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E-Governance & Digital Government in Canada

The Necessity of Both Structural and Cultural Transformations

Jeffrey Roy
The Centre on Governance, University of Ottawa, Canada

Abstract: This paper examines the capacity of government to meet the new challenges of a digital age. There is a considerable risk that adaptation and change may be blocked by an administrative culture ill suited for a world of e-governance. Two sets of explanatory factors will be determinant. First, new forms collaboration within and across governments, as well as across sectors are crucial. The second variable lies in the necessary leadership of people: new skill sets, and new leaders will be required to both empower knowledge workers and defend experimental action. Technology alone is insufficient. The paper offers preliminary propositions as to how governments might address these important challenges.

1. INTRODUCTION

Moving industrial society government onto a digital platform would simply produce a digitized industrial government—a form of governance that would be increasingly out of step with the changing realities of citizens and businesses alike.[i]

The objective of this paper is to consider the capacity of government to effectively harness new information technology (IT) as an enabling force in its efforts to meet the present and emerging challenges of a digital age. Such challenges are fundamentally rooted in the extraordinary expansion of e-commerce, the rise of e-communities, the growth of virtual organizations,, and the development of a truly commutative revolution that carries the potential for new network based capacities to establish, maintain and modify the relationships of any governance system. [Guillaume 1999]. This paper will consider issues that have a general applicability to all governments, even though it is important to underscore that specific example may be drawn from the current Canadian context.[ii]

For public sector leaders, the adaptive challenges of e-governance go far beyond technology per se. They call for new organizational structures and skills, new forms of innovation and learning, and perhaps even a redefinition of purpose. They also call for a significant broadening and transformation of public-private sector partnerships (PPP) and the relational dynamics which underpin them. The new dynamics are very far from traditional public sector processes for procuring and contracting [Rosenau 2000]. Yet, while the potential for a recasting of both public management and political accountability is real, the transition is fraught with uncertainty.

Governance may be defined as effective coordination in an environment where both knowledge and power are distributed. Every organization is built on governance, whether formal or informal, ineffective or successful. The rise of *e-governance* refers to the new patterns of decision-making, power sharing, and coordination - made possible, or even necessary by the advent of IT. In the private sector, for example, e-commerce is much more than transactions on-line: it encapsulates the range of new organizational models built on technological architectures, such as the internet, that allow governance to be redefined in new ways.

The public sector is not immune to such forces. Indeed, government finds itself under the dual strain of becoming both a partner and de facto competitor with business in an on-line environment, while also needing to understand the complex and profound implications of new technologies and their impacts on public interest issues. As a result, *digital government* (a term that we deploy in place of e-government) refers to an IT-led reconfiguration of public sector governance – and how, knowledge, power, and purpose are redistributed in light of new technological realities.

Digital government must also be viewed as much more than moving existing public services on-line: it is about government harnessing IT to redefine its social patterns and power structures in order to remain relevant in a more participative, more interactive and more informational era [Tapscott and Agnew 1999]. Importantly, the OECD [1997] has reported that IT is becoming the critical agent of change, the availability of a new digital infrastructure and the Internet's impacts on a changing set of public expectations are overtaking fiscal pressures as the primary impetus for public sector managerial reform.

Nonetheless, the deployment of IT both in and across public sector organizations is driven by a variety of factors, and it may face resistance. The main danger is that the necessary transformation in public sector governance and accountability is likely to be blocked by an administrative culture that may be ill suited for a digital world. Whereas nearly everything about the connected (or digital) state requires horizontal governance, government has relied upon a vertical architecture of power and decision-making.

While this quandary is recognized to some degree, the central task facing both policy-makers and political leaders, at least those interested in leading the transition to the digital age, lies in orchestrating effective responses.

2. FROM CONTROL STRUCTURES TO COLLABORATIVE ARCHITECTURES

The new digital architecture driving e-governance creates both pressures and opportunities for new partnerships - internally and externally. Within government, IT fosters new horizontal opportunities by shifting away from traditional bureaucratic structures toward alternative delivery arrangements. The growing possibilities for consultations with both stakeholders and the citizenry are also expanded with new technologies. Moreover, on-line delivery implies integrative channels within government, linking external users to a variety of sources and systems internally.

Organizationally, these trends mean IT forces are both dispersing and centralizing – fostering a need for integrative action. Put another way, these forces create tensions between vertical governance of traditional government and the horizontal governance implied by digital government. The emergence of digital government will therefore require actions and strategies at the level of individual departments and agencies: but such efforts must be orchestrated within the parameters of government-wide leadership and coordination.

Accountability is a key element of such a balance. The manner by which accountability is perceived and exercised by government leaders will determine the degree to which it embraces more collaborative models of governance. Traditionalists invoke the underlying principle of Ministerial Accountability based on a clear and rigid view of vertical control and risk-minimization in order to serve and protect the interests of the publicly accountable political leader.

The rise of e-governance, with its pressures for a variety of initiatives introducing alternative models of decision-making and service delivery, implies a sharing of accountability. The need for collaboration, partnerships and joint ventures grows -both within government, and often between private and public organizations.

There are also important debates around the issue of whether accountability is at risk when external partners become involved in the governing and shared delivery of government programs and services. According to some, new governance arrangements threaten to undermine key institutions and practices of democratic accountability [Globerman and Vining 1996]. This camp believes that any change to the existing system of ministerial accountability will damage the integrity of the system. There is some question as to whether the *ad hoc* nature of the ever-increasing number of partnership arrangements between sectors challenges

accountability mechanisms or can be absorbed in traditional models of decision making with adaptations to risk mitigating strategies.

An alternative view is that collaborative arrangements can make government more accountable [Armstrong and Ford 1999]. These proponents of collaborative arrangements insist that involving external stakeholders strengthens accountability to citizens by virtue of the addition of partners, and in particular, private sector partners, pressure for accountability to customers or clients is increased. Notwithstanding legitimate concerns about new ways of doing things, it is difficult to conclude from these debates that the virtues of traditional accountability, namely their clarity and simplicity, can serve as justifications for their extension into an e-governance era.

These tensions form the parameters around which new ties are being formed between governments and the vendors of IT systems and solutions. IT solutions, however, are more pervasive in demanding closer collaboration between private vendors and public sector clients [Mornan 1998]. The complexity and sophistication of such solutions produce many strategic choices for governments about how to deploy IT both in and across public sector operations.

Contracts versus partnerships - Any move toward IT outsourcing, meaning a reliance on external service providers, most often found in the private sector, is likely to be both controversial and consequential for government, particularly from a human resources perspective. The advantages of outsourcing IT and its management to external parties are derived from the opportunity to leverage the competeneies of specialists. The disadvantages are rooted in concerns about control and performance measurement, while underlying questions of cost often become the resulting sources of fiction.

The main challenge is relational: *new collaborative capacities are requires.* Partnerships require shared purposes and agendas, as well as trust and an integrative mind set. The implication here is that both the skill sets of the individuals involved and the mechanisms guiding their relational activities must be conducive to such an effort. The main challenge facing all parties engaged in today's increasingly complex forms of IT partnerships is that despite a recognition of the need to work together in new ways, most organizational processes and most people reside within the realm of contracting, with an emphasis on both cost and control. Although common to all sectors, this point is particularly prevalent in the public sector, as the extra burden of transparency and fairness, the basis of traditional assurances of public accountability, loom large.

Current examples of outsourcing are a case in point, as any such decision by a government department is bound to be both strategic and controversial. The transfer of assets, including people, is a process with potentially huge consequences on government's capacity to act in the public interest. In a world of markets and contracts, the outsourcing path is fraught with risks and uncertainty: the response is often a quagmire of control efforts and validation. Moreover, even if such

agreements are forged operationally, public sector approval requires additional scrutiny and explanations to public chambers - and it should come as no surprise that many deals are unable to withstand such pressures.

Recently, the state of Connecticut in The United States spent millions of dollars and over three years negotiating one of the most ambitious outsourcing deals of a government ever, only to see the deal collapse before completion. Both parties, the government and the primary vendor, provide amicable, though contrasting explanations for the deal's demise. While no single factor is evident, it is fair to conclude that the requisite mix of political acceptability and profitability could not be achieved in an adequate fashion due, in part, to a tremendous emphasis on contracting specifications, objectives, terms and conditions - a process fundamentally at odds with the trust and collaboration required to partner on such a massive scale. A federal public servant in Canada commented privately that in his mind, profit always wins out over partnership in such cases.

Nonetheless, perhaps due to the strengthening pressures of e-governance, the trend toward outsourcing-type arrangements grows unabated. Tying itself directly to the experiences of Connecticut, the San Diego County government is now six months into the largest municipal outsourcing experience. While these experiences are unique in scope, they present elements common to all governments, at all levels, as IT becomes a strategic imperative for effective governance. Such tensions have led to growing calls for partnerships in place of contracts. The differences may be subtle in terms of words, but the consequences of this contrast are far reaching. Poupart and Austin compare two modes of relationships:

> *Partners respond to a need in a changing world by sharing control in the context of an assertive relationship to offer a future that facilitates innovation in a world of possibilities. Contractors respond to a request in a procurement world by giving up control in the context of a collaborative relationship to provide help, assistance, pairs of hands that facilitate project management in a world of deliverables [Jelich & al. 2000, p. 52].*

Our own examination of IT management and procurement in Canada has begun to underscore the extent to which digital government remains at odds with a traditional public sector apparatus firmly rooted in hierarchical traditions. The resulting challenge of shifting from incremental procurement reform to genuine collaboration lies in the need to rebalance purchasing safeguards with partnering opportunities. Equally important are the new skill sets of public managers and leadership requirements that result.

3. HUMAN CAPACITIES – AND THE NEW PUBLIC SERVANT

The digital era rises hand in hand with the knowledge workforce. Conceptually, Jeremy Rifkin envisions growing ranks of knowledge workers who will forge new communities of interest - only some of which are likely to resemble traditional employee - employer relationships of the past. He argues that "people of the twenty-first century are as likely to perceive themselves as nodes embedded in networks of shared interests as they are to perceive themselves as autonomous agents in a Darwinian world of competitive survival" [Rifkin 2000, p. 12].

How will public sector organizations deal with what Rifkin sees as a new human archetype where people are more autonomous, better educated, more mobile, and less rooted by traditions of place (either geographically or organizationally). These conceptual issues intimately link the workforce challenges of digital government with those of cultural reform (in an organizational sense). Whereas Westminster systems continue to emphasize vertical accountability, government on-line is (correctly) being pursued in a horizontal fashion.

An international study by Essex and Kusy [1999] underlines the views of executives from both government and industry, for whom an increasing reliance on the external workforce is a significant trend. They report that from 1997-2002, leaders are expecting an increase from 10 per cent to 25 per cent in non-core (meaning non-traditional full-time, or external) workers. This crescendo of the external workforce may well accelerate with the technology-induced pressures for organizational innovation and flexibility. The result is a complex mix of agendas and incentives that explains the growing emphasis on inter-personal skills such as negotiation, facilitation, and consultation.

These skills are forming the basis of "new public servant" – one who is much more collaborative and comfortable with technology, and the consequences of these shifts for human resource in management in government will be profound [Moritz and Roy 2000]. Thus, government is becoming both more fluid internally and more networked externally, as distributed governance models drive the move toward a flexible and modular workforce.

As a result, the role of the public servant must adapt; governments must effectively couple new forms of community-wide strategies that are both horizontal and potentially centralizing, with recent trends toward empowerment and flexibility - and the decentralizing nature of such pressures (i.e. agencies seeking greater autonomy). Governments must learn to benefit from heightened worker mobility – viewing such trends as strategic imperatives for public service innovation.

A challenge for many governments in doing so lies in more direct competition with industry. In the Canadian government, for example, the Computer Systems (CS) Community is based heavily in and around Ottawa-Hull, the National Capital Region (NCR). In 1999, 67% of all CS employees were located in the NCR,

compared to 34% for the entire PS [ibid.]. As CS employment increases, more workers are located in the NCR which give rise to new managerial challenges – namely, an intensifying labour market that also serves as a common pool of competencies for both industry and the government. Consequently, a major challenge of digital government lies in this competition for human capital, a dynamic particularly acute in national capitals such as Washington DC. and Ottawa which seem to couple growing professional mobility and inter-sectoral proximity.

The governance implications of such trends are perhaps contradictory: a paradoxical impact of IT may be that while it enables more organizational flexibility and decentralization across the public sector, particularly with respect to service delivery, leadership patterns also have centralizing tendencies. This factor could impact both the presence and effectiveness of national governments operating across their country, and their ability to recruit specialized workers in limited urban centers (particularly national capitals) where labour markets are most competitive.

In a world of e-governance, an appropriate response by government in meeting this dynamic must be based on the understanding of both the complexity and contradictions at work. On the one hand, the move toward greater usage of private-public partnerships suggests that mobility and proximity could complement one another – and create a common environment more canducive to trust and collaboration. On the other hand, the very real danger is that the most entrepreneurial employees will leave the public service, seeking either higher compensation or more flexible work environments than government is able to accord to them.

As important as the technology itself, government must address the people and performance challenges of digital government in the next few years. Adapting the role and profile of the public servant is critical to realising the needed administrative cultural shift associated with horizontal governance and collaborative partnerships.

4. POWER, POLITICS & CULTURE

There are many claims that as confidence and trust in traditional forms of representational government erode, technology, and specifically the Internet can foster capacities for democratic renewal. Such renewal is premised on more direct forms of democratic engagement.

Yet, technology alone is insufficient. Recent studies and roundtables have all underscored that while the Internet carries the potential for more direct citizen engagement, realizing this potential is a complex undertaking. Two major variables that will shape the nature of democratic reform are accessibility and the role of the media(s). Questions about accessibility are best typified by the phrase, digital divide, which implies segmentation of our populations between those with on-line access and those without it. Yet, merely providing the infrastructure for connectivity does

not guarantee enlightened use. *The divide is much more complex* [Wyatt & al., 2000].

In terms of usage and engagement, it is perhaps the role of the changing media(s) that carries the greatest importance in terms of shaping our democratic evolution. An essential distinction must be made between *traditional media* on the one hand, and *new media* on the other. Traditional forms of media are essentially those that serve as intermediaries: they transfer and filter information. The new media, on other hand, denotes those channels of more direct and interactive communication - free(r) of interference and interpretation. E-government involves both forms of media, each of which presents separate challenges for moving forward. Traditional media remains a critical factor in shaping public opinion. As displayed by various episodes of public management in Ottawa over the past year, the fairness and effectiveness of the media in playing this role can be the focus of an intense debate.

New media channels drive a world of more open and direct consultation - and enhanced public participation. Yet, results to date from experimentation with on-line consultation have been modest, and there is considerable debate around the quality of participation that ensues. Connectivity is necessary but insufficient. In this sense, *the phrase digital democracy is misleading.* The implication that greater openness and broader public engagement are the direct result of connectivity is an overly simplistic portrayal of the choices that lie ahead.

In a digital environment, power will be shared through both forms of media, and the impacts on government are profound. The danger of the traditional media is that it can encourage defensiveness and paranoia at the apex of power in government, as many feel - often legitimately - under attack (i.e. *a recent edition of CIO Magazine included a feature on the "follies" of the IT mismanagement and project failures in the British government*).

These forces are potentially contradictory. As new media channels strengthen, the costs and complexity of managing information and responding to traditional media channels may well rise - with increasingly uncertain results. Some question the feasibility of containing information, as many OECD governments (particularly in Scandinavia) continue to expand efforts at greater transparency.

There is no simply solution to this media quagmire - but one aspect should be carefully considered. At an operational level, governments may well be better off pro-actively providing more information - and betting on an ongoing and more thoughtful form of public judgment than the more instantaneous reactions delivered by traditional media forms. In other words, an effective, if indirect approach for traditional media is to elevate the level of collective learning as to the challenges and choices that lie ahead. Expanding public dialogues and engaging citizens more directly into public sector governance must be an important part of any e-government strategy.

5. THE ELUSIVE GOAL OF ALIGNMENT

Carolyn Purcell, the Executive Director of the Department of Information Resources for The State of Texas once commented, "e-government is like a giant canvas on which people can draw a new view, a citizen-centered view of their government". This quote is insightful - as it is both accurate and misleading. The accuracy stems from the real possibility that for those outside of government, individual citizens or specific interest groups, can envision something entirely new - potentially quite different from the status quo. Yet, the quote is equally misleading, or at the very least unfair - if taken from the perspective of those working inside of government today. Even if our Westminster Parliamentary structures of governance appear dated and in need of review, they cast powerful constraints around public administration and the capacity for innovation.

Design considerations:

An effective strategy to realize e-government must re-balance traditional administrative and political-cultural frameworks and the adaptive and collaborative requirements of e-governance. This new alignment process requires a *renewed culture in government,* one more open to the enormous potential of technology in its main forms. Our own studies of e-government in Canada, including an extensive set of interviews across both the private and public sectors point to four main guiding principles that collectively form a template for moving forward.

First, *efficiency* remains a key principle for government - tied, in part, to an inter-connected global arena carefully monitoring the fiscal performance of all countries. A key component of the potential of ICT is the capacity for reduced costs as new media channels create a compelling business case for delivering services on-line. Yet, the "business case" of government is unique, as it is not driven by maximizing profits as in the marketplace, but rather by maximizing the collective potential of all Canadians, individually and organizationally, to lead productive and prosperous lives in a more electronic and knowledge-driven age. Thus, efficiency gains must be weighed along with the investment being made to encouraging people to develop on-line skills. Cost savings is one variable in a more complex equation.

Secondly, *adaptability* is increasingly important as a principle. A critical part of the e-government challenge is the sobering recognition that the environment is not static: whether the federal government succeeds in getting all services on-line by 2004 is perhaps less important than the reality that the social, economic and political contexts of 2004 could well by very different from today. This principle implies a public sector comfortable with technology in different forms. Adaptive e-government means deploying technology as an "enable" force for better learning and knowledge management. Information, communication and social networks will transcend traditional structures and boundaries: they must be unified less by control and more by a common mission and collective leadership.

Such learning requires dialogue in order to allow government to become both digital and *deliberative* – the latter being the third principle. The challenge of deliberative government extends beyond the need to improve existing capacities today. Deliberative government must engage its partners and the citizenry and define the future as well: *Deliberative democracy underpins social learning, and it justifies the growing pursuit of public and multi-stakeholder consultation techniques today.* Government must not only accept input: it must seek it and demonstrate how participation helps to define policy and improve service delivery. Perhaps the most contentious, and certainly the least discussed aspect of e-government is the role of deliberation in reforming democratic governance.

A useful, and indeed necessary component of e-government readiness will be strengthening the deliberative capacities of the public service, and anticipating the potential consequences for the democratic processes so closely interwoven. What is required is an alignment of new skill sets within the public sector, of new relational ties to specialists outside of, but engaged with the public sector, and of the broader public in their dual capacities of both customer of government services and citizen of the democratic polity.

Such alignment will invariably remain elusive - and as such, the best one can strive for is to foster ongoing capacities for improvement and adaptation. Such capacities are underpinned by learning - and as a result, e-government must be about working in a more strategic and collaborative fashion in order to strengthen overall capacities across traditional boundaries. This governance challenge means undertaking both a structural and cultural shift from, moving from *independence* to one where *interdependence* becomes the fourth guiding principle. Building e-government on this premise provides the fourth design principle for bettering governance. In sum, four crucial design principles of e-government are:

- *Efficient* - *Adaptive*

- *Interdependent* - *Deliberative*

6. CONCLUSION

Perhaps the most encompassing aspect of IT challenges is its permeation of all aspects of public sector management and reform. Understanding IT is no longer a skill for the technical component of the workforce, but rather its integration with information management and strategic change is determinant as all dimensions of public sector activity are affected by technology.

In the digital era, government must not only prepare leaders to face uncertain times. It must also sensitize these leaders on the importance of creating learning environments for workers at all levels of their organization and the numerous

partners attached to any particular initiative. As government engages in new forms of collaborative arrangements, work teams comprise sets of individuals with a variety of formal, informal and overlapping reporting relationships. Yet, it is not only the skills composition of workers altering in a digital era, but rather the broader transformations of both everyday and organizational life that are also at play.

In this sense, digital government must reposition itself to become an engaged and constructive partner in shaping the new governance patterns that will otherwise render it rudderless. These governance patterns must bridge traditional administrative and political-cultural frameworks to the adaptive and collaborative requirements of e-governance to produce *a new culture in government,* one open and enabled to take advantage of the enormous potential of the digital and information age.

7. REFERENCES

Allen, B., Juillet, L., Paquet, G. and Roy, J. [2001] E-Governance & Government On-line in Canada: Partnerships, People & in Government Information Quarterly Vol. 30, No. 1. pp. 36-47 (with B. Allen, L. Juillet and G. Paquet).

Browning, J. [1998] "Power to the People - Government isn't disappearing. It's being Disintermediated" in WIRED Magazine (January 1998).

Canadian Defence Industry Association [1999] "CDIA Procurement Committee, Industry Proposals for DND Procurement Reform"(www.cdia.ca/committee/procure.htm).

Carr, G. [1998] "Public-Private Partnerships: The Canadian Experience"(speech to Oxford School of Project Finance, available at http://home.inforamp.net/~partners/oxford.html).

Center for Technology in Government, "Making Smart IT Choices" [1998] (Albany: www.ctg.albany.edu/resources)

Chief Information Officer's Branch (CIOB), Treasury Board of Canada Secretariat [1998] "Supporting Electronic Government: The Government of Canada Public Key Infrastructure" (Ottawa: www.cio-dpi.gc.ca).

Corden, S. [1997] "The Australian Government's Industry Commission Examines Competitive Tendering and Contracting by Public Sector Agencies" reported in Public Administration Review (March/April 1997, Vol.57, No.2).

Duff, Angus. [1997] "Outsourcing Information Technology - Human Resource Implications" IRC Press, Industrial Relations Centre, Queen's University, Kingston.

Essex, L. and Kusy, M. [1999] Fast Forward Leadership - How to exchange outmoded leadership practises for forward-looking leadership today (Financial Times / Prentice Hall).

Ferris, N. [1999] "CIOs on the Go"in GovExec.com, March 1999 (www.govexec.com/features).

Gagnon, Y. and Dragon, J. [1998] "The Impact of Technology on Organizational Performance" in

Galliers, R.D. and Baets, W.R.J. [1998] Information Technology and Organizational Transformation (Wiley Series in Information Systems: Toronto).

Globerman, S. and Vining, A.R. [1996] "A Framework for Evaluating the Government Contracting-Out Decision with an Application to Information Technology" in Public Administration Review (Nov/Dec 1996, Vol.56, No.6)

Guillaume, G.[1999] L'empire de réseaux (Paris: Descartes & Cie.).

International Council for Information Technology in Government Administration [1998] "Procurement Study Group Report" in An International Journal on Information Technology in Government {ICT: www.ica.ogit.gov.au).

Jayes, D. [1998] "Contracting out information technology services at the UK Inland Revenue" in OECD, Contracting Out Government Services (Paris: OECD=s Public Management Occasional Paper No.20).

Jelich, H., Poupart, R., Austin, R. and Roy, J. [2000] "Partnership-Based Governance: Lessons from IT Management" in Optimum Vol. 30, No. 1. pp. 49-54).

Kobrin, S. J. [1998] "You Can't Declare Cyberspace National Territory: Economic Policy-Making in The digital Age" in Tapscott, D. with Lowy, A. and Ticoll, D. Blueprint to the digital Economy: Creating Wealth in the Era of E-Business (McGraw-Hill).

Moritz, R. and Roy, J. [2000] "Demographic Insight on Canada's Federal Information Technology Workforce: Community Renewal and Tomorrow's Leadership Imperative" in Canadian Government Executive (July).

Mornan, B. [1998] "Results-Based Procurement: A Model of Public-Private Sector collaboration" in Optimum Vol.28, No. 1.

Nelson, M.R. [1998] "Government and Governance in the Networked World" in Tapscott, D. with Lowy, A. and Ticoll, D. [1998] Blueprint to the digital Economy: Creating Wealth in the Era of E-Business (McGraw-Hill).

New Zealand Public Service [1997] Information Technology Stocktake (Wellington: State Services Commission).

Newcombe, T. [1998] "Multistate On-line Procurement Project Under Way" in Government Technology, Oct 1998 (www.govtech.net/publications/).

OECD [1997] "Information Technology as an Instrument of Public Management Reform: A Study of Five OECD Countries" [OECD: www.oecd.org/puma/gvrnance/it).

Papows, J. [1998] Enterprise.com - market leadership in the information age (Perseus Books: Reading).

Paquet, G.[1997] "States, Communities & Markets: The Distributed Governance Scenario" in The Nation-State in a Global Information Era: Policy Challenges [Queens University Bell Canada Conference].

Public Works and Government Services Canada [1998] "Benefits Driven Procurement" A Paper Presented to the Ninth International Public Procurement Association (Copenhagen: www.pwgsc.gc.ca/sos)

Rifkin, Jeremy [2000] The Age of Access - The New Culture of Hypercapitalism (New York: Jeremy P. Tarcher/Putnam).

Rosenau, P.V. [2000] Public-Private Policy Partnerships (Cambridge, Mass.: The MIT Press).

Tapscott, D. and Agnew, D. [1999] "Governance in the Digital Economy" Finance and Development December 1999, pp. 84-87.

Tapscott, D. with Lowy, A. and Ticoll, D. [1998] Blueprint to the Digital Economy: Creating Wealth in the Era of E-Business (McGraw-Hill).

Thorton, K. [1998] "Living in the Information Society - Rethinking Government" (www.ibm.com/ibm/public).

Weill, P. and Broadbent, M. [1998] Leveraging The New Infrastructure - How Market Leaders Capitalize on IT [Harvard Business School Press].

Wyatt, S., Henwood, F., Miler, N. and Senker, P. eds. [2000] Technology and In/Equality – questioning the information society (Routledge: London and New York).

Yankelovich, Daniel. [1999] The Magic of Dialogue: Transforming Conflict into Cooperation (New York: Simon and Schuster).