers that might be shaping this cultural dimension in different parts of the world, rather than its actual presence and manifestation. Also, Uskul et al. take a methodological approach and consider the importance of this cultural dimension for when we design survey questions and interpret relevant responses (e.g. 'culture-relevant effects').

<sup>iii</sup> Hofstede produced a list of ratings of all five cultural dimensions for various countries across the globe. The ratings for Greece can be found at: <u>http://www.geert-</u>

### hofstede.com/hofstede\_dimensions.php

<sup>iv</sup> The geographical scope, the urban area of Attica, was also a means to minimise response biases stemming from low response rates as telephone interviewing works better in urban than in suburban and rural areas (Fowler, 1993: 60).

v Systematic sampling ensures the same precision as random sampling, but it is less laborious and better organised. More specifically, I used a population list consisting of household units (1,000,000 units), divided the sample size (i.e. 1,000 respondents) by

the number of households, and the fraction produced determined the starting point of the sample selection and the selection of every 1,000th household on the list. <sup>vi</sup> This limitation is due to space and practical constraints. The latter relates to the fact that the ESS data analysed and reported in the last, empirical section of the article only address the 'frequency of use' variable with respect to patterns and breadth of Internet use.

<sup>vii</sup> That is to say that, although people think that the Internet has a positive influence on everyday life, not all of them consider it necessary to their lives.

<sup>viii</sup> More information on the ESS survey documentation, sample and questionnaire can be found at <u>http://ess.nsd.uib.no/ess/round4/</u>

<sup>ix</sup> In addition to concerns about employment of quantitative methodology for measuring culture, which I very briefly pointed out at the beginning of the article, there are other concerns regarding the validity of such quantitative measures. This discussion goes beyond the scope of this article, but it should be said that some validity tests were run in this context by correlating the relevant questionnaire items to some others. On a general level of discussion, validity emerges as an issue when survey questions measure subjective emotional states (Fowler, 1993: 80). Validity can be increased when applying methodological triangulation (Bryman 2000: 134).

<sup>x</sup> Logistic regression modelling is used when the dependent variable is observed and dichotomous (e.g. 'Internet use' and 'Internet non-use'). It involves modelling differences between individuals using multiple explanatory variables of any level of measurement. The coefficients yielded from the estimation of the logistic regression represent the relationship of the level of their associated independent variable with the

likelihood of the 'higher' outcome of the dependent variable. Omnibus chi-square tests are used to assess whether all the explanatory variables are jointly significant. Individual chi-square tests are used to assess the significance of each explanatory variable separately. For more, see Agresti and Finlay, 1997: Chapter 15.

xi Pew Internet & American Life. 2002. The Ever-Shifting Internet Population: A new look at Internet access and the digital divide. For a summary of findings, see <u>http://www.pewinternet.org/Reports/2003/The-EverShifting-Internet-Population-A-</u> new-look-at-Internet-access-and-the-digital-divide/01-Summary-of-Findings.aspx.

#### **Bibliography**

- Agresti, A. and B. Finlay. 1997. 3<sup>rd</sup> Ed. Statistical Methods for the Social Sciences. Upper Saddle River, N.J., London: Prentice Hall.
- Arino, M. and C. Llorens. 2008. Back to the Future: New Media, Same Principles? Convergence Regulation Re-visited. In The European Union and the Culture Industries, ed. D. Ward, pp. 125-144. Aldershot: Ashgate.
- Bakardjieva, Maria. 2005. Internet Society: The Internet in Everyday Life. London: Sage.
- Baron, N.S. and Y.H. Segerstad af. 2010. Cross-cultural patterns in mobile-phone use: public space and reachability in Sweden, the USA and Japan. New Media & Society 12(1): 13-34.

Bryman, Alan. 2000. Quantity and quality in social research. London: Unwin Hyman.

 Dewan, S., D. Ganley and K. Kraemer. 2004. Across the Digital Divide: A Cross-Country Analysis of the Determinants of IT Penetration. Research Report, 22
 November, Personal Computing Industry Center, University of California, Irvine.

- Dragonas, T., E. Busra, and A. Frangoudaki. 2005. Greek and Turkish students' views on history, the nation and democracy. In Citizenship and the Nation-State in Greece and Turkey, eds. F. Birtek and T. Dragonas, pp. 161-189. London: Routledge.
- EL.STAT. 2009. Survey of Use of Information and Communication Technologies in Households: Year 2009. Press Release, 9 December 2009. Athens: Hellenic Statistical Authority (In Greek).
- Erumban, A.A. and S.B. de Jong. 2006. Cross-country differences in ICT adoption: A consequence of Culture?. Journal of World Business 41(4): 302-304.
- European Commission. 2007. E-Communications Household Survey. Special Eurobarometer 274/Wave 66.3. Luxemburg: European Commission.
- European Commission. 2008. E-Communications Household Survey. Special Eurobarometer 293/Wave 68.2. Luxembourg: European Commission.
- European Commission. 2010. E-Communications Household Survey. Special Eurobarometer 335 / Wave 72.5. Luxembourg: European Commission.
- Featherstone, Kevin. 2008. 'Varieties of Capitalism' and the Greek case: explaining the constraints on domestic reform? GreeSE Paper No.11, February 2008. London:
  The Hellenic Observatory, The European Institute, The London School of Economics and Political Science.
- Featherstone, K. and D.A. Papadimitriou. 2008. The Limits of Europeanization: Reform Capacity and Policy Conflict in Greece. London: Palgrave.
- Fowler, Floyd J. 1993. 2<sup>nd</sup> Ed. Survey Research Methods. Newbury Park; London; New Delhi: Sage Publications.

- Haddon, Leslie. 2000. Social exclusion and information and communication
  technologies. Lessons from studies of single parents and the young elderly. New
  Media & Society 2(4): 387-406.
- Hofstede, Geert H. 1984. Culture's consequences: International differences in work related values, abridged version. London: Sage.
- Hofstede, Geert H. 2001. 2<sup>nd</sup> Ed. Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations. Thousand Oaks, CA: Sage Publications.
- ICP-ANACOM. 2010. Mobile Telephone Service 4th Quarter 2009. Lisbon: ICP-ANACOM.
- Katz, J.E. and R.E. Rice. 2002. Social consequences of the Internet: Access, Involvement and Interaction. Cambridge, Mass.: MIT Press.
- Kirkman, B.L., K.B. Lowe and C.B. Gibson. 2006. A Quarter Century of "Culture's Consequences": A Review of Empirical Research Incorporating Hofstede's Cultural Values Framework. Journal of International Business Studies 37(3): 285-320.
- Klamer, L., L. Haddon and R. Ling. 2000. The Qualitative Analysis of ICTs and Mobility, Time Stress and Social Networking. Heidelberg: A Report to EURESCOM P-903.
- Kostis, Kostas P. 2005. The formation of the state in Greece. In Citizenship and the Nation-State in Greece and Turkey, eds. F. Birtek and T. Dragonas, pp. 18-36. London: Routledge.

- Kvasny, Lynette. 2006. The Cultural (Re)production of Digital Inequality. Information, Communication and Society 9(2): 160-181.
- Lavdas, Kostas A. 1997. The Europeanisation of Greece: Interest Politics and the Crises of Integration. London: Macmillan.
- Lekas, Padelis E. 2005. Nation and people: the plasticity of a relationship. In Citizenship and the Nation-State in Greece and Turkey, eds. F. Birtek and T. Dragonas, pp. 49-66. London: Routledge.
- Lenhart, A. and J.B. Horrigan. 2003. Re-visualizing the Digital Divide as a Digital Spectrum. IT&Society 1(5): 23-39.
- Mouzelis, Nicos. 1986. Politics in the Semi-Periphery: Early Parliamentarism and Late Industrialisation in the Balkans and Latin America. London: Macmillan.
- Mouzelis, Nicos. 1995. Modernity, late development and civil society. In Civil Society: Theory, History, Comparison, ed. J. Hall, pp. 224-249. Cambridge, Polity.
- Mouzelis, N. and G. Pagoulatos. 2002. Civil Society and Citizenship in Postwar Greece. Discussion Paper. Athens: Athens University of Economics and Business.
- Pagoulatos George. 2003. Greece's New Political Economy: State, Finance and Growth from Postwar to EMU. Basingstoke, New York: Palgrave Macmillan.
- Petmesidou, Maria. 1996. Social protection in Greece: a brief glimpse of a welfare State. Social Policy and Administration 30(4): 324-347.
- Reisdorf, Bianca C. 2011 Non-adoption of the Internet in Great Britain and Sweden, Information, Communication & Society 14(3): 400-420.
- Robinson, Laura. 2009. A Taste for the Necessary. Information, Communication & Society 12(4): 488-507.

- Selwyn, Neil. 2004. Reconsidering Political and Popular Understandings of the Digital Divide. New Media & Society 6(3): 341-362.
- Silverstone, Roger. 2003. Media and Technology in the Everyday Life of European Societies. EMTEL 2000-2003.
- Silverstone, Roger. ed. 2005. Media, technology and everyday life in Europe: from information to communication. Aldershot: Ashgate.
- Smoreda, Z. and F. Thomas. 2001. Social Networks and Residential ICT Adoption and Use. Paper presented at the EURESCOM Summit, Heidelberg.
- Sotiropoulos, Dimitri A. 1995. The Remains of Authoritarianism: Bureaucracy and Civil Society in Post-authoritarian Greece. Working Paper, Centro de Estudios Avancados en Ciencias Sociales (CEACS), Instituto Juan March de Estudios e Investigaciones, Madrid.
- Sotiropoulos, Dimitri A. 2004. Formal Weakness and Informal Strength: Civil Society in Contemporary Greece. Discussion Paper No.16, February 2004. London: The Hellenic Observatory, The European Institute, The London School of Economics and Political Science.
- Sotiropoulos, D.A. and E. Karamagioli. 2006. Greek Civil Society: The Long Road to Maturity 2005. CIVICUS Civil Society Index Shortened Assessment Tool. Report for the Case of Greece. CIVICUS: World Alliance for Citizen Participation, Athens.
- Stanley, Laura D. 2003. Beyond Access: Psychosocial Barriers to Computer Literacy Special Issue: ICTs and Community Networking. The Information Society 19(5): 407-416.

- The Observatory for the Greek Information Society. 2008. Project: "Study for measuring the indicators of the i2010 initiatives for the year 2008". Research Findings Amongst Individuals-Households. November 2008. Athens: The Observatory for the Greek Information Society.
- Thomas, F. and E. Mante-Meijer. 2001. Internet Haves and Have Nots in Europe. Paper presented at the e-Usages, Paris, 12-14 June.
- Thomas, F., L. Haddon, R. Gilligan, P. Heinzmann, and C. de Gournay. 2005. Cultural Factors Shaping the Experience of ICTs: An Exploratory Review. In International Collaborative Research: Cross-Cultural Differences and Cultures of Research, ed. L. Haddon, pp. 13-49. Brussels: COST.
- Tsatsou, Panayiota. 2011a. Digital Divides revisited: What is new about divides and their research?. Media, Culture & Society 33(2): 317-331.
- Tsatsou, Panayiota. 2011b. Why Internet use? A quantitative examination of the role of everyday life and Internet policy and regulation, Technology in Society 33(1-2):
  73-83.
- Uskul, A.K., D. Oyserman and N. Schwarz. 2010. Cultural Emphasis on Honor,
  Modesty, or Self-Enhancement: Implications for the Survey-Response Process. In
  Survey Methods in Multicultural, Multinational, and Multiregional Contexts, eds.
  J.A Harkness, M. Braun, B. Edwards, T.P. Johnson, L.E. Lyberg, P.P. Mohler, et
  al., pp. 191-201. New Jersey: John Wiley & Sons Inc.
- Venieris, Dimitrios N. 1996. Dimensions of Social Policy in Greece. South European Society and Politics 1(3): 260-269.

- Venieris, Dimitrios N. 2003. Social Policy in Greece: Rhetoric versus Reform. Administration, 37(2): 133-147.
- Verdegem, P and P. Verhoest. 2009. Profiling the non-user: Rethinking policy initiatives stimulating ICT acceptance. Telecommunications Policy 33(10-11): 642-652.
- Voulgaris, Y. and D.A. Sotiropoulos. 2002. Information Society, Sociology and Technology. Athens: Operational Programme for the Information Society (In Greek).
- Wyatt, S., G. Thomas and T. Terranova. 2002. 'They came, they surfed and then went back to the beach': Conceptualizating use and non-use of the internet. In Virtual Society? Technology, cyberbole, reality, ed. S. Woolgar, pp. 23-40. Oxford: Oxford University Press.

### Table 1

Year	Computer	Internet
2005	28.8	22.5
2006	37.6	28.9
2007	40.2	33.4
2008	44.4	38.2
2009	47.3	42.4

Computer and Internet penetration in Greece (2005-2009) (%)

Source: EL.STAT, 2009: 1

Figure 1

Broadband penetration (2002-2009)



## Table 2

i2010 Indicators	Greece	EU-27	Highest
			EU-27 value
% of households with home Internet access	39.4	60	86 (Holland)
% of individuals who used the Internet regularly,	34	56	86 (Norway)
once a week at a minimum, in the last three months			
% of individuals having Internet access, divided	1	9	41 (Slovakia)
into type of access: mobile phone with Internet (c)			
% of individuals with Internet access, divided by	21	49	84 (Iceland)
access point: home (a)*			
% of individuals using the Internet for bank	2	27	72 (Iceland)
transactions*			
% of individuals using the Internet for transactions	19	26	55 (Norway)
with the public sector (e-government)			
% of population (over the age of16) using the	10	28	51 (Finland)
Internet to look for health-related information			
% of individuals who ordered/purchased products	8	25	49 (United
or services for private use via the Internet in the last			Kingdom)
3 months			
% of persons with a home broadband Internet	23	48	74 (Holland/
connection			Denmark)

## i2010 indicators in Greece and the EU-27 in 2008 (%)

*Note*: \* 2007 data for EU-25

Base for Greek data: 5966 individuals/households

Source of EU data: Eurostat 2008/2007

63.4

43.2

## Table 3

No need	
No interest	

Reasons for not using the Internet (%)

No access	12.5
No time	6.9
Too difficult/frustrating	5.7
Too expensive	3.6
Do not know much about computers	2.5
Worried about security	1.0
Worried about everyday life	0.9

Base: Internet non-users

## Table 4:

### Evaluation of the Internet (Mean)

What do you think about the statement? (5-point scale from 1='strongly disagree' to 5='strongly agree')	Total	Users	Non-users
The Internet is a significant technology that positively	3.72	4.07**	3.42**
changes our lives (Q21)			
The Internet is a necessary tool for people's everyday	3.36	3.69**	3.07**
lives (Q22)			
The Internet is a danger for the security of users in terms	3.89	3.68**	4.08**
of online fraud and violation of privacy (Q26)			
The Internet is a danger for our personal relationships	3.37	3.03**	3.68**
with other people and our social life (Q27)			
The Internet is a technology that might replace the	2.99	2.86**	3.12**
individual worker in the workplace (Q28)			
The Internet is a technology that might jeopardise the	3.35	2.96**	3.70**
moral values and traditions of society (Q29)			

*Base*: N= 1,000; filter: Internet use

*Notes*: Q.21: t = 10.502, df= 970; Q.22: t = 8.894, df= 958; Q.26: t = -6.247, df= 947; Q.27: t = -8.820, df= 942; Q.28: t = -3.237, df=896; Q.29: t = -9.773, df= 947. Sig. (2-tailed): \*\*significant at p<0.01

## Table 5:

### Social culture in Greece (%)

		Greece	Europe
	Low level	75.9	62
Social Trust	High level	24.1	38
Cultural life undermined or	Undermined	80.8	52.5
enriched by immigrants	Enriched	19.2	47.5
Important to think new	Like me	86.9	77.8
ideas and be creative*	Not like me	13.1	22.2
Important to try new and	Like me	75.1	65.9
different things in life*	Not like me	24.9	34.1
Important to live in secure	Like me	92.7	84.1
and safe surroundings*	Not like me	7.2	15.9
Important to follow	Like me	87.3	76.7
traditions and customs*	Not like me	12.7	23.3

\* *Question:* 'Now I will briefly describe some people. Please listen to each description and tell me how much each person is or is not like you... She/he thinks it is...'

Notes: Like me= 'very much like me'; 'like me'; 'somewhat like me'

Not like me= 'A little like me'; 'not like me'; 'not like me at all'

Source: ESS 2008, Data available at http://nesstar.ess.nsd.uib.no/webview/

## Table 6

# Social culture in Greece by Internet use (%)

	Internet non-	Internet	Total
	access/non-use	use	
High level of social trust (trust in people)	19.7	30.9	24.1
Country's cultural life enriched by	16.3	23.9	19.2
minigrants			
Important to think ideas and be creative:	82.2	04.4	86.9
'Like me'	82.3	94.4	
Important to try new and different things			75.1
in life: 'Like me'	67.8	86.7	
Important to live in secure and safe	00.0		92.7
surroundings: 'Like me'	92.8	92.6	
Important to follow traditions and	90.4	82.2	87.3
customs: 'Like me'	20.1	02.2	

Source: ESS 2008, Data available at http://nesstar.ess.nsd.uib.no/webview/

### Table 7

Role of social culture in Internet adoption in Greece										
	Model 1				Model 2					
	В	S.E.	Wald	Sig.	Exp(B)	В	S.E.	Wald	Sig.	Exp(B)
Constant	2.760	.240	132.574	.000	15.804	1.232	.178	47.825	.000	3.426
Important to think new ideas and be creative	787	.227	12.009	.001	.455					
Importance of trying new and different things in life	318	.158	4.028	.045	.728	541	.268	4.079	.043	.582
Important to follow traditions and customs	.300	.172	3.046	.081	1.350	.673	.309	4.740	.029	1.960
Trust in people	.390	.135	8.371	.004	1.478					
Immigration and influence on the country's cultural	.287	.144	4.006	.045	1.333					
Education	1.899	.157	145.924	.000	6.682	.396	.221	3.212	.073	1.486
Age	083	.005	306.636	.000	.921					
Gender	570	.119	23.107	.000	.565					
Children in household	.269	.121	4.940	.026	1.309	.434	.204	4.552	.033	1.544
Omnibus/Goodness of fit	879.414** 17.610**			*						
-2 Log likelihood	1809.541ª			667.537ª						
Nagelkerke R Square:	.480		.038							
Cox & Snell R Square	.353 .022									
Hosmer and Lemeshow	4.821, Sig776 1.249, Sig940		.940							
Classification	78.6 83.9									

Notes: Model 1: Base: 2018; Predictor: Internet access/use; Backward LR/Step 4 Model 2: Base: 776; Predictor: Frequency of Internet use; Backward LR/Step 9 Note: 95.0% CI for EXP(B)

\*p<.05; \*\*p<.001