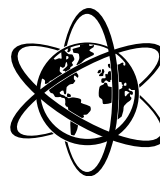# International Review of Administrative Sciences

Accessing e-government: challenges for citizens and organizations

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Abstract

The Internet is becoming more integral to governments and their modes of doing business and delivering services. This is creating a new imperative to address the digital divide. In Australia, as shown in this article, citizens who are the biggest users of government services are the least likely to be connected to the internet. What can be done to connect the unconnected? The article explores what has been learned from some of the Australian initiatives for connecting the un-connected to online government services. It concludes that greater attention to community-based human capital development is needed. It gives examples of factors needed for success in building socially marginalized communities' interest, enthusiasm and capacity to interact and communicate via online technologies, thereby contributing to how successful e-government can be in delivering gains in efficiency and improved services.

Introduction

The creation of new government systems, based on the adoption of information and communication technologies (ICT) and knowledge management systems (KMS), has been changing the way governments work. What is expected of governments, what it means to be a citizen and interactions between governments and citizens are being reshaped. Conversely, the technological innovations developed in the networking of nations will themselves be shaped by the vision and scope of social, political and administrative change driven by governments, government agencies, organizations involved in government service provision, communities and citizens.

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Australia hopes to reap the benefits of e-government. The Australian Government has defined e-government as a move from information online to a focus by government agencies on transacting business with clients online: 'strategically address[ing] client and internal business needs through the application of new ICT tools' (National Office of the Information Economy, 2002). A performance audit of internet services provided by government agencies conducted by the Australian National Audit Office (2003–04) concluded that agencies lacked strategic agency-level approaches to planning, monitoring and evaluation of web-based services (Australian National Audit Office, 2004). But an even bigger gap is in the routine incorporation into the planning, design and implementation of e-government services of strategies to ensure optimal access, from both economic and social perspectives.

E-government should be about more than improving the efficiency of government organizations' business transactions. E-government can strengthen civil society. The new ICTs make available an interactive and distributed capability that can work from the bottom up, taking the stakeholder's view and situation and bringing it together with

- services tailored to their circumstances,
- other people sharing their interests and experiences and
- opportunities to participate in the design of policies and their implementation.

E-government also brings with it risks to civil society through creating a digital divide that deepens the disadvantage of already disadvantaged citizens. To maximize the benefits and minimize the risks, e-government needs to be located in a framework aimed at strengthening the collaboration of all Australians in the making of their communities, their nation and their government.

In developing strategies for implementing e-government, the question of access to the internet needs to be built in at all levels. The benefits of e-government will not accrue simply because new ICTs are adopted by government organizations or through the proliferation of government websites. E-government involves complex assemblages of material, human, digital, organizational, business and social relationships. There has to be at least as much attention to human as to non-human factors (Oudshoorn and Pinch, 2003). Technologies are always embedded in social systems where human skills and organizational attributes are as crucial as the microelectronic or other material components. This article explores some of these human dimensions of e-government. It asks: who are the users of government services and what is needed for them to benefit from e-government?

Context and problems

In Australia, there has been a major government focus on the problem of ICT access but the emphasis has been primarily on access *to* the internet, mobile phone coverage, broadband and so on, particularly for rural and remote Australians. Access to infrastructure is important but whether access leads to connection and use depends on other kinds of efforts to connect the unconnected. Political debate about the privatization of Telstra, Australia's largest telecommunication provider, has directed

attention to rural residents, who effectively opposed the full sale of Telstra (now 50 percent privately owned), demanding better access to ICTs. Rural and remote communities considered that such a sale would entrench the disadvantage they suffered in supply of information and communication services. In order to win support for the privatization of Telstra, the Australian Federal Government allocated $250 million to 'Networking the Nation' in 1996, from the first part-sale of Telstra. This was boosted by $214 million following the second part-sale of Telstra in 1999. These funds have been spent in rural and remote Australia on telecommunications infrastructure but bandwidths are still a problem in many areas. And a great deal more work is needed to support diverse groups within communities to connect to the information society in ways that are meaningful and useful to them. The social and human aspects of providing Internet access are only just starting to be given due emphasis. Once people have the infrastructure to go online, they need the awareness, skills and online content to motivate their access.

A further aspect of this problem concerns the emphasis on home-owned computers as the means of accessing the internet. Australian governments have been worried about the emergence of a 'digital divide'. But, as yet, the emphasis of the Australian government has been on providing the opportunity for Internet connection, seeing individuals as being responsible for the choice and financing of home connection. There have been few systematic solutions implemented to the biggest disincentives contributing to the digital divide which relate to socioeconomic status. In Australia, remote and regional residents, indigenous Australians, people with disabilities, older Australians and people of non-English-speaking background are recognized as being at risk of economic and social marginalization unless the barriers they face in using ICTs effectively are addressed (Rimmer, 2003). But socioeconomic disadvantage alone heavily influences internet use: low income, education and labour force status all increase the risk that households will be disconnected from the internet. These are the households most likely to be users of government services but they are the least likely to use, and to have the capacity and ability to use, online technologies.

The benefits that could accrue from e-government are thus at risk. The current solution of governments in Australia is to use Internet transactions to complement service delivery by telephone and over-the-counter, rather than to substitute for them. But this is unlikely to be a long-term solution. E-government services are expected to become more sophisticated and capable of offering rewards that will increasingly advantage citizens able to access them.

Who uses government services?

Any assessment of e-government in Australia needs to consider that the biggest users of government services are those who suffer socioeconomic disadvantage. The households more likely to be in receipt of government services are less likely to have the capacity and ability to use online technologies. Policies for the expansion of online delivery of government services must, therefore, take account of the capacity of intended recipients and users to access online services. It would be of particular concern if it were to remain the case that the households most unlikely to be able to

access the Internet were also the households having above average interaction with government services. Conversely, the benefits to governments by encouraging people to conduct their business with governments through online transactions are great. This creates an as yet under-appreciated interest for governments in expanding the capacity of its lower socioeconomic status citizens to use and value the Internet.

Table 1 shows cash and non-cash benefits for Australian households (Australian Bureau of Statistics, 2001).[1] Australia's social security system provides a household income safety net through its tax system. Payments are not insurance-based but are highly targeted on the basis of means testing of income and assets. Cash benefits include direct cash payments such as aged, disability and single-parent pensions, the Newstart allowance paid to people temporarily out of work and looking for a job, student allowances and payments to families with children. Non-cash benefits include government services such as schools, hospitals, parks and housing (Harding et al., 2004).

Important observations include the following ones.

- People not in the labour force together with the unemployed receive the highest cash benefits. The people most likely not to be in the labour force are retirees, parents caring for children and students.

- The receipt of government cash benefits increased with age; people over 65 receive above average benefits.

- For non-cash benefits, the highest went to those with a head aged 35–44, that is to families with children.

- Households with a head aged 65 or over received the next highest value of non-cash benefits.

This study also analysed receipt of government benefits by education level and country of origin of the household head. This analysis demonstrated in addition to the previous facts that

- cash benefits decrease as education levels increase; and

- most recently arrived migrants from regions with a high humanitarian intake are high users of government benefits.

Other studies have investigated the level of government benefits received by Indigenous Australians[2] and those living in non-metropolitan areas (Lloyd and Bill, 2003).

- Australian Aboriginal people in both rural and remote and urban communities suffer high levels of employment, educational and health disadvantage and are, thus, more likely to receive above average government support.

- Rural dwellers are more likely to have suffered economically but rural poverty is concentrated amongst people living in small towns (rather than families on farms), making small town residents above average users of government support.

Table 1 The average cash and non-cash benefits for households with different characteristics (Dugdale et al., 2004)

	Average weekly government cash benefit	Average weekly government non-cash benefit
Age of household head		
15–24	106	150
25–34	85	166
35–44	91	243
45–54	69	187
55–64	115	143
65+	204	188
Labour force status of household head		
Employed full-time	38	177
Employed part-time	109	209
Self-employed	50	173
Unemployed	235	180
Not in labour force	229	206
Equivalent disposable household income		
Bottom 20%	197	201
Quintile 2	195	244
Quintile 3	97	222
Quintile 4	45	172
Top 20%	11	116

Source: ABS Household Expenditure Survey confidentialized unit record file.

Who uses the internet?

Fifty-five percent of Australian households in 2003 were connected to the Internet (National Office for the Information Economy, 2003b). Yet, in the week prior to the 2001 Census, only 37 percent of Australians used the internet from home (Lloyd and Bill, 2003). This gap cannot be accounted for by the passage of time alone and mostly reflects the gap between having and using the Internet. Furthermore, these snapshots of averages need to be disaggregated. The 2000 SA Health Omnibus (SAHO) survey[3] found that 26 percent of respondents earning less than $40,000 per year were connected to the Internet but 64 percent of those earning over $40,000 had home internet connection.

Use of the Internet varies according to a range of socioeconomic factors. Almost exactly mimicking the factors shaping use of government support, the primary influences on internet use are income, education, family structure, labour force status and age (Lloyd and Bill, 2003). Figures 1 and 2 show the impact of income and education on computer and internet use.

People with low rates of home computer and internet use are more likely to be outside the paid labour force (e.g. housewives, pensioners), earning below average

Figure 1 Home computer and the Internet use by weekly family income for people aged 15 years and over, 2001 (Lloyd and Bill, 2003)
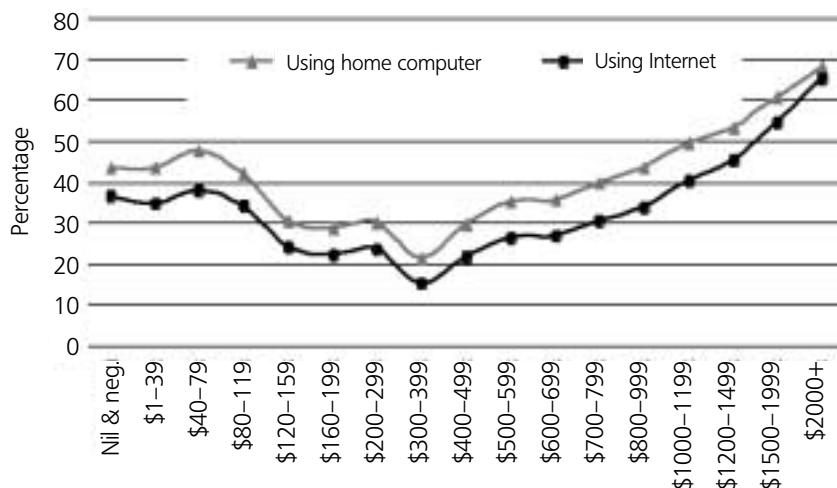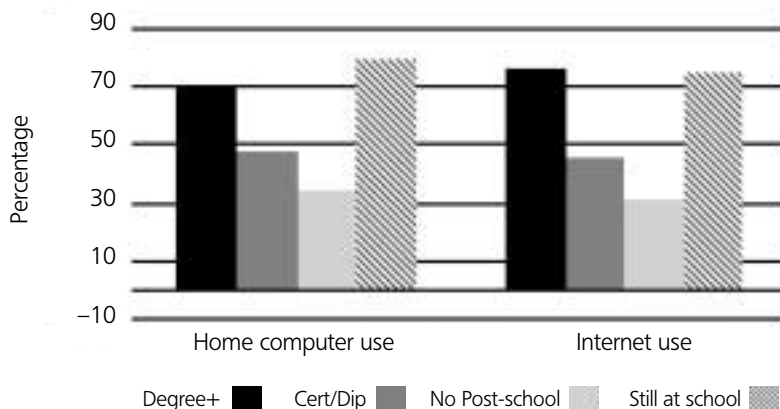

Figure 2 Home computer and the Internet use by educational qualification, 2001 (Lloyd and Bill, 2003)

incomes, in blue-collar jobs, lacking English skills, over 55 years of age, on low incomes, of Indigenous heritage, immigrants from Southern or Eastern Europe or living in small country towns (Lloyd and Bill, 2003). There is clearly a correlation between those with low rates of use of online communication technologies and those who receive significant support from Australian governments.

The one exception to the strong association between household receipt of government benefits and risk that a household is unconnected to the internet is households with dependent children. Families with children, and particularly sole-

parent families, receive significant government support but are high users of government services. These families may be an excellent starting point for developing government online transactions.

What is needed for the disconnected to benefit from e-government?

Australian governments have developed initiatives to enhance community access to the Internet. Youth, people on lower incomes, the unemployed and the indigenous population are the biggest users of community Internet access points. This highlights the importance of publicly provided services in levelling the gap in access to online technologies.

There have been several Australian programmes aimed at diversifying access to the Internet, email and other ICTs. Such programmes demonstrate that Australian governments recognize they have a role to play in ensuring that all Australians can benefit from the information society. The Online Public Access Initiative provides Internet access through public libraries and community centres. TAPRIC, the Telecommunications Action Plan for Remote Indigenous Communities, has the potential to increase the variety of information, communication and educational services available to many indigenous Australians. Aboriginal Australians face levels of disadvantage more akin to those experienced in the world's least developed countries; on average indigenous Australians die 20 years younger than non-aboriginal Australians and many remote communities lack even reliable access to a public telephone. At the state level, the NSW Community Technology Centre (CTC) programme is an example of a programme that has established community online access centres throughout the state. Several programmes have offered recycled computers to people on low incomes (Ewing et al., 2003).

Community access initiatives have offered employment opportunities in remote areas, opened up marketing opportunities for regional businesses and facilitated community development. But there have also been problems. The cost of internet access remains a significant barrier to the success of programmes supplying recycled computers. The older computer systems are also easily crashed, for instance when a music-making CD from a cornflakes packet is inserted by the family's eight-year-old (Hopkins, 2004). Community Online Access Centres were a response to closures of banks and other services in small towns, a politically hot issue with costs for both banks and governments. Whilst some centres have successfully provided Internet banking and other e-commerce opportunities, requirements that they be self-sustaining when the Telstra-sale money runs out is likely to exclude some community uses. The importance of community-based advocates has also been realized. Champions need to be able to do more than promote ICTs in their local communities. They need to be skilled in constructing connections with all community sectors and building IT literacy and awareness with those most in need of such capacity development. Much has been learned in relation to this from the implementation of the Remote Community ICT Solutions programme in isolated Indigenous communities across Northern Australia. A common factor for success was the presence of an 'internet advocate' within the community to promote and champion online access,

sometimes a local high school student, sometimes a community organization (North Australia Business Services, 2003).

There have been several successful initiatives attending to skill building that provide good models for the development of programmes for effective ICT adoption by communities. The NSW CTC programme has established local technical support units for the community centres so that they do not need to rely totally on Sydney for assistance. Courses on basic computer skills are taught widely within the CTCs. These offer adults the opportunity to become computer literate and to access services over the internet. Both formal and informal opportunities for training are needed; and timing and other community needs need to be assessed and carefully considered in training design. During the recent drought in NSW, for example, courses for farmers unable to plant crops and with reduced livestock loads were held at the Wilcannia CTC. Awareness of the benefits of ICTs in some aboriginal communities is being built around the residents enthusiasm to foster and maintain community languages, many of which are under threat. The 'Deadly Mob' Internet Centre in Alice Springs has designed its name, computers and space to be attractive and welcoming to Indigenous children and adults through the use of Aboriginal artwork and desert colour schemes (North Australia Business Services, 2003).

Perhaps one of the most significant lessons from community access programmes has been the importance of providing relevant content. Whilst technology is a facilitator for e-government, it is not the primary driver. People will use the Internet when it provides client-centred services relevant to their needs and priorities. The TIGERS Programme (Trials of Innovative Government Electronic Regional Services) was conducted in Tasmania, an island state of 650,000 people dispersed across montainous terrain. TIGERS demonstrated the importance of following client-centred design principles. Citizens seek to find information and conduct business around interests, such as going on holidays, getting a driving licence or going fishing. People may not know what government departments provide what services. Indeed, in Australia, conducting business with government is often complicated, involving more than one level of government and more than one portfolio. Providing online services that have a multi-agency focus and that simplify citizen–government business requires considerable leadership across portfolios and levels of government (National Office of the Information Economy, 2003a). Australia is making some progress in this area of linked-up government. However, mechanisms for identifying client needs, empowering citizens to represent their own needs and increasing the richness of processes of researching and representing citizens/users in e-government development processes present ongoing challenges (Vivian, 2004).

Providing community access to the networked society is about more than access to the internet. Video-conferencing facilities have provided remote access for specialist medical consultations in some fields, including dermatology and psychiatry. Providing mobile phones to jobseekers so that they can be text-messaged with available jobs on a daily basis is currently being experimented with by Centrelink, a one-stop shop for government cash benefits. Centrelink has also developed touchscreen technology for accessing a national job database. It is now testing extending the touchscreen network to community and youth centres. Placement of touchscreen database access in areas where jobseekers feel comfortable and informally get

advice from friends and respected community members is proving promising.[4] E-government benefits can also be delivered to citizens in ways that do not demand internet self-servicing. Agency-mediated service provision can be enhanced through the integration of e-government with telephone or over the counter services. By providing smaller centres with database access, the TIGERS programme enabled Tasmanian residents to use local town offices to negotiate access to cash benefits, a service previously only available through major regional centres (National Office of the Information Economy, 2003).

Various lessons have been learned in Australia, and elsewhere, about the importance of human factors if ICT community access programmes, imperative to the success of e-government, are to be effective. In conclusion, e-government needs a strong focus of social inclusiveness and equity. Governments have a role to play in integrating ICTs into communities in ways that strengthen social inclusion and counter the emergence and deepening of social and economic divides. This article has argued that one of the leading challenges to the success of e-government is the lack of participation in the information society by those groups in the population who are the biggest users of government services. These groups are particularly at risk of marginalization and lack of inclusion in Australia's progress as an information society. E-government has much to offer segments of the population underserved by internet connectivity and presently least likely to be online. Government initiatives providing access to infrastructure, training and capacity building in content development are promising. As these initiatives demonstrate, e-government needs to be two-way, to support online activities communities identify as wanted at the same time as they build the capacity for use of online services. By encouraging participation of underserved communities in the design and development of e-government and the content of online sites and events, it is more likely that e-government will evolve to foster social and economic inclusion. Not to do so risks deepening social and economic divisions and government services forgoing improved efficiencies and effectiveness. Whilst much is occurring, the analysis and reporting of innovations and programmes is under-represented in policy research.

Notes

1 Participants were asked about their receipt of government cash benefits. Using the characteristics of participants and information from other sources such as hospital and schools data, the ABS estimated the value of government non-cash benefits received by such households.
2 In 1994 the ABS conducted the National Aboriginal and Torres Strait Islander Survey (NATSIS), which showed that government transfers were the principle source of income for 55 percent of Indigenous adults.
3 SOHO is a telephone survey of 3027 South Australians over 15 years of age constructed to be representative of the South Australian population.

4 Personal communication, Christine Langsford Department of Employment and Workplace Relations.

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