Social Science Research Centre
University of Canterbury

Working Paper 1

ICT and Community Series

Socio-Economic Impacts of ICT

E-government@ the Local Level – A Discussion Paper

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June 2002

Abstract

Sociologists have long had an interest in governments and what governments do. Along with this interest in governments, sociologists have had an ongoing interest in technology and its impact on processes of social change. Changes in technology were at the heart of the Industrial Revolution, a monumental set of developments that changed the face of society in the 19th Century. In the 21st century technological advances are contributing to significant changes in society with regards to information spread and communication. 20 years ago, the Internet was barely heard of, let alone the idea of a desktop personal computer (PC), or the possibility of communicating via mobile phones. Yet both the desktop PC and mobile phones have become so commonplace that new norms, and rules about the use of such equipment,[1] have to be formed. As the significance of such technology increases, social impacts need to be researched. E-government has become an area of increasing sociological interest.

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[1] There are several studies that have been completed relating to the 'netiquette' of mobile phones, such as Sadie Plant (2002), *On the Mobile: The effects of Mobile Telephones on Social and Individual life*; Peter Laufer (1998), *Wireless Etiquette: A guide to the Changing World of Instant Communication*

Introduction

In 1996, John Perry Barlow of the Grateful Dead, made the following proclamation in an online discussion group and on his web site:

> "Governments of the industrial world, you weary giants of flesh and steel, I come from cyberspace, the new home of mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather. …You have not engaged in our great and gathering conversations, nor did you create the wealth of our marketplaces. You do not know our culture, our ethics, or the unwritten codes that already provide our society more order than could be obtained by any of your impositions." (Barlow, 1996). [2]

Some seven years later, Barlow's claims do not have the same ring to them as they did in 1996, when the Internet was the best "new, new thing" that was available in information and communication technology (ICT).[3] Now governments worldwide are increasingly exploring the possibilities that these "new, new" technologies might have for their activities and operations. E-government is a term that is increasingly coming in to vogue and this paper seeks to explore some of the background to this rise to prominence – especially as it may impact local government in Aotearoa-New Zealand.

From ARPANET to the Internet

About the same time as Barlow published his *Declaration of the Independence of Cyberspace* (1996) Netscape and Microsoft released the first versions of their Internet browsers, software applications that enabled people to access the Internet in a form that was easy to use. This made the World Wide Web more accessible.[4] However, the beginnings of the Internet and the World Wide Web occurred well before this.

The infrastructure for the Internet was initially formed in 1969, when the United States government set up the Advance Research Project Agency (ARPA) with the brief of investigating a way of communicating between military institutions in the event of a nuclear

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[2] The full version of Barlow's *Declaration of the Independence of Cyberspace* can be found at http://www.eff.org/~barlow/Declaration-Final.html accessed on 8/04/03

[3] See Michael Lewis (2000) *The New New Thing: A Silicon Valley story*

[4] The World Wide Web was an advance on the Internet. Tim Berners-Lee and Robert Cailliau devised a way of storing, retrieving and communicating data and documents as hyperlinks and hypertext, which is the basis of web pages that are prevalent on the Internet now (Berners-Lee, 2000).

war (Castells, 2001; Slevin 2000; Shapiro, 1999).[5] As a result of this a telecommunications network was set up between four research institutions and was named ARPANET.[6] The network allowed individuals from the initial four institutions to communicate with each other electronically. Within 16 months of being established, ARPANET had expanded to the point where there were fifteen nodes at various university research centres around the United States. The ARPANET system enabled an estimated 2,000 users to communicate with each other using a system similar to email. In its early stages, access to ARPANET was limited, because of the size of the computers that were used and because of the extremely high cost of computers in the early 1970s.

In 1972, ARPANET was publicly demonstrated at an international conference in Washington DC,[7] but access was still mainly restricted to academic and research institutions who could afford the costs that were involved. Around the mid- to late-1970s, two Chicago university students invented a faster modem, which allowed digital data to be transferred over phone lines without the need to upgrade any telecommunication infrastructure (Slevin, 2000). The implications of this rather ingenious device meant that more institutions could have access to ARPANET since there was no longer a requirement to have very expensive and independent telecommunication equipment.

In 1983, following concerns about possible security breaches, the Defence Department withdrew from ARPANET and formed its own communications network thus freeing up access to ARPANET (Castells, 2002). The network thus became publicly accessible to all that could afford it and was renamed as ARPA-INTERNET, or more commonly the Internet. Many institutions and organisations realised the potential that the Internet could have for communication and so the number of users increased rather dramatically following this, particularly in the United States. It needs to be borne in mind, though, that all the key technological developments that led to the Internet emerged from government institutions, major universities and research centres (Castells, 2001; Gronlund, 2002; Slevin 2000; Berners-Lee 2000; Gillies and Cailliau 2000; Shapiro, 1999). Business considered the

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[5] Of necessity this historical account of the Internet and the World Wide Web is brief. For fuller accounts see Berners-Lee (2000), *Weaving the Web ;* Gillies and Cailliua (2000) , *How the Web was Born* ; Hafer and Lyons (1996) *Where Wizards Stay up Late: The origins of the Internet* for a more detailed account.

[6] The first institutions involved in ARPANET were the University of California in Los Angeles, Stanford Research Institute, the University of California in Santa Barbara and the University of Utah.

[7] In terms of the development of the Internet this was a rather momentous event. For a description of what took place at this conference, see http://www.netvalley.com/intval1.html, accessed 18/06/03

technology to be too daring and expensive to really try and capitalise on it. This is one of the reasons why no one corporation or business owns the Internet.[8]

The World Wide Web developed after the Internet was in place. In 1990, Tim Berners-Lee and Robert Cailliau, working out of the European Laboratory for Particle Physics (CERN) in Switzerland, devised a way of storing, retrieving and communicating data and documents as hyperlinks and hypertext.[9] This was to revolutionise the Internet (Berners-Lee 2000; Gillies and Cailliau 2000; Hafner & Lyon, 1996). This system of hyperlinks (http), hypertext (html) and URI (later called URL) was publicly demonstrated in 1991, and was released on the Internet in August of 1991 (Berners-Lee 2000; Gillies and Cailliau 2000). The main advantage of the World Wide Web was that it ran on a multi-user system so that numerous people could access the same information, thus creating a many-to-many communication system (Castells, 2001; Berners-Lee 2000; Gillies and Cailliau 2000; Slevin 2000; Shapiro, 1999). However, in these early stages one of the main problems with the World Wide Web and the Internet was that they were rather complicated and cumbersome to use. This restricted access since only computer "geeks" could actually use the systems and web applications.

In the early 1990s Marc Andreessen and Eric Bina, who were based at the University of Illinois's National Centre for Supercomputer Applications, developed and modified a web browser programme called Mosaic.[10] Mosaic was based around a graphical interface and so for the first time graphics could be retrieved and distributed over the Internet (Berners-Lee, 2000). In January 1993, Andreessen publicised and released the software on the Internet.[11] Subsequent to this, Jim Clark, a leading Silicon Valley entrepreneur, contacted Andreessen to recruit him for a new company that Clark was planning (Lewis, 2000). Mosaic Communications was formed out of this meeting, and Andreessen, along with Bina and several of their co-workers began to work on a web navigation programme. Mosaic

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[8] This lack of commercial domination is, of course, one of the appeals of the Internet to many people (Castells, 2002). It is this quality of the Internet that makes it a double-edged sword, in the sense that it appeals to many since there is no commercialisation and privatisation of the Internet, nor is it bound by geopolitical boundaries. It is precisely these qualities, however, that make the Internet very hard for governments and organisations to regulate or control.

[9] Hypertext was used before 1990; however, Berners-Lee enabled the first use of global hypertext via the World Wide Web. Found at http://www.sun.com/950523/columns/alertbox/history.html accessed 1/06/03

[10] For a much more detailed account of Mosaic and various other Web browsers see Berners-Lee (2000) *Weaving the Web*, chapters 6, 7 and 8; Gillies and Cailliau (2000) *How the Web was Born*, chapters 6 and 7.

[11] Such was the interest generated by this event that within weeks tens of thousands of people had downloaded the software. By December 1993, the success of Mosaic was highlighted in the front page of the New York Times Business Section (Reid, 1997)

Communications was later changed to Netscape Communications and in October 1994, Netscape Navigator, the first commercial web browser, was posted on the web. The first copy of the product was shipped on December 15 1994. In 1995, Netscape released the Navigator software over the web - free for educational use and at a cost of $39 for businesses (Castells, 2002; Berners-Lee, 2000; Lewis 2000). The Netscape browser allowed people to access the Internet via their computer mouse rather than having to write computer code (Lewis, 2000), and while there were other web browsers that could be downloaded and used, Netscape Navigator was the first commercial browser and was therefore deemed to have more credibility. Suddenly, the Internet was more widely available and people were able to use the Internet and navigate the web in a way that had not been possible beforehand.

The popularity of the Internet grew not only in term of the volume of web pages posted, but also in the number of people that were able to access the Internet and make use of this rather powerful interactive communication tool. This, in turn, had significant social impacts – improved communication, increased accessibility of news, the beginnings of e-commerce, the emergence of Internet cafes, to name but a few. It is important to realise, however, that the Internet is only an interactive communication tool that provides the means for large numbers of people to form networks with each other and communicate information in a many-to-many situation (Castells, 2001; Fountain, 2001; Slevin, 2000; Dutton, 1999; Shapiro 1999). It is not the Internet or ICT that has changed the way that society operates, but rather how people have used it. ICT is therefore a facilitative rather than determinate technology.

As a result of these developments, society has moved more fully into what has been termed 'the Information Age' or 'the Information Society',[12] but the Internet is not the only ICT medium to be related to this change. Other communication tools such as mobile phones and text messaging have also been used to create powerful and dynamic networks (Rheingold, 2002). To reiterate the point made earlier, while technology is a driving force in the way society operates, it is the take-up and use that is made of the technology that changes the way society operates and functions, rather than the technology itself. Computing pioneer Alan Kay (1991: 100) used a piano analogy to capture this.

> "Pianists know that music is not in the piano. It begins inside human beings as special urges to communicate feeling…. The piano at its best can only be an amplifier of existing feeling, bringing forth multiple notes in harmony and polyphony that the unaided voice cannot produce. The computer is the greatest 'piano' ever invented, for it is the master carrier of representations of every kind."

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[12] See David Lyons (1988) *The Information Society: Issues and Illusions.*

In a similar way, computers and telecommunications are not the source of information *per se*. They have simply changed the way that individuals access information.

With the introduction of many-to-many communication, the Internet and the World Wide Web have become powerful, dynamic and unequalled information and communication tools that are being used more and more by millions of people around the world. As computers become a common feature in libraries, offices, the home, universities and so forth, more people become comfortable with using the Internet for all sorts of purposes. Governments have been no exception in this regard.

E-government

Love them or loathe them, computers are becoming a common feature of the internal and exterior décor of society,[13] and governments are slowly realising that ICT, the Internet and the Web may have potential for the running of government, government departments and the public sector. 'E-government' is a term that has been circulating in Information Technology (IT) and government circles for some time. At the third Annual E-government Conference held in Lisbon during May 2002, the term 'e-government' was used in the following way:

> "E-government is the application of Information and Communication Technology by government and public sector agencies, and is transforming the way governments interact with their citizens. Its use promises to enhance the effectiveness and efficiency of government and radically alter its relationship with the public. Improvements in communication and technology are playing a vital role in raising the living standards and empowering people to understand and gain access to all the initiatives and support systems that are available to them."[14]

As the Internet took off in popularity and more people were able to access it, governments increasingly looked to it as a possible way of reducing costs, improving communications between government departments and the public, increasing efficiency within the bureaucratic systems of government and encouraging greater citizen participation in government processes (Gronlund, 2002; Fountain, 2001; Deloitte Research, 2000; Coleman 1999). E-government was first formally mentioned in the United States, during the Clinton administration (1993-2000) – and we will return to these beginnings shortly. However, the beginnings of e-government stem initially from the various citizen networks that were set up prior to this. From the mid 1980s to the late 1990s, there have been a wide range of local communities around the world that have set up citizen networks online, and these were often used as experiments for e-government initiatives.

In the United States, some of the earliest and most successful of these experiments were the Cleveland Freenet, which was supported by the Western Reserve University, and the Public Electronic Network organised by the City of Santa Monica, California (Castells, 2002: 144). In Europe, the Iperbole Programme, which was set up by the City of Bologna, and Amsterdam's Digital City have become major points of reference as examples of citizen networks and the start of e-governance (Castells, 2002: 144; Riemens and Lovink, 2002). The main purpose of these experiments was to express online the concerns, interests, values

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[13] By exterior décor, I am referring to the increasing numbers of computers that can be found in urban and rural areas. For example, ATM machines, video surveillance cameras, speed cameras, computerised farming equipment and so forth.
[14] Found at www.acessconferences.com/YM102/YM102.htm accessed on 8/04/ 03

and voices of citizens, which until then had been isolated and hidden from local governmental institutions. The citizen networks gave people the opportunity to voice their views directly to officials and each other via ICT. Often these networks would link up with local institutions and local government to provide people with a communication medium for discussing and debating issues.

Castells (2001: 145), states that these citizen networks shared three major characteristics. First, they allowed the sharing of information by the local government or authority, as well as from a variety of other institutions in the community. Essentially, this meant that the network was an electronically updated bulletin board of community life. The second characteristic is that the networks were organised in such a way that there was horizontal communication across all the participants in the network, rather than simply vertical communication (often referred to as silo structures) from the local authority or local institutions. This is an important factor since many citizens feel as though their voice is lost within a top-down bureaucratic system of government. Finally, the citizen networks enabled people and organisations that were not connected to the Internet to have access to intra-community communication.

Citizen networks became the testing grounds for many political activists and the community alike, but more importantly they connected people within the community who were uneducated, poor and uninformed as well as those who did not have adequate or affordable access to the Internet, the Bulletin Board services,[15] or the smaller computer networks that were operating (Castells, 2001). The citizen networks that were initially set up before the Internet and the World Wide Web became very popular and thus provided a rich source of experimental data for those trying to set up any application of e-government.

As stated previously, the term 'e-government' is thought to have been first used during the Clinton Administration in 1993. Under the direction of Vice-President Al Gore, the Clinton administration undertook a major governmental reform effort, which was initially called the National Performance Review (NPR). In 1998, the NPR was renamed the National Partnership for Reinventing Government, but the focus remained the same - to investigate use of the Internet to create a new infrastructure and 'logic' for organising federal government and move the American government further towards the digital age (Fountain 2001: 18). Supplementary to this, the aim of the NPR was to "create a government that works better and

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[15] Bulletin Board services that were used in these early citizen networks were a much simpler version of the World Wide Web. They were text-based only and allowed people to communicate with each other in a similar way as email, but all discussions were public.

costs less" (NPR, 1993; cited in Fountain 2001: 19). The whole emphasis of the NPR was to look at cutting costs in the public sector, while increasing the services offered to citizens. This emphasis is the overriding focus of many e-government projects globally and is one of the main appeals for many governments setting up or investigating any application of ICT for governmental use.

The Europeans were not far behind the Clinton Administration in their use of e-government. Britain, in particular, has been investigating and setting up ICT applications and programmes since 1994 (Riley, 2001), with the aim of reducing governmental costs, making access to governmental information easier and improving citizen participation in the political system. The European Union has also been investigating how ICT applications could improve financial performance, access and participation in a separate effort to introduce e-government to the European Union. Canada and Singapore have also been instrumental in investigating and setting up applications of e-government, and to date these two countries have some very advanced applications of e-government in place. However, among the many challenges faced by both the United States and the European Union are the sheer size of the landmasses involved and the cooperation needed between the national or federal government and the individual state governments for any uniform e-government programme to emerge. Nations that do not have as many tiers of government or do not have a federal political system are often at an advantage in setting up any ICT applications, as cooperation is easier and the expense involved is usually reduced.

The American, British and the European Union initiatives in e-government have become an influence for other governments around the world investigating and setting up applications of e-government. The influence is most obvious in relation to the aims and goals that governments hope an application of ICT will have for the nation and for governmental departments. In particular, the focus on reducing costs and increasing citizen access to information and citizen participation, along with the transformation of citizens to "customers" has come specifically from the United States and Britain.

In New Zealand, the introduction of an e-government system has been discussed for some time in governmental circles; however, it was not until 2000 that the Labour government officially set up the E-government Unit, a division of the State Service Commission (SSC), to start looking at e-government and its possible implementation into the New Zealand political

system.[16] Prior to this, in September 1999, the SSC had released its first 'e-vision' document. This provided the goals and aims of e-government and outlined government plans for the following six years.[17] When the Labour Party came to power in December 1999, another 'E-Vision' document was released with a slightly revised plan and further 'e-vision' documents have been released since.[18]

While the e-Vision documents of the Labour government and its National party predecessor were very similar, there were significant differences in their perspectives on what the aim of any e-government system should be. The present Labour government has focused more heavily on citizen and user participation than did the National party who saw e-government more as a means of providing citizens with information about government policy and processes. Further differences can be found in the overall aim of what the different governments wanted to do with ICT applications. The National government believed that "e-government will serve citizens better, faster and cheaper in the new Millennium" (SSC, September 1999: 1), and that the main focus of e-government was to provide governmental services at a cheaper cost to the taxpayer. While this would require some capital in creating the infrastructure needed for a system of e-government, the overall aim of National's e-government programme was that it would cost the government less to provide governmental services to the public of New Zealand.

The Labour government signalled that it wanted to be a world leader in implementing and designing a system of e-government, and that e-government would be a "promoter of New Zealand's interests internationally" (SSC, December 1999: 1). There was little in their vision of wanting to reduce the costs of government or for any system of e-government to just provide information to citizens. Instead, a greater emphasis was placed on e-government as a "customer-centric portal" and having most, if not all, government departments connected to the e-government system by 2005 (SSC, May 2000: 1).

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[16] On the 1st of July, the e-government Unit was officially formed. By early 1998, the SSC recognised that there was a need for policy work to be structured around the governmental initiatives that involved ICT, and a committee was set up to investigate the implications of ICT in New Zealand and e-government.
[17] This document titled *Vision Statement – Electronic Government in New Zealand* (September 1999) is no longer available on the New Zealand government's web site because of the introduction of the government web portal, but it can be requested through the E-government Unit.
[18] Most of the 'E-Vision' documents can be found at http://www.e-government.govt.nz/

Presently, the government intends setting up a system of e-government in New Zealand that will continue this customer-centric focus. In essence, any application of ICT to government in New Zealand will attempt to be a 'one-stop-shop' for citizens (SSC, May 2000: 4). While this, in theory, streamlines the whole process of interacting with government and makes finding governmental information easier, there is some concern that citizens will no longer be citizens, but rather customers to the government.[19]

Essentially, the basic premise behind the concept of 'e-government' is that people will have better and easier access to government departments and to government itself and vice versa. By using the Internet as a form of delivery and access, it means that the government is available 24 hours a day, 7 days a week (24/7 in the vernacular), anywhere in the world to anyone with an Internet-capable device and a phone connection. For government itself, it means that the output of government and government departments can be made easily accessible in a relatively efficient and cost-effective way since the cost of using the Internet is cheaper and the cost is often borne by the user.[20] For the user, it means that not only can they access government services quickly without the bother of lengthy queues and dealing with frontline staff, but also that government is available when the user requires it.

As the potential of ICT is realised and as the concepts and ideals of e-government are defined and delineated it is hoped that the result will be greater participation by citizens in government policy and processes, and that politicians will become more accessible to their constituents. To achieve this, however, an e-government system needs to be user-friendly, relevant, easy to use and accessible to every citizen. Already, government websites have changed in response to this. In the earlier days of the Internet and the World Wide Web, government departments would often set up their own web pages with either little or no consultation or collaboration with other governmental departments or agencies. This often resulted in a confusing mass of websites being available with no hyperlinks to other sites. As

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[19] This tension between citizens and customers is one that needs to be explored in greater depth. This will be addressed in the thesis.

[20] For example, in doing the research required for this thesis, I contacted the e-government unit that is in charge for setting up and implementing e-government in New Zealand. On requesting documents relating to the research, I was informed that professional printing and binding were a considerable expense and that I would find the majority of the PDF files on their website, which could be printed if I wanted a hard copy version. This means that the printing costs are placed on the user rather than on the governmental department, which as suggested, is a significant saving to their departmental budgets. However, some argue that this only makes the customer recognise the value of the services that they are making use of, others argue that this is just causing another form of information division between the information rich and the information poor.

a result of this, fewer people visited or used these government sites.[21] As the role and acceptance of ICT has increased and changed among the general population so too has the perception that governments and government departments have of ICT. Now most governments in the developed world (and quite a few in the developing world) have one governmental web portal from which all government departments and agencies are linked and connected (Ronaghan, 2002).[22] This means that navigating around government web sites for information is much easier and less time consuming than was previously the case.

The Connection with e-Democracy

Many commentators and governments treat e-government and e-democracy as being essentially the same. This mainly occurs because governments often have 'citizen participation' as part of their e-government agenda. This can be misleading, as e-democracy is somewhat distinct from e-government. While there are obvious linkages between the two terms, they have very different ideals and aims. The aim of e-government is to allow citizens increased, easier and more extensive access to government information of concern to them. For government, this means a greater transparency in bureaucratic operations, and because of this there is a perception that governments and governmental departments should be more accountable. Along with these benefits of ICT, e-government also provides a way of cutting costs for government, since the cost of transactions, publishing material and running of government is substantially reduced.

However, because of the opportunities that ICT provides, governments also envisage that an e-government system will allow for greater citizen participation in the political system. However, this is a rather contentious area of e-government. While government would like to increase the amount of citizen participation in terms of submissions made and personal

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[21] Since the revamp of the old New Zealand Government website, known as NZGO, to the New Zealand government portal, there has been a marked increase in the number of people visiting the site. On the November 26, 2002, Brendan Boyle, the head of the E-government Unit, released a media statement saying that the new portal had passed the million milestone with more than 1.1 million visits to the new site from as far a field as Canada, Hong Kong and France (@your.service newsletter, 26 November 2002). More recent statistics for the government portal show that around 15,000-18,000 visitors use the portal per month, compared to 12,000-15,000 visitors per month for the old NZGO website (Mark Harris, personal communication, 2/05/03).

[22] A web portal is essentially like a gateway. Through the portal http://www.govt.nz/en/home/, for example, one can carry out numerous activities by following the hyperlinks. An email to the Prime Minister can be composed, or one can search for the latest media release from any of the politicians on any day. All the government departments can be found from this portal as well, making the whole process of finding information and interacting with government and the departments much easier and quicker.

opinions offered, there are few bureaucrats or politicians who would like to see the public voting on issues of governance based solely on information available through the Internet.

While input by citizens into the decision-making process is something to be encouraged, expertise is still needed in weighing up and appraising all the information available before making an informed decision. E-government would allow the information to be made available to citizens via the Internet and associated websites, but it does not provide the time, knowledge and ability to read, analyse, review and reflect on the information received (Gouland, 2002; Kamarck, 1999; Rash, 1997; Grossman, 1995). E-government only provides information and services to citizens. In so doing, ICT provides the first step to gaining knowledge, but information is not knowledge in and of itself. Knowledge comes from reading, analysing and reflecting on the information. It is highly debatable whether citizens would want to spend the necessary time to do this or even whether they have the experience and background to do this adequately (Grossman, 1995).

So, while citizen participation is a part of most definitions of e-government, there are limits to the amount of participation that is envisaged by governments. This is where the ideals of e-government and e-democracy differ greatly. E-democracy envisages a system of participatory democracy where every citizen participates equally in the governmental processes. E-democracy is more about trying to replicate the ideal system of classical democracy that was initially set up in Athens (Grossman, 1995). In Classical Athens, every citizen participated in the running of the state and government, and every citizen was obliged to participate (Heywood, 1997). In this form of democracy, citizenship was limited to men and excluded all women and slaves. Therefore, while it is held as an ideal form of democracy, even democracy in Classical Athens had its failings. This led people such as Plato and Aristotle to reject the ideals of democracy, as they believed that only the educated could make informed decisions and run the state (Kymlicka, 2002; Heywood, 1997; Grossman, 1995). However, with democracy via the Internet, it is hoped that everyone who wishes to participate in the running of the state and government can and will have the opportunity to do so. This in itself raises interesting questions about citizenship, democracy, the running of government, power and politics.

What is clear from this is that there are substantial grey areas between e-government and e-democracy and that there is a need to separate the two terms from each other. E-government is not e-democracy, although e-government does contain certain affinities with e-democracy. Similarly, e-democracy is different from e-government although it overlaps with certain elements of e-government and shares some of the ideas of e-government. Nevertheless, the

terms are different in essence and for the purposes of this research project will be kept separate.

Themes and Issues

In light of the technological advances that have been made, and with the New Zealand government planning to have a national e-government system up and running by 2007, there are several social issues that need to be investigated in this area. These issues include:

- Aspects of citizen participation and the focus that has been placed within e-government applications on turning citizens into customers.

- The digital divide and how this relates to e-government.

- Lack of cultural capital and the implications that this has for e-government.

- Security of private information and what happens to any information that citizens provide to government departments over the Internet as a result of ICT initiatives.

- Citizen trust (or the lack thereof) in both national and local government and the indication that this has for e-government.

One of the New Zealand government's hopes is that e-government will help increase citizen participation. There is little to suggest, however, this is likely to happen. Technology is a neutral application and has little bearing on the democratic process, apart from the way that the technology is used (Murphie, 2003; Anderson, 2002; Gronlund 2002; Mellor, 2002; Bennet, 2001; Riley, 2001; Silcock, 2001; Fergusion, 2000; Dutton, 1999; Grossman, 1995). Because of this, ICT can either increase citizen participation by making more information available to citizens via the Internet, or it can impede the information flow and decrease the amount of participation (Riley, 2001; Grossman, 1995). For some governments, information is still equated with power and they are therefore reluctant to share this power (Riley, 2001; Shapiro, 1999; Grossman, 1995).[23] Presently, there is little to suggest that democracy and citizen participation will increase with any applications of ICT in government processes. Rather it is hoped and thought that by increasing the service options available to citizens, this will increase the number of citizens engaging with government and governmental processes

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[23] Two examples of restricting the information flow available on the Internet can be found in China and Singapore, where the government controls the access available to citizens through a heavy screening process and by have a national intranet system.

(SSC, 1999; 2000; 2001). However, the digital divide is a major problem which has the potential to reduce the number of people able to participate via the Internet.

The digital divide refers to the fact that some people are able to access the World Wide Web and the Internet, while others cannot.[24] The digital divide is a problem that will affect any system of e-government around the globe unless addressed and somehow overcome. The digital divide is clearly a social inequality of great significance (DiMaggio *et al*, 2001), with society being increasingly split between the 'information haves' and the 'information have nots'. In New Zealand, the digital divide is compounded by the rural nature of the society and the way in which the telecommunications networks have been set up in certain areas (Statistics New Zealand, 2002). In parts of the West Coast of the South Island, the East Coast of the North Island and north of Auckland, the telecommunications networks do not have the capabilities to allow the majority of the population to use a modem or have access to the Internet (Statistics New Zealand, 2002).[25] Furthermore, social problems such as poverty only intensify the consequences of the digital divide in New Zealand since it takes money to buy computer hardware and to install and maintain Internet connections. However, the challenges of the digital divide in New Zealand and the way that they are addressed has the ability to make or break any e-government initiative due to the sheer size and extent of the digital divide. E-government is effectively useless unless everyone can access it or there are provisions made so that people that cannot afford or do not want a computer can still participate and access governmental services.

Other social issues such as the lack of cultural capital are also relevant. Some people may feel as though they are excluded from participating in any system of e-government because they have little knowledge about political systems or how to use computers and the Internet (Shapiro, 1999). This problem is related to the digital divide and will need to be addressed

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[24] For more information about the digital divide see Servon (2002) *Bridging the Digital Divide*, Castells (2001) *The Internet Galaxy: Reflections on the Internet, Business and Society*, chapter 9; Compaine (2001) *The Digital Divide: Facing a Crisis or Creating a Myth?* ; DiMaggio, P., Hargittai, E., Neuman, R., and Robinson, P, (2001) *Social Implications of the Internet* ; Norris, P. (2001) *Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide*; Loader (1998) *Cyberspace Divide* .

[25] Both the New Zealand government and the telecommunication companies in New Zealand are aware of the problem and are attempting to solve the network problems. However, due to the lack of population in these areas and the poor condition of the network, it is unlikely that there will be any major changes for some time yet. While these areas do have Internet capable networks, the speed at which data is exchanged is relatively slow when compared to urban areas. For example, in Christchurch, on a 56k modem, the transfer rate varies between 48.9k and 52.0k, while in rural Northland the transfer rate on a 56k modem varies between 29.2k and 35.6k, because of the lack of telecommunication infrastructure.

thoroughly if e-government is to have any success in New Zealand. Education programmes need to be put in place and operating well before e-government is fully implemented online to give people a chance to learn how to use any applications of e-government. Other issues such as the culture of the Internet mean that some may feel excluded from any interaction with an e-government system.

For other people, e-government contains the threat of state surveillance and a loss of privacy, which may mean that they are reluctant to engage with the World Wide Web or any system of e-government (Castells, 2001; McDonagh, 2002; Riley, 2001, Shapiro 1999). Privacy laws in New Zealand need to be strengthened to gain the trust of citizens so that they feel comfortable using e-government applications on the Internet. Along with this, privacy statements need to be placed on all governmental web sites that explain how personal information will be used and the rights that the individual has to their personal information (McDonagh, 2002). For others, issues of trust, especially in relation to government, are a key matter. With the passing of time, people seem to invest less trust in government worldwide and have become more cynical about government (Shapiro, 1999; Grossman, 1995). For e-government to work properly and for citizens to feel comfortable engaging in government processes, government needs to increase aspects of trust. This is not an easy task and will only come about through being honest about all activities involving e-government and by providing a greater transparency in government. Other issues such as reducing the number of people needing to be employed in the public and private sectors, because of e-government, will also have compounding economic and social impacts (SSC, 2000). With every new technological initiative, there are social issues that emerge and e-government is no exception.

Research Focus

To address the social issues that relate to the Internet and e-government, this project will first look at what is happening with e-government on an international scale. Looking at the macro scale first allows a broad research area to be explored, as well as an investigation of issues that are relevant in other countries, what the solutions to these issues might be, and how they can be applied to New Zealand and our efforts at e-government. Once this has been completed, the research will focus on the New Zealand Government's initiatives and efforts at implementing their version of e-government. This aspect of the project will make use of the international research and look at how New Zealand's e-government applications compare internationally. The main focus of the project will be to investigate in greater depth local e-

government initiatives and what is happening on a local and smaller scale around New Zealand.

The focus on local e-government initiatives is important because local councils and regional councils have been left to design their own web sites. The results have been variable. Some councils have provided ratepayers with very innovative web sites and a partial system of e-government, while others have yet to establish a web presence. The take-up of ICT in local government has been left entirely to the discretion of individual councils and there is no legislation demanding that all local councils in New Zealand have a web presence. However, with the implementation of the Local Government Act 2002, a greater emphasise has been placed on local governments consulting more widely with the population within their geographical boundaries. For most local councils this means that greater emphasis will need to be placed on their web site as they attempt to comply with the requirements of the Act. This will inevitably lead to dramatic increases in the operating budgets of councils. One of the early problems that is presently being faced with the Local Government Act is that while it is to be implemented, the details of implementation have yet to be worked out and there is a large degree of uncertainty about what the new responsibilities of local bodies will be.

Some local councils, particularly those in rural areas with small and dispersed populations, have yet to use the Internet as a way of promoting themselves and the local businesses in the surrounding area. Other councils, such as Dunedin City Council and Christchurch City Council, have set up a web portal that is often referred to in overseas conferences and reports as an example of a very good government portal.[26] Dunedin has one of the more innovative web sites in New Zealand and ratepayers are able to pay their rates online, register a dog, organise a building consent and so forth from the council's web site (Baron *et al* 2002: 110-112). At the Christchurch web site, access includes availability to the public library search engines, information of the value of property and rates, and dog registration facilities. The use of portals makes it much easier for the citizen to find what they are looking for and enables them to enter what is essentially a virtual 'one-stop-shop'.

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[26] Reports such as *Local E-government Now: A worldwide view* (2002) rates Dunedin as a shining example of e-government at the local level, and Conferences such as the 3rd Annual E-government Conference (2002), have used Dunedin's IT manager, Mike Hart, as a keynote speaker. Web sites such as http://www.oultwood.com/localgov/newzealand.htm, rate Christchurch's web site as 'well worth a visit'.

Any application and system of ICT for governmental use, whether it be local or national, requires large amounts of capital both in terms of hardware required for the actual system requirements and set up, and the personnel necessary to run and operate the Information Technology (IT) system in a competent manner. This is cited as the major reason why some local councils around New Zealand have yet to set up any IT system or have a web presence. Rural councils in particular are charged with maintaining large regions with a rather sparse population. Local Body Authorities like Kaikoura, Kawerau, Rangitikei, Wairoa and the Chatham Islands are of particular interest. Of the 86 Local Body Councils operating in New Zealand, all of them with the exception of the five above have an Internet presence. Some Local Body websites are fairly basic and only provide a very limited amount of information,[27] while others are much larger and provide much more flair in their websites.[28] This often reflects the size of the population and the capital resources available in these councils.

Research Methods and Approaches

Due to the dispersed nature of literature about e-government, several sources will be used in gathering research material for this project. While standard academic books and journals will be used in the course of the research, a lot of literature will be gathered from other sources such as websites, both organisational and non-organisational sites, Internet news sites, magazine articles and a variety of other sources. The rationale for using such a wide range of sources is primarily related to the concern to have access to up-to-date information. Because ICT is moving so fast, hard copy material becomes outdated very quickly. While the published literature is often still relevant, one of the challenges of doing research on ICT-based applications is that one needs up-to-date information about what is happening now rather than what was happening last month or last year.

Conducting research using the Internet presents challenges of its own. Because of the sheer volume of literature that is available and accessible on the Internet and in published form, the amount of material that needs to be read, processed and analysed for a research project is voluminous. This in itself makes researching easier in the sense that there is more material

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[27] Examples of such websites include the Central Otago District Council http://www.codc.govt.nz, Far North District Council http://www.fndc.govt.nz and the Waitaki District Council http://www.waitaki-dc.govt.nz as accessed on 24/05/03

[28] Examples of such websites include Christchurch City Council http://www.ccc.govt.nz Dunedin City Council http://www.cityofdunedin.govt.nz; Auckland Region website (this combines all eight Local Authorities) http://www.aucklandregion.com and Hutt City Council http://www.huttcity.govt.nz as accessed on 24/5/03.

available, but it is also a double-edged sword in terms of viewing all relevant material. As part of the project, I will make use of numerous sources, both electronic and published material, but will make no claims that I have researched absolutely all of the material that is available concerning e-government or applications of e-government. Instead, I will combine academic literature with material collected from IT professionals working within e-council teams and within the e-government team. By making use of several research methods and approaches to the research, the thesis will cover most aspects of e-government in a manner that is relevant to a sociological study.

Extensive use of interviews with people who are in the field of e-government within New Zealand. Interviews will be conducted with IT managers and e-government experts within the Christchurch and Dunedin city councils as a way of connecting with what is actually being done in the area of e-government and what initiatives are working locally. By concentrating on the local level initiatives, I am limiting the research to a manageable scope, while being broad enough to cover national e-government initiatives in New Zealand as well. The sociological issues that have been identified previously are relevant to every scale of e-government and are not just limited to the national level. By looking at the issues relevant to e-government on a local scale, the depth of research is greater and more involved and can be applied to a larger scale where necessary. One of the advantages that local e-council ICT applications have is that social issues related to e-government occur on a smaller scale and are therefore more easily researched.

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