

# E-Government and the Digital Divide

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## INTRODUCTION

Many governments world wide are attempting to increase accountability, transparency, and the quality of services by adopting information and communications technologies (ICTs) to modernize and change the way their administrations work. Meanwhile e-government is becoming a significant decision-making and service tool at local, regional and national government levels. The vast majority of users of these government online services see significant benefits from being able to access services online.

The rapid pace of technological development has created increasingly more powerful ICTs that are capable of radically transforming public institutions and private organizations alike. These technologies have proven to be extraordinarily useful instruments in enabling governments to enhance the quality, speed of delivery and reliability of services to citizens and to business (VanderMeer & VanWinden, 2003).

However, just because the technology is available does not mean it is accessible to all. The term digital divide has been used since the 1990s to describe patterns of unequal access to ICTs—primarily computers and the Internet—based on income, ethnicity, geography, age, and other factors. Over time it has evolved to more broadly define disparities in technology usage, resulting from a lack of access, skills, or interest in using technology.

This article provides an overview of recent literature on e-government and the digital divide, and includes a discussion on the potential of e-government in addressing the digital divide.

## BACKGROUND

The adoption of highly intensive and complex systems of ICT networks to establish e-government are radically changing how national, state, and local administrations deliver services, collect, integrate, and share information, and communicate with one another and citizens. A growing number of professionals see the Internet as a transformative technology, and they regard e-government as part

of a new vision of government for the 21<sup>st</sup> century (Jones & Crowe 2001; Kearns, Bend, & Stern, 2002; OECD 2001; Pardo 2000; Socitim & Idea, 2002). The use of ICTs to support public participatory decision-making via e-government triggers information technology to make government operate more efficiently (Griffiths, 2002; Lenihan, 2002; Lenk & Traunmuller, 2002; Macintosh, Malina, & Whyte, 2002). E-government focuses on the actions and innovations enabled by ICTs combined with higher levels of speed, scalability, and accuracy.

For the past two decades, the debate about the ways technology can aid democratic governance has been continuing especially in the developed (Arterton, 1987; Mclean, 1989) and has continued to accelerate with the proliferation of the Internet as an information and communication medium (Karakaya, 2003). The interactive nature of Internet in e-government allows contributions from the user instead of broadcasting data from one centre to many users (Hewitt, 2000; Yigitcanlar, 2003). For example in the local governance context, citizens can obtain information about their council through the council's Web site, can contact their representatives easily via e-mail and state their own views through online consultations and discussion forums.

ICT is not a solution to all concerns about e-government, but it can start to close the gap between what governments do and people's everyday lives. For that reason e-government means more than just a Web site, it has the power to transform citizens' lives. Socitim and Idea (2002) state that the overwhelming majority—up to 80%—of citizen-government transactions takes place at the local level. In this way the applications of e-government are affecting people's daily lives. That is to say applications of e-government are actually affecting—easing—people's daily lives. However without giving equal opportunity and accessibility to the public, e-government is nothing more than an elitist tool. Therefore, as e-government is becoming wide spread all around the world, governments have realized the importance of developing policies and programs to address the inequalities that are becoming evident in access to ICTs and the usage of these technologies.

## E-GOVERNMENT AND THE DIGITAL DIVIDE

In e-government discussions, the term digital divide has quickly become popular. It is used to explain any and every disparity within the online community. At its basic level the digital divide is about the difference between those with access and those without access to ICTs. It is also used as a term to indicate social exclusion in the online world as we move to the knowledge economy, or the knowledge society (Graham, 2002; Stimson, 2002; Woodbury & Thompson, 1999). Most of the available literature suggests that socioeconomic status and demographic characteristics determine the frequency of use of ICTs (Hoffman & Novak, 2000; NITA, 1999). In particular, issues of income and education are often seen as being important, while age and ethnic background may also be an issue (NOIE, 2002; VanderMeer & VanWindén, 2003). There may also be a geographic component.

The concept of the digital divide is generally understood as a multidimensional phenomenon encompassing three distinct aspects. The “global divide” refers to the divergence of Internet access between industrialized and developing societies. The “social divide” concerns the gap between information rich and poor in each nation. And lastly within the online community, the “democratic divide” signifies the difference between those who do, and do not, use the panoply of digital resources to engage, mobilize and participate in public life (Norris, 2001).

It is clear that technology will continue to evolve rapidly, along with its social uses. Yet despite the need for considerable caution in weighing the available evidence, if we can establish the main drivers behind the diffusion of the Internet, and if these prove similar to the reasons behind the adoption of older forms of information technologies, then we are in a much better position to understand and predict the probable pattern of future developments, the potential consequences of the rise of the Internet age, and also the policy initiatives most likely to overcome the digital—global, social and democratic—divide.

Research into global internet trends by Nielsen Netratings (2001) suggested that at the beginning of the current decade there were an estimated 429 million people online globally. Nielsen Netratings (2003) reports that at the end of 2002 with a 35% increase Internet was being used by 580 million people. However the global divide still remained the same. For example, of those 580 million, 29% were in the U.S., while 23% of the online population lived in Europe, 13% of the online population logged on from Asia Pacific, and only 2% of the world’s online population was in South America.

The digital divide is becoming more of a recognized reality as technology makes phenomenal progress and e-government applications become widespread in the new information age. The United Nations Human Development Report demonstrates that high income OECD countries, with only 14% of the world’s population, were home to 79% of all Internet users, and only 0.4% of people in South Asia were online although the region is home to one-fifth of the world’s population (UNDP, 2001). More than ever, unequal adoption of technology is excluding many people from reaping the fruits of the e-government and global economy.

*... Even in advanced industrial nations with rapid maturing Internet markets, whole sections of the urban population fail to benefit from the skills, education, equipment, infrastructure, capital, finance and support necessary to go and remain ‘online’. This is so at precisely the time when being online is becoming ever-more critical to access key resources, information, public services and employment opportunities.* (Graham, 2002, p. 37)

The digital divide is a complex issue with no singular cause or effect. Unfortunately, new technologies alone will not suffice to close the digital divide, since they are heavily dependent on physical capital (for infrastructure, hardware and software), human capital (for installation, maintenance, updates and efficient usage of the computers) and the general economic policy environment (for functioning payment systems, stability) (DDN, 2003). Whilst e-government provides many opportunities for local authorities to serve citizens more effectively, it also runs the risk of widening existing inequalities and making non-IT users second-class citizens.

The Digital Divide Network (2003) underlines that addressing the digital divide requires a multi-faceted approach involving: (a) affordable access to information tools for the elderly, the poor, the disabled, and those living in rural areas; (b) economic development of communities developing an infrastructure of telecommunications facilities and cultivating a well-trained workforce so that communities can remain competitive in attracting and retaining businesses; (c) Internet content that is relevant to and produced by communities addressing the availability of community-relevant information, overcoming language and literacy barriers, and promoting the diversity of cultural voices; and (d) a society devoted to lifelong learning developing the learning skills which will enable all generations to adapt to constantly changing times.

The OECD (2001) stresses apart from general approaches in reducing the digital divide like extending the infrastructure, skills, and information, it will be especially important to offer low costs access. With computers and Internet available at public institutions like libraries, post

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