E-Government
THE DIGITAL DIVIDE AND INFORMATION SHARING:

EXAMINING THE ISSUES

Prepared by

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PROLOGUE

This paper is the seventh in a series of reports assessing international developments in the policies and public administration issues now driving e-government and e-governance. As e-government principles and practices have been applied in the past few years it has been clear that fundamental governance issues determine the workability of the application of e-services delivery and e-programs. This paper addresses two key issues relevant to the evolution of e-government: information sharing and the digital divide in developed countries.

Governments have traditionally distributed wide amounts of information to citizens to ensure the execution and administration of government programs. All areas of society receive some form of minimal information from government whether it is essential facts for tax filing, weather information for the public, trade data for businesses, statistical studies, or job opportunities. The public is used to being informed through advertisements in all communications media, television, radio, the Internet, newspapers, magazines, pamphlets, brochures, billboards, or whatever medium is best to get the message out. Governments write millions of words in reports and studies and make them available to particular segments of society that have a need for the knowledge. The development of freedom of information laws in the last few decades has created legal instruments for citizens and groups to request access to government information that departments have not traditionally released or are withholding for a number of reasons, whether it be state secrets, national security data, personal information or commercial information submitted by private sector forms.

Part One of this paper examines the question of the digital divides in developed countries. There have been suggestions that certain elements of society, the economically underprivileged, the illiterate, disabled, or disenfranchised, might fail to reap the benefits of e-government services. The issues are explored and numerous questions raised as to how this divide might be approached. It is recognized that in our liberal democratic societies we expect all of society to be embraced by what governments have to offer.

Part Two of this report explores the theory of information and the degree to which new methodologies may be shaped for governments to better share information with the public for the common good.

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"THE POTENTIAL of e-government as a development tool hinges upon three prerequisites – a minimum threshold level of technological infrastructure, human capital and e-connectivity – for all. E-government readiness strategies and programmes will be able to be effective and “include all” people only if, at the very minimum, all have functional literacy and education, which includes knowledge of computer and Internet use; all are connected to a computer; and all have access to the Internet. The primary challenge of e-government for development therefore, is how to accomplish this."¹

Introduction

According to the Digital Divide Network in the United States, “...economic development and the digital divide go hand-in-hand for many reasons. Communities with the tools and skills to compete in the digital economy are at a distinct advantage over communities that do not. In many ways, the situation in a given community can build upon itself, for better or for worse.”²

Back in the early to the mid-1990’s there was much discussion and debate about the digital divide that was growing in the developing and medium developed world. The literature from international organizations, such as the OECD, the G8, the United Nations and the World Bank, concluded that this divide was a serious issue because the gap between the wealthy and poorer countries of the world would create other even larger disparities between the “connected” and the “non-connected”. Poorer countries would lag even farther behind and not have the advantages that the growth of the Internet and the emergence of e-commerce would bring. Now, nearly a decade later, many developing countries are in the process of some economic and cultural change through the use of new technologies. Internet based communication in most African nations is minimal because of the low number of telephone lines. But these countries in Africa and Asia are starting to leapfrog into radio based Internet and mobile phones. The rise of the cellular phone in the developed world is turning out to be advantageous to poorer countries that can use them for a variety of e-government purposes. However, this is a different form of digital divide than the gaps we are seeing in developed countries. The focus of this section is on the digital divide in developed countries and what this means to the delivery of e-government services.

Most of the literature on the digital divide agrees that well-educated, technology-literate communities can be successful in developing new and innovative businesses and

² see: [http://www.digitaldividenetwork.org/content/sections/index.cfm?key=6](http://www.digitaldividenetwork.org/content/sections/index.cfm?key=6) June 28, 2004
community initiatives in their areas through the implementation, and productive use, of information and communications technologies (ICTs). It is recognized that while there are economic, information and knowledge benefits to be had by having easy access to the Internet, there are many sectors of society that are not part of this growing culture. Economics, lack of access to the Internet and other technologies, low literacy levels, and often lack of interest or willingness to use the new technologies, contributes to a country’s digital divide.

The concept of the digital divide is based on the hypothesis that there are both "information-haves" and "information-have-nots" in the Internet Age, and that the basis for that division may include any or all of such demographic characteristics as age, gender, income, education, ethnicity, region, and locality. From a public policy perspective, the questions about this hypothesis are: (1) Is it true? and (2) Does it matter?

Government officials at all levels in Canada and many other developed countries such as the USA, the UK, Australia, New Zealand and the European Union countries, recognize that there is a digital divide within their population. This digital divide in the developed world has important ramifications for the delivery of government services.

It is worthwhile to explore the key issues regarding the problems of this digital divide, and seek out solutions, especially for governments wishing to move towards a widespread delivery of e-services. An analysis of this problem may be framed by posing the following questions:

- Is the digital divide in its current context, more than simply lack of access to the new technologies?
- What are the issues being debated?
- How much do the barriers such as: illiteracy, economic conditions of individuals, families and groups, disabilities, or lack of interest levels, prevent people from making use of the new technologies?
- Is there a significant gap between those benefiting from the new technologies and those in the population who do not use the technologies, for whatever reason?
- If there is a significant divide, how can this be overcome?
- How does the digital divide impact on the relationship between government and the citizenry?
- What kind of policies, or statutes, might or might not be needed by governments to ensure that large segments of the population are not overlooked when new and innovative ways of developing information for distribution are created?
- Is this one of the fundamental challenges facing governments, as ICTs, the Internet, and other communication technologies (e.g. mobile phones with text and video capabilities) increasingly become an intricate and essential part of our working and personal lives?
- Or will governments adopt simple and explicit policies to ensure that the approximately 25% of our population who do not participate in, or use ICTs or government services online, continue to have the traditional access to all forms of services?
In many respects, Canada represents the model example for identifying and dealing with the digital divide. As a member of both the Commonwealth and the OECD, Canada shares many of the same conditions as other countries, both developed and underdeveloped, that have made the digital divide such a challenge. The basic issue is one of costs and benefits of either grouping digital services along with other types of government programs, or treating these communication services quite differently.

The question whether or not to overcome the digital divide with government-sponsored services has occurred at the same time as the recognition that all government programs cost money and therefore must be justified in politically acceptable terms. The Canadian Minister of Finance in the previous Federal Government initially endorsed the concept of extending connectivity to all citizens through subsidy, until the cost of such a venture became apparent. Thereupon he scaled down his endorsement to the suggestion that the service providers should “do the right thing” and extend the service on their own initiative.

School boards and trustees are currently facing budgetary shortages regarding buildings, staff, and supplies, so buying more computers or connectivity time may not be their first priority. Similarly, those poor and rural Canadians who would like subsidized connectivity currently find themselves “on hold” as other services (like health care) get attention first.

Many tax-payers no longer appear willing to fund the range of services they once were. Whether this is desirable or not, it is the political reality. The kind of Internet connectivity that would bridge the digital divide is not a costless endeavour. Canadians, like everyone else, must decide where and how to spend their tax dollars most effectively. They can make better choices in this respect if they have the evidence on which to base their decisions. This paper reviews the facts and trends that must be considered.

The evidence about the digital divide

Two important surveys regarding use of the Internet and mobile communications have been conducted by the Organization for Economic Cooperation and Development (OECD) and by the Asian Development Bank (ADB). The OECD survey was conducted in developed countries and the ADB survey in developing countries. The results of the surveys show that there are significant demographic differences in both the access to, and use of the Internet, for personal, professional, or political purposes, either at home, at work, or in the community. Furthermore, the pattern of utilization is remarkably similar in both sets of economies.

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4 M.G. Quibria et al, DIGITAL DIVIDE: Determinants and Policies with Special Reference to Asia, ADB, Mamila, 2002
Males use the Internet more often than females, worldwide. To some extent this was originally because "surfing the net" took more technical skill, and boys and men gravitated to these kinds of tasks more readily than girls or women. In some countries such as the UK, the US, Australia, Canada and the Scandinavian countries, this statistic is changing as women equal or exceed Internet usage of males. As Internet browsers have become more user-friendly, and as Internet use has become more widespread, the gender gap is closing. At work in particular, accessing and using information from the Internet has been on the rise for many occupations, both male and female-dominated. And as downloading popular music has spread by the Internet, more and more girls and women have found its leisure use appealing too.

Younger people were originally more frequent users of the Internet than older ones, because of the medium's "cutting edge" aura and entertainment content. More recently however, the number of older users is catching up, because of the increase in work or business-related content, and because of the appeal of instantaneous communications. E-mail is still the "killer app" of the Internet, but this has contributed to information overload, and to a plethora of junk mail and inappropriate messaging (personals, pornography, and other unwanted content).

Those with larger personal or family incomes are far more likely to have Internet access and use it than poorer people. Access usually involves investment in a computer, a modem, various types of software, a phone line, and frequently a printer or fax machine. Besides the initial cost, there are also service and maintenance costs and training issues to consider, all of which must be paid for. And there is training, either provided in a class or acquired from a self-administered course. This is an important issue to address as lack of finances for fixing the current technology or inability to buy newer forms of technology can result as a deterrent to accessing government services online.

Educational attainment can provide either technical skills for information and knowledge work, or standard of living expectations for a "connected lifestyle". Information and knowledge workers are increasingly professionals with specific training in word processing, spreadsheet accounting, database manipulation, and graphical presentation software. Whether acquired in school or on the job, this skills package clearly divides its possessors from the uninitiated. These same people can then purchase products from Internet vendors, coordinate their social activities via e-mail, play games online, download music and videos, arrange for distance education courses, or plan their travel or leisure activities at their convenience. On average, the higher one's education the more digitally mediated communications are integrated into one's lifestyle.

**Digital discrimination?**

Ethnic differences regarding Internet access and use has become a sensitive subject. Racial differences between Caucasian users on the one hand (a higher percentage) and Black and Hispanic users on the other (a lower percentage) were clearly revealed by survey data in
the US and the UK. In both countries however, the percentage of Asians using the Internet was even higher. Surveys from other economies, more or less developed, have also shown ethnic differences, but the specific distributions depend upon the ethnic mix in each country. These gaps have also closed to the extent that assistance programs have made access opportunities more widely available in certain ethnic communities, but this alleviation does depend on continued assistance.

Regional differences in Internet access and use are quite pronounced within most countries. Northern Europe has more Internet users than Southern Europe, as does Central Canada rather than either Western or Atlantic Canada. Core industrial and business regions usually have more Internet access and users, whereas peripheral areas (agriculture, resource extraction, under-developed, etc.) have less and fewer. The "global north" has more Internet access and users than the "global south". Deserts, jungles, and mountain regions have lower Internet access than plains, river valleys, or moderate climes. Much of this can be changed with the combination of newer technologies and investments, but so far the divide is noticeably there.

Locality differences are most pronounced between urban and rural areas. Even in developed economies the rural areas are not as well served. This is not surprising because network density reflects population density, but even small distances can make a big difference. Small communities within commuting range of a larger urban centre often find themselves forced to finance their own microwave tower to assure wireless service because the telco providers do not find the prospect profitable enough. Satellite service is an alternative, but it takes considerable subsidy, usually by either a government or a very generous corporate sponsor.

Internet access and use does vary with the demographic characteristics of the population. Income and education together account for more of the differences than all other variables put together. Connecting to and using the Internet is expensive, especially for those with only a small proportion of discretionary income. But since that is the definition of poverty, it is not surprising that the digital divide is an economically created barrier. In this respect, there is a parallel with earlier forms of the information divide, specifically regarding the spread of the telephone, radio, and television.

Commitment to universal service

Digital divides, or more precisely, divides between peoples who use technologies and those who do not, did not originate in the “Internet” age. Initial communication technology divides began in earlier times at the beginning of the communications era in the early twentieth century. Telephones were originally expensive, and used by the rich as communications gadgets. Bell himself had envisioned their use for either delivering education or broadcasting music. In fact, in the early twentieth century classical music played in concert halls were piped over the phone line into people’s homes. In Hungary, this was the original use of telephones. Within a couple of generations the use of telephones became socially essential and a new need evolved. One of President Roosevelt's depression recovery projects was rural access to telephones, a commitment to a
universal level of service. This was achieved through cross-subsidization, where urban users subsidized rural ones, and long-distance callers subsidized local callers. By and large the program succeeded. This program contributed to the development and installation of phone lines and telephones into homes. A similar phenomenon occurred in Canada with a surge in telephone access post Second World War. This led to increased communications and subsequent growth in economic activity. Legislation and regulatory directives also mandated there be an equal playing field for people to have access to telephones.

In contrast to this, both radio and television were privately developed and diffused. President Roosevelt did not offer to give every American family a radio, nor did President Truman make a similar offer for television. The same was true in Canada. However, some countries did provide televisions and radios, and some still do. In certain cases the motive may have been content control (censorship) rather than benevolence or generosity, but subsidized telecommunications is always an alternative to free market diffusion, as free market diffusion is an alternative to subsidized telecommunications.

When considered in terms of these alternatives (or some combination of them), it becomes clear that the issue underlying this choice concerns whether or not to engage in income redistribution. If a market in telecommunication services is strictly adhered to, then users will pay for both the cost of the infrastructure platform and the service packages they consume. However, during the 20th century there developed the concept of Citizenship Rights that included not only civil rights and political rights (equality before the law on the one hand, and adult suffrage on the other), but welfare rights (unemployment insurance, disability insurance, old age pensions, social assistance, etc.). This leads to an important question: Are telecommunications services to be considered market commodities, or citizenship rights?

Some telecommunications economists recommend against such subsidization. However, they use a historical method to bolster their argument, so let us assess the issue in these terms. Roads were subsidized by gasoline purchasers so that pedestrians could also use them – should this not have been done, or be discontinued now? Potable water purification plants and delivery systems were also subsidized through taxes, as were sewage disposal systems and electrical distribution systems – should they also have not been built, or discontinued now? The Keynesian rationale was used to extend such services as Citizenship Rights, and the same kind of need exists in the case of telecommunications services as well. The only difference is that competing ideologies (Monetarism, etc.) have gained public policy ascendancy. If selfishness is now to trump citizenship that is a decision that governments can make, but there is no “natural” justification for it, only a choice as to whether to extend Citizenship Rights or to curtail them.

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7 Milton I. Meuller, “Universal Service Policies as Wealth Redistribution”, in Compaine, 2000
8 Peter Pugh & Chris Garratt, INTRODUCING KEYNESIAN ECONOMICS, Totem Books, New York, 2000
Governments in many countries currently spend far more on National Defense and National Security than is ever contemplated for the extension of telecommunications services, but these expenditures are not regarded as unreasonable or unfeasible. Whatever decisions are made depends upon the values that are prioritized, not any lack of resources.

The economic consequences of the digital divide

More and more of the work of modernized economies is being computerized, either directly through process control, or indirectly through complementary contributions. In the first case the impact is on value chain management and workflow. In the second case the impact is on business administration and marketing. Either way, not only are the particulars of tasks automated, but the entire conceptualization of work and the organization, which controls it, are being overhauled and modularized.

The digital divide is proof that this process of computerization is not proceeding uniformly or equitably. Marx predicted that the logic of unrepentant capitalism would pauperize the working class and turn many of its members into an underclass. Through Keynesian Economics that outcome was avoided. Is the appearance of a digital divide a signal of the onset of a new Social Darwinism and more draconian public policies? If access to, and use of the Internet is simply a luxury, which the market will eventually deal with, then there may not be a problem. But if being an information have-not indicates both that digital Citizenship Rights are being denied and that those without digital access and training are deficient of the skills portfolio needed for good jobs or a contemporary lifestyle, then the emergence of a new underclass becomes a very real possibility.

This is a very important development since both longitudinal and comparative studies have shown that the health of democracy depends upon a healthy economic platform to sustain it. People who do not have the time or income to participate in political activities are not likely to value the political process to the same extent as those who can participate. This could be a partial explanation for the decline in voter turnout in some countries. In Canada the voter turnout in the 2004 General Election was 60.4%, the lowest since Confederation. Those who have a small income, and must expend a large proportion of their waking hours earning it, are both poor and not in a position to participate to any great extent in the political process. The “digital divide” describes those on the “wrong side” of that low-income/low-participation barrier.

There is a new model of electronic commerce that has a bearing on these considerations. What Flor of the Graduate School of Industrial Administration of Carnegie-Mellon University demonstrates, is that the only effective use of digital media for e-commerce is the situation where off-line goals and strategies drive on-line plans and activities. Going electronic, by itself, will neither generate nor transform business success. The Internet is

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11 Nick V. Flor, WEB BUSINESS ENGINEERING, Addison-Wesley, Toronto, 2001
an effective communication medium if it is used to support and supplement a business value proposition. But although e-commerce can contribute to the business value chain, it cannot create business objectives by its own. The same principle applies to social value. Business can enable acquisitiveness and prosperity, but these goals get their rationale from their contribution to the quality of life.

Democratic participation is usually one of the indicators of quality of life that almost everyone aspires to, regardless of their locale or income.\(^{12}\) If better education and/or training can lead to better jobs, which can lead to better incomes, which can lead to a narrowing of the digital divide, this will also lead toward more democratic participation, so this will be a multi-dimensional accomplishment.

**Digitally deprived**

To the extent that the digital divide is an accurate description of the public's degree of access and extent of use of the Internet, and there is no dispute about the accuracy of the description, then being on the wrong side of the digital divide does limit economic opportunities for good jobs and higher incomes. Because computer systems have now become a part of more and more occupations and tasks, both computer skills and network psychology are part of the mind-set needed for almost all forms of upward economic mobility. Increasingly people are expected to bring these cognitive capabilities to the workplace, and to be able to function on the job with them.

Those involved in education, training, and personnel recruitment all recognize the inherent limitations of not being "digitally literate", so various attempts continue to be made to rectify these shortcomings. To one extent or another computers have been introduced into most grades of many school systems. Regarding these endeavours, however, the fact remains that the economic circumstances of the parents and school districts have a bearing on what computer and network equipment can be afforded in the classrooms. Those with more limited budgets find themselves having to accept situations in which fewer machines, older machines, older versions of software, and more limited network connectivity, must be tolerated. The combination of these factors may lead to either insufficient computer skills practice time, or developing a skills base in obsolete technologies which are no longer currently used in the workaday world.

Personnel recruiting and training face the same dilemma. Within many offices and shops the assignment of workflow tasks has been radically re-organized by the presence of computers and networks. The preponderance of word-processing, spreadsheet calculations, and basic graphical design and layout has been devolved from support staff to each individual worker. How to set up a document in terms of margins, fonts, line spacing, and tabular and graphical insertions, are now part of the basic skills complement needed just to get the work done. All of these skills are considered very basic, but they are still only acquired through instruction and practice. Yet their distribution throughout the

\(^{12}\) John Urry, SOCIOLOGY BEYOND SOCIETIES, Routledge, London, 2000
workforce is very uneven. Older workers usually need complete courses in each of these skills areas, and newer recruits often display anomalous gaps in their computer skills sets. Compounding this situation is the requirement to upgrade skills every time a new version of either hardware or software is deployed, especially if either colleagues or clients will themselves be using the new technology (and expecting that their work or business contacts will understand the new environment).

How helpful have "interventions" in these areas been? Some governments (either local, regional, or national), and some companies (either computer, network, or software vendors), have sponsored better equipment purchases for schools. Canada has been a leader in this type of initiative with their Community Access Program (CAP) which contributed computers with Internet access available in rural and urban areas in public places, such as libraries, community halls and other public spaces. This program was done with local organizations and private sector organizations input and funding. Computers were also given, across Canada, to many charities and non-profit organizations to allow them to have access to the web for their organizations.

Similarly, many companies (large, intermediate, and small) provide computer and/or network training, occasionally or regularly, in their organizations and communities. Governments also assist in these activities, through various forms of grants or tax expenditures. Whether or not these interventions are worthwhile, or how worthwhile they are, remains a contentious issue. Some people just do not want governments to provide this kind of assistance if it will increase their taxes, which is most likely to happen. Others see wider systemic implications or longer-term technological consequences. Government support for such education or training programs may lock in recipients to particular skill sets and equipment features, only to find that the pace of technological change produces a new innovation that requires something completely different. Wireless connectivity may render landline-networking skills marginally useful for the future. When this happens, the government "assistance" for networking skills with older technologies could conceivably end up actually being counter-productive. However, this is still in the realm of speculation as computer use in the home, office and school is widespread.

**Economic planning**

The questions facing governments as they contemplate whether or not to provide assistance for overcoming of the digital divide turn out to resemble company decisions regarding their own training agendas. Companies do not want to invest in dead-end technologies or obsolete skill sets either. However, such counter-productive procurement policies or training programs have occurred in the private sector before, so the only way to avoid such waste in the future seems to be to look for best practices and benefit from lessons learned.

There is an approach to computer and network skills training that can overcome the dilemmas of technological change and skills obsolescence. In the case of a training course on either a hardware or a software component, the proper perspective is a comparative approach across various products and/or versions. The concept behind this is to use the
common functionality as the focus for the training, and then explore the different location or operation of features as examples of unity within diversity.  

In the case of governments that want to provide assistance for overcoming the economic consequences of the digital divide, the same approach can be used. It is neither necessary nor advisable to replace every piece of hardware or software with the newest upgrade. Computer and network technology should be bought, deployed, and used to provide organizational functionality, not as a status symbol or publicity ploy. This same criteria can be used by governments that are seeking to support technology and skills renewals. In terms of overcoming the digital divide, the basic goal is the acquisition of cognitive computing capabilities, on the basis of which new versions and variations can be recognized, understood, and accommodated with targeted skills enhancements and minimal disruptions. The same principle applies even more so in educational environments. Since either the work world or the political context in which most students will find themselves will be continually adjusting to new technologies, what education should impart to them is a framework for life-long-learning that will enable them to self-manage the future adjustments they will need to make. The goal is to teach the wherewithal for digital competence, analogous to "creating the right climate for business".

**The political consequences of the digital divide**

Is there really a “democratic deficit” created (or maintained) from the way the digital divide works within the political system? To the extent that the digital divide excludes those on the wrong side of it from good jobs and improving prospects, we have already shown that the answer is yes. However, many consider that argument to be indirect – in other words, the political consequences are the result of economic conditions rather than "direct" political preference. Cases can always be found of low-income or digitally unconnected constituents who are very active politically, and of higher-income and digitally connected constituents who are not at all active politically and apparently have no desire to be so. eDemocracy has not proliferated as widely or extensively into the public domain as many pundits had predicted just a few short years ago.

Nineteenth century utilitarians such as Jeremy Bentham and John Stuart Mill argued that the combination of higher incomes and political rights would serve to both improve knowledge of politics, and motivate democratic activism. This has happened occasionally, but not consistently. As it now stands, some of the groups that experienced the most improvements in their incomes and the greatest extensions of political rights are now the least interested in political participation. This is a paradox that has yet to be understood.

In these circumstances the question can be posed: is the argument about the political disadvantages of the digital divide really credible? When seen in a historical context, the concerns about the drawbacks of the digital divide do make considerable sense. In

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13 Peter de Jager, "Re-evaluating your replacement strategy", in COMPUTERWORLD, 16 April 2004, pg. 29
previous times, when the level of income was very much lower, and the distribution far more inequitable, the have-nots were drawn into political participation. In many instances the extension of political rights and welfare rights were a direct response to lower-class activism. Once a more affluent lifestyle could be afforded, many of the people so affected transformed their political activism so that it is now expressed through their wallets rather than their ballots.

In the case of deprived individuals and families, and of underdeveloped communities however, they still need and want the kind of community informatics that does allow them to pool their economic resources and aggregate their political demands in projects of joint action. So when one is income-poor or socially marginalized, being on the wrong side of the digital divide is important, and does constitute real deprivation.

There are two important dimensions of this situation. One dimension is the domestic divide, where the connectivity and use of digital technology varies between groups or areas within a country. The other dimension is the international divide, where connectivity and use of digital technology varies between countries or cultures around the globe.

There are two important aspects to these comparisons:
(1) Do domestic divides reflect international divides (or vice versa), and
(2) Has domestic action or inaction lead to or followed international action or inaction?

The reason each of these dimensions, and each of these aspects has to be considered, is that solutions may not be scalable, either up or down, from one group to the entire society, or from one country to the entire world. And even if theoretically scalable, solutions may not be feasible for either economic reasons (costs), or political reasons (jurisdictions). Effective solutions always have to have sustainable support, and a migration path i.e. how to get there.

**The domestic divide**

The World Wide Web was invented in Europe, and popularized in the United States and Canada. Both of these economic environments are prosperous by world standards. Similarly, the occurrence and impact of the digital divide has most extensively been studied and discussed in the context of economically developed societies. We therefore know more about who does and who does not have digital access in these circumstances than for anywhere else.

Although the democratic deficit is just as obvious and troublesome as the digital divide within any of the domestic domains studied, the two do overlap to some extent but they do not really coincide. Both anti-poverty advocates and democratic activists often intermingle the digital divide and the democratic deficit because that appears to strengthen each one’s

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argument. By claiming that the digital divide and the democratic deficit are entirely, or almost, the same thing implies that curing one would rectify the other.

Domestically however, in either historical or comparative terms, this contention does not hold up very well. The reasons require an extended analysis – this is not a simple matter. If people have access to e-mail they may be able to send electronic messages to their political representatives (if those representatives have e-mail accounts, and if constituents know the e-mail addresses of their representatives). That is already a sequence of three contingent conditions, or three big “ifs”. But even if these conditions can be satisfied, it begs the collateral conditions as to whether or not:

1. people are motivated to communicate with their representatives at all,
2. if they have some specific message to communicate on any particular occasion, and
3. if they expect or care about some appropriate type of response.

These conditions represent constraints, which often preclude electronic participation in politics unless and until some issue is important to an individual citizen, interest group, such as corporations or not-for-profit organizations, and lobbyists.

This example can be generalized to all forms of public participation in electronic politics. There are two results:

1. on most issues, most of the time, most people don't bother;
2. on some issues, some of the time, many people do bother, and in those instances the capacity of support staff to handle the incoming electronic traffic is overwhelmed.

Many departments in Canada and internationally have strived to produce some form of summary of the results of an online consultation, but lack of financial and human resources can be a barrier. Economically, the cost of over-installing response capacity for those few occasions of massive input is not, in the minds of some managers, financially worth the benefits – but politically, the cost of not responding in a timely manner does not promote trust when the public does have something to say.

There is no cost-free solution to this problem. Electronic political engagement takes time and effort on the part of both public officials and the constituents. In addition, it takes considerable investment in both technology (hardware and software) and support staff (peopleware), so that the dialogue can be adequately handled and appropriately responded to. To date, when some of the commitment to these solutions has been forthcoming, the results have been disappointing. Those who were skeptical about these efforts point out that the costs have been high and the benefits meager. Those who favour these developments claim that the solution to the problems of democracy is more democracy. Has the domestic public’s appetite for political participation been over-estimated, or have the efforts so far simply been misdirected? We still do not know and more analysis and experimentation on this issue is needed.
**The international divide**

The presence of a digital divide on the international scale is either an even more troubling situation than the domestic occurrence, or it is just one of those inevitable differences between countries with divergent histories, cultures, and economies. When the popular use of the Internet first began, enthusiasts suggested that this new technology’s decentralized structure could be a vehicle for both domestic and international equalization. But as the content became increasingly commercialized, the mood amongst those commentators shifted to one of pessimism, as the notion emerged that this was just another instrument in the global elite’s toolkit to reinforce rather than rectify inequality.

Marshall McLuhan’s early projection of radical utopian possibilities for electronic technology fuelled the original optimism. But in his rebuttal, media analyst Brian Winston showed that every single form of electronic media had been introduced with great fanfare, and then turned into a business opportunity as it spread throughout society. Winston then extended this insight to a model of all innovation diffusions, the core hypothesis of which was that no technology can ever find social acceptance until it is “domesticated” and then commercialized. All the examples from the telegraph, the first electronic medium, to television (the most recent when Winston was writing) confirmed that hypothesis, and the Internet subsequently followed suit.

There is no international taxation system or legislative forum that could plan, fund, or implement programs for the closing of the international digital divide. Bilateral and multilateral assistance can be of some help, and indeed has been. Similar programs have been supported by various companies but those efforts have often been motivated by business objectives, and are unpredictable because of the likelihood of changing economic circumstances. Almost 25 years ago Ian Bowen did a study of international economic inequality, resulting in advocating a concerted effort of global redistribution. To date his suggestions have not been followed, nor is there much indication that they will be in the foreseeable future.

The comprehensive study on the international digital divide, by Pippa Norris, agrees with this assessment as regards access to, and use of, the Internet worldwide. The author shows that the domestic diffusion in the more developed economies in the early days of the Internet, is being paralleled by the international diffusion more recently. And just as the expectations for the domestic benefits to the poor were exaggerated within countries, so too the similar claims for international benefits to the poor in underdeveloped countries seems extremely unlikely. In both cases the problem is the same. The model Norris develops for politics comes to the same conclusion as the one Nick Flor developed for business – electronic infrastructure will only be effective when it supports offline activities.

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17 Brian Winston, MISUNDERSTANDING MEDIA, Harvard University Press, Boston, 1986
18 Ian Bowen, ACCEPTABLE INEQUALITIES, McGill-Queen’s University Press, Montreal, 1970
20 Nick V. Flor, WEB BUSINESS ENGINEERING, Addison-Wesley, Toronto, 2001
by facilitating faster, wider, better service, not when it tries to drive a process on its own. Widespread social benefits of the Internet will only come about as a result of fundamental changes in the structure and functioning of either domestic society or the international community. Is this what advocates of a narrowing of the digital divide are advocating?

**Does the digital divide matter?**

Whether the digital divide matters or not depends upon how its economic and political implications are evaluated. The digital divide is one manifestation of the unequal distribution of power. The various demographic dimensions, along which the digital divide runs, represent a map of how that social power is distributed. Those who have higher incomes have greater access to, and are more likely to use the Internet, no matter where they are located. Urban dwellers are usually better connected to electronic media than rural dwellers. Those with more education often have both higher incomes, and better connectivity.

Trying to close the digital divide can be interpreted as one form of economic redistribution. Those with a “public choice” perspective in political economy are prone to advocate that such attempts at redistribution are both inefficient and inadvisable.\(^{21}\) However, prior programs of a Keynesian type have successfully extended other forms of infrastructure (electricity distribution, sewage treatment, public education, telephone service, etc.) from the upper classes to the entire population. Are there some significant differences between Internet connectivity and these prior forms of infrastructure extension that precludes the digital divide from being treated in the same way as the provision of roads or sewers?

That depends upon who is asked. Public interest groups, egalitarians, consumer advocates, and many political activists point to the commercial and promotional advantages which companies, governments, and special interests have received from the use of the Internet, and then argue by extension that therefore, those without connectivity, by comparison suffer a considerable loss in terms of both economic and political opportunities. And they insist, in a democratic society that deprivation is simply unfair. At the international level, the same argument prevails, with the rationale being that being signatories to the United Nations’ Charter of Rights also demands some global redistribution.

Those who rely on property rights, local autonomy, and individual rights, see the differences in the distribution of wealth and power as an inevitable outcome of the operation of markets and networks. And they insist that whether the invisible hand is the result of human institutions or technological structures, its results should be respected because the outcomes are a natural part of the way human society operates. The problem is that both of these arguments have a certain plausibility and persuasiveness.

It is possible to develop a perspective, which transcends both these positions, and finds some common ground between them. In the case of egalitarians of whatever cast, both the

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costs and the benefits of such proposals must be assessed, and trade-offs must be made which recognize the existence of various limits. In the case of libertarians, infrastructure costs must be evaluated as both expenditures and investments, because the Internet is the new platform for any future market expansion, and without expansion the market will sustain neither wealth creation nor governance capability – connectivity is the wave of the future.

Narrowing the digital divide

Ways have to be found to extend connectivity without additional large government expenditures or micro-management with regulatory regimes. What this amounts to is Keynesian objectives without Keynesian methods. Once this is explicitly recognized and acknowledged, the opportunity for creative possibilities opens up.

The term that immediately springs to mind is partnerships. While a good idea in theory, it has seen some recent rough road in practice. The problem has been that not all of those who participate in a partnership have been ready to exercise their responsibilities as well as receive their benefits. Part of each partner’s responsibility is to monitor the functioning of the partnership and hold the other participants accountable to the terms of the agreement. This will not work if any of the partners assume a passive role, as experience with some public-private partnerships, and with certain corporate boards of directors have shown.

Computer and communications companies can partner with governments and community groups to extend Internet connectivity to wider segments of the public, as has been done in Canada with the Community Access Program and Schoolnet. Companies in partnerships with governments will be looking for either acceptable returns, or good publicity, or both. Communities will be looking for additional and better service to their members. Governments will want recognition for playing a lead role in social improvement without increasing taxes or regulations in the process. As the cost of the technology continues to go down, and its power continues to increase, extending wider and wider service at reduced costs compared to the past will actually become more and more feasible. However, governments will need to take the responsibility of how to address and deal with these economic, social, literacy and interest divides. Governments are responsible for the overall good of society. Private sector and outside interest groups are concerned with their own particular agendas, which forward their activities.

The important point to remember, however, is that the digital divide is not a technical problem, but rather a political and economic one. There are two considerations here:

1. An economic analysis of the diffusion of previous electronic media shows that the market eventually rectified early concerns about inequitable distribution.
2. As costs of service provision came down, network extension could include more and more connections at lower and lower prices.\(^{22}\)

\(^{22}\) Compaine, 2001
Attempts to speed up this market penetration were inordinately expensive and only marginally more effective than pay-as-you-go efforts because resources were simply diverted from one set of connectivity efforts to another, and divergence from planned coverage plans resulted in higher costs per connection, resulting in less value for the service provided due to escalated costs.

The other consideration is the presumed use of the Internet once connectivity is extended. Automatic logs of Internet use ("blogs") indicate that the two most popular forms of content access are online computer games and "adult entertainment". Do governments or companies really want to subsidize more widespread access to combat simulations and pay-per-view pornography? Probably not. Yet once connectivity is achieved, patterns of access will likely reflect the patterns amongst other viewers, and any attempt to deny access to all available forms of content will be resisted. Censorship is a major issue with the Internet public. Only a very small segment of the public uses Internet access exclusively for community service or political participation. It is certainly conceivable that more extended access would lead to somewhat more e-democracy, but expecting anything more than a small increase is exactly the kind of exaggerated prospect that both domestic and international experience shows to be unrealistic.

The term electronic democracy no longer refers to simply the involvement in the political process or being able to interact with the government officials or participate in online consultations. The ability of individuals to share information and knowledge amongst themselves has now come under the rubric of e-democracy. Such sharing is an extension of what has occurred for centuries between peoples, groups and governments. Facilitating information sharing through the use of information and communication technologies is as much a duty of government as it is a practice in democracy by the citizen. There has been some growth in electronic democracy but it has not become the grass roots activity that many have predicted. Governments still very much control the agenda and have the wherewithal to address the digital divide issues at many levels. Public interest and civil society groups can be partners in addressing the digital divide but it is still governments and international organizations, such as the United Nations and the World Bank, that are the central drivers.

**Conclusion**

As long as the digital divide is portrayed as a drama of deprivation and discord, bridging the gap will be difficult. When those on the wrong side of the digital divide, and advocates speaking in their name, insist that it is their right to be connected, those who will be required to foot the bill for such infrastructure extensions – wealthier tax payers, governments, companies – will often choose to see this as just more great plans for spending other peoples’ money. All service extensions and provisions do cost something.

Is there a better way for both sides to characterize this issue? People who achieve connectivity may be a source of temporary expense, but they are also potential customers and participants. So building a network is a source of sales and medium for supporters. If
these opportunities are going to be realized, it will take some joint effort from both the providers and the recipients. It will take a partnership. It is unrealistic to imagine or insist upon the notion that any of this activity, on either side, should somehow be “disinterested”. This has to be a partnership in community or societal development. All participants have to benefit, which is what will motivate them to participate in the first place.

The same principle applies just as readily to international developments. Countries work with companies, international agencies, and NGOs to develop strategies of comparative advantage that include extension of digital connectivity as part of the developmental package being proposed. The creation of markets and pools of political support, in developing countries, hold just as much promise as it does for developed countries. Economic infrastructures can serve as a basis upon which to leverage political networking. The “selling point” of this approach is that the comparative advantage being sought must not only apply between countries and economies, but between cultures and classes.

All participants can gain from such an arrangement, but to do so requires that the goal of comparative advantage be explicitly recognized and acknowledged by all parties to the partnership. The promoters of connectivity often use the rhetoric that there are benefits “all round” for network growth. This can actually be true if everyone involved is explicit about obtaining their particular benefits. Bridging the digital divide is part of the latest wave of development, and it can be accomplished with a minimum of confrontation and a maximum of good will.

The first step in handling the widening digital gap is understanding the breadth and depth of any cultural, racial, education, knowledge or literary divide that exists in any given jurisdiction. It is incumbent on governments to bridge these divides and ensure that there are no inequities between those who have the capacity to engage in online transactions with governments and those who do not have access or do not wish to participate in the online world. Many national, provincial, state and local governments are seeking to find solutions. This is the next challenge in ensuring successful e-government and the delivery of e-services.

As indicated above, there are serious economic gaps occurring in society between those who have the opportunity to use the new technologies in the market place and those who do not. This can entail being IT literate in the workplace, almost a given for most jobs now, to working from home, to having expertise in ICTs. Overall, those attached to the connected society take for granted the benefits of the modern, technology-driven economy in our society. From the use of ATMs, online banking, and online shopping, to surfing the web, for whatever reason, people are finding benefits that suit their needs, whether it be for personal or professional purposes. Those outside this new economic equation will need to be brought into the process or we as a society could face new forms of poverty and deeper economic divides which could lead to serious fissures in society.

It is clear that the lack of connectivity is not the only cause of digital divide. Low incomes, illiteracy, lack of training, inability to buy the latest technological innovation or insufficient income to pay for access fees, prohibit people from participating in the new economic realities and also from using online government services. Despite the fact that
online access fees have come down considerably, it does not necessarily mean that the low income family can afford to be connected. This is an area where governments might want to consider tax breaks for people below a certain financial threshold who want to be connected or have a computer in the home that is connected to the Internet. Such an incentive would be similar to many initiatives now offered by governments. The free market economy philosophy works but there are diminishing impacts for people who, with less access, could become further marginalized from the growing online community of the world.

Another aspect is that there will always be those who do not wish to be engaged in the digital world. Thus governments recognize that offline services cannot be compromised as departments and agencies move to online services. As outlined above, because arguments may be persuasive both for and against digital rights, this would bear further research to determine whether this might be both necessary and feasible.

A major factor in the digital divide is how citizens are able to access government information. The degree to which governments are able to communicate and share information with the public at large is examined in this next section on Information Sharing. Government information from every level of the public sector assists people in the course of their daily lives. But the question is how can this information be shared in such a way that access is available to all?

PART TWO: INFORMATION SHARING

Introduction

This section will look at ways in which governments may facilitate better access to information in both the public and private sector. The particular emphasis is on the growing influence of the Internet on all sectors of society. The role of the Internet and the growth of electronic democracy are briefly explored. This is to set the parameters for discussion on how an information intensive society is changing the expectations of the citizen. In particular, the paper contends that in our information rich environment we need to find ways for the citizen to be better informed. In the emerging knowledge economy it is time we looked at the whole question of information rights from a new perspective. In the past, the push has been access to official government information. Much of this is codified in law in most developed countries and in many developing countries. As of June 2004, there are fifty-four national freedom of information laws passed and enacted, or being proposed, by national legislatures. There are also freedom of information laws around the world at the local, state and provincial levels. This trend to freedom of information laws started post Second World War.

These laws heralded a transition from a culture whereby government released information at their discretion, to the citizen having the right to request the information. This resulted
in the emergence of more information to the public and an expectation of accountability and transparency from government. The next step in this information evolution began with the rise of the Internet and its deep penetration into society in many parts of the world. The paper examines the extent to which government information holdings can be a commodity and tool for economic development and a knowledge enhancement for society.

The Canadian government web site, http://canada.gc.ca, contains a click-on that provides information from weather patterns to information on health, how to file one’s taxes (either online or offline), or how to find a job, and a wealth of other essential day-to-day information that Canadians need. Other governments, such as in the US, the UK and Australia, have similar information dissemination on their sites, with some more effective than others. This is a start of the process of information sharing. More is needed to enhance citizens’ information and knowledge needs.

In a very short period of time we will see freedom of information expand from the parameters of access to government documents to encompass both the public and private sector. Information best practices also need to be written in order to help the developing world. In an information rich era, combined with the rise of the dominance of the Digital Age in developed countries, great potential exists to democratize information at all levels of society throughout the world. Due to our new information technologies, information is not only a commodity to be bartered in the marketplace but also a potentially powerful democratic tool.

This section explores the nature of information sharing in relation to e-government.

**Information as a democratic tool**

Within the next decade, or sooner, we will probably not even use the word Internet, or Net, because the actual convergences of technologies is creating a new phenomenon. This is because of the rise of cell phones, handheld devices and chip technologies which will be embedded in our homes and offices and, soon, in humans themselves. Now an individual can be connected to the online world through a variety of technologies. Voice recognition technologies in the home and workplace allow one to receive email, send a message, take a virtual tour of the office, meet others in virtual meeting spaces, go there anonymously with created identities, book a holiday, shop online from wherever you are, do research, book a movie, monitor the babysitter and thousands of other functions, all of which will depend on the needs and interests of the individual.

Whatever the opinions or views of individuals and governments in society, it is evident that we need a far deeper debate and discourse on the impacts of technologies. There are concerns over ensuring that all citizens have universal access to the Internet (and are free to use it or not use it as they wish). There are serious, abiding anxieties about the digital divide that is occurring throughout the world. This will be discussed further in Section 2 below.
The shape of information rights to come: democracy's best tool?

There are currently billions of pages out on the world wide web. Book publishing has flourished with many artists and authors coming into the public consciousness due to the Internet. Self-publishers have a tool to express themselves. Web sites are dedicated to new authors in many countries around the world. Blogs (web logs) have proliferated, giving self-expression to anyone who wants to communicate on any subject. There are online magazines and a surfeit of other non-traditional media that have emerged in the last few years.

The world is at the fingertips of the citizen, but the challenge is actually finding what is out there and accessing the vast amounts of information, both on government web sites and in departmental data bases. The government of Canada is working to find ways to merge their databases to enable the citizen to take advantage of information stored by government. There are many technical problems being faced. This attempt to find ways to provide more information to the citizen reflects the desire to respond to a growing information-aware society. Information is shaping our world and has become the supreme commodity. It is not only a piece of barter for the business world to use for competitive and commercial value. Information is now a precious commodity for the citizen.

In these new online environments, citizens are increasingly demanding more privacy rights to protect their personal information. However, there is also a contradiction here as, at the moment, citizens are sharing and using personal and aggregate information more than ever before. But in a cyberspace environment, the citizen is becoming more sophisticated in understanding the impact that information can have on one’s life. The individual wants to ensure that one’s own personal information is not abused. The individual wants the ability to control his/her personal information environment in cyberspace. At the same time, the individual wants unfettered access to all manner of information. But the sheer amount of information available, the ability to communicate information, and the value that individuals put on information, is bringing a new understanding of the nature of information itself.

Thus, on the side of freedom of information, the public is starting to demand more information for all facets of their lives. We see more data on labels of commercial products; shareholders demand more information about the activities of the companies in which they are investing (not just the usual “hyped” good news about the company’s activities in the past year). Much of this trend has been driven by the alleged financial irresponsibility of companies such as Enron and WorldCom in the United States, and Nortel Networks in Canada.

Citizens are seeking more information about many activities in society. The Information Age appears to be bringing more demands for accountability. In the years to come, the public will come to expect more and more accountability, in the form of enlightening information, from both private and public organizations. This demand for increasing amounts of information is being partly driven by the Internet where there is now so much discourse, exchange of information, and tens of thousands of blogs. The Internet is an open network, which is contributing to the development of open environments. This idea
is spreading into society as a whole, resulting in expectation of more accountability from all our public and private sector organizations. However, the downside of this equation is that we are experiencing information overload. The amount of information is like a smog spreading across the Internet. On the one hand, Google allows us to find information in a split second while, conversely, we are becoming overwhelmed by the sheer volume of information being presented to us. This is why information and knowledge management have become so important – they are tools to guide us to develop methodologies we can use to make full use of the information available.

This plethora of information has led to the next wave of information rights that has begun to grow in the private sector, as government, the courts, public interest groups and citizens demand accountability and transparency. As the average citizen becomes armed with more knowledge (or at least has the capacity to be armed with knowledge), then it will be private sector organizations, along with governments, who will be pressed upon to become more forthcoming about the information held in their organizations. The private sector here means not just large corporations or businesses, but rather all organizations, including non-profits. Just as privacy moved into the domain of the private sector thirty years ago, when Sweden passed the first data protection law in the world, so will the right of access to information become a part of the private sector domain. We have seen the results of private sector accountability after the dot.com bust, followed by revelations of financial malfeasance by large corporations. We have seen senior corporate officials taken in handcuffs into court and charged with various financial crimes. A decade ago this did not seem likely but this Age of Accountability and Transparency has made such a spectacle inevitable.

Individuals’ rights developed in the late nineteenth and twentieth centuries, and have resulted in human rights laws and other mechanisms, such as freedom of information and privacy laws, to protect the individual from potential abuses and infringement of public sector agencies. One may predict that this trend will continue, as the recognition dawns that it is also aggregate rights that strengthen the citizenry as a whole. As the idea flourishes, demands for information on a more sophisticated level will grow. Information Rights will become a part of civil society’s infrastructure. As the knowledge economy grows, and the knowledge professional comes to be seen as a continuing, powerful force in our society, so will the demands for wider swathes of information grow.

It may seem at the moment that we already live in a world with too much information. This change of demand for information could be for “organized” information that informs, not overwhelms, the citizen. These trends are creating new problems for governments. In the spreading e-democracy movement around the world the major emphasis is on how governments can better provide information to the citizen and how the public can take advantage of information that is relevant to their professional and personal lives and is available from government. Technology is the key driver in finding ways to allow the public to access that information.

Information is an issue in a new form. Governments will also be subject to pressures from emerging information forces in society. For example, the secrecy of governments is defined to the degree that information may be shared with the public based on current
freedom of information laws. The lack of efficacy of a freedom of information law is shown by the narrowness with which government exempts information from the public. But the challenge for governments is not just to pass or amend freedom of information laws. In our new environments, information must be seen as the force it has become in society. Changing environments bring different attitudes.

As governments go online with electronic service delivery, more content will become available to the public. But it will not be enough to put information up on a web site. Any information is going to have to be organized. The needs of the citizen, the user, coming into the site, will have to be taken into account. In many cases, there is too much information on a web site, which makes the site virtually unusable by the citizen. Thus, information management is vital, so that policies can be evolved which ensure citizens are getting the information they need and want (not what someone ‘thinks’ the public want), while at the same time protecting individual privacy. Once governments put content online, a policy issue will immediately emerge. The private sector learned this in the early days of the web. The growth of online marketing and e-commerce brought with it major privacy and copyright issues. For the citizen, who is going online for government information, if a request is rejected, the issue will become: why can’t I have access? Part of the answer to this is that government departments and agencies decide in advance what information can be public, based on their respective freedom of information laws, and make them publicly available in a comprehensive form.

In an information-intensive society, citizens might want more from both governments and the private sector. The above is simply an overview of the emerging issues and problems. Solutions need to be sought, as these new technologies become even more persuasive forces in our society. But what is the state of information use and information sharing?

**Information sharing: how is it possible?**

Part of the rhetoric of both information management and public consultation is the notion of “information sharing”. This concept is, in fact, one of the central tenets of knowledge management. Despite these good intentions however, management gurus find themselves continually admonishing both organizations and knowledge workers of the need to “share more information”. Is there an information gap between colleagues, so that work is impeded or prevented because co-workers do not communicate with one another? And by the same token, is there an information gap between knowledge workers and the public, so that the public cannot make informed choices about important decisions?

Governments are particularly interested in the answers to these questions because they are held to a higher standard of accountability than the private sector, and any suspicion that strategic information is being intentionally withheld, is sure to further erode the sense of legitimacy people accord their governments. One may infer that some sort of information

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gap does occur, or there would be no need for continual injunctions to overcome it. Diagnosing why it occurs, and how to cope with it, has become a growth industry.24

One reason for the existence of an information gap in governments is that neither the information holdings nor information management have been rationalized as computerization and digitization have grown.25 These sections of the bureaucracy have always felt both under-funded and under-staffed, so they were struggling just to keep up with current requirements while also planning to do better. Professionals such as information and knowledge managers usually advocate that governments devote the resources and make the effort to be both more systematic and share more widely when it comes to the way information holdings are organized, and the extent to which information outreach is practiced (i.e., keeping the public informed).

There is some scepticism in policy circles about such recommendations, especially those regarding the public’s need or right to know. The mass media in recent years has made a mantra out of the slogan that “the public has a right to know” – but there is no such right entrenched in the constitution. Governments support the concept, with Access to Information Laws, but in practice have the option of classifying materials with varying degrees of secrecy so that full disclosure is circumvented due to many exemptions in such laws that deem certain categories of information cannot be released. Most countries with access to information or freedom of information laws (the terms are interchangeable) also have independent commissioners or complaints bodies to whom the citizen may go, in the event there is a dispute by either the citizen or a public agency as to what information is or is not subject to release to the requestor of the information, or to be withheld under the terms of a jurisdictions particular law.

It is recognized that there are thousands of categories of information that do not come under the sway of freedom of information laws. In the US since September 11 2001, considerable amounts of information, once public, have now been removed from public view because of terrorism threats facing the country. Many civil rights and public interest groups have argued that much of the information did not have to be removed from public view and is an overreaction by federal and state governments.26 The question is how to organize such public information into packages that can then be distributed to sectors of society that have usages for them?

The wide variety of practices leads to an important question: is there an objective (i.e. politically neutral) way of assessing the actual value provided by governments when they share information with the public? Unfortunately, at this level of aggregation, the question is both too vague and too encompassing to elicit a meaningful answer. Nevertheless, the question can be deconstructed and dealt with in terms of its various aspects. This paper

26 Riley, Thomas B., PRIVACY VS. SECURITY: STRIKING THE RIGHT BALANCE, Commonwealth Centre for e-Governance/publications, as of July 10, 2004
will therefore address more specific versions of this question, for which answers can be provided and possible solutions put forward as to how increased information sharing with the public may be accomplished.

**Who is benefiting from the knowledge society?**

Even as long as 11 years ago, a survey of information technology showed that the global impact of computers and communications was already measurable and profound.\(^{27}\) Both production and distribution in every industry are more and more becoming mediated with electronic technologies. Ironically enough though, the productivity of telematics technologies (networked organizational coordination) has not kept up with the levels of investment in such equipment. Paul Strassman, one of the world’s most eminent computer consultants, has made this situation the focus of much of his research.\(^{28}\) Through a careful comparison of technology investment and technology use, Strassmann has demonstrated that neither computers nor networks are being effectively deployed to optimize on their productivity potential.\(^{29}\) Specifically this means that neither businesses nor governments are getting the full value of the telematics technologies they buy because they do not redesign the value chain or the workflow to harvest all the benefits, which the equipment can provide. There is a lot of room for improvement here, but it would require a broad vision and firm direction from the top (or the centre).

But even while operating at less than full efficiency, the combination of computers and communications (i.e. the Internet) has transformed the quality of working life, social life and personal life to an extent that was probably never before experienced in human history.\(^{30}\) Everyone benefits through processes informed by more information and better information, even those individuals who do not personally use computers or have access to connectivity. The information that supports the knowledge society has great potential to supply timely and correct evidence for both social and business policies. But the only way such benefits will accrue to the society is if this knowledge is actually used to improve or change the conditions of peoples’ lives. In other words, information must complement reform if things are going to improve for the better. Information by itself has no magical ability to stop pollution, prevent crime, create jobs, or rectify injustice. Is the knowledge from the Internet used for these purposes? That can only be assessed on a country by country, community by community, case by case basis.

The question of whether there are significant “information divides” regarding who can access government information and who cannot, is in part an aspect of the “digital divide” debate, as discussed in Part 2 of this paper. In so far as the government is transferring an increasing percentage of its documentation to a digital format, the question of who does or

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\(^{28}\) Paul Strassmann, INFORMATION PRODUCTIVITY, Information Economics Press, New Canaan, 1999


does not have access to such material largely depends on who does or does not have access to a computer and connectivity to the Internet\textsuperscript{31}.

Many countries have adopted explicit programs to put “Government On Line” so that the layout of documents and navigability of government websites are both more user-friendly.\textsuperscript{32} The rationale for these programs has been that as more and more of the public go online, users of government information will not be happy if they cannot find material that was promised or is expected because it is hidden as a result of poorly conceptualized categories or poorly organized hyperlinks. Considerable progress has been made on this front to make document search “intuitive” so that average members of the public can navigate their way to whatever is available on government websites.

Problems remain however for those who cannot access, or at least conveniently access such information. Rural residents, lower-income families, and certain ethnic groups appear to have less access to the Internet, either because connectivity is not available in their areas, because they cannot afford it, or because it is not an important part of their community’s culture. As with the telephone system in the past, this discrepancy will likely be rectified eventually by the market as the coverage of the technology spreads and the cost of connectivity declines to the point where almost everyone can afford it. Attempts to increase access through subsidized connectivity have run up against budgetary constraints on the part of governments, and commercial practices on the part of connectivity service providers. It is true therefore that there is an information divide, but from a historical perspective it may only be a temporary one, and from a cost perspective the market solution may be the only feasible one.

**Can better distribution of government information benefit the public?**

To be more explicit, can the holdings of information within governments be better utilized to forward the purposes of government programs, and be distributed on websites and through other technological means in order to benefit different elements of society? This question carries two important implications:

(1) that the public wants, and would use, this kind of information to improve their quality of life; and

(2) that governments would be willing to share enough of the right kind of information that the public would actually find it useable.

There appear to be three varieties of information covered by this question:

(i) information about existing programs and documents
(ii) information about existing policies and procedures
(iii) information about the future developments of policies and programs

\textsuperscript{31} Laura Brunner & Zoran Jevtic, INTRODUCING THE INTERNET, Totem Books, New York, 1997
\textsuperscript{32} Jakob Nielsen, DESIGNING WEB USABILITY, New Riders Publishing, Indianapolis, 2000
To date, the government has placed its major emphasis on the first of these varieties of information. Government program brochures, news releases, and electronic forms for regulatory compliance or submission of payments, are usually available and are being continuously improved. Furthermore, surveys indicate that these are the kinds of digital services from government that most of the public want. The Canadian Federal Auditor-General recently compared the amount of investment in Government On-Line with the public’s utilization of these digital services, and concluded that such government services had to be marketed more effectively because people were often not aware of what was available from government online, or how such information could help them. There is some anecdotal information that this situation may be prevalent across many governments.

Regarding the second variety of information, about existing policies and procedures, there are often background papers or official pronouncements available on government websites that lay out in general terms what policies or directions the government is committed to or contemplating. Policy wonks, public interest groups, and business people or representatives usually find these materials useful, but generally too vague or theoretical. More detailed information on these topics would assist those who will be affected to make the necessary adjustments, but in turn can commit the government to alternatives it either has not thought through yet, or wants to have some discretion with during implementation. What has the potential to open this area up to wider information dissemination and public participation is the growing practice of participatory rule-making. In some American states, some Federal Departments, and increasingly in other countries, stakeholders in a statutory/regulatory policy area are being invited to help write the rules that will implement the legislation. This requires participants who are well enough informed to actually contribute to the process, and to facilitate that informative websites on every case are created, and supported in the back office. This way, all of the relevant material is continuously available, and responses and feedback can be e-mailed back in throughout the lifetime of the project. Much more of this kind of information sharing would be helpful to anyone interested in a specific program, statute, or regulation.

Making available information about the future developments of policies and programs is the most problematic part of government information distribution. There are a number of reasons for this – one is the nature of representative government itself. Many public officials, both elected and appointed, see policy development as their prerogative in so far as it reflects a division of labour within governance. It is a role which many of them

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33 William Coplin & Carol Dwyer, DOES YOUR GOVERNMENT MEASURE UP? Syracuse University Press, Syracuse, 2000
guard jealously, and share only reluctantly.\textsuperscript{40} In this context, sharing more than a minimal amount of information about prospective policy development could be interpreted as the thin edge of the wedge that would eventually erode their role in policy-making itself.

The other side of this coin is the firm belief by these same public officials that most people either do not want, or are not willing to take the time or give the effort necessary to become effective participants in governance. That being the case, the rationale is that providing information on prospective policies would not only be a waste of resources, but it would invite special interest groups to participate and possibly monopolize the policy agenda. However, as was mentioned in the introduction, a small but growing portion of the public does want involvement in governance and the information necessary for such participation. Just as participation through extending voting rights was used as a political tactic 100 years ago, so participation through extending policy development opportunities could become the political tactic of parties in the foreseeable future, if public officials keep resisting the voluntary extension of this approach.

Not everyone wants or will use more and better information if it is provided by governments on their websites. But a growing number do want it, and will use it, so the question really is whether governments will recognize the wave of the future and surf it willingly or not.

**What economic benefits (of more government information) would the citizenry get?**

Almost all policies, statutes, and regulations will impact the public in terms of one or more of:

(a) taxes paid,
(b) revenues spent,
(c) actions required, or
(d) actions prohibited.

In addition, government programs usually also affect how the economy functions in general, and how companies operate in particular. The more such impacts can be known in advance, the more opportunity there is to begin the adjustment process as soon as possible, so that new requirements do not hit the public suddenly and traumatically. And for every option foreclosed, others are just as likely to open up, so planning can begin to take advantage of the new arrangement and either minimize losses or maximize gains. Governments already know this, and as a result are often more than willing to share much of this type of information with either friends or special interests. The new expectations for transparency now require that such information be made available to the entire public.\textsuperscript{41}

\textsuperscript{40} Ronald B. Cullen & Donald P. Cushman, *TRANSITIONS TO COMPETITIVE GOVERNMENT*, SUNY Press, Albany, 2000

\textsuperscript{41} Richard W. Oliver, *WHAT IS TRANSPARENCY?* McGraw-Hill, New York, 2004
What is needed for governments to develop new information packages?

All of the technologies and skills needed for governments to develop new information packages are either available in-house or can readily be purchased from consultants. What most governments lack are programs and policies that take a marketing approach to the development of these information products, so that what is assembled and disseminated has the content and format that the public actually wants.\(^\text{42}\) This was the conclusion the Federal Auditor-General came to with regard to Canada’s Government On-Line program. Similar findings have come from the Maxwell School of Citizenship and Public Affairs at Syracuse University.\(^\text{43}\) The Canadian government is committed to implementing this recommendation and are seeking ways to conduct an effective marketing campaign. Over 55% of Canadians online, at all levels of government in the country, have accessed a government site for some form of service or information.

To what extent are governments prepared to share more information with the public?

Governments in the United States have historically always been prepared to share technical information with the public that was acquired through government sponsored research.\(^\text{44}\) Many other countries have moved to emulate this good example over the course of the 20\(^\text{th}\) century. However, up until recently both regulatory and policy information was not made available to the public in the United States unless under particular political pressure for specific issues. For regulatory and policy information, the government most open to sharing with the public has been Sweden.\(^\text{45}\)

The technical information provided in the United States has been invaluable for helping promote both economic and social development, and environmental protection. Many other countries throughout the world still do not provide their publics the kind of information service that the American government reports provide. Such topics as geological exploration, educational reform, and environmental management have all been assisted with government information. Other countries often cite “national security” reasons for withholding technical information from their publics, but the technical information policies of governments such as those of the United States, Germany and Singapore would seem to discount that argument. At the same time, the United States and many other countries have similarly restricted public access to regulatory and policy

\(^{42}\) A.K. Jain et al, MARKETING INFORMATION PRODUCTS AND SERVICES, IDRC, Ottawa, 1999
\(^{43}\) Coplin & Dwyer, 2000
\(^{44}\) Martha S. Feldman, ORDER WITHOUT DESIGN, Stanford University Press, Stanford, 1989
\(^{45}\) Arend Lijphart, DEMOCRACIES, Yale University Press, New Haven, 1984
information for what they claim are national security reasons. Yet Sweden has suffered no geopolitical setbacks, internal or external, as a result of its openness.

How can information be distributed more widely to further the interests of citizens?

More publicly provided connectivity, such as through libraries or community centres, could help disseminate more government information to the citizenry. More declassification of mundane information by government would also be helpful for that goal. The policy of cost recovery through the charge of fees on downloads could also be reviewed, since most of the cost with hard copy production and distribution previously, was for printing and mailing, both of which are now dispensed with because of Internet availability and end-user printing. The actual cost of gathering, analyzing, reporting, and posting the information is the kind of expense which governments have previously borne as part of their mandate, and a return to that policy would also greatly assist information dissemination.

Just as important as access, is the assurance that the information is accurate, relevant to citizen needs, and available in an understandable format. Once again, this returns the discussion to the topic of marketing. In all likelihood, the only way to keep government information current with changing public needs and expectations is to have a marketing research unit that surveys and re-surveys the public on a continuous basis. The design of new information products would then reflect the findings of this on-going marketing research. The question would always be the same, namely: Who needs What information, Where, When, and Why? The answers would most likely continue to change, presumably with a periodicity typical for each type of topic or issue. The job of information product designers would be to show they had heard the public and were responding accordingly.

How long will it take for a culture of information sharing to catch on in government?

When information sharing is proclaimed but not practiced within government, the multiplicity of reasons usually boil down to just one – government employees are not rewarded for sharing but rather for hoarding. The incentive system must shift rewarding from individuals (the hoarding premise) to teams (the sharing premise). This will involve a reclassification of work roles, and a move towards self-managing teams. To get that kind of system set up and operating effectively would likely take a decade from initial commitment to standard operating procedure.

48 Meredith Belbin, TEAM ROLES THAT WORK, Butterworth-Heinemann, New York, 1993
How much of a role will technology play in sharing information with the public?

Most of the technology for such information sharing is already in place in most governments in the developed world. Upgrades will always be needed, but that is not the major challenge. As for the public, the digital divide has created somewhat of an information divide, but a combination of the market and community informatics can rectify that. If the technology helps create a well connected, well informed citizenry, how ready are governments to engage that public in creative governance? Most governments are probably struggling with this issue. For example, the Canadian government is moving towards wider sharing of information between departments that can then be catalogued and distributed online for public download. One of the main barriers to achieving this goal are technological glitches hampering the creation of sharing mechanisms between departments.

There are also many policy issues to determine, such as what information is actually in the public domain and what information comes under freedom of information laws. Freedom of information laws apply to about ten to twenty percent of government information holdings. However, the challenge for the future is to widen the amount of government information that can be shared with the public at large. A significant cultural change occurs when information does become more readily available. Public officials grow accustomed to transparency and accountability once they see that there is no short or long term jeopardy to the work they are doing or embarrassment to their department through the release of information in their files and databases.

What resources would be needed to accomplish information sharing?

Information sharing is premised on a philosophy of knowledge collectivism, while many of our wider societies are based on market individualism. Just as infrastructure needs funds for operation and maintenance as well as consulting and construction, so the public domain needs a percentage of the national budget to provide those products and services that are indispensable but not necessarily profitable. Good information and good education are two of those public goods, and they need to be prioritized. The resources needed are money, skills, and plans, as well as patience.

What new policies will help promote information dissemination and utilization?

If the governments will show how their policies are evidence-based, then people will scramble for the information that will give them insight into the programs that affect them. So information dissemination and utilization have to become part of the governance loop. Otherwise all of the government information available can simply be classified as “nice to know” rather than “need to know”.
Information dissemination is now an integral part of the online consultations undertaken by many governments. For a consultation to work it is important that citizens be provided with the necessary background briefings, documents and policies on the issue being undertaken. It is recognized that the citizen or group responding to the consultation has to have knowledge and understanding of the issue at hand in order to respond intelligently.

Online consultations are still limited within governments but reflect a good beginning for information sharing. Many policy feedback mechanisms already exist, other than with online consultations. The problem is that the majority of the public is still currently out of the loop in the policy making process. Part of the reason for this is that most governments still work under the system of representative government which does not always require a wide consultation with the public on pressing social, economic and cultural issues of the day. It is understood that elected representatives are elected to do this job of setting policy and enacting legislation, with the public administration working under the direction of the Government or the Administration of the day. There are signs of change in this current system of government, as politicians and public servants are more and more responding to the online community. Both dissemination and utilization of information will be promoted if the public is invited in. Society is also undergoing a major shift towards increased transparency and accountability of both public and private sector organizations.

What innovations are needed on which to base information sharing?

There is a version of the Internet language XML that has been developed to standardize the format for all business reporting. A similar variant of XML is needed to standardize the format for all government documents. Research indicates that whereas there are about six basic types of business documents, there appear to be a dozen basic types of government documents. In any case, an XML for government, and a specially tailored browser to display the document types properly, would be a vast improvement over the plethora of styles, formats, and content variations currently existing.39

To complement this technical innovation, a social innovation is needed that standardizes the design and deployment of government digital documents. In parallel with Nick Flor’s Web Business Engineering,50 we need a Web Governance Engineering methodology that would enable off-line political objectives to drive government Internet strategies. What it would show is how government information supports the democratic value chain. However, actual implementation of such a system requires a significant financial input and commitment from governments.

49 Johan Hjelm, CREATING THE SEMANTIC WEB WITH RDF, John Wiley and Sons, New York, 2001
50 Flor, 2001
Conclusion: Information as a practical tool

The above could be a good model to be followed not only by national governments but international organizations. If we are to handle the digital divide between those who have the opportunities to be online and the vast numbers of people who cannot necessarily afford the costs of going online, it will be essential to level the playing field. In any populist democracy it is important that initiatives embrace all the people.

International organizations could also provide programs to educate people on usage of the Internet. Education then leads to individual usage. It will, naturally, vary from one individual to the next, but through knowledge of how to use the Internet, people can be participants in this new trend in democracy as they see fit. Such programs can embrace many peoples around the world and ensure that the users who most benefit are not just those in the affluent, industrialized countries.

National governments that seek to engage their citizenry in the process of government may do so in many ways, such as:

- making more information available online from government to ensure there is an informed citizenry;
- providing web sites that seek input from people on all manner of government programs and issues;
- developing listservs and discussion groups on important national issues and other means to engage the citizenry;
- providing grants to organizations seeking online democratic activities, including the search for information;
- developing local community projects that embrace all levels of society from the academic world, to businesses, large and small, to non-profit and volunteer organizations; this can encompass governments in developed countries;
- developing web sites that allow citizens easy access, that are interactive, and that meet the needs of the community;
- ensuring information on web sites is easily attainable, in a form understood by the citizen and can easily be downloaded;
- providing search engines and hot links to ensure the citizen gets what he or she wants in the right format from the right agency;
- in developed countries where access to the Internet is limited to smaller sections of the population, working to develop information policies that encompass all the citizens in the countries;
- developing programs to teach local leaders in the communities to become information facilitators.

The Internet is a medium that has allowed people to involve themselves in the democratic process in new and unique ways. Governments at all levels and international organizations will increasingly be impacted by these changes. Thus, there is a need for awareness building within governments and international organizations of the changes that are occurring. This can be accomplished through educational and training programs. It will
be necessary for governments and international organizations to shed their proprietary attitudes towards the information they hold. Of course, all of these recommendations depend on government providing sufficient human and financial resources to accomplish them.

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